

adult primary care

Adult Primary Care Guide

2026



health

Department:
Health
REPUBLIC OF SOUTH AFRICA



ADULT PRIMARY CARE

Clinical Decision Support Guide

South African Edition

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About Adult Primary Care

The Adult Primary Care (APC) clinical tool is a comprehensive approach to the primary care of the adult patient (18 years or older). It has been developed using clinical policies and guidelines published by the National Department of Health, and is intended for use as a clinical decision-making tool by healthcare practitioners working at primary care level in the public health sector in South Africa. APC is designed to support integrated clinical consultation by prompting navigation between the three sections: general health, presenting symptoms, and long-term conditions.

APC enhances quality person-centred care by upholding a set of key values:

- Acknowledgement of each patient's uniqueness and multiple roles within a family and community
- Respect for a patient's concerns and choices
- The development of a trusting relationship with a patient
- Communication with a patient that is effective, courteous and empathic
- The delivery of follow-up care, especially for patients with chronic conditions
- Linking the patient to community-based resources and support
- Ensuring continuity of care, where possible

This version has been developed in collaboration with the South African National Department of Health. The guide has been aligned with the updates to the Primary Healthcare Level Standard Treatment Guidelines and Essential Medicines List for South Africa 2025 – 2029 review cycle, as of September 2026, together with current clinical policies, guidelines and circulars published by the South African National Department of Health. Guide users are advised to be aware that recommendations in subsequent revisions and updates of these documents may differ from those included in this version of the Adult Primary Care guide, and that practice, including medicine and dosing recommendations, at primary healthcare level should always be aligned with the most recent version of the Standard Treatment Guidelines and Essential Medicines List for South Africa.

A case-scenario based training package accompanies the clinical tool. APC is implemented as part of Integrated Clinical Services Management, a key focus within the Ideal Clinic Realisation and Maintenance initiative to improve the quality of care delivered, and is complemented by the Health for All health promotion tool which supports healthy behaviours.

Disclaimer

This guide is a clinical decision-support tool for registered healthcare professionals practising in South Africa. It is not for use by patients or the public, and does not replace the treating professional's judgement or establish a legal standard of care. Users must consult a range of sources and satisfy themselves that the guidance is appropriate to each patient, setting and region, and complies with applicable legislation, policy and clinical governance requirements.

Medicines information, including doses, routes, contraindications and interactions, must be verified against the current Essential Medicines List and Standard Treatment Guidelines, and applicable Departmental circulars, before prescribing or administration.

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About the Knowledge Translation Foundation

The Knowledge Translation Foundation (KTF) is a South African non-profit organisation that works to translate health policy and clinical evidence into practical tools that support health systems strengthening. KTF partners with the Departments of Health to advance primary healthcare through the development and ongoing refinement of evidence-and-policy-informed clinical guidance tools, training resources, and implementation approaches that support frontline health workers.

APC and KTF's other decision tools are built on a clinical decision-support methodology originally developed through the Knowledge Translation Unit (KTU) at the University of Cape Town from 2005. Since 2025, services to partners have been provided through KTF while the KTU continues to lead related research efforts.

APC contributes to a global network of countries using these clinical tools and methodology as part of their primary healthcare reforms towards Universal Health Coverage. These include Ethiopia, Indonesia, Brazil, Nigeria and Botswana.

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Overview of 2026 updates

APC 2026 aligns with the following National Department of Health policies and clinical protocols:

- The National Department of Health (NDOH); Essential Drugs Programme. Primary Healthcare Standard Treatment Guideline and Essential Medicine List (8th ed.), 2024 (3 September 2026)
- TB Screening and Testing Standard Operating Procedure, June 2022
- National Guidelines on the Treatment of Tuberculosis Infection, February 2023
- NDOH, Basic tuberculosis (TB) training manual: Participant manual 2024
- NDOH, Clinical management of rifampicin-resistant tuberculosis: Updated RR-TB clinical guidelines, 2023
- Circular 2 of 2026 on DR-TB management, Bedaquiline daily dosing
- NDOH, Guidance document on the use of lateral flow lipoarabinomannan assay for the diagnosis of active tuberculosis in people living with HIV, 2021
- NDOH, National HIV Testing Services Policy 2025
- NDOH, National consolidated guidelines for the prevention and management of HIV in adults, adolescents, children, infants and pregnant & breastfeeding women (Version 2), 2026
- NDOH, National Clinical guidelines of Post-Exposure Prophylaxis in occupational and non-occupational exposures. Approved 2019. Published 2020.
- NDOH, Updated guidelines for the provision of Pre-Exposure Prophylaxis (PrEP) to persons at substantial risk of HIV infection, October 2021.
- NDOH, Pre-Exposure Prophylaxis (PrEP): Lenacapavir Implementation Guidelines, 2025
- National User Guide on the Prevention and Treatment of Hypertension in Adults at PHC level. NDOH. 2021
- NDOH, Management of type 2 diabetes at PHC 2014
- NDOH, National integrated maternal and perinatal care guidelines for South Africa (5th ed), 2024.
- National Contraception clinical guidelines. NDOH. 2019
- National Clinical Guidelines on the Choice on Termination of Pregnancy Act 2019
- National Policy Framework and Strategy on Palliative care 2017-2022
- National cancer strategic framework 2017-2022
- NDOH, Breast cancer prevention and control policy, 2017
- NDOH, Clinical guidelines for breast cancer control and management, 2019
- NDOH, The South African National Integrated Men's Health Strategy 2020–2025.
- NDOH, Elimination of cervical cancer in South Africa: A strategic and implementation framework 2026–2030.
- Clinical Guidelines for the Continuum of care in Lung cancer 2023
- National guidelines for the treatment of Malaria, South Africa, 2019
- NDOH, Guidelines for the Clinical Recognition, Diagnosis and Management of Mpox in South Africa August 2025
- Comprehensive STI Clinical Management Guidelines. NDOH. 2021-2025
- NDOH, Referral Policy for South African Health Services and Referral Implementation Guidelines, August 2020

What are the APC 2026 updates?

The following new pages have been added:

- **Poisoning:** How to assess and manage patients with suspected poisoning and overdose.
- **Palpitations:** Common presenting symptom at PHC level. How to identify the unstable patient needing urgent attention and manage non-urgent causes.
- **Malaria:** Dedicated page to identify and manage patients with suspected malaria.
- **Mpox:** Aligns to the NDOH Guidelines for the Clinical Recognition, Diagnosis and Management of Mpox in South Africa, 2025.
- **Advanced HIV disease:** Diagnosis and management of patients with advanced HIV disease (CD₄ < 200 or WHO clinical stage 3 and 4)
- **Overweight/ Obesity:** Diagnosis and management of the patient with overweight/ obesity (BMI ≥ 25) and cardiovascular risk indicated by increased waist circumference and waist-hip ratio.
- **Chronic Kidney disease:** Management of the known patient with eGFR < 60. Integrated with routine follow-up of other cardiometabolic conditions.
- **Cancer screening and early detection:** Focus on the 5 priority cancers listed in the National Strategic Plan for the Prevention and Control of Non-communicable disease 2022-2027: breast, cervical, prostate, colorectal and lung cancer.
- **Planning a pregnancy:** Approach to the patient planning a pregnancy
- **Manage the patient requesting a TOP:** Provided eligibility and referral pathways based on gestational age.

- For more details, find a full 'Summary of Changes' document on the Knowledge Hub.

Keep up to date with expected changes in clinical guidance

Clinical guidance and policies are continuously being updated as new evidence becomes available and clinicians are urged to be vigilant of new and revised clinical guidelines and policies. Check regularly for new NDOH circulars, notices/memorandums and NEMLC bulletins indicating updates.

Important notice regarding patient referrals and continuity of care:

If a patient was referred to the facility, the clinician from the receiving facility should provide feedback on the patient's outcome, to the referring facility/health worker, where appropriate and feasible, including to relevant community-based services (e.g., Ward-Based PHC Outreach Team, Community Health worker (CHW) or NGO/home-based care provider).

HOW TO USE THE APC GUIDE

Always start on the contents pages:

Use the red box to determine if the patient needs **urgent attention** and manage them appropriately.

If the patient does not need urgent attention, follow the algorithmic approach to either a management plan or to consider a long-term health condition.

Does the patient have symptoms?

Yes

No

The guide refers you to relevant pages during patient evaluation or routine care with arrows:

- The return arrow (↩) indicates that you need to consult another page but suggests you return to the original page after and complete the assessment.
- The direct arrow (➔) guides you to leave the current page and continue the assessment on another page.



A 3-step framework of **Assess**, **Advise** and **Treat** standardises the approach to the patient with a long-term health condition.

The 'Assess' table is divided into different shades to indicate 3 assessment areas:

Assess

History (what to ask)

Examination (what to look for)

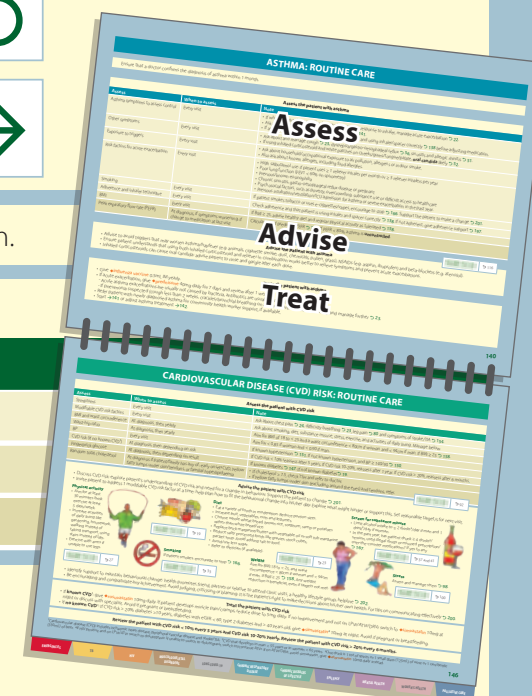
Investigations (what tests to do)

Medications are highlighted in different colours to show the different prescriber levels:

- ◆ **Orange-highlighted** medications may be prescribed by a doctor or a nurse according to his/her scope of practice.
- **Purple-highlighted** medications may be initiated by a doctor and continued by a nurse according to his/her scope of practice.
- ▶ **Blue-highlighted** medications may be prescribed by a doctor only.
- Refer to Health for All promotion tool available at: knowledgehub.health.gov.za when you see the icon:



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GLOSSARY

3TC lamivudine

A

ABC abacavir
ADR adverse drug reaction
AHR abacavir hypersensitivity reaction
ALP alkaline phosphatase
ALT alanine aminotransferase
ART antiretroviral therapy
ATVr atazanavir/ritonavir
AZT zidovudine

B

BAL balanitis/balanoposthitis
BMI body mass index
BP blood pressure measured in millimetres of mercury [mmHg]

C

CCMDD central chronic medicine dispensing and delivery
CD4 CD4 count of the lymphocytes with a CD4 surface marker
CHW community health worker
CNS central nervous system
COPD chronic obstructive pulmonary disease
CPR cardiopulmonary resuscitation
CPT co-trimoxazole preventive therapy
CrAg cryptococcal antigen
CrCl creatinine clearance
CRP c-reactive protein
CVD cardiovascular disease

D

DBP diastolic blood pressure
DMPA depot medroxyprogesterone acetate
DRE digital rectal examination
DS-TB drug-sensitive tuberculosis
DST drug susceptibility testing
DTG dolutegravir
DVT deep vein thrombosis

E

ECG electrocardiogram
EDD estimated date of delivery
EDR.web electronic drug-resistant TB register
EFV efavirenz
eGFR estimated glomerular filtration rate
EGK electronic gate keeper
ELISA enzyme-linked immunosorbent assay
EX-PUP external pick-up point

F

FAC-PUP facility pick-up point
FBC full blood count
FPG fasting plasma glucose
FT4 free thyroxine
FTC emtricitabine

G

GCS Glasgow Coma Scale
GUS genital ulcer syndrome

H

Hb haemoglobin
HbA_{1c} glycated haemoglobin
HBsAb hepatitis B surface antibody
HBsAg hepatitis B surface antigen
HIV human immunodeficiency virus
HPV human papillomavirus

I

IM intramuscular
IMCI Integrated Management of Childhood Illness
INH isoniazid
INR international normalised ratio
IU international units
IUD intrauterine device
IV intravenous

L

LAM lipoarabinomannan (urine TB test)
LAP lower abdominal pain

LDL Lower than detectable level
LLETZ large loop excision of the transformation zone
LP lumbar puncture
LPVr lopinavir/ritonavir

M

MCS microscopy, culture and sensitivity
MCV mean cell volume
MHCA mental health care act
MIC Medicines Information Centre
MTB mycobacterium tuberculosis
MU million units
MUAC mid upper arm circumference
MUS male urethritis syndrome

N

NCAC national clinical advisory committee
NDoH National Department of Health
NSAIDs non-steroidal anti-inflammatory drugs
NVP nevirapine

O

OGTT oral glucose tolerance test

P

PCAC provincial clinical advisory committee
PCR polymerase chain reaction
PEFR peak expiratory flow rate
PEP post-exposure prophylaxis
PG plasma glucose
PJP pneumocystis jiroveci pneumonia
POP progestogen-only pill
PPE papular pruritic eruption
PROM prelabour rupture of membranes
PTB pulmonary tuberculosis
Pulse rate measured in beats per minute
PVD peripheral vascular disease

R

Respiratory rate measured in breaths per minute
RPCs repeat prescription collection strategies
RPR rapid plasma reagin
RR-TB rifampicin-resistant tuberculosis
RtHB road to health booklet

S

SAMF South African Medicines Formulary
SAHPRA South African Health Products Regulatory Authority
SBP systolic blood pressure
SFH symphysis-fundal height
SSW scrotal swelling
STI sexually transmitted infection

T

TAF tenofovir alafenamide fumarate
TB NAAT tuberculosis nucleic acid amplification test
TBSA total body surface area
Tdap tetanus reduced-strength diphtheria and acellular pertussis vaccine
TDF tenofovir
TEE tenofovir + emtricitabine + efavirenz
TIA transient ischaemic attack
TIER.net Three Interlinked Electronic Registers
tNGS Targeted next-generation sequencing
TLD tenofovir + lamivudine + dolutegravir
TOP termination of pregnancy
TPT TB preventive treatment
TSH thyroid stimulating hormone

U

UTI urinary tract infection

V

VDS vaginal discharge syndrome
VL viral load
VTP vertical transmission prevention

W

WBOTs Ward-based outreach teams

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PRESCRIBE RATIONALLY



Scan QR code to download Medsafety App to report medication adverse events

Assess the patient needing a prescription

Assess	Note
Diagnosis	Confirm patient's diagnosis, ensure the medication is necessary and that its benefits outweigh the risks.
Dose	Check that patient is on correct medication dose for weight.
Other conditions	If necessary, adjust the dose (e.g. hydrochlorothiazide in liver disease; tenofovir in kidney disease) or change medication (e.g. avoid ibuprofen in hypertension/asthma).
Other medications	Check all medication (prescribed, over-the-counter, herbal) is necessary and for possible interactions, especially if on hormonal contraceptive or treatment for TB/HIV/epilepsy.
Allergies	If known allergy or previous bad reaction to medication, record in patient's notes and discuss alternative with doctor.
Age	If > 65 years, consider lowering the dose or frequency of medication. Discuss with doctor if patient on diazepam, amitriptyline, codeine, ibuprofen, amlodipine or fluoxetine or is using ≥ 5 medications.
Pregnant/breastfeeding	If pregnant or breastfeeding, check if medication is safe. Ensure patient receives routine antenatal care ➔ 177.
Response to treatment	- If patient's condition does not improve, first exclude poor adherence, then consider changing treatment or an alternative diagnosis. - Check for side effects and report medication reactions via: the MedSafety App (scan the QR code for download) or using an Adverse drug reaction reporting form¹. Email form to adr@sahpra.org.za.

Advise the patient needing a prescription

- Explain when and how to take the medication and what to do if side effects occur. Ask patient to repeat your explanation to ensure s/he understands how to take the medication.
- Ensure patient knows the generic name of all his/her medication. Advise patient to ask prescriber/pharmacist if s/he does not understand a change to regular medication.
- Educate on the importance of adherence and that not adhering to medication may lead to relapse or worsening of the condition and in some instances, resistance to medication.
- Over-the-counter medications and herbal treatments may interfere with prescribed medication. Encourage patient to discuss with prescriber before using them.

Treat the patient needing a prescription

- Ensure appropriate prescriber writes prescription:
 - ◆ **Orange-highlighted** medications may be prescribed by a doctor or a nurse according to his/her scope of practice.
 - **Purple-highlighted** medications may be initiated by a doctor and continued by a nurse according to his/her scope of practice.
 - ▶ **Blue-highlighted** medications may be prescribed by a doctor only.
- Consult the South African Medicines Formulary (SAMF) or MIC helpline (021) 406 6829 if unsure about medicine choice and dosing, side-effects or drug interactions.
- If medications listed in APC are not available, check Therapeutic Class list² and local formulary to identify specific medicine that has been approved for use in your facility.
- Once patient stable on chronic medication and agrees to be registered for Central Chronic Medicines Dispensing and Distribution (CCMDD) programme, check if patient is eligible: patient is adherent to medication, does not need frequent follow up clinic visits, and has a valid ID/passport/asylum seeker number.
- Help patient select a pick up point (PuP) or consider home delivery, if available.
- Inform patient that they can nominate up to two people (older than 12 years) to collect medication on their behalf.
- Create a 6-month repeat prescription: use the SyNCH digital system (scan QR code) or complete the official national CCMDD paper form. Write neatly and include the following on the prescription:
 - Patient's name, surname, age, weight, gender, ID/passport/asylum number, address, contact number
 - Health facility information and clinic folder number
 - Generic name of medication in full including dose, strength, frequency, route, quantity, number of repeats, known allergies
 - Dispensing cycle³
 - Prescriber's name, qualifications, designation, practitioner number, signature and prescription date
 - Name and signature of dispenser, date of issue
- Ensure the Next Scheduled Date (NSD) is correct by using the NSD calendar. Record NSD on prescription and patient's CCMDD medicine collection card.
- Assess patient every 6 months for clinical review and to renew prescription.



Scan QR code to access SyNCH

¹Adverse drug reaction reporting form available from clinic pharmacy or accessed via: www.sahpra.org.za. ²Primary Health Care Essential Medicines List, latest edition accessed via: www.health.gov.za/nhi-edp-stgs-eml. ³The number of months of medication supplied at each collection, as decided by the prescriber. For example: 3MMD means three months supply is issued at the health facility followed by a 3-month collection at PuP/home delivery.

INITIAL ASSESSMENT OF THE PATIENT

Give urgent attention to the patient with any of:

- Decreased consciousness
- Seizures
- Difficulty breathing or breathless while talking
- Respiratory rate ≥ 30
- Chest pain
- Headache *and* vomiting
- Aggressive, confused or agitated
- Overdose of drugs/medication
- Recent sexual assault
- Vomiting or coughing blood
- Bleeding
- Burn
- Eye injury
- Severe pain
- Unable to pass urine
- Sudden facial swelling
- Suspected fracture or joint dislocation
- Recent sudden onset weakness, numbness or visual disturbance
- Pregnant *with* abdominal pain/vaginal bleeding
- Purple/red rash that does not disappear with gentle pressure

Management:

- Check and record BP, pulse, respiratory rate and temperature and ensure patient is urgently seen by nurse or doctor.
- If decreased consciousness, seizures, confused, unable to sit up or known diabetic, also check glucose.

Do routine tests on the patient not needing urgent attention

- Routinely check and record weight, BP, pulse and temperature.
- If coughing/difficulty breathing, also check respiratory rate and oxygen saturation, if available.

Ensure the patient with any of the following is seen promptly by nurse or doctor

- BP $\geq 180/110$ or systolic BP < 80
- Pulse irregular, ≥ 100 or < 50
- Respiratory rate ≥ 30
- Oxygen saturation $< 92\%$ at rest
- Pregnant with BP $\geq 140/90$
- Temperature $\geq 38^\circ\text{C}$
- Glucose < 3 (or < 4 if diabetic) or ≥ 11.1
- Oxygen saturation drop to $< 87\%$ on exertion (walking 15-20m)

Continue to assess the pregnant patient and the patient with hypertension and/or diabetes

Patient is pregnant

Check at booking visit:

- Mid Upper Arm Circumference (MUAC)
- Weight and height to calculate BMI¹
- Fingerprick glucose only if risk factor²
- Hb
- Rapid rhesus and syphilis
- Urine dipstick

Check at every visit:

- BP
- Urine dipstick
- Fingerprick glucose *only* if glucose on urine dipstick on ≥ 2 occasions
- HIV and syphilis

Also:

- At 26 weeks: fingerprick glucose only if risk factor²
- At 30 and 36 weeks: Hb

Patient has hypertension

Check at every visit:

- Weight
- BP

Check once a year:

- BMI¹, waist circumference (also check 3-6 monthly if trying to lose weight)
- Urine dipstick
- Fingerprick glucose (also check if glucose on urine dipstick)

Patient has diabetes

Check at every visit:

- BP
- Fingerprick glucose
- Urine dipstick only if fingerprick glucose ≥ 11.1

Check once a year:

- BMI¹, waist circumference, waist-hip ratio³ (also check 3-6 monthly if trying to lose weight)
- Urine dipstick
- Visual acuity

¹BMI = weight (kg) $\div$ height (m) $\div$ height (m). ²Glucose in urine, BMI ≥ 35 , age ≥ 40 years, previous diabetes in pregnancy, first degree family history of diabetes (parents, siblings), previous unexplained stillbirth, previous baby with congenital abnormalities, previous baby $\geq 4000\text{g}$, polyhydramnios, SFH large for gestational age, Indian ethnicity. ³Waist-hip ratio = waist circumference $\div$ hip circumference (measure at the widest part of the hips/buttocks).

ADDRESS THE PATIENT'S GENERAL HEALTH

Assess the patient's general health		
Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom pages.
TB	Every visit	If current cough (any duration), weight loss, night sweats or fever, test for TB ↗ 102. Also assess need for TB preventive treatment (TPT) ↗ 100.
Family planning	Every visit	- Assess patient's contraceptive needs ↗ 170 and pregnancy plans. If pregnant, give antenatal care ↗ 175. - If HIV positive and planning pregnancy, advise patient to use contraception until viral load suppressed (VL < 50).
Sexual health	Every visit	- Ask about genital symptoms ↗ 62 and sexual problems ↗ 74. - If risky sexual behaviour: new or multiple partner/s, uses condoms unreliably, has sex under influence of alcohol/drugs, give safe sex advice.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98.
Substance use	Every visit	In the past year, has patient: drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any ↗ 165.
Smoking	Every visit	If patient smokes, encourage to stop ↗ 164. Support the patient to make a change ↗ 199.
Older person risk (if > 65 years)	Every visit	- If patient has a change in function, look for cause: if fever ↗ 38, if urinary symptoms ↗ 69, if confusion ↗ 36. - Consider using lower medication doses (give full doses of antibiotics and ART). Avoid unnecessary medication. Discuss with doctor if patient on diazepam, amitriptyline, codeine, ibuprofen, amlodipine or fluoxetine or is using ≥ 5 medications. - If memory problems and disorientation for at least 6 months, consider dementia ↗ 166.
Weight (BMI) and waist circumference	Yearly	- BMI = weight (kg) ÷ height (m) ÷ height (m). - If BMI ≥ 25 or waist circumference ≥ 80cm (woman) or ≥ 94cm (man) ↗ 156. If BMI < 18.5, refer for nutritional support.
BP	First visit, then depending on result	If BP ≥ 140/90 ↗ 148. If pregnant and BP ≥ 140/90 ↗ 149.
CVD risk	At first visit if: ≥ 40 years or any CVD risk factor then depending on result	- Assess CVD risk ↗ 142. - CVD risk factors: smoking, BMI ≥ 25, waist circumference ≥ 80cm (woman) or ≥ 94cm (man), hypertension, diabetes, cholesterol > 5.2, parent/sibling with early onset CVD² (man < 55 years or woman < 65 years). - If parent/sibling with familial hypercholesterolaemia, check random total cholesterol. If > 7.5, check TSH and refer to doctor.
Fingerprick glucose	- First visit if: ≥ 45 years or - If BMI ≥ 25/waist circumference ≥ 94cm (man) or ≥ 80cm (woman) and other risk factor - Then depending on result and risk status	- If not known diabetes, check glucose ↗ 19. - Risk factors: physical inactivity, hypertension, parent or sibling with diabetes, polycystic ovarian syndrome³, Indian ethnicity, cardiovascular disease, diabetes during pregnancy or previous big baby > 4000g, previous impaired glucose tolerance or impaired fasting glucose.
HIV	- If status unknown and annually - If high risk: 6 monthly - If pregnant: every antenatal visit - If breastfeeding: 3 monthly	- Test for HIV ↗ 124. Test more frequently depending on recent exposure. - High risk: men who have sex with men (MSM), sex workers, transgender people, people who inject drugs, and people in correctional facilities/closed settings.
Cancer risk	First visit and yearly if at risk	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.
Breast check	- First visit - If 40-70 years: 6 monthly	- Check for: - new lumps in breasts ↗ 55 or axillae ↗ 55 or thickening in breast or armpit. - nipple inversion/discharge (other than milk), dimpling, redness, or puckering of breast skin ↗ 55.
Continue to manage the patient's general health → 13.		

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA. ³Polycystic ovarian syndrome to change to polyendocrine metabolic ovarian syndrome.

Advise the patient about his/her general health

- Ask the patient about his/her concerns and expectations from this visit, and try to address these.
- Educate patient that not all tests, treatments and procedures help prevent or treat disease. Some provide little or no benefit and may even cause harm (like doing x-rays or giving antibiotics unnecessarily).
- Help the patient to choose behavioural changes to improve and maintain his/her general health. Support the patient to change → 199.

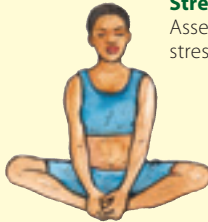
Smoking

Alert patient to the risks and encourage to stop → 164.



Stress

Assess and manage stress → 98.



Be sun safe

- Avoid sun exposure, especially between 10h00 and 15h00.
- Use sunscreen and protective clothing (e.g. hat) when outdoors.
- If albinism → 94.



Have safe sex

- Have only 1 partner at a time.
- If HIV negative, test for HIV between partners and consider male medical circumcision.
- Advise partner/s and children to test for HIV.
- Always use condoms.



Road safety

- Use pedestrian crossings to cross the road.
- Use a seat belt.



Physical activity

- Aim for at least 30 minutes of moderate exercise (e.g. brisk walking) 5 days a week.
- Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.
- Exercise with arms if unable to use legs.



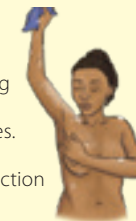
Avoid substance use

- Limit alcohol intake to ≤ 2 drinks/day if man and 1 drink/day if woman.
- If concern → 165.



Breast self-awareness

- Educate that breast cancer is common in women and treatable if found early. Although uncommon, men can still get breast cancer.
- Advise patient to be aware of changes breast.
- Encourage patient to look and feel for changes:
 - Check in mirror, when washing, and when lying on back.
 - Check skin, under arms, each breast and nipples.
- Advise to seek care if: painless hard lump in breast/under arm, nipple discharge, nipple retraction (pulled in), skin changes (rash, dimpling).



Diet

- Eat a variety of foods in moderation. Reduce portion sizes.
- Increase fruit, vegetables, nuts and legumes.
- Choose whole grain bread/rice or potatoes rather than white bread/rice.
- Replace brick margarine/butter with vegetable oil or soft tub margarine. Remove skin and fat from meat.
- Reduce salty processed foods like gravies, stock cubes, packet soup. Avoid adding salt to food.
- Avoid/use less sugar.



Advise the patient on ways to prevent malaria

- Advise the patient living in or travelling to a malaria area² to use preventative measures against mosquito bites from sunset to sunrise:



Sleep under an insecticide-treated mosquito net.



Apply insect repellent (30% DEET) to exposed skin and clothing. Avoid contact with lips, eyes and breaks in skin.



Wear long sleeves, long trousers and socks if outside.



Use chemoprophylaxis (see below) when travelling to a moderate or high-risk malaria area².

- If travelling to a moderate or high-risk malaria area² within South Africa between September to May or outside South Africa during malaria season:
 - Try to plan travel during the dry season instead and avoid travel if pregnant or impaired immunity³.
 - Give chemoprophylaxis, ♦doxycycline 100mg daily. Start 2 days before entering malaria area and continue for 4 weeks after leaving malaria area. Avoid if pregnant or breastfeeding.

Treat preventively to maintain the patient's general health

Vaccine	When	Note
Influenza	If health worker, > 65 years, HIV positive, hypertension, stroke, diabetes, asthma, COPD, cancer, pregnant/postpartum	• Give ♦influenza vaccine 0.5mL IM yearly. Severe egg allergy is not a contraindication. • Observe patient for adverse events following vaccination → 14.
Hepatitis B	If working in a health facility (medical and non-medical staff)	• If not given before, give ♦hepatitis B vaccine 1mL IM immediately, at 4 weeks and 6 months (3 doses in total). • Observe patient for adverse events following vaccination → 14.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²Check NICD: South African malaria risk map 2024: www.nicd.ac.za/wp-content/uploads/2025/12/National_Risk_Map-02-Dec-2025.pdf. ³Known PLHIV, diabetes, cancer, previous splenectomy, or receiving chemotherapy or long-term corticosteroids.

OBSERVATION POST VACCINATION



Scan QR code to download Medsafety App to report medication adverse events

- Observe patient for at least 15 minutes after vaccination. If patient known with severe allergies: observe for 30 minutes.
- Check for signs or symptoms that may indicate an adverse reaction:



Collapse →15.

Feeling faint/unwell symptoms

- Light-headedness or dizziness
- Feeling warm or cold
- Sweating
- Palpitations
- Visual 'blurring' (darkening or white-out of vision)
- Reduced hearing ('whooshing' noise)
- Pallor reported by onlookers



- Ask patient to lean forward with head between knees, or lie down flat, for several minutes until feeling better.
- Loosen tight clothing – undo buttons around neck, loosen tie/belt.
- Apply a cool cloth to face or neck.
- Calmly reassure patient.

Do symptom/s improve quickly (minutes)?

Yes

Observe until symptoms resolve.

No

Skin/mucosal symptoms



- Itchiness
- Skin rash (hives)
- Swelling of eyes, lips, tongue, face, or hands/feet
- Nasal congestion

Respiratory symptoms



- Wheeze or cough
- Throat tightness
- Stridor
- Shortness of breath
- Hoarseness
- Oxygen sats < 92%
- Trouble swallowing
- Drooling

Gastrointestinal symptoms



- Nausea
- Vomiting
- Diarrhoea
- Cramps

Decide when to treat for anaphylaxis
Are 2 or more body systems involved?

Yes

Observe until symptoms resolve.

No. Does patient have generalised urticaria (raised red rash/hives) involving the whole body?

Yes

No. Are signs or symptoms serious or life-threatening, even if only single body system (hypotension, respiratory distress, or significant swelling of the tongue or lips)?

Yes

Treat as anaphylaxis →28.

No

- If isolated rash (raised, red rash in patient who is otherwise well without other symptoms):
 - Monitor for other symptoms for at least 30 minutes to pick up any other symptoms:
 - If no other associated symptoms and patient remains well, **pseudoallergic self-limiting rash** likely: reassure patient and advise to take oral antihistamines.
 - Advise to seek urgent health care if any of the following develop: swelling of face, lips or tongue, difficulty breathing, abdominal pain, nausea or vomiting.
- If other symptoms: discuss with doctor/specialist urgently.
- If in doubt, treat as anaphylaxis →28.

Report adverse events following vaccinations

Report electronically using the Med Safety app (scan the QR code for download) or complete Case Reporting Form (CRF)¹ for Adverse Events Following Immunisation (AEFI) and forward to AEFI@health.gov.za.

¹Case reporting form found at: www.sahpra.org.za/health-products-vigilance.

COLLAPSE FOLLOWING VACCINATION



Scan QR code to download Medsafety App to report medication adverse events

- Call for help.
- Lie patient flat on his/her back and raise legs.
- Check response: if unresponsive, check circulation, airway and breathing.
 - If no pulse/not breathing, start CPR → 16.
 - If breathing and pulse present: assess timing of collapse and duration of loss of consciousness and check breathing, pulse and BP:

Sudden collapse

- Occurs suddenly, at the time of vaccination (before, during or immediately after).
- Loss of consciousness usually lasts 20 seconds to 1 minute and is relieved by lying patient down and raising legs.
- BP is: briefly low but rapidly normal again.
- Pulse may be slow.
- Breathing is usually normal but may be rapid and deep (hyperventilation).
- No other signs or symptoms present.

Delayed collapse

- Occurs 5-10 minutes after vaccination (up to 1 hour).
- Loss of consciousness lasts > 1 minute and not relieved by lying patient down and raising legs.
- BP < 90/60 and remains low
- Pulse > 120
- Breathing: may have wheeze, stridor, cough
- Other signs and symptoms (like swelling or rash) present.

Fainting episode likely

Management:

- If not already done, lie patient flat on back and raise legs.
- Loosen any tight clothing: undo buttons around the neck, loosen tie or tight belt.
- Apply cool cloth to face/neck.
- Calmly reassure patient and explain what happened.
- Check for any injuries they may have sustained while falling.
- Stay with the patient until fully recovered. Patient should remain lying with legs raised until feeling better.

Treat as **anaphylaxis** → 28.

Refer if:

- Head injury.
- Known with a heart condition or other serious illness.
- Patient has unusual symptoms, such as chest pain, shortness of breath, confusion, blurred vision, or difficulty talking.

Report adverse events following immunisations experienced with vaccines:

Report electronically using the Med Safety app (scan the QR code for download) or complete Case Reporting Form (CRF) 1 for Adverse Events Following Immunisation (AEFI) and forward to AEFI@health.gov.za.

¹Case reporting form found at: www.sahpra.org.za/health-products-vigilance.

THE EMERGENCY PATIENT

Give urgent attention to the emergency patient

Does the patient respond to voice or physical stimulation?

Yes

No

- Call for help and an automated external defibrillator (AED) or defibrillator.
- Feel for carotid pulse for maximum of 10 seconds.

Pulse felt

No pulse felt or unsure

Check breathing

Start CPR¹ → 17.

Breathing well

Gasping or not breathing

- Check airway clear.
- Give 1 breath with bag-valve-mask attached to 100% oxygen at 10-15L/min, every 6 seconds.
- Recheck pulse every 2 minutes. If no pulse, start CPR¹ → 17.

Assess and manage airway, breathing, circulation and level of consciousness

Airway

- If airway obstructed (snoring, gurgling, noisy breathing), open with head-tilt and chin-lift. If neck injury suspected, use jaw-thrust² instead, keeping neck stable.
- Remove foreign bodies from mouth and suction fluids.
- If unconscious, insert oropharyngeal airway. If patient resists, gags or vomits, use lubricated nasopharyngeal airway instead.
- Intubate if unable to maintain airway with oro- or nasopharyngeal airway.

Breathing

- If difficulty breathing or oxygen saturation < 94%, give face mask oxygen to maintain saturation ≥ 94%.
- If respiratory rate < 9 or blue lips/tongue, connect bag-valve-mask to oxygen and slowly deliver each breath with the patient.
- Intubate if using bag-valve-mask and still difficulty breathing, oxygen saturation < 94% or blue lips/tongue.
- If sudden breathlessness, more resonant/decreased breath sounds/pain on 1 side, deviated trachea, **tension pneumothorax** likely:
 - Insert large bore cannula above the 6th rib, anterior axillary line.
 - Arrange urgent chest tube.

Circulation

- Establish IV access.
- If pulse < 50 and unstable (BP < 90/60, decreased consciousness, chest pain or acute heart failure³): give **atropine** 0.5mg IV. Repeat every 3 minutes, up to a total of 3mg.
- If shock³/SBP < 80, pulse ≥ 100 or heavy bleeding, give **sodium chloride 0.9%** 1L IV rapidly, repeat until SBP > 80. If known heart problem or severe infection suspected, give instead **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until SBP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- Stop bleeding: apply pressure and elevate limb. If bleeding still severe, apply tourniquet above injury.

Level of consciousness

- Assess Glasgow Coma Score (GCS):

Best motor response	Best verbal response	Eye opening
6 Obeys commands	5 Orientated	4 Spontaneous
5 Localises to pain	4 Confused	3 To voice
4 Withdraws from pain	3 Inappropriate words	2 To pain
3 Abnormal flexion to pain	2 Incomprehensible sounds	1 None
2 Extends to pain	1 None	
1 None		

- Add scores to give a single score out of 15:
 - If GCS ≤ 8, intubate patient.

Manage further and refer urgently:

- While awaiting transport, continue to assess and manage airway, breathing, circulation and level of consciousness.
- If decreased consciousness or vomiting, place in left lateral lying (recovery) position.
- If decreased consciousness → 18, if injured → 30, if seizures/just had a seizure → 20, if burns → 31, if bite/sting → 29, if fever → 38, if rash → 82, if anaphylaxis → 28.
- If other symptom, manage as on symptom page.

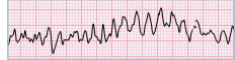
¹If the patient has a life-limiting illness, consider whether or not to proceed. If CPR not needed in the palliative care patient, address the dying patient's needs → 193. ²Lift chin forward with fingers under bony tips of jaw. ³Leg swelling, difficulty breathing which worsens on lying down/with effort. ⁴If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, **shock** likely.

CARDIOPULMONARY RESUSCITATION (CPR)

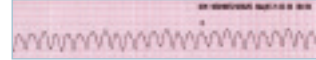
If patient has no pulse, record the time and start chest compressions

- Give continuous cycles of 30 chest compressions and 2 breaths with bag-valve-mask attached to 100% oxygen at 10-15L/min.
- Attach monitor/defibrillator and pause compressions to check initial heart rhythm:

Ventricular fibrillation (VF)



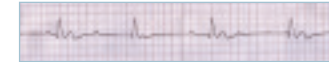
Pulseless ventricular tachycardia (pVT)



Asystole



**Any other rhythm:
Pulseless electrical activity (PEA)**



Give shock of 120-150J.
If monophasic defibrillator, give instead shock of 360J.

- Immediately restart CPR, starting with chest compressions.
- After 2 minutes of CPR, pause compressions and recheck heart rhythm

VF

pVT

Asystole

Other rhythm

Give shock of 120-150J (increase joules with each shock given).
If monophasic defibrillator, give instead shock of 360J.

Feel for carotid pulse for up to 10 seconds.

No pulse felt

Unsure

Pulse felt

PEA

Stop CPR
and check
breathing
→ 16.

- Immediately restart CPR, starting with chest compressions.
- Give **adrenaline**¹ 1mL (1:1000 solution) IV, followed by 5mL **sterile water** or **sodium chloride 0.9%**. Repeat adrenaline every 2 cycles (every 3-5 minutes).
- After every 2 minutes of CPR, pause compressions, recheck heart rhythm and manage as above.

While giving continuous CPR

- Doctor to consider intubation. If intubated, give 1 breath every 6 seconds and continuous chest compressions.
- Look for and manage possible cause:
 - If trauma, diarrhoea/vomiting or dehydration², give **sodium chloride 0.9%** 1L IV rapidly. Repeat if needed. If unsure, discuss with doctor.
 - If glucose < 3 (< 4 if diabetes) or unable to measure → 19. If temperature ≤ 35°C → 18. If overdose/poisoning, discuss with specialist or poison helpline → 200.
 - If more resonant/decreased breath sounds on 1 side or deviated trachea, **tension pneumothorax** likely. Insert large bore cannula above the 6th rib, anterior axillary line. Arrange urgent chest tube.

Decide when to stop CPR

- If ongoing VF/pVT, temperature ≤ 35°C, snake bite or overdose/poisoning, continue CPR and discuss/transfer urgently.
- If none of above or asystole after 20 minutes of continuous CPR or incurable underlying disease, consider stopping CPR in consultation with doctor.
- If CPR stopped, pronounce dead and arrange bereavement counselling for family.

How to give chest compressions

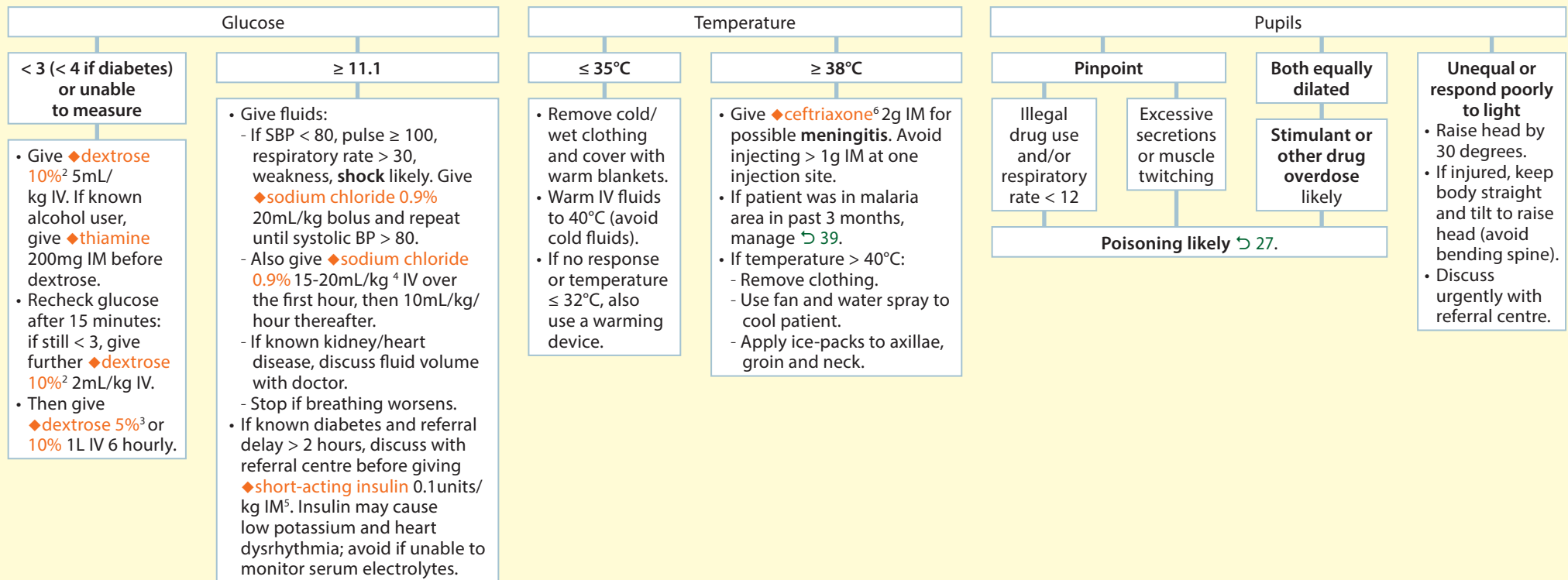
- Ensure patient is lying on firm surface. If on bed, use backboard or move patient onto floor.
- Place heel of one hand over lower half of sternum. Place heel of second hand on top of first hand.
- Push down quickly, hard (depth of 5-6cm) and fast (100-120 per minute).
- Allow chest to return to normal shape between compressions.
- Do not interrupt compressions unless giving ventilations or checking heart rhythm.
- Swop with colleague every 2 minutes to avoid fatigue.

¹Adrenaline is also known as epinephrine. ²Thirst, dry mouth, poor skin turgor, BP < 90/60, dehydration likely.

DECREASED CONSCIOUSNESS

Give urgent attention to the patient with decreased consciousness:

- First assess and manage airway, breathing, circulation and level of consciousness ↗ 16.
- Identify all injuries and look for cause, undress patient and assess front and back. If injured, use log-roll to turn. Then cover and keep warm.
- If seizures ↗ 20, if injuries ↗ 30, if burns ↗ 31.
- If sudden decreased consciousness and any of: generalised itch/rash, face/tongue swelling, wheeze, difficulty breathing, abdominal pain, vomiting or exposure to possible allergen¹, check for anaphylaxis ↗ 28.
- Check glucose, temperature and pupils:

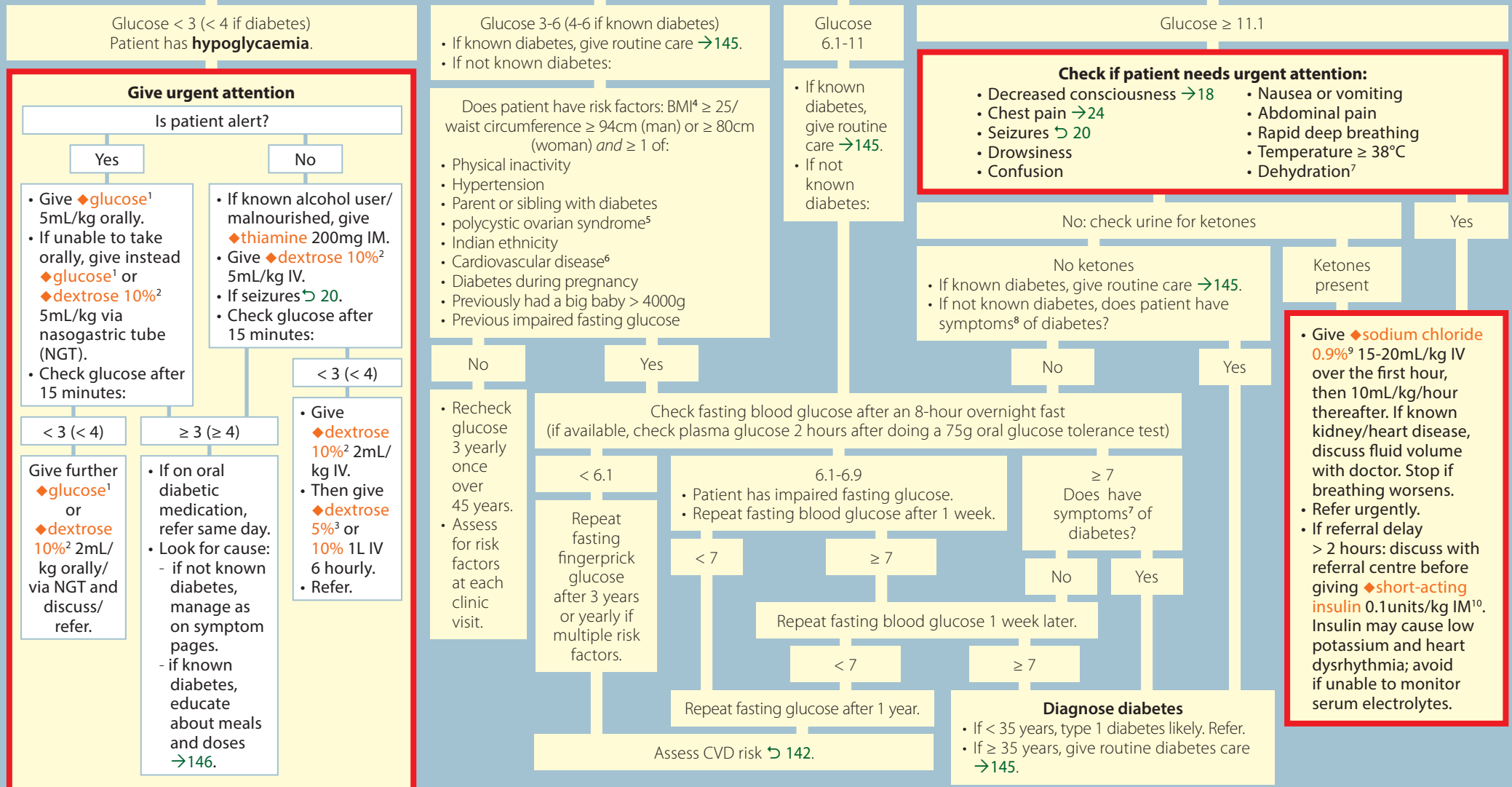


- Refer urgently.
- While awaiting transport:
 - Check BP, pulse, respiratory rate, oxygen saturation and GCS every 15 minutes. Insert urinary catheter.
 - If BP < 90/60, pulse > 100 or < 50, respiratory rate > 20 or < 9, oxygen saturation < 94% or drop in GCS, reassess and manage airway, breathing, circulation and level of consciousness ↗ 16.

¹Common allergens include medication, food or insect bite/sting within the past few hours. ²If dextrose 10% unavailable: mix 1 part dextrose 50% to 4 parts water for injection to make dextrose 10% solution. ³If dextrose 5% not available: add 10mL dextrose 50% to each 100mL of sodium chloride 0.9%. ⁴Avoid giving > 50mL/kg in the first 4 hours. ⁵Avoid using insulin needle, use 22-25 gauge needle. ⁶If severe penicillin allergy (previous anaphylaxis, urticaria or angioedema), discuss with doctor.

ASSESS AND MANAGE GLUCOSE

Interpret and manage random fingerprick glucose:



¹Three teaspoons sugar (15g) in 1 cup (200mL) water. ²If dextrose 10% unavailable: mix 1 part dextrose 50% to 4 parts water for injection to make dextrose 10% solution. ³If dextrose 5% not available: add 10mL dextrose 50% to each 100mL of sodium chloride 0.9%. ⁴BMI = weight (kg) ÷ height (m) ÷ height (m). ⁵Polycystic ovarian syndrome to change to polycystic ovarian metabolic syndrome. ⁶Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA. ⁷Thirst, dry mouth, poor skin turgor, BP < 90/60, pulse ≥ 100. ⁸Unexplained weight loss, tiredness, thirst (especially at night), passing excessive amounts of urine often, periodic changes in vision, frequent infections (e.g. urinary, skin). ⁹If shock/SBP < 80, also give 20mL/kg bolus and repeat until SBP > 80. Avoid giving > 50mL/kg in the first 4 hours. ¹⁰Avoid using insulin needle, use 22-25 gauge needle.

SEIZURES/FITS

Give urgent attention to the patient who is unconscious and fitting:

- If current head injury → 30.
- Place in recovery position¹. Do not place anything in mouth.
- Give oxygen via face mask or nasal cannula to maintain oxygen saturation $\geq 95\%$.
- Establish IV access.
- Check fingerprick glucose: if glucose < 3 (< 4 if diabetes) or unable to measure → 19.
- If ≥ 20 weeks pregnant up to 1 week postpartum → 177.
- If not pregnant or < 20 weeks pregnant, manage as below:

If fit has lasted ≥ 5 minutes, give medication to stop the fit and refer urgently:

- If IV access available: give ►midazolam^{2,3} 10mg IV or ►diazepam^{2,3} 10mg slow IV over 5 minutes.
- If IV access not available: give ►midazolam^{2,3} 10mg IM/buccal⁴ or if midazolam not available, give a single dose of rectal ►diazepam^{2,3} 0.2-0.5mg/kg (maximum 20mg/dose).
- Monitor airway and breathing: if slow or shallow breathing, ventilate with bag-valve mask with oxygen at 10-15L/min (1 breath every 3-5 seconds) → 16 and refer urgently.
- Expect a response within 5 minutes:

If still fitting after 5 minutes

- If IV access available: give ►midazolam^{2,3} 10mg IV or ►diazepam^{2,3} 10mg slow IV over 5 minutes.
- If IV access not available: give ►midazolam^{2,3} 10mg IM/buccal⁴ or if not already given, single dose of rectal ►diazepam^{2,3} 0.2-0.5mg/kg (maximum 20mg/dose)
- Continue to monitor airway and breathing: if slow or shallow breathing, ventilate with bag-valve mask with oxygen at 10-15L/min (1 breath every 3-5 seconds) → 16 and refer urgently. Assess need for intubation.
- Expect a response within 5 minutes:

If still fitting after 5 minutes

- Give a single dose crushed ►levetiracetam² 60mg/kg (maximum 4500mg) via nasogastric tube.
- Continue to monitor airway and breathing: if breathing stops or gasping, ventilate with bag-valve mask with oxygen at 10-15L/min (1 breath every 3-5 seconds). Assess need for intubation → 16.
- If fitting continues, discuss further management with referral hospital.

Patient stops fitting

- Keep patient in recovery position¹.
- Continue oxygen to maintain sats $\geq 95\%$.
- If known with epilepsy and discontinued treatment, restart antiseizure medication or start new antiseizure medication if indicated.

¹Recovery position: turn onto left side, place left hand under cheek with neck slightly extended and bend the right leg to stabilise position. ²If no doctor available, nurse to get telephonic prescription. The doctor must provide a written, signed prescription within 72 hours of the telephonic prescription. ³Benzodiazepines can cause respiratory depression (slow, shallow breathing). ⁴Buccal: use 5mL syringe to draw up correct dose, remove needle and give midazolam between the cheek and gum.

Approach to the patient who is not fitting now

Confirm that patient indeed had a seizure/fit: jerking movements of part of or the whole body, usually lasting < 3 minutes. May have had tongue biting, incontinence, post-fit drowsiness and confusion.

Yes

Refer patient same day if any of:

- Temperature $\geq 38^{\circ}\text{C}$, headache, neck stiffness or purple/red rash, **meningitis** likely: give
 - ♦ **Ceftriaxone**¹ 2g IM. Avoid injecting > 1g IM at one injection site. If referral delayed, repeat dose after 12 hours.
 - ♦ **Paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed *and/or* ♦ **ibuprofen**² 400mg 8 hourly with/after food as needed. If severe pain, also give ▶ **tramadol** 50-100mg 4-6 hourly (maximum of 400mg daily).
- If patient was in malaria area in past 3 months and malaria test³ positive, also give ♦ **artesunate** 2.4mg/kg IM. Patient to reach referral hospital within 6 hours. If referral delayed, repeat dose after 12 hours. Notify⁴.
- New/different headache or headache getting worse/more frequent.
- Patient with HIV and no known epilepsy.
- Decreased consciousness > 1 hour after fit → 18.
- Glucose < 3 (< 4 if diabetes) or unable to measure, ↪ 19.
- Glucose ≥ 11.1 → 19.
- New sudden asymmetric weakness or numbness, difficulty speaking or visual disturbance.
- BP $\geq 180/130$ more than 1 hour after fit has stopped.
- Alcohol/drug use: overdose or withdrawal.
- Recent head injury.
- Pregnant or up to 1 week postpartum. If ≥ 20 weeks pregnant and just had fit → 177.

No

New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance

Stroke or TIA likely
→ 152.

Collapse with twitching lasting < 15 seconds following flushing, dizziness, nausea, sweating and with rapid recovery

Common faint likely
→ 45.

If diagnosis uncertain, refer.

Approach to the patient who had a fit but does not need same day referral

Is the patient known with epilepsy?

Yes

Give routine **epilepsy** care
→ 167.

No

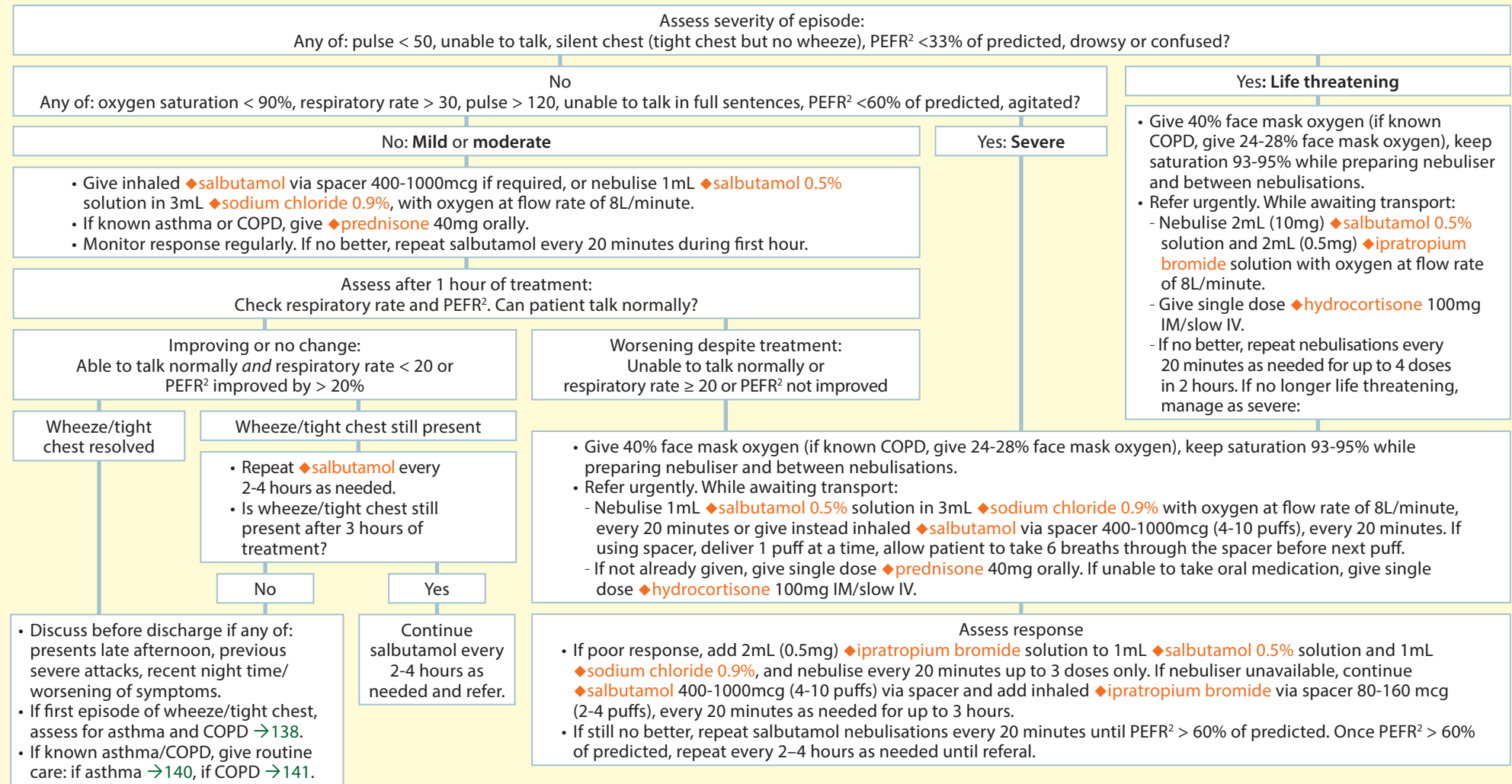
- Doctor to check full blood count, creatinine (eGFR), urea, sodium, calcium and review results.
- If focal seizures or new seizures after meningitis, stroke or head injury, discuss with specialist.
- If patient had ≥ 2 definite seizures with no identifiable cause, doctor to consider epilepsy and give routine care → 167.

¹If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. ²Avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease or pregnant. ³Test for malaria with rapid diagnostic test if available. If not available send blood to laboratory for microscopy. Rapid tests may stay positive for up to one month after successful treatment. A negative test does not exclude malaria, request a second test. ⁴Notify within 24 hours via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.

WHEEZE/TIGHT CHEST

- If sudden wheeze/tight chest and any of: generalised itch/rash, face/tongue swelling, BP < 90/60, dizziness/collapse, abdominal pain, vomiting or exposure to possible allergen¹, check for anaphylaxis → 28.
- If difficulty breathing worse on lying flat and leg swelling or patient ≥ 50 years with first episode of wheeze/tight chest, **heart failure** likely → 151.

Give urgent attention to the patient with wheeze/tight chest:



¹Common allergens include medication, food or insect bite/sting within the past few hours. ²Peak expiratory flow rate: PEF² is expressed as a percentage of the predicted normal value for the patients age and height → 139.

COUGH OR DIFFICULTY BREATHING

Give urgent attention to the patient with cough or difficulty breathing and any of:

- Difficulty breathing worse on lying flat and leg swellin, **heart failure** likely →164
- Cyanosed, oxygen saturation < 92% at rest or drops to < 87% on exertion (walking 15-20m)
- Sudden breathlessness, more resonant/decreased breath sounds/pain on 1 side, deviated trachea, BP < 90/60, **tension pneumothorax** likely
- Wheeze/tight chest →22
- Confused, agitated or reduced consciousness
- Breathless at rest or while talking
- Respiratory rate ≥ 30
- Shock¹/SBP < 80
- Pulse > 120
- Coughs ≥ 1 tablespoon fresh blood
- Swelling and pain in one calf

Manage and refer urgently:

- If short of breath or oxygen saturation < 95%, give oxygen: 1-4L/min via nasal prongs or 6-10L/min via facemask, up to 10-15L/min via non-rebreather mask. Aim for oxygen saturation ≥ 90%.
- If **tension pneumothorax** likely: insert large bore cannula² above 6th rib, anterior axillary line. Arrange urgent chest tube.
- If shock/systolic BP < 80, give ♦**sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If **severe pneumonia** (2 or more of: confusion/decreased level of consciousness, BP < 90/60, RR ≥ 30 or age > 65): give ♦**ceftriaxone**³ 1g IV/IM.
- If rapid deep breathing, check fingerprick glucose. If > 11.1 →19.

Approach to the patient with cough or difficulty breathing not needing urgent attention

- Test for HIV → 124. If on abacavir, check for abacavir hypersensitivity reaction (AHR) → 131.
- Test for TB: send 1 sputum sample for TB NAAT → 102.
- If patient smokes, encourage to stop → 164.

Ask about duration and recurrence of cough or difficulty breathing:

Cough < 2 weeks and not recurrent

Does patient have crackles or bronchial breathing on auscultation?

No: **Acute viral infection** likely

- Usually sudden onset fever, chills or body pain.
- If recent cold and now tight/sore chest or coughing sputum, **acute bronchitis** likely.
- Advise antibiotics are not needed.
- If pain/fever: give ♦**paracetamol** 500mg-1g 4-6 hourly (max 4g/24 hours) as needed for up to 5 days.
- Advise rest and hydration.
- Advise patient to return if earache, pain over sinuses, or cough/fever persists longer than 1 week.

Yes: **Pneumonia** likely

- Confirm diagnosis with chest x-ray if available.
- If poor living conditions, adherence to treatment unlikely, or no transport, refer.
- Any of: HIV, > 65 years, lung/heart/liver/kidney disease, diabetes or alcohol misuse?

Yes: give ♦**amoxicillin/clavulanic acid**⁴ 875/125mg 12 hourly for 5 days.

No: give ♦**amoxicillin**⁴ 1g 8 hourly for 5 days.

- If pain/fever: give ♦**paracetamol** 500mg-1g 4-6 hourly (max 4g/24hours) as needed for up to 5 days.
- Advise rest and hydration and to return if worsens.
- Review after 2 days: if no better, refer.
- If > 50 years or persistent symptoms, repeat chest x-ray 4-6 weeks after treatment or earlier if worsening symptoms/complications suspected (e.g. empyema/abscess/pneumothorax).

Cough/difficulty breathing ≥ 2 weeks or recurrent episodes

- If itchy/blocked nose, or frequent throat clearing, consider underlying nose problems → 51.
- Also consider asthma and COPD → 138 and other cause:

HIV with CD4 < 200 and dry cough, shortness of breath

Pneumocystis pneumonia (PJP) likely

- Doctor to confirm on chest x-ray.
- If > 56kg, give ♦**co-trimoxazole** 320/1600mg, 6 hourly for 3 weeks. If < 56kg, reduce dose⁵.
- Give HIV routine care → 126.
- Refer same day if: x-ray atypical/unavailable, shortness of breath on mild exertion or RR > 24.

Persistent snoring or poor sleep

Obstructive sleep apnoea likely

- If overweight → 156.
- Refer if enlarged tonsils, stops breathing/chokes/gasps while sleeping.

Recent upper respiratory tract infection, no difficulty breathing

Post-infectious cough likely

- Reassure cough should resolve on its own.
- Advise to return if cough persists > 8 weeks.

Smoker or recently stopped

- If weight loss, consider **lung cancer** → 37.
- If coughing with/without sputum most days of 3 months for ≥ 2 years, **COPD** likely → 138.

If diagnosis uncertain or poor response to treatment, refer. If patient has life-limiting illness, also give palliative care → 191.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Large bore cannula: 14G (orange), 16G (grey), 18G (green). ³If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. Avoid giving Ringer's lactate together with IV ceftriaxone. ⁴If severe penicillin allergy, give instead ♦**moxifloxacin** 400mg daily for 5 days. ⁵If < 40kg, give 160/800mg. If 40-56kg, give 240/1200mg.

CHEST PAIN

Give urgent attention to the patient with chest pain and any of:

- Respiratory rate ≥ 30 or difficulty breathing
- BP $\geq 180/110$ or $< 90/60$
- Pulse irregular, > 100 or < 50
- Severe pain
- New pain or discomfort in centre or left side of chest
- Pain radiates to neck, jaw, shoulder/s or arm/s
- Nausea or vomiting
- Pallor or sweating
- Known with ischaemic heart disease
- At risk of heart attack (diabetes, smoker, hypertension, high cholesterol, known CVD risk $> 20\%$, family history)

Do an ECG (doctor to review)

ECG abnormal
(ST elevation, ST depression or left bundle branch block)

ECG normal/other abnormalities or unavailable or uncertain

Is chest pain worse on lying down, palpation or breathing deeply?

No

Yes

Is chest pain/discomfort any of:

- Occurs at rest or with minimal effort
- Not relieved by rest or sublingual nitrates
- Worse/lasts longer than usual
- Occurs more often than usual
- Lasts ≥ 10 minutes

Yes

No

Is patient known with stable angina?

No

Yes

Acute coronary syndrome (heart attack or unstable angina) likely. Manage and refer urgently:

- If oxygen saturation $< 90\%$ or respiratory rate ≥ 30 , give 40% face mask oxygen. Avoid oxygen if saturation $\geq 96\%$.
- Give single dose **aspirin** 150mg chewed/dissolved.
- Establish IV access.
- If BP $< 90/60$ or $> 180/130$, discuss further management with specialist or referral hospital.
- If current chest pain and BP $> 90/60$:
 - Give **isosorbide dinitrate** sublingual 5mg every 5 minutes until pain relieved to a maximum of 4 doses of 5mg. Avoid if sildenafil (Viagra®) or vardenafil used within past 24 hours.
 - If ongoing severe chest pain, give **morphine** 5mg slow IV². If needed, give another 1mg/minute until pain improved, up to 10mg.
 - Monitor BP. If BP drops $< 90/60$ stop morphine and discuss with specialist or referral hospital.
- Doctor to review ECG as soon as possible (if not already done):
 - If no ST elevation or left bundle branch block, or unsure, discuss with specialist or referral hospital. If ongoing chest pain, repeat ECG.
 - Give streptokinase only if ECG shows ST elevation³ or left bundle branch block and if ≤ 6 hours since maximal chest pain. If > 6 hrs since maximal chest pain or ongoing pain, discuss streptokinase with specialist or referral hospital.
 - Avoid if streptokinase given in past year⁴ or known allergy to it, stroke in past 3 months, recent major trauma, major surgery in past month, active bleeding, known bleeding disorder, aneurysm or aortic dissection. Discuss with specialist/referral hospital if any of: warfarin treatment, recent retinal laser treatment, subclavian central line, pregnant, TIA in past 6 months or unsure.
 - Give **streptokinase** 1.5 million IU diluted in 100mL **sodium chloride 0.9%** IV over 30-60 minutes.
 - Monitor BP: if $< 90/60$, slow rate of infusion (avoid stopping it). Aim to complete infusion in under 60 minutes.

Patient has **stable angina**. Give routine ischaemic heart disease care $\rightarrow$ 153.

Manage and refer urgently:

- If oxygen saturation $< 94\%$, oxygen saturation not available, respiratory rate ≥ 30 or difficulty breathing, give face mask oxygen.
- If sudden breathlessness, more resonant/decreased breath sounds/pain on one side, deviated trachea, **tension pneumothorax** likely:
 - Doctor to insert large bore cannula above 6th rib, anterior axillary line and arrange urgent chest tube.
- If shock⁵/systolic BP < 80 , give **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until SBP > 80 . Continue 1L 6 hourly. Stop if breathing worsens.
- If BP $> 180/130$, give single dose **amlodipine** 10mg orally.
- If chest pain worse on breathing deeply, coughing sputum and temperature $\geq 38^\circ\text{C}$, **pneumonia** likely: give **ceftriaxone** 1g IV⁶/IM.

¹Chest pain caused by ischaemic heart disease. ²Dilute 10mg **morphine** with 9mL of sodium chloride 0.9%. Give diluted morphine 5mL IV over 5 minutes (1mL/minute). ³ST elevation > 1 mm in two or more contiguous limb leads or ST elevation > 2 mm in two or more contiguous chest leads. ⁴Discuss use of alteplase with a specialist/referral hospital. ⁵If SBP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, **shock** likely. ⁶If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. Avoid giving Ringer's lactate together with IV ceftriaxone.

Approach to the patient with chest pain not needing urgent attention

- If cough, fever or pain on breathing deeply → 23.
- Ask about site of pain and associated symptoms:

Retrosternal or epigastric pain with eating, hunger or lying down/bending forward

Dyspepsia (heartburn) likely

- Advise to stop NSAIDS (e.g. ibuprofen/aspirin).
- If smoking, encourage to stop → 164.
- Limit alcohol/caffeine/spicy food.
- Avoid fizzy drinks, fatty food, late night meals. Eat small frequent meals. Sleep on left side with upper body elevated.
- If BMI ≥ 25 and waist circumference ≥ 80 cm if woman or ≥ 94 cm if man, **gastro-oesophageal reflux disease** likely. Assess and manage overweight/obesity → 156.
- Discuss/refer if any of:
 - Hb < 12 if woman or < 13 if man
 - Blood in vomit or black sticky tar-like stool (melaena)
 - Difficulty or discomfort/pain with swallowing
 - Persistent vomiting
 - Unintentional weight loss
 - Recurrent symptoms and > 50 years, history of previous gastric surgery, family history of stomach/oesophageal cancer.
- Give ♦omeprazole 20mg daily for 14 days. Avoid if on atazanavir/ritonavir, discuss with specialist.
- Advise to return if no better after 7 days. Refer.

Tender at costochondral junction, no fever or cough

Musculoskeletal problem likely

- Give ♦ibuprofen 400mg 8 hourly with/after food for up to 5 days (avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant or breastfeeding).
- If pain persists > 4 weeks, refer.

Burning pain on one side of body with or without rash

Herpes zoster (shingles) likely
→ 83.

If diagnosis uncertain, refer same week.

PALPITATIONS

Palpitations refer to patient's unpleasant awareness of his/her own fast or irregular heartbeat. Patient may describe 'heart racing' or 'pounding' or 'fluttering in the chest'.

Give urgent attention to the patient with palpitations and any of:

- Faint or loss of consciousness
- Dizziness or light-headedness
- Confusion
- Chest pain ↗ 24
- BP $\geq 180/110$ or $< 90/60$
- Pulse irregular, > 150 or < 50
- Fingerprick glucose < 3 (< 4 if diabetes) ↗ 19
- Calf or thigh pain and/or swelling
- Hb < 8
- Difficulty breathing, respiratory rate ≥ 30 or oxygen saturation $< 94\%$
- Difficulty breathing worse on lying flat and leg swelling, **heart failure** likely ↗ 151
- New sudden asymmetric weakness or numbness, difficulty speaking or visual disturbance, consider **stroke/TIA** ↗ 152

Manage and refer urgently:

- Assess and manage airway, breathing and circulation ↗ 16. If oxygen saturation $< 94\%$, oxygen saturation machine not available, respiratory rate ≥ 30 or difficulty breathing, give face mask oxygen to maintain saturation $\geq 94\%$.
- Do ECG if available and send with patient.
- If chest pain, confusion, BP $< 90/60$ or signs of heart failure, or stroke: discuss with specialist if immediate treatment or cardioversion needed before urgent referral.

Approach to the patient with palpitations not needing urgent attention

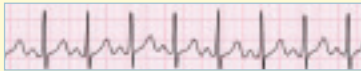
- If any of the following, arrange for cardiology appointment, same week if possible: known current or previous heart disease, a history of fainting, or family history of sudden death.
- Also do an ECG (if available) and discuss/refer to doctor for review. If unsure whether ECG is abnormal, discuss with specialist.

ECG unavailable

Premature ventricular contractions (PVCs)



Sinus tachycardia



Sinus rhythm



Atrial fibrillation (AF)
(irregular rate, absent 'p-waves')



Other arrhythmia or abnormality

Arrange for cardiology appointment same week if possible.

Check for fever, dehydration, anaemia, pregnancy and medication side effects

If temperature $\geq 38^\circ\text{C}$, assess and manage **fever** ↗ 38.

If thirst, dry mouth, poor skin turgor or decreased urine output, **dehydration** likely. If nausea/vomiting ↗ 57. If diarrhoea ↗ 58.

If pallor, check fingerprick Hb: if < 12 (woman) or < 13 (man), **anaemia** likely ↗ 44.

If woman of child bearing potential, do urine pregnancy test. If **pregnant** ↗ 175.

• Review patient's prescribed and over-the-counter medication¹ to check if any are known to prolong QT interval².
• Consider switch/stop medication. If unsure, discuss.

Discuss need for blood thinners and how to manage further with specialist.

If none of the above, consider thyroid or electrolyte abnormalities. Check TSH, potassium, magnesium and manage according to result.
If ECG unavailable: refer same day to nearest facility where available.

- Identify triggers. If palpitations are linked to smoking, excessive alcohol binges, caffeine, stimulants (diet pills or cocaine/amphetamines), advise to cut down or avoid these.
- Palpitations may be related to anxiety: decide this only once all other causes are excluded. Assess for stress and anxiety ↗ 98.

Review in 2 days. If palpitations persist, refer for further assessment.

¹Consult the South African Medicines Formulary (SAMF) or MIC helpline. ²Medications that prolong QT interval: macrolides (azithromycin), fluoroquinolones (moxifloxacin), bedaquiline, antipsychotics (haloperidol), antidepressants (citalopram or amitriptyline).

POISONING/OVERDOSE

While assessing the patient, contact Poisons Information Helpline (PIH) ↗ 200 or consult AfriTox database (if available) to help with management and to calculate toxic dose.

Give urgent attention to the patient with suspected poisoning/overdose and any of:

- Attempted self-harm/suicide ↗ 34
- Decreased level of consciousness ↗ 18
- Having/just had a seizure ↗ 20
- Pupils dilated or pinpoint
- Confused, agitated or hallucinating
- Weakness, muscle twitching
- Excessive drooling/sweating
- Persistent vomiting
- Difficulty breathing, tight chest, or slow/shallow breathing
- Respiratory rate < 12
- Shock¹/systolic BP < 80
- Pulse < 60 or >100

Manage and refer urgently:

- First assess and manage airway, breathing, circulation and level of consciousness ↗ 16. If oxygen saturation < 94%, give oxygen via face mask or nasal cannula to maintain oxygen saturation ≥ 94%. Doctor to consider intubation.
- If shock¹/systolic BP < 80, give ♦sodium chloride 0.9% 1L IV rapidly, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If poison on skin (e.g. pesticides):
 - Health worker to wear gloves, apron and surgical mask. If health worker/caregiver has any skin contact or contact with bodily fluids, wash off immediately.
 - Remove patient's clothes and wash patient with soap and water after emergency care given.
- If poison in eye/s, immediately flush eye/s under running water or ♦sodium chloride 0.9% for at least 20 minutes.
- Ask about amount, type and time of substance ingestion/exposure. Examine tablets, packets/containers of suspected substance. If any of the following oral preparations taken in toxic dose in the past hour: paracetamol/amitriptyline/carbamazepine/phenytoin/theophylline/salicylates/mushroom poisoning/slow release preparations/digoxin/beta-blockers/NSAIDs and patient fully awake/cooperative or intubated, give ♦activated charcoal² 50g diluted in 100mL water orally or via nasogastric tube. Avoid activated charcoal if patient swallowed petrol/paraffin/iron/lithium/lead/mercury/arsenic/drain cleaners/alcohol/antifreeze/household detergents.
- If pinpoint pupils, excessive drooling/sweating, excessive secretions, vomiting/diarrhoea, pulse < 60, BP < 90/60, **organophosphate poisoning** likely. Give ♦atropine 2mg IV immediately. Reassess every 3-5 minutes. If no response (still has excessive secretions, difficulty breathing, saturation < 94%, persistently low BP/pulse), give repeated doses of ♦atropine every 3-5 minutes, doubling the dose each time: 4mg, 8mg, 16mg, 32mg. If some response, give the same or reduced dose. Continue until secretions controlled. Suction secretions frequently.
- If shallow breathing/respiratory rate < 12 and **opioid³ overdose suspected**, connect bag-valve-mask to oxygen and slowly deliver each breath with patient. Also give ♦naloxone 0.4mg IV/IM⁴ immediately. If known opioid user/addict, discuss starting dose of naloxone with PIH. Reassess every 2 minutes: if respiratory rate still < 12, give increasing doses of naloxone every 2-3 minutes: 0.8mg, 2mg, 4mg, up to a total of 10mg. Naloxone wears off quickly, monitor closely and give further doses if needed.
- If overdose of > 10g or 200mg/kg of paracetamol or symptomatic and referral delay, give ♦N-acetylcysteine 140mg/kg orally, then 70mg/kg 4 hourly. Avoid giving N-acetylcysteine together with activated charcoal. Monitor closely for possible anaphylactic reaction⁵ after initial dose, assess and manage ↗ 28.
- If exposed to carbon monoxide (exhaust fumes), give 100% face mask oxygen.
- If no response, or overdose/poisoning with other or unknown substance, discuss with specialist or Poisons Information Helpline ↗ 200. Notify⁶ if pesticide, mercury or lead poisoning.

Approach to the patient with suspected poisoning/overdose not needing urgent attention

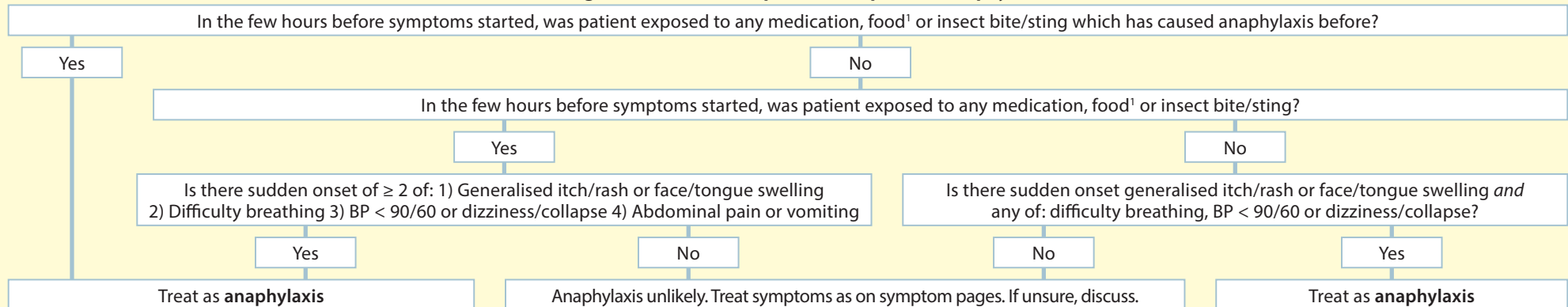
- Ask about amount, type and time of substance ingestion or exposure. Examine tablets, packets, containers of suspected substance. If intentional exposure to poison/overdose, refer.
- Contact the PIH ↗ 200 or consult AfriTox poisons information database to determine if toxic dose has been swallowed:

Toxic dose	Unknown poison or dose	Non-toxic dose and has symptoms	Non-toxic dose and no symptoms
• Refer urgently. • Discuss need for activated charcoal with PIH ↗ 200.	Discuss further management with PIH ↗ 200.		• If self-harm ↗ 34. • Advise to return if condition worsens.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²When mixing, add a small amount of water to charcoal in a container. Cap and shake the container to mix, then add the rest of the water. ³Examples of opioids include: codeine, tramadol, morphine, oxycodone, hydrocodone, fentanyl. ⁴Give naloxone IM only if IV not possible. ⁵Generalised rash, face/tongue swelling, vomiting, BP < 90/60. ⁶Notify within 24 hours (7 days if lead/mercury poisoning) via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.

ANAPHYLAXIS

Give urgent attention to the patient with possible anaphylaxis:



Manage anaphylaxis and refer urgently:

- Give immediately ♦adrenaline² 0.5mL (1:1000 solution) IM into mid outer thigh. Repeat every 5 minutes if needed. If patient has a prescribed auto-injector (like EpiPen®) available, use instead.
- Raise legs and give face mask oxygen at 8-10L/min up to 15L/min (100%) if needed.
- Give ♦sodium chloride 0.9% 1-2 L IV rapidly if BP still < 90/60 after adrenaline. Repeat until systolic BP > 90 then continue 1L 6 hourly. Stop if breathing worsens.
- If persistent wheeze or difficulty breathing despite adrenaline², also give 1mL ♦salbutamol 0.5% solution and 2mL ♦ipratropium bromide solution with 1mL ♦sodium chloride 0.9% via nebuliser every 20 minutes for 3 doses. If needed, assess and manage airway ↗ 16.
- Give ♦hydrocortisone 200mg IM/slow IV immediately *and* ♦promethazine 50mg IM/slow IV.

Assess the patient with previous anaphylaxis

Assess	When to assess	Note
Trigger	At first visit	Ensure a specialist has reviewed the patient with anaphylaxis to confirm trigger/s. Common triggers include medications, food ¹ and insect bites/stings.
Other allergy	At first visit	• If recurrent cough, wheeze, tight chest or difficulty breathing, exclude asthma ↗ 138. If known asthma, give routine asthma care ↗ 140. • If patches of dry, scaly, itchy skin on wrists, ankles, inside elbows or behind knees, eczema likely ↗ 84. • If itchy, red, raised wheals that appear suddenly and usually disappear within 24 hours, urticaria likely ↗ 84. • If recurrent sneezing or itchy/runny/blocked nose most days for > 4 weeks, allergic rhinitis likely ↗ 51. • If both eyes watery and itchy, allergic conjunctivitis likely ↗ 48.

Advise the patient with previous anaphylaxis

- Advise to avoid identified trigger/s and if trigger is a medication, to always inform health worker.
- Ensure patient has a plan in case of anaphylaxis: ambulance telephone number, nearest hospital and reliable transport plan.
- If adrenaline² auto-injector device (like EpiPen®) prescribed, ensure patient knows when and how to use it:
 - If exposed to trigger, use immediately if any of: itch/rash, face/tongue swelling, itchy/tight throat, cough, wheeze, difficulty breathing, dizziness/collapse, abdominal pain or vomiting. After use, immediately phone for ambulance.
 - Advise to read instructions found in packaging.
- Arrange a MedicAlert® bracelet ↗ 200 and advise patient to always wear it.

¹Common foods causing anaphylaxis include peanuts, tree nuts, egg, milk and fish. ²Adrenaline is also known as epinephrine.

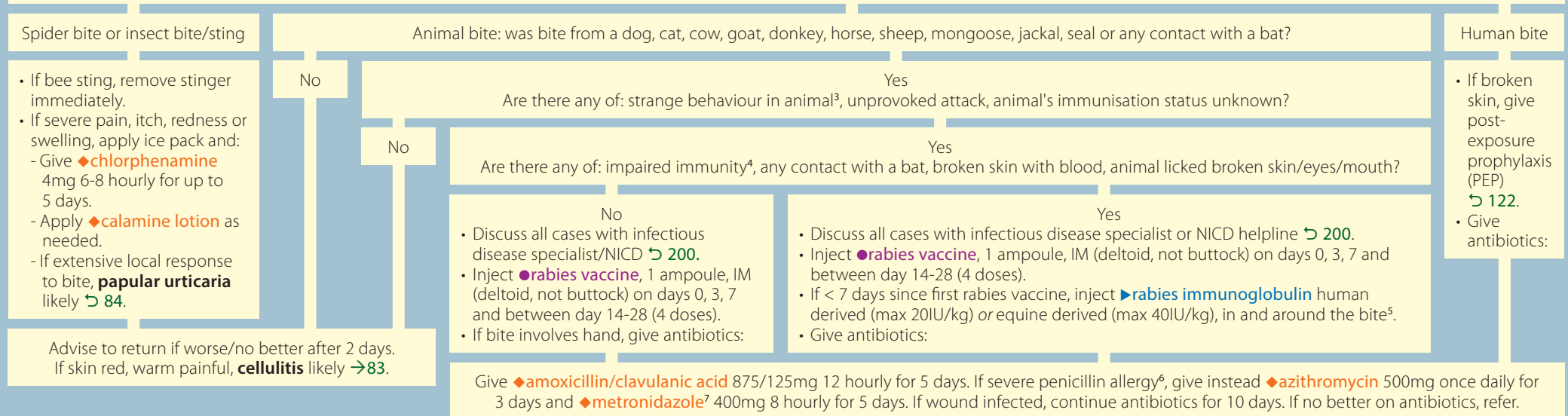
BITES AND STINGS

Give urgent attention to the patient with a bite/sting and any of:

- Snake bite¹ even if bite not seen
 - Scorpion¹ sting
 - Deep or large wound needing sutures
 - Actively bleeding
 - Venom in eyes
 - Weakness
 - Drooping eyelids
 - Difficulty swallowing/speaking
 - Double vision
 - Shock² /systolic BP < 80
 - Spider bite¹ with drooling, restlessness, muscle cramps
 - Sudden onset of generalised itch/rash, face/tongue itch/swelling, tight throat, hoarseness, cough, difficulty breathing, wheeze, chest pain, dizziness/collapse, abdominal pain/nausea/vomiting/diarrhoea or exposure to possible allergen³, **anaphylaxis** likely →28
- Manage and refer urgently:**
- If bleeding, apply direct pressure and elevate limb.
 - If shock² /systolic BP < 80, give ♦**sodium chloride 0.9%** 1L IV rapidly, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
 - Remove loose/dead skin. Wash wound with soap under running water for 15 minutes, clean with ♦**chlorhexidine 0.05%** or ♦**povidone iodine 10%** solution. Apply dressing. Avoid suturing wound.
 - If snake bite or venom in eyes:
 - Keep patient calm and still. Immobilise limb and remove jewellery. Avoid applying tourniquet or sucking/squeezing out venom. Discuss with Poisons Information Helpline ↗ 200.
 - If venom in eyes, immediately flush under running water or ♦**sodium chloride 0.9%** for 20 minutes. If available, instil 1 drop ♦**tetracaine 1%** eye drops before irrigating.
 - If very painful scorpion sting, inject ♦**lidocaine 2%** 2mL around site and apply ice if tolerated.
 - Give ♦**tetanus toxoid** 0.5mL IM if none in past 5 years.

Approach to the patient with a bite/sting not needing urgent attention

- Wash wound with soap under running water for 15 minutes, then clean with ♦**chlorhexidine 0.05%** or ♦**povidone iodine 10%** solution.
- If wound anywhere other than head/face, avoid suturing wound. Dress and check wound every 2 days. If bite on hand, discuss with doctor and refer.
- Give ♦**tetanus toxoid** 0.5mL IM if none in past 5 years. If pain, give ♦**paracetamol** 500mg-1g orally 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Manage further according to type of bite or exposure:



¹Obtain description of spider/snake/scorpion, to help with specific management once referred. ²If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ³Medications, new food or insect bite/sting within the last few hours. ⁴Sick animal (weak, drooling, unsteady gait) or domestic animal with unusual aggression or wild animal that appears tame. ⁵Symptomatic HIV infection, cancer receiving chemotherapy/radiotherapy, dialysis or long-term corticosteroids. ⁶Inject as much rabies immunoglobulin as bite site allows. If multiple bites, dilute in equal volumes of saline and infiltrate all wounds. Do not exceed maximum dose. ⁷Advise no alcohol until 48 hours after last dose.

THE INJURED PATIENT

Give urgent attention to the injured patient:

- First assess and manage airway, breathing, circulation and level of consciousness ↗ 16.
- Identify all injuries and look for cause. Undress patient and assess front and back. If head or spine injury, use log-roll to turn. Then cover and keep warm.

Bruising and blood in urine

Give ♦**sodium chloride 0.9%** 1L IV hourly for 2 hours, then 500mL hourly. Aim for urine output > 200mL/hour. Stop if breathing worsens.

Wound and any of

- Poor perfusion (cold, pale, numb, no pulse) below injury
- Excessive or pulsatile bleeding
- Penetrating wound to head/neck/chest/abdomen

- If shock¹/SBP < 80, give ♦**sodium chloride 0.9%** 1L IV rapidly, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If excessive or pulsatile bleeding, apply direct pressure and elevate limb.
- If bleeding severe and persists, apply tourniquet above injury.

Fracture and any of

- Poor perfusion (cold, pale, numb, no pulse) below fracture
- Increasing pain, muscle tightness, numbness in limb
- Suspected femur, pelvis or spine fracture
- Weak/numb below fracture
- Open fracture
- > 2 rib fractures
- Severe deformity

- If pain severe, give ►**morphine** 5-10mg IM or 3-5mg slow IV². Avoid if severe head injury.
- If poor perfusion, weakness/numbness below fracture, gently re-align into normal position.
- If open fracture, remove foreign material, irrigate with ♦**sodium chloride 0.9%** and cover with saline-soaked gauze. Discuss antibiotic management with referral hospital.
- Splint limb to immobilise joint above and below fracture.
- If pelvic fracture, tie sheet tightly around hips to immobilise.

Head injury and any of

- Any loss of consciousness
- Seizure
- Severe headache
- Amnesia
- Suspected skull fracture
- Bruising around eyes or behind ears
- Blood behind eardrum
- Blood/clear fluid leaking from nose/ear
- Pupils unequal or respond poorly to light
- Weak/numb limb/s
- Vomiting ≥ 2 times
- ≥ 1 other injury
- Drug/alcohol intoxication

- If GCS < 15, neck/spine tenderness, weak/numb limb or abnormal pupils, apply rigid neck collar and sandbags/blocks on either side of head.
- If pupils unequal or respond poorly to light, keep body straight and tilt to raise head (avoid bending spine).
- If seizures ↗ 20.

- Refer urgently. While awaiting transport, check BP, pulse, respiratory rate, oxygen saturation and GCS every 15 minutes.
- If open wound, suture as below and give ♦**tetanus toxoid** 0.5mL IM if none in past 5 years.
- If BP < 90/60, pulse > 100 or < 50, respiratory rate > 20 or < 9, oxygen saturation < 94% or drop in GCS, reassess airway, breathing, circulation, level of consciousness ↗ 16.

Approach to the injured patient not needing urgent attention

- Refer same day if pregnant, known bleeding disorder, on anticoagulant, involved in high-speed collision, ejected from/hit by vehicle or fell > 3 metres. If sexual assault ↗ 32 or abuse ↗ 33.
- If open wound, give ♦**tetanus toxoid** 0.5mL IM if none in past 5 years.

Wound

- Apply direct pressure to stop bleeding. Remove foreign material, loose/dead skin. Wash well with ♦**chlorhexidine 0.05%** aqueous solution under running water for 5 minutes. Apply ♦**povidone iodine 10%** solution if dirty.
- If sutures needed, inject ♦**lidocaine without adrenaline** ³ 1% or ♦2% around wound to numb area. Apply non-adherent dressing for 24 hours. Plan to remove sutures after 5 days (face), 4 days (neck), 10 days (leg) or 7 days (rest of body).
- Avoid suturing if > 12 hours (body), > 24 hours (head/neck), remaining foreign material, infected, gunshot or deep puncture:
 - Pack wound with saline-soaked gauze. If infected give ♦**cefalexin**⁴ 500mg or ♦**flucloxacillin**⁴ 500mg 6 hourly for 5 days.
 - Review in 2 days. Suture if needed and no infection, unless gunshot/deep puncture (irrigate and dress every 2 days instead).
- Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Advise patient to return if signs of infection (red, warm, painful, swollen, foul-smell or pus).
- Refer if unable to close wound easily, weakness/numbness below injury, cosmetic concerns or wound infected.
- If not healed completely after 3 months or heals by < 50% after 6 weeks on treatment →91.

Fracture

- Splint limb to immobilise joint above and below fracture.
- Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) and add ♦**ibuprofen**⁵ 400mg 8 hourly with/after food for up to 5 days if needed.
- Do x-ray and refer to doctor same day.

Head injury

- Observe for 2 hours before discharging.
- If mild headache, dizziness or mental fogging, **concussion** likely:
 - Advise complete rest for 2 days. If no symptoms ≥ 3 days, gradually increase exertion.
 - Advise that recovery can take > 1 month.
 - Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- Advise to return immediately if any of above symptoms of severity develop.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, **shock** likely. ²Dilute 10mg morphine with 9mL of sodium chloride 0.9%. Give diluted ►**morphine** slowly at 1mL/minute. If needed, give another 1mL/min until pain improved, up to 10mL. Stop if BP drops < 90/60. ³Calculate volume to inject (max 3mg/kg): use 0.15mL/kg of lidocaine 2% and 0.3mL/kg of lidocaine 1%. ⁴If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give ♦**azithromycin** 500mg daily for 3 days instead. ⁵Avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease or pregnant.

BURNS

Calculate the percentage total body surface area (%TBSA) burnt using the figure below.

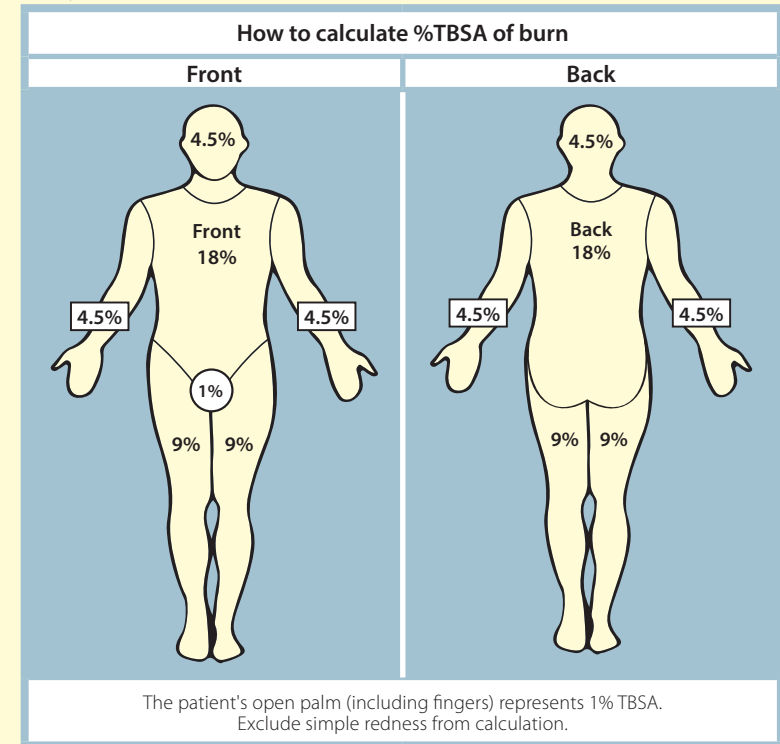
- Drowsy or confused
- Electric/chemical burn
- Full-thickness burn (white/black, painless, leathery, dry)
- Partial thickness burn (pink/red, blisters, painful, wet) > 10% TBSA
- **Inhalation injury** likely (burns to face/neck, difficulty breathing, hoarse voice, stridor or black sputum)

Manage and refer urgently:

- Assess and manage airway, breathing and circulation ↗ 16. Give face mask oxygen if burn > 10% TBSA, inhalation injury, oxygen saturation < 94% or drowsy/confused. Doctor to assess need for intubation.
- Remove clothing. Cool burn with cool tap water or wet towel/s for 30 minutes. Keep warm with clean, dry sheet.
- Give IV fluids:
 - Insert a large-bore IV line. If % TBSA burnt > 40% or if transport to hospital likely to take more than 45 minutes, insert a second IV line.
 - If > 10% TBSA:
 - If shock¹/systolic BP < 80, give ♦sodium chloride 0.9% 1L IV rapidly. Repeat until systolic BP > 80.
 - Also give ♦sodium chloride 0.9% IV 4mL x weight (kg) x % TBSA over 24 hours. Give half this volume in first 8 hours from time of burn. Calculate the hourly volume (mL) = total volume (mL) ÷ 2 ÷ 8.
 - Insert a urinary catheter and document urine output every hour.
- Give ♦paracetamol 500mg-1g orally 4-6 hourly (max 4g/24 hours). If pain severe, give ►morphine 3-10mg slow IV².
- If other injuries, manage ↗ 30.
- Clean and dress burn gently:
 - Remove loose/dead skin and clean burn with ♦chlorhexidine 0.05% or ♦sodium chloride 0.9%.
 - If full thickness or > 10% TBSA burn, apply paraffin gauze and cover with plastic wrap.
 - If hospital transfer delayed > 12 hours, apply paraffin gauze and cover with dry gauze and bandage.
 - If none of above, apply hydrogel burn dressing (e.g. Burnshield®) and cover with bandage. If not available, use a non-adherent dressing or wrap in clean, dry sheet and blanket.
- Give ♦tetanus toxoid 0.5mL IM if none in past 5 years.
- While awaiting transport, monitor BP, pulse, respiratory rate, oxygen saturation, level of consciousness and urine output hourly.

Give urgent attention to the patient with burn/s and any of:

- Circumferential burn of chest/limbs
- Burn to face, hand/foot, genitals, joint
- Oxygen saturation < 94%
- Temperature ≥ 38°C
- Shock¹/systolic BP < 80
- Other injury



Approach to the patient with burn/s not needing urgent attention

- Cool burn < 3 hours old with cool tap water or wet towel for 30 minutes and give single dose ♦paracetamol 1g for pain before cleaning wound.
- Remove loose/dead skin and gently clean burn with ♦chlorhexidine 0.05% or ♦sodium chloride 0.9%. Then cover with paraffin gauze dressing.
- Give ♦tetanus toxoid 0.5mL IM if none in past 5 years.
- If cigarette burns, burn with specific shape (e.g. iron, grid, knife/fork, car cigarette lighter, light bulb), repeated/unexplained burns/other unexplained injuries, consider abuse ↗ 33 and self-harm ↗ 34.
- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Review daily until burn healed:
 - Dress burn with paraffin gauze dressing. If signs of infection (redness, swelling), apply ♦povidone iodine 5% cream daily.
 - If severe infection (extensive redness or swelling, foul-smell, pus or temperature ≥ 38°C), pain despite medication or burn not healed after 2 weeks, refer.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Dilute 10mg morphine with 9mL of sodium chloride 0.9%. Give diluted ►morphine 3mL IV over 3 minutes (1mL/minute). If needed, give another 1mL/min until pain improved, up to 10mL. Stop if BP drops < 90/60.

SEXUAL ASSAULT AND/OR RAPE

- Suspect sexual assault if patient forced into sexual act (excluding penetration) without consent. Suspect rape if intentional penetration of patient's vagina/anus/mouth with any object, without consent.
- Ensure a safe space, offer confidentiality, be patient, listen attentively, and record the patient's account of assault/rape. Allow a trusted friend/relative to stay close.

Give urgent attention to the patient who was sexually assaulted and/or raped with any of:

- Sexual assault/rape within last 5 days if woman or last 3 days if man
- Injuries needing attention [↗ 30](#)
- Suicidal thoughts/plans, overdose or self harm [↗ 34](#)
- Pregnant

Manage and refer urgently:

- If severe bleeding, multiple injuries, severe abdominal pain, pregnant, difficulty breathing, strangled/choked, or use of a foreign object, manage and refer urgently to next level of care.
- If BP < 90/60, give [♦ sodium chloride 0.9%](#) 500mL IV over 30 minutes, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- If oxygen saturation < 95% or difficulty breathing, give face mask oxygen: 1-4L/min via nasal prongs or 6-10L/min via facemask (up to 10-15L/min via non-rebreather mask) to keep sats ≥ 90%.
- Prevent HIV and hepatitis B. If exposure to blood, blood-stained fluid, vaginal fluid/semen, or unsure: give PEP as soon as possible [↗ 122](#).
- Prevent STIs. If genital symptoms [↗ 62](#). If no genital symptoms, give single dose each of [♦ ceftriaxone](#) 250mg IM¹, [♦ azithromycin](#) 1g and [♦ metronidazole](#)² 2g orally. If pregnant in first trimester, omit metronidazole 2g and give instead [♦ metronidazole](#)² 400mg 12 hourly for 7 days.
- If rape in woman of child bearing age, pregnancy test negative, not on reliable contraception and ≤ 5 days since rape, give emergency contraception [↗ 170](#).
- Discuss with Thuthuzela Care Centre/other dedicated centre for urgent referral and forensic examination.

Assess the patient who has been sexually assaulted and/or raped not needing urgent attention

Assess	Note
Symptoms	Ask about genital symptoms ↗ 62 . Manage other symptoms on symptom pages.
Abuse	If physical, emotional, verbal, psychological or other types of abuse ↗ 33 .
Social risk	Ask about living conditions, disabilities and identity of perpetrator to determine if patient is vulnerable ³ . Advise and treat as below.
Willingness to report to police and undergo forensic examination	• If patient agrees to report, or is unsure/unwilling but agrees to forensic examination: contact FCS⁴ detective and refer to Thuthuzela Care Centre/other dedicated centre. • Advise that cleaning/washing, eating or smoking before assessment at designated facility may remove evidence. Ensure patient is transported with police vehicle or ambulance.
Mental health	If stress, anxiety or low mood ↗ 98 .
Substance use	In the past year, has patient: drunk ≥ 4 drinks ⁵ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165 .
Family planning	If woman of child bearing age, offer long-term contraception ↗ 170 . If menstruation has not occurred 4 weeks after rape, repeat pregnancy test.
HIV, syphilis and hepatitis	Test for HIV ↗ 124 and syphilis ↗ 66 . Assess for hepatitis B PEP ↗ 122 . If known HIV, give routine care ↗ 126 . If HIV negative, assess for PrEP at follow up visit ↗ 119 .

Advise the patient who has been sexually assaulted and/or raped

- If patient vulnerable³, explain that mandatory reporting to police is needed. If unsure if mandatory reporting is needed, discuss with Thuthuzela Care Centre/other dedicated centre.
- If not vulnerable³, encourage patient to report to police and open a case. If patient declines, respect his/her decision, explain s/he will still receive treatment and may open a case later.

Treat the patient who has been sexually assaulted and/or raped

- Discuss with Thuthuzela Care Centre/other dedicated centre and ensure patient has follow up with trauma counsellor/mental health nurse/psychologist/social worker/helpline [↗ 200](#).
- If patient vulnerable³, refer to social worker, local DSD and FCS⁴ detective to open a case. If not vulnerable³, but at risk of harm/needing shelter/history of domestic violence, refer to social worker same day.
- If genital symptoms [↗ 62](#). Give presumptive STI treatment, even if no genital symptoms. Give single dose each of [♦ ceftriaxone](#) 250mg IM¹, [♦ azithromycin](#) 1g and [♦ metronidazole](#)² 2g orally.
- Give [♦ paracetamol](#) 500mg-1g orally 4-6 hourly (up to 4g in 24 hours) as needed for pain for up to 5 days. If needed, also give [♦ ibuprofen](#) 400mg 8 hourly with/after food for up to 5 days (avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant).

Review the patient who has been sexually assaulted and/or raped 2 weeks after first visit.

¹Dissolve 250mg ceftriaxone in 0.9mL [♦ lidocaine 1%](#) without adrenaline. If severe penicillin allergy (previous angioedema, anaphylaxis, urticaria), omit ceftriaxone and increase [♦ azithromycin](#) to 2g. ²Advise no alcohol for 48 hours after last dose. ³Any type of disability, relying daily on care services, woman < 25 years in higher education, patient ≥ 60 years. ⁴Family Violence, Child Protection and Sexual Offences detective. ⁵One drink is 1 tot of spirits, 1 glass (125mL) of wine or 1 can/bottle (330mL) of beer.

TRAUMATISED/ABUSED PATIENT

- Suspect abuse if patient discloses, examination contradicts history, abuse clear on examination or patient's behaviour seems strange.
- Ensure a safe space, offer confidentiality, be patient, listen attentively, and record the patient's account of abuse. Allow a trusted friend/relative to stay close.

Give urgent attention to the traumatised/abused patient with any of:

- Sexual assault/rape within last 5 days if woman or last 3 days if man ↗ 32
- Injuries needing attention ↗ 30
- Suicidal thoughts/plans, overdose or self harm ↗ 34

Assess the traumatised/abused patient

Assess	Note
Symptoms	Ask about injuries ↗ 30 and genital symptoms ↗ 62. If difficulty sleeping ↗ 99. Manage other symptoms on symptom pages.
Abuse	• If forced to do any form of sexual act without consent, sexual assault/rape likely ↗ 32. • If history of physical assault, old/new scars, bruises of different ages or unusual wounds, physical abuse likely. Document clinical examination on J88 form. • If history of harassment, intimidation, being ridiculed/controlled, insulted or threatened, or patient excessively withdrawn/fearful/anxious, emotional/verbal/psychological abuse likely. • If patient reports any other unwelcomed behaviour, manipulation or violation, consider other types of abuse.
Social risk	Ask about living conditions, disabilities and identity of perpetrator to determine if mandatory reporting is needed. Advise and treat as below.
Willingness to report to police and undergo forensic examination	• If patient agrees to report, or is unsure/unwilling to report but agrees to forensic examination: contact FCS¹ detective and refer to Thuthuzela Care Centre/other dedicated centre. • Ensure patient is transported with police vehicle or ambulance. • If patient declines both, respect his/her decision and advise that they can open a case later.
Mental health	If stress, anxiety or low mood ↗ 98.
Substance use	In the past year, has patient drunk ≥ 4 drinks ² /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
Family planning	Do pregnancy test. If pregnant → 175. If pregnancy test negative, assess contraceptive needs and offer long-term contraceptive same day ↗ 170.

Advise the traumatised/abused patient

- Reassure patient that information is confidential, except where mandatory reporting is needed (patient has disability, ≥ 60 years, or children exposed to domestic violence). If unsure if mandatory reporting is needed, discuss with Thuthuzela Care Centre/other dedicated centre.
- Encourage patient to report to police and open a case. If patient declines, respect his/her decision, explain that s/he will still receive treatment and may open a case later.
- Advise that there are many organisations that offer support and counselling and link patient to these ↗ 200.

Treat the traumatised/abused patient

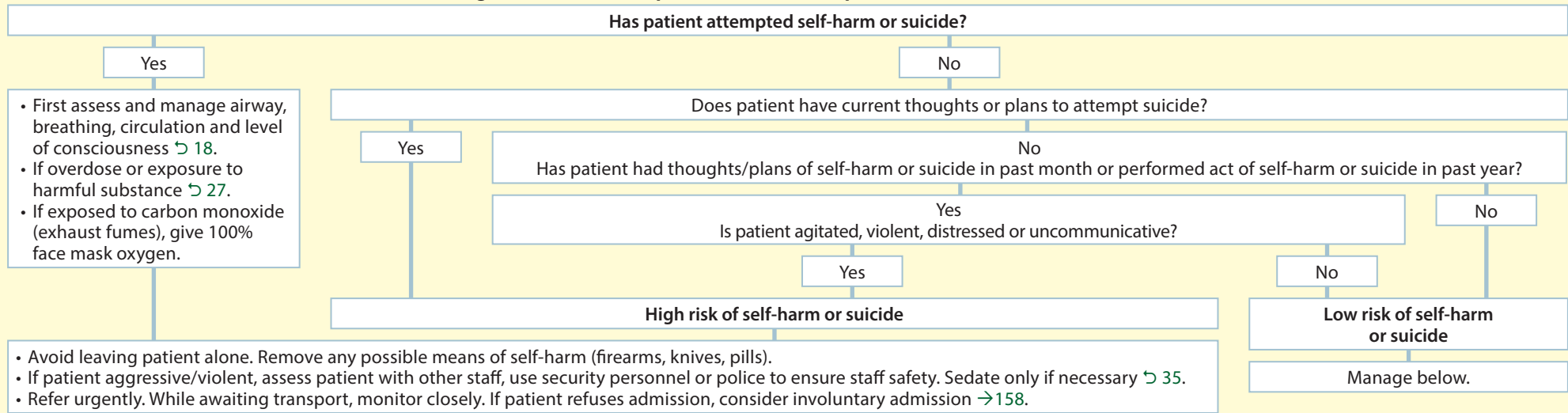
- Discuss with Thuthuzela Care Centre/other dedicated centre/social worker/DSD (regardless of willingness to open a case), to arrange ongoing support and assess for application of protection order.
- If mandatory reporting is needed (patient has disability, ≥ 60 years, or children exposed to domestic violence): report to social worker, local DSD or FCS¹ detective.
- If physical abuse, document examination on J88 form. Avoid handing J88 to patient. If patient willing to open case, police to collect and sign for J88. If not willing, keep form in patient's clinical records.
- Ensure patient has follow up with trauma counsellor/mental health nurse/psychologist/social worker/helpline ↗ 200.
- If at risk of further harm, needing shelter or history of domestic violence, offer referral to social worker same day.
- Manage any injuries ↗ 30.
- Give ♦paracetamol 500mg-1g orally 4-6 hourly (up to 4g in 24 hours) as needed for pain for up to 5 days.

Review the traumatised/abused patient in 1 month.

¹Family Violence, Child Protection and Sexual Offences detective. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

SELF-HARM OR SUICIDE

Give urgent attention to the patient who has attempted/considered self-harm or suicide:



Assess the patient whose risk of self-harm or suicide is low

Assess	When to assess	Note
Depression	Every visit	In the past month, has patient felt down/depressed/hopeless or little interest/pleasure in doing things? If yes to either ↗ 159. If known depression ↗ 160.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
Other mental illness	Every visit	If hallucinations, delusions, disorganised speech, disorganised or catatonic behaviour, discuss with specialist same day. If memory problem, screen for dementia ↗ 166.
Stressors	Every visit	- If not known with a mental illness, assess for stress and anxiety ↗ 98. - Help identify psychosocial stressors. Ask about trauma, sexual assault ↗ 32, abuse ↗ 33, family or relationship problems, financial difficulty, bereavement, chronic ill-health.
Long-term health conditions	Every visit	- If chronic pain, assess and manage pain ↗ 76 and underlying condition. Link patient with helpline or support group ↗ 200. - If patient has a life-limiting illness, in bed or chair for 50% or more of the day or dependent on others for most care, also give palliative care ↗ 191.

Advise the patient whose risk of self-harm or suicide is low

- Discuss with patient reasons to stay alive. Encourage carers to closely monitor patient as long as risk persists and to bring patient back if any concerns.
- Advise patient and carers to restrict access to means of self-harm (remove firearms from house, keep medications and toxic substances locked away) as long as risk persists.
- Suggest patient seeks support from close relatives/friends and offer referral to counsellor or local mental health centre or helpline ↗ 200.

- Discharge into care of family, if possible. Review patient at least weekly for 2 months and involve a counsellor, psychiatric nurse/psychologist or social worker if possible.
- If self-harm or suicide risk is still low, follow up monthly. If thoughts or attempts of self-harm or suicide recur, reassess suicide risk above.

AGGRESSIVE/DISRUPTIVE BEHAVIOUR

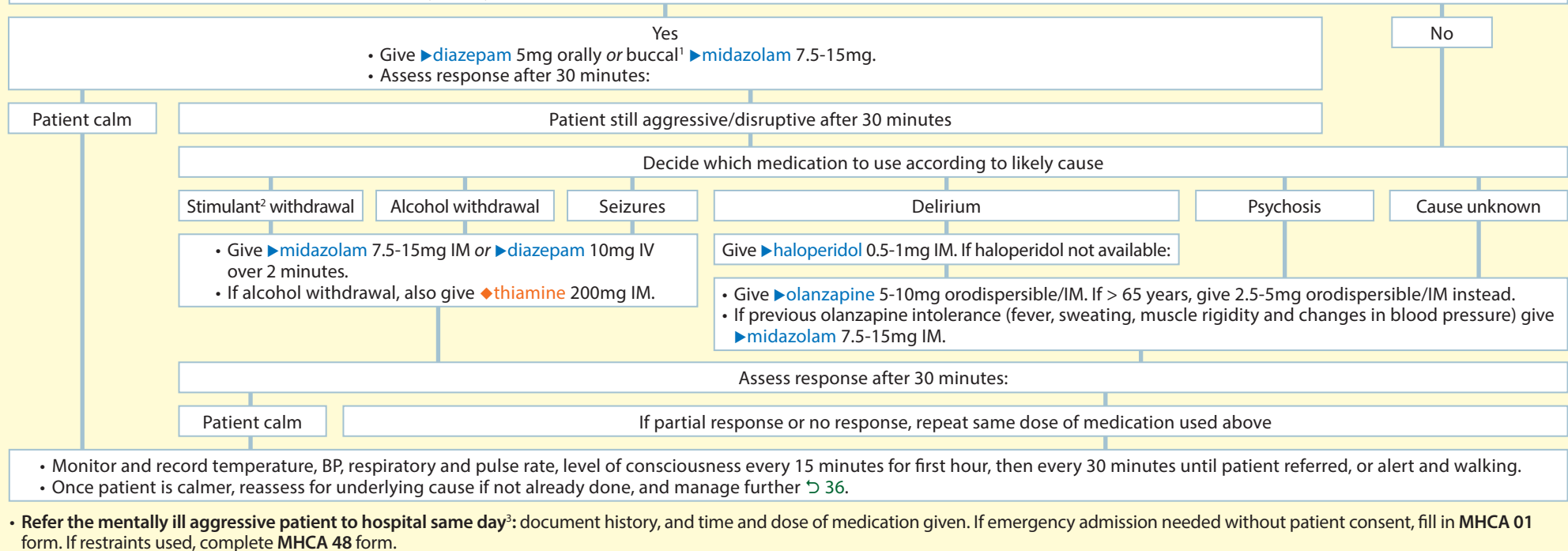
Give urgent attention to the aggressive/disruptive patient with any of:

- Angry behaviour
- Loud, aggressive speech
- Challenging, insulting or provocative behaviour
- Frequently changing body position, pacing
- Tense posturing like gripping arm rails tightly, clenching fists
- Aggressive acts like pounding walls, throwing objects, hitting

Manage urgently:

- Ensure the safety of yourself, the patient and those around you: ensure security personnel present, call police if needed. They should disarm patient if s/he has a weapon. Assess patient in a room with other staff and ensure exit is not blocked.
- Try to verbally calm the patient:
 - Avoid direct eye contact, sudden movements and approaching patient from behind. Stand at least two arm's lengths away.
 - Use an honest, non-threatening manner. Avoid talking down to the patient, arguing or commanding him/her to calm down. Use a friendly gesture like offering a drink or food.
 - Listen to patient, identify his/her feelings and desires and offer choices. Take all threats seriously.
- Consider involuntary admission if signs of mental illness *and* refuses treatment/admission *and* a danger to self, others, own reputation or financial interest/property ↪ 158.
- Restrain and/or sedate only if absolutely needed (imminent harm to self/others, disruption of important treatment, damage to environment, verbal attempts to calm patient failed).
 - If possible, before sedation, assess and manage possible causes of abnormal thoughts or behaviour ↪ 36.
 - If restraints used, document type, duration and site and check restraint sites every 15 minutes. Counsel the family regarding reasons for restraints.

Try to avoid IM/IV medication to sedate the aggressive/disruptive patient, especially if > 65 years or substance user. Ensure emergency trolley and resuscitation equipment available before giving sedation. Will patient accept oral medication?



¹Buccal: use IV formulation of midazolam, use syringe to draw up correct dose, remove needle and give midazolam between the cheek and gum. ²Stimulants include: methamphetamines (tik), cocaine (crack), methaqualone (mandrax), cannabis. ³If delay in transport, try to move patient to most calm/quiet area and enlist help of a family member to monitor patient.

ABNORMAL THOUGHTS OR BEHAVIOUR

Give urgent attention to the patient with abnormal thoughts or behaviour and any of:

- Sudden onset of abnormal thoughts or behaviour
- Recent onset of abnormal thoughts or behaviour

Manage urgently:

- If patient just had a seizure →20.
- If aggressive/disruptive →35.
- If new sudden asymmetric weakness or numbness of face/arm/leg, difficulty speaking or visual disturbance, consider **stroke** or **TIA** →152.
- If recent head injury →30.
- If suicidal thoughts or plans ↪ 34.
- If difficulty breathing, respiratory rate > 30, oxygen saturation < 94% or oxygen saturation machine not available, give face mask oxygen.
- Check glucose: if < 3 (or < 4 if diabetes) or ≥ 11.1 ↪ 19.
- If thirst, dry mouth, poor skin turgor, sunken eyes, decreased urine, give ♦oral rehydration solution. If unable to drink or BP < 90/60, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- Consider involuntary admission if signs of mental illness and refuses treatment/admission and a danger to self, others, own reputation or financial interest/property ↪ 158.
- If HIV positive with recent positive cryptococcal antigen test, refer for urgent lumbar puncture (LP).
- Look for delirium, mania, psychosis, intoxication, withdrawal or poisoning and manage before referral:

Varying levels of consciousness over hours/days and temperature ≥ 38°C

Delirium likely
Give
♦ceftriaxone
2g IV¹/IM.
Avoid injecting
> 1g IM at one
injection site.

Abnormally happy, energetic, talkative, irritable or reckless

Mania likely

Lack of insight with ≥ 1 of:
• Hallucinations (seeing/hearing things)
• Delusions (unusual/bizarre beliefs)
• Disorganised speech or behaviour

Psychosis likely

Dilated pupils, restlessness, paranoia, nausea, sweating, pulse ≥ 100, BP ≥ 140/90

Stimulant² drug intoxication likely
• If pulse irregular, chest pain or BP ≥ 140/90, do ECG and discuss with specialist or local poison helpline ↪ 200.

Smells of alcohol, slurred speech, incoordination, unsteady gait

Alcohol intoxication likely
• Give ♦thiamine 200mg IM.
• Give ♦sodium chloride 0.9% 1L 6 hourly.
• Check for head injury.

Known alcohol/drug user who has stopped/reduced intake with tremor, sweating, nausea, severe restlessness/agitation or hallucinations

Alcohol/drug withdrawal likely
• If no other sedation given, give ♦diazepam 10mg orally.
• If alcohol withdrawal, also give ♦thiamine 200mg IM and ♦oral rehydration solution.
• If ≥ 8 hours since last alcohol, refer for alcohol detoxification programme.

Exposure via ingestion/inhalation/absorption of medication/unknown substance

Poisoning likely
Discuss urgently with specialist or local poison helpline ↪ 200.

Refer urgently unless:

- Patient with known schizophrenia who is otherwise well, give routine schizophrenia care ↪ 162.
- Patient with diabetes and low glucose on insulin. If abnormal thoughts/behaviour resolves with dextrose, no need to refer, give routine diabetes care ↪ 145.
- Patient with known alcohol use who is otherwise well. If abnormal thoughts/behaviour resolves once sober, no need to refer ↪ 165.

Approach to the patient with abnormal thoughts or behaviour not needing urgent attention

- If for at least 6 months ≥ 1 of: memory problems, disorientation, language difficulty, less able to cope with daily activities and work/social function, consider **dementia** →166.
- If unsure of diagnosis, refer for further assessment.

¹If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. Do not mix Ringer's lactate and IV ceftriaxone. ²Stimulants include: methamphetamines (tik), cocaine (crack), methaqualone (mandrax), cannabis.

WEIGHT LOSS

- If patient reports unintentional weight loss, confirm this: compare current weight with previous records and ask if clothes still fit.
- Calculate % weight loss = $(\text{previous weight} - \text{current weight}) \div \text{previous weight} \times 100$.
- Investigate unintentional weight loss of > 5% of body weight.

STEP 1. Check for TB, HIV and diabetes

Check for TB

- Start workup for TB → 102.
- At the same time, test for HIV and diabetes (see adjacent) and consider other causes below.

Test for HIV

Test for HIV → 124. If HIV positive, give routine care → 126.

Check for diabetes

Check glucose
→ 19.

STEP 2. Ask about symptoms of common cancers

Abnormal vaginal
discharge/bleeding

Consider **cervical cancer**.
Do a speculum examination and a
cervical screen if needed → 70.

Breast lump/s or nipple discharge or
skin changes

Consider **breast cancer**.
Examine breasts and axillae for
cancer warning signs → 55.

Urinary symptoms in man

Consider **prostate cancer**.
Do rectal examination. If hard,
nodular prostate, refer same week.

Change in bowel habit

Consider **bowel cancer**.
If mass on abdominal/rectal
examination or stool occult blood
positive, refer same week.

Cough ≥ 2 weeks, blood-stained
sputum, long smoking history

Consider **lung cancer**.
Do chest x-ray.
If suspicious, refer same week.

STEP 3. Ask if food intake is adequate. If inadequate, look for reason:

Nausea or
vomiting
→ 57.

Loss of appetite

Advise to:

- Eat small frequent meals.
- Drink high energy drinks (milk, maas, mageu, soup).
- Increase energy value of food by adding milk powder, peanut butter, oil or margarine.

If low mood,
stress or anxiety
→ 98.

No money for food

Refer to social worker for
nutritional support.

The patient has a
life-limiting illness

Give palliative care
→ 191.

Sore mouth or
difficulty swallowing

**Oral/oesophageal
candida likely → 52.**

STEP 4. Screen for thyroid problem, mental health, substance misuse and neglect:

- Ask about other symptoms and manage as on symptom pages: if abdominal pain → 56, if diarrhoea → 58, if constipation → 60.
- If pulse ≥ 100, palpitations, tremor, dislike of hot weather or thyroid enlargement, check TSH. If abnormal, refer to doctor.
- Review medication: antiepileptic medications, antidepressants, diabetes medications and levothyroxine can cause unintentional weight loss. Discuss with doctor.
- Screen for substance use: in the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
- Ask about neglect in the older or ill patient needing care. If yes, refer to social worker.

Review in one month. If no better or no cause found, discuss/refer.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

FEVER

- A patient with a fever has a temperature $\geq 38^{\circ}\text{C}$ now or in the past 3 days.
- If patient has been in a malaria area in past 3 months, consider **malaria**. →39.

Give urgent attention to the patient with a fever and any of:

- Having/just had a seizure →20
- Decreased consciousness →18
- Respiratory rate ≥ 30 or difficulty breathing →23
- Shock¹/systolic BP < 80
- Neck stiffness, drowsy/confused or purple/red rash, **meningitis** likely
- Tender in right lower abdomen, **appendicitis** likely
- Severe abdominal or back pain
- Jaundice
- Easy bleeding or bruising

Manage and refer urgently:

- If shock/SBP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If **meningitis** likely, give ♦ceftriaxone² 2g IM. Avoid injecting > 1g IM at one injection site. If referral delayed, repeat ♦ceftriaxone² 2g IM after 12 hours.
- If fingerprick glucose < 3 (< 4 if diabetes) or ≥ 11.1 ↗ 19.
- If pain, give single dose ♦paracetamol 1g orally.

Approach to the patient with a fever not needing urgent attention

- If on abacavir, check for abacavir hypersensitivity reaction (AHR) ↗ 131.
- If unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, swollen lymph nodes, temperature $> 38.5^{\circ}\text{C}$, fatigue, sore throat/nasal congestion/cough, consider **mpox**. →40.
- If sore throat, mild fever and a thick grey layer (pseudomembrane) in nose/throat that bleeds easily if touched, consider **diphtheria** →53.
- If none of the above, or previous malaria test/s negative:

Does patient have a tick bite (small dark brown/black scab) or tick present?

Yes

Tick bite fever likely

- May also have headache, body pain, rash or localised lymphadenopathy.
- If tick present, grip tick close to skin using forceps and remove.
- Give ♦doxycycline^{3,4} 100mg 12 hourly with food for 7 days.
- If pregnant, give ♦doxycycline^{4,5} 100mg 12 hourly with food for 2 days only, then switch to ♦azithromycin 500mg daily for 3 days.
- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Refer if:
 - Unable to take medication orally
 - Fever persisting for > 2 days after starting treatment.
- Advise to return if any of: new rash, confusion, shortness of breath, palpitations, severe weakness. Refer.

No

- Ask about other symptoms: assess and manage on symptom page.
- If any of: headache, body pain, recent common cold, **acute viral infection** likely →51.

If none of above:

- Check urine dipstick: if blood, leucocytes or nitrites →69.
- Check for TB ↗ 102 and test for HIV ↗ 124.
- Advise patient to return if other symptoms develop.
- If fever recurs or persists for > 2 days and cause still uncertain, discuss/refer.

¹If SBP < 80, pulse ≥ 100 , respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. ³Doxycycline may interfere with oral contraceptive, advise to also use condoms. ⁴If also taking iron supplements or antacids, take these at least 2 hours before or 4 hours after doxycycline dose. ⁵If pregnant with tick bite fever, benefits of treatment with doxycycline outweigh potential risks of side effects.

MALARIA

Suspect malaria if patient in a malaria area¹ in the past 3 months and now presents with temperature $\geq 38^{\circ}\text{C}$, severe headache, fatigue, shivering episodes, joint/muscle pain, flu-like symptoms, dry cough, nausea and vomiting or diarrhoea.

Give urgent attention to the patient with suspected malaria and any of:

- Decreased consciousness $\rightarrow$ 18, drowsy/confused
- Respiratory rate > 30 or difficulty breathing
- Seizure or just had a seizure $\rightarrow$ 20
- Severe general body weakness
- Glucose < 3 (< 4 if diabetes) $\rightarrow$ 19
- Shock²/systolic BP < 80
- Jaundice
- Easy bleeding or bruising
- Hb < 7
- Black urine or no urine passed in past 12 hours
- Persistent vomiting

Manage as suspected severe malaria and refer urgently to reach referral hospital within 6 hours:

- If hock²/systolic BP < 80 , give $\blacklozenge$ sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 90 . Continue 1L 6 hourly. Stop if breathing worsens.
- Test for malaria with rapid test³ if available.
 - If positive, give $\blacklozenge$ artesunate 2.4mg/kg IM before referral. Indicate dose and route in referral letter.
 - If referral delayed, give second dose $\blacklozenge$ artesunate 2.4mg/kg IM 12 hours later. Notify⁴ within 24 hours.

Approach to the patient with suspected malaria not needing urgent attention

Test for malaria with rapid test³, if available. If not available or rapid test negative, send blood sample to laboratory for microscopy.

Malaria test positive

- Notify⁴ within 24 hours.
- If malaria treatment not available, refer same day.

Any of: > 65 years, pregnant/postpartum, long-term health conditions (e.g. PLHIV, diabetes, TB), impaired immunity⁵, previous splenectomy?

Yes

- Give $\blacklozenge$ artemether/lumefantrine 80/480mg with fatty food/milk. If referral delayed, give second dose after 8 hours.
- If patient vomits within 1 hour of taking treatment, give $\blacklozenge$ metoclopramide 10mg orally/IM.
- Repeat $\blacklozenge$ artemether/lumefantrine 80/480mg.
- Ensure adequate oral hydration.
- Refer same day.

No

- Give $\blacklozenge$ artemether/lumefantrine 80/480mg at 0, 8, 20, 32, 44 and 56 hours (total of 6 doses) with fatty food/milk.
 - Give first dose in health facility and monitor patient for 1 hour.
 - If patient vomits within 1 hour of taking first dose, give $\blacklozenge$ metoclopramide 10mg orally/IM.
 - Repeat $\blacklozenge$ artemether/lumefantrine 80/480mg. If patient vomits again, refer.
 - Explain importance of completing prescribed doses, even if patient feels better.
- For pain and fever, give $\blacklozenge$ paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for 5 days.
- Advise patient to keep hydrated.
- Advise to return immediately if symptoms worsen (vomiting, drowsy, confused, jaundiced) and refer urgently.
- Review patient in 2 days. If no improvement in symptoms, refer.

Malaria rapid test not available/negative

- For pain and fever, give $\blacklozenge$ paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for 5 days.
- If nausea or vomiting, give $\blacklozenge$ metoclopramide 10mg orally 8 hourly as needed for 2 days.
- Advise patient to keep hydrated and to return immediately if symptoms worsen (vomiting, drowsy, confused, jaundiced).

Review patient in 2 days and check laboratory test results

- If positive, manage in adjacent column.
- If negative, assess for other causes of fever $\rightarrow$ 38.

¹Check NICD: South African malaria risk map 2024: www.nicd.ac.za/wp-content/uploads/2025/12/National_Risk_Map-02-Dec-2025.pdf. ²If systolic BP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, **shock** likely.

³Rapid tests may stay positive for up to one month after successful treatment. A negative test does not exclude malaria; request a second test. ⁴Notify via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process. ⁵Known, cancer, receiving chemotherapy or long-term corticosteroids.

MPOX: DIAGNOSIS AND MANAGEMENT

- Suspect mpox if patient is a contact of a probable/confirmed mpox case in the 21 days before symptom onset, or presents with new unexplained lesion/s of the skin (face, palms of hands/soles of feet, genitals, anus, rectum, mouth or eyes) and any of: headache, temperature $> 38.5^{\circ}\text{C}$ in the last 2 days, sore throat/nasal congestion/cough, swollen lymph nodes, body pain/muscle aches, backache, severe weakness/tiredness.
- While looking for other cause of rash/lesions/symptoms: wear N95/FFP2 mask, gloves, gown and eye protection. If possible, isolate patient and provide surgical mask.



Source: Mayo Clinic and WHO

Give urgent attention to the patient with suspected mpox and any of:

- Shock¹/systolic BP < 80
- Respiratory rate ≥ 30 , difficulty breathing at rest/while talking or oxygen saturation $< 90\%$
- Foreskin retracted over glans and unable to reduce to normal position with swollen, painful glans, **paraphimosis** likely
- Immunocompromised or at risk of severe disease: HIV not on ART/virologically unsuppressed, cancer, organ transplant, pregnant, diabetes, hypertension, chronic lung/skin disease, obesity, age > 65
- Thirst, dry mouth, poor skin turgor, BP $< 90/60$, **dehydration** likely
- Unable to swallow
- Persistent nausea and vomiting
- Eye lesion/s and vision changes, **corneal infection** likely
- Decreased consciousness or confusion $\rightarrow 18$
- Unable to pass urine or stool
- Severe bleeding, pain, or discharge from the anus, **proctitis** likely
- Chest pain, irregular pulse, swollen legs, **myocarditis** likely
- Extensive skin lesions
- Severe pain

Manage and refer urgently:

- If oxygen saturation $< 90\%$, give oxygen 1-4L/min via nasal prongs or 6-10L/min via facemask.
- If dehydration likely, give **oral rehydration solution (ORS)** and observe. Encourage small frequent sips. Aim for at least 1-2L in 2 hours. If unable to drink or shock/SBP < 80 , give **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until SBP > 80 . Continue 1L 6 hourly. Stop if breathing worsens.
- If severe pain, give **morphine** 5-10mg IM or diluted **morphine** 3-10mg slow IV². Stop if BP drops $< 90/60$.
- If persistent nausea or vomiting, give single dose **metoclopramide** 10mg oral/IM/IV.
- If **paraphimosis** likely: if glans blue/black: refer urgently. If not, attempt manual reduction: wrap glans in gauze and apply increasing pressure for 10-15 minutes until foreskin can be replaced over glans. If unsuccessful, refer urgently.
- If unable to pass urine, insert urinary catheter.

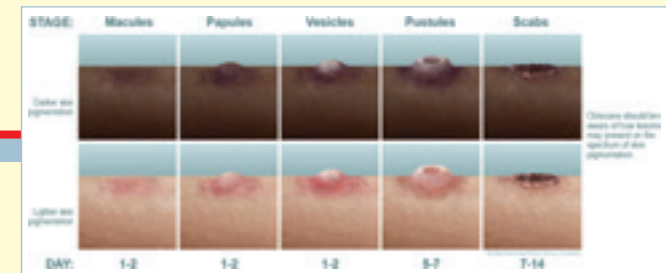


Figure 1 ©2022 Emory University, used with permission.

Approach to the patient with suspected mpox not needing urgent attention

- If status unknown, test for HIV $\rightarrow 124$. Also send blood for syphilis serology and review result within 7 days $\rightarrow 66$.
- Ask about anal $\rightarrow 61$ and genital symptoms $\rightarrow 62$. If patient has anal sex and anal bleeding/pain/discharge, **proctitis** likely $\rightarrow 61$.
- If rash or lesions all look similar and change or progress at a similar pace (figure 1), mpox is more likely.
- Look for other cause of rash/lesions according to the distribution of rash/lesions and presence or absence of itchiness:

Generalised rash or lesion/s

Itchy

- If crops of vesicles at different stages of healing and no swollen lymph nodes, **chickenpox** likely.
- If advanced HIV disease and hyperpigmented papules, **papular pruritic eruption** likely $\rightarrow 84$.
- If burrows in web spaces or skin folds and itch worse at night, **scabies** likely $\rightarrow 84$.
- If new medication in past 3 months, **drug-induced rash** likely $\rightarrow 88$.

Non-itchy

- If conjunctivitis, cough, runny nose and flat red rash spreading from face to body, **measles** likely. Notify.
- If tick bite or eschar (small dark scab) and rash spreading from extremities to body, **tick bite fever** likely $\rightarrow 38$.

Localised rash or lesion/s

Non-itchy

- If firm, dome-shaped papules with central dimple, **molluscum contagiosum** likely $\rightarrow 89$.
- If painful, grouped vesicles on red base especially around mouth $\rightarrow 52$ or genitals, **herpes simplex** likely $\rightarrow 65$.
- If painful vesicles around mouth and on palms and soles, **hand-foot and mouth disease** likely.
- If painful blisters in a band on one side of body, **shingles** likely $\rightarrow 83$.

Itchy

- If honey-coloured crusts especially around mouth and nose, **impetigo** likely $\rightarrow 93$.

If unsure, discuss with National Institute for Communicable Diseases (NICD) hotline on 0800 212 552. Continue to manage the patient with suspected mpox $\rightarrow 41$

¹If SBP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, **shock** likely. ²Dilute 10mg **morphine** with 9mL **sodium chloride 0.9%**. Start with 3mL IV over 3 minutes. If needed, give another 1mL/minute until pain improved, up to 10mL.

- Discuss every patient with suspected mpox with NICD hotline on 0800 212 552 to guide infection prevention control (IPC) and contact tracing process and vaccination of close contacts: all sexual contacts, household contacts (including pregnant/breastfeeding women and children) and healthcare workers managing the patient.
- Follow steps 1-5 to notify and manage patient further:



Mpox case investigation form

STEP 1. Complete the mpox case investigation form:

- If hard copy unavailable, access electronically at www.nicd.ac.za/wp-content/uploads/2023/03/mpox-CIF_version_08092022_update115032023.pdf or scan QR code.
- Email the completed form to: jacquelinew@nicd.ac.za, naazneenm@nicd.ac.za and outbreak@nicd.ac.za.
- Submit completed form with sample/s (see Step 2 below) to NICD:

STEP 2. Collect and prepare sample/s for mpox testing while wearing N95 mask, gloves, gown and eye protection:

Identify the most appropriate body area to collect sample from:

Collect samples from wet/red/crusted areas from skin/mouth/genitals/anus. If no visible lesions/rash, collect throat swab.

Use appropriate method to collect sample/s:

Use any of: dacron swab with viral transport media (VTM), polyester flocked swab with VTM or dry swab.

Collect sample/s:

- Apply firm pressure to area with tip of swab while turning swab at least 10 times. Then place swab in container.
- If taking > 1 sample, repeat process above using a different swab at a different site.

Label and store sample/s until transport:

- Ensure NHLS lab request form is completed in full. Write "Mpox PCR" in "OTHER TESTS" box.
- Place swab/s in fridge or ice box.

STEP 3. Advise the patient with suspected mpox:

- Explain that the virus can spread to close contacts until all symptoms have resolved and all lesions healed completely (scabs fall off and healthy layer of skin is visible where scabs used to be).
- Advise that rash/lesions usually heal within 2-4 weeks.
- If breastfeeding, avoid contact between baby and infected lesions. If lesions on areola, avoid breastfeeding from affected side. If expressing, only give baby milk from unaffected side and discard milk from infected side. Resume breastfeeding once all lesions are completely healed.
- Avoid physical and sexual contact until all lesions healed. Advise that wearing condoms does not protect against infection.
- Advise that staying in a separate bedroom and using a separate bathroom limits the spread of infection. Wear a surgical mask if in a shared space.
- Avoid sharing personal items like cups, eating utensils, clothes, linen and towels. Advise to wash these items separately from other people's items.
- Encourage to eat regular nutritious meals, maintain hydration and rest.
- Advise to keep lesions dry and uncovered unless in shared space and not to break blisters or scratch lesions; allow these to heal naturally to prevent spread.
- Advise regular hand washing with soap and water, especially before and after touching lesions. Wash frequently touched surfaces with soap and water.
- Advise to disinfect frequently touched surfaces with 70% alcohol or chlorine-based disinfectant.
- Advise to return if no improvement or symptoms worsen.

STEP 4. Treat the patient with suspected mpox:

- For pain and fever: give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for 5 days. If no better, also give ♦**ibuprofen**¹ 400mg 8 hourly as needed with/after food for up to 5 days. If pain severe, add ►**tramadol** 50-100mg 6 hourly (up to 400mg in 24 hours).
- Manage other symptoms as on symptoms pages.
- If lesions in mouth, advise to gargle with salt water at least four times a day. If lesions on lower body (including anus), advise sitz baths with baking soda or Epsom salts until lesions healed.
- If red, warm, swollen, painful skin around lesions, **secondary infection** likely: give ♦**cefalexin** 500mg 6 hourly for 5 days or ♦**flucloxacillin** 500mg 6 hourly for 5 days. If severe penicillin allergy (previous angioedema, anaphylaxis, urticaria) give instead ♦**azithromycin** 500mg daily for 3 days.
- Discuss need for admission with referral centre if any of: unable to isolate, breastfeeding, shares space with children/immunocompromised persons, or requires emotional support.



NMC notification process

STEP 5. Notify suspected mpox within 24 hours telephonically (NMC hotline 072-621-3805) and:

- Complete a hard copy of the notifiable medical conditions (NMC) case notification form and email to NMCsurveillanceReport@nicd.ac.za
- Send a copy to NMC provincial representative; check details on cover of NMC booklet.

OR

Notify electronically via the web portal or app: access www.nicd.ac.za/nmc-overview/notification-process or scan QR code.

¹Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant.

LUMP/SWELLING IN NECK, AXILLA OR GROIN

Give urgent attention to the patient with lump/swelling in groin and any of:

- Lump in groin that gets bigger when standing/coughing/passing stool and any of: severe pain, vomiting, no stools or flatus/wind for past 24 hours, or lump cannot be reduced: **incarcerated/strangulated inguinal hernia** likely
 - Pulsating lump: **aneurysm** likely
- Refer urgently.**

Approach to the patient with lump/swelling in neck, axilla or groin not needing urgent attention

- If lump on the skin →89. If lump beneath skin, examine neck, inguinal area, axillae and perineum:

Thyroid mass likely if lump in neck that moves up when patient swallows: check TSH and refer same week.

Inguinal hernia likely if lump in groin that gets bigger when standing/coughing/passing stools: refer.

Hidradenitis suppurativa likely if recurrent, painful abscesses in axilla, groin or perineum

- Discuss/refer all patients. Also check for diabetes → 19, hypertension → 148 and mental health → 98.
- If patient smokes, encourage to stop → 164. If overweight/BMI ≥ 25 → 156.

- If none of above: a lump in neck, axilla or groin is likely an enlarged lymph node (**lymphadenopathy**). If unsure, discuss/refer.

- Review medication: atenolol, allopurinol, co-trimoxazole, phenytoin and antibiotics can cause a drug hypersensitivity reaction with lymphadenopathy. Discuss with doctor.
- Is lymphadenopathy localised (neck or axilla or groin) or generalised (≥ 2 areas)?

Generalised

Localised: ask about other symptoms and look for cause (infection, rash, bite)

Neck
Check scalp, face, eyes, ears, nose, mouth and throat

Axilla
• Check arms, breasts, chest, upper abdomen and back.
• If lump in breast →55.

Groin
Is the groin lymph node hot and tender?

No: check lower abdomen, legs, buttocks, genitals, anal region

Yes: treat for **bubo** →65.

Is medication or infective cause likely?

No

Yes

- Test for HIV → 124, TB → 102 and syphilis → 66. Do full blood count. If abnormal, discuss with doctor.
- If cough, weight loss, night sweats or fever: refer to doctor to aspirate lymph node for TB testing (see adjacent). If doctor not available/unable to aspirate or tests negative for TB, refer same week.
- If contact with a probable/confirmed mpox case in the 21 days before symptom onset: with unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, temperature > 38.5°C, fatigue, sore throat/nasal congestion/cough, consider **mpox** → 40.
- Check for symptoms/signs suggestive of cancer or if eligible for cancer screening → 194.
- If none of above, decide how to manage further:

- Manage as on symptom page.
- Reassure patient lymphadenopathy should resolve with treatment.
- If lymph node persists > 4 weeks, manage in adjacent column.

- Localised lymphadenopathy *and* well
- Reassure patient.
 - Advise to return if symptoms develop.
 - If lymph node persists > 4 weeks, refer.

- Generalised lymphadenopathy *or*
- Unwell *or*
- Lymph node/s getting bigger quickly

Refer same week.

How to aspirate lymph node for TB testing:

- Clean skin over largest node with alcohol or povidone iodine.
- Hold node in fixed position with one hand so that it will not move. Insert 18 gauge needle into node, draw back plunger 2-3mL to create vacuum.
- Partially withdraw and reinsert needle at different angles several times (avoid withdrawing needle completely, maintain continuous vacuum).
- Release vacuum pressure before withdrawing needle completely.
- Remove syringe from needle, pull 2-3mL air into syringe, re-attach needle and gently spray contents of needle in a sputum bottle with saline. If pus, avoid adding saline. Request TB NAAT.
- Ensure specimen type, site, HIV status and patient details are indicated on form.

WEAKNESS OR TIREDNESS

Give urgent attention to the patient with weakness or tiredness and any of:

- New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance: consider **stroke** or **TIA** →152
- Difficulty breathing or respiratory rate ≥ 30 →23
- Difficulty breathing worse on lying flat and leg swelling, **heart failure** likely →151
- Thirst, dry mouth, poor skin turgor, BP $< 90/60$, **dehydration** likely
- Glucose < 3 (or < 4 if diabetes) or ≥ 11.1 →19
- Chest pain →24
- Hb < 6 →44
- Worsening weakness of leg/s
- Temperature $\geq 38^\circ\text{C}$ now or in past 3 days →38

Manage urgently:

- If dehydration likely, give **oral rehydration solution (ORS)** and observe. If unable to drink, give **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 90 . Continue 1L 6 hourly. Stop if breathing worsens. If IV rehydration needed or no better with oral rehydration after 2 hours, refer.
- If worsening weakness of leg/s, refer urgently.

Approach to patient with weakness or tiredness not needing urgent attention

- Look for a cause for tiredness if it persists and patient is unable to complete routine tasks and it disrupts work, social and family life.
- First check symptoms, medications, mental health and long-term health conditions:

Check symptoms

- If cough, weight loss, night sweats or fever, check for TB →102.
- If patient has difficulty sleeping →99.
- If weight gain, low mood, dry skin, constipation or cold intolerance, check TSH. If abnormal, refer to doctor.
- Check for symptoms/signs suggestive of cancer or if eligible for cancer screening →194.

Check medications

- If on abacavir or zidovudine, check for urgent side effects →131.
- Chlorphenamine, enalapril, amlodipine, fluoxetine, amitriptyline, metoclopramide, sodium valproate, phenytoin and spironolactone can cause weakness or tiredness. Discuss with doctor.

Check mental health

- In the past month, has patient felt down/depressed/hopeless or little interest/pleasure in doing things? If yes to either →159.
- In the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any →165.
- If none of the above, assess for stress and anxiety →98.

Check long-term health conditions

- Test for HIV →124. If HIV positive, give routine care →126.
- Check for pregnancy →174.
- Check Hb. If < 12 (woman) or < 13 (man), **anaemia** likely →44.
- Check for diabetes →19.
- If patient has a life-limiting illness, also give palliative care →191.

Is there muscle weakness on examination?²

No

Ask about duration of tiredness:

< 1 month

- If any other symptoms managed above, reassure that tiredness should resolve with treatment.
- Advise to return if no better in 1 month.

≥ 1 month

- Check FBC, differential count, sodium, calcium, creatinine and ALT. If abnormal, discuss with doctor.
- If likely cause found, reassure that tiredness should resolve with treatment. If tiredness persists despite treatment, discuss/refer.
- If no cause found, review in 1 month. If tiredness persists and cause still not found, discuss/refer.

Yes

- Doctor to confirm weakness and:
 - Check potassium, sodium, calcium, phosphate, TSH
 - Discuss/refer to specialist.
- If no doctor available, refer.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²If unsure how to examine for muscle weakness, discuss with doctor.

PALLOR AND ANAEMIA

- Patient has pallor if s/he has pale conjunctiva or palms. Compare patient's palms to your own.
- Check Hb: **anaemia** likely if:
 - Non-pregnant woman has Hb < 12. Pregnant woman has Hb < 11 →178.
 - Man has Hb < 13.

Give urgent attention to the patient with pallor/anaemia and any of:

- Hb < 6
- Pulse ≥ 100
- Respiratory rate ≥ 30
- Shock¹/SBP < 80
- Dizzy/faint
- Chest pain or palpitations
- Swollen legs
- Jaundice
- Black² or bloody stools
- Widespread/easy bruising
- Purple/red rash that does not disappear with pressure

Manage and refer urgently:

- If respiratory rate increased, give face mask oxygen.
- If shock/SBP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until SBP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Approach to the patient with pallor/anaemia not needing urgent attention

- Test for HIV → 124 and check for TB → 102.
- Check for pregnancy → 174.
- If fever now or in past 3 days, and in a malaria area in past 3 months, **malaria** likely →39.
- If not pregnant, send full blood count (FBC) and manage further according to mean cell volume (MCV)³ result:

MCV³ low

Iron deficiency anaemia likely

Is patient a man or a woman who no longer has periods?

Yes

Discuss/
refer to look
for hidden
blood loss.

No

- Ask about abnormal vaginal bleeding: if abnormal → 73.
- Give ♦ferrous sulphate compound BPC 170mg or ♦ferrous fumarate 200mg 12 hourly with food. If not tolerated (abdominal pain, nausea, vomiting, constipation), give instead ♦ferrous sulphate compound BPC 340mg or ♦ferrous fumarate 400mg once weekly with food.
- Repeat Hb monthly on treatment: if Hb decreases or if no better after 4 weeks, refer.
- Continue treatment until 3 months after Hb reaches normal value.
- Advise:
 - To eat foods rich in iron: liver, kidney, meat, eggs, spinach, beans, peas, lentils, nuts, dried fruit and fortified cereals. Foods rich in vitamin C help iron absorption: guavas, peppers, oranges, strawberries, broccoli, cauliflower.
 - Avoid drinking tea/coffee with meals as these interfere with iron absorption. Also avoid taking iron tablets with milk or calcium tablets.
 - Warn that stools may become black with treatment, reassure this is normal.

MCV³ normal

Systemic disease or long-term condition likely

- If HIV, TB and pregnancy excluded, discuss/refer.
- If patient is known with life-limiting illness, give palliative care → 191.

MCV³ high

Macrocytic anaemia likely

If on zidovudine or antiseizure medication, discuss with doctor. Is patient postpartum or known to misuse alcohol⁴?

Yes

Folate deficiency likely

- Give ♦folate 5mg daily until Hb normal.
- Repeat Hb monthly on treatment: if Hb decreases or if no better after 4 weeks, refer.
- Advise to eat foods rich in folic acid: liver, eggs, fortified cereals, citrus fruit, spinach, other green vegetables, lentils, dry beans, peanuts.
- Avoid alcohol → 165.
- If chronic diarrhoea, refer.

No

Refer to
investigate
for vitamin
B12
deficiency.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Black stools may be caused by iron tablets. Only refer if black stools started before iron treatment. ³Mean cell volume (MCV) helps identify cause of anaemia. Check on FBC result sheet if MCV low, normal or high compared to reference range. ⁴Drinks > 14 drinks/week or ≥ 4 drinks/session. One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

COLLAPSE/FALLS

Give urgent attention to the patient who has collapsed and any of:

- New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance: consider **stroke** or **TIA** →152
- Sudden collapse and any of: generalised itch/rash, face/tongue swelling, wheeze, difficulty breathing, abdominal pain, vomiting or exposure to possible allergen¹, check for **anaphylaxis** → 28
- Decreased consciousness →18
- Seizure →20
- Chest pain →24
- Difficulty breathing →23
- Glucose < 3 (or < 4 if diabetes) → 19
- Recent injury
- Shock²/SBP < 80
- Palpitations →26, pulse < 50 or irregular
- Family history of collapse or sudden death
- Abnormal ECG or known heart problem
- Collapse with exercise
- Collapse following vaccination →45
- Vomited blood or blood in stool
- Severe back or abdominal pain
- Pregnant or missed/overdue period with abdominal pain and vaginal bleeding →177

Manage and refer urgently:

- If shock/SBP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until SBP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Approach to the patient who has collapsed not needing urgent attention

- Do an ECG. If abnormal, refer same day.
- Check Hb: if < 12 (woman) or < 13 (man), **anaemia** likely → 44.
- Screen for substance use. In the past year, has patient drunk ≥ 4 drinks³/session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
- Check BP: if ≥ 140/90 → 148. Then measure BP after lying for 5 minutes and repeat again after standing for 3 minutes. Does systolic BP drop by ≥ 20 or diastolic BP drop by ≥ 10?

Yes

Orthostatic hypotension likely

- Common in the elderly.
- Review medications: e.g. fluoxetine, amitriptyline, amlodipine, enalapril, furosemide, hydrochlorothiazide, isosorbide dinitrate can cause collapse/falls. Discuss with doctor.
- If diarrhoea → 58, if vomiting → 57, if fever → 38. If poor fluid intake, encourage fluids, give ♦oral rehydration solution.
- Advise patient to sit first before standing up from lying down.
- Refer if:
 - Diabetes
 - Peripheral neuropathy (pain/numbness of feet)
 - Tremor, slow movements or stiffness
 - History of constipation or erection problems

No

Was patient breathing very quickly or deeply immediately before or during the collapse?

No

Did patient have dizziness, light-headedness, nausea, sweating, weakness or vision changes before the collapse?

Yes

Common faint likely

- Advise to avoid triggers like overheating, dehydration and prolonged standing.
- Advise to lie flat with legs raised as soon as symptoms occur.

No

- If collapse associated with coughing, swallowing, head turning, refer.
- If known diabetes → 145.

Yes

Hyperventilation likely

- May also have light-headedness, chest tightness, tingling of hands/feet and visual changes. Usually with emotional stress.
- Reassure and encourage to breathe at normal rate.
- Assess for stress and anxiety → 98.

- If none of the above, look for and manage likely cause: if vision problems → 48, joint problems → 77, foot problems → 81, leg problems → 80, dementia → 166.
- Refer if patient > 65 years with possible heart disease, patient collapses/falls repeatedly or cause for collapse/falls is uncertain.

¹Common allergens: medication, food or insect bite/sting within the past few hours. ²If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ³One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/ bottle (330mL) of beer.

DIZZINESS

Give urgent attention to the patient with dizziness and any of:

- New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance: consider **stroke** or **TIA** → 152
- New sudden severe dizziness with nausea/vomiting, abnormal eye movements/walk
- Difficulty breathing, especially on lying flat with leg swelling → 23
- Chest pain → 24
- Recent head injury
- Unable to stand without support
- Shock¹/SBP < 80
- Pulse < 50 or irregular
- Glucose < 3 (or < 4 if diabetes) → 19

Manage and refer urgently:

- If shock/SBP < 80, give ♦ **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Approach to the patient with dizziness not needing urgent attention

- Ask about ear symptoms, if present → 50. If hearing loss, refer same week.
- Ask about fainting/collapse attacks. If present, do ECG. If ECG abnormal, refer same day.
- Screen for substance use: in the past year, has patient drunk ≥ 4 drinks²/session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
- Review medication: fluoxetine, hypertension and antiseizure medication, furosemide and efavirenz can cause dizziness. Discuss with doctor.
- Check Hb: if < 12 (woman) or < 13 (man), **anaemia** likely → 44.
- Check BP: if ≥ 140/90 → 148. Measure BP after lying for 5 minutes and repeat again after standing for 3 minutes. Does systolic BP drop by ≥ 20 or diastolic BP drop by ≥ 10?

Yes

No

Orthostatic hypotension likely

- Common in the elderly.
- If diarrhoea → 58, if vomiting → 57, if fever → 38. If poor fluid intake, encourage fluids and give ♦ **oral rehydration solution**.
- Advise patient to sit first before standing up from lying down.

Yes

Hyperventilation likely

- May also have light-headedness, chest tightness, tingling of hands/feet and visual changes. Usually with emotional stress.
- Encourage to breathe at a normal rate and depth.
- Assess for stress and anxiety → 98.
- If recurrent episodes, refer to psychologist.

No

Was patient breathing very quickly or deeply immediately before or during the collapse?

Ask about associated symptoms and length of dizziness. Is there hearing loss or tinnitus (ringing/buzzing in ear/s)?

No

Yes

Sudden dizziness lasting seconds, precipitated by head movements

Positional vertigo likely

- Reassure patient that dizziness is self-limiting and usually resolves within 6 months.
- If no neck or heart problems, doctor to perform particle repositioning (Epley) manoeuvre.
- If headaches, visual symptoms or hearing loss/tinnitus develop, refer.

Sudden dizziness lasting hours/days with nausea/vomiting. May have preceding flu-like illness.

Vestibular neuronitis likely

- Mobilise as soon as possible.
- If hearing loss/tinnitus develop or no better after 2 weeks, refer.

Refer.

- If none of the above, check TSH. If abnormal, refer to doctor.
- Refer if no cause is found, dizziness persists despite above treatment or uncertain of diagnosis.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

HEADACHE

Give urgent attention to the patient with headache and any of:

- Pregnant or 1 week postpartum, and BP $\geq$ 140/90 →177
 - BP $\geq$ 180/110 and not pregnant →148
 - New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking: consider **stroke** or **TIA** →152
 - New vision problems or eye pain →48
 - Sudden severe headache or dizziness
 - Headache that is getting worse and more frequent
 - Headache that wakes patient or is worse in the morning
 - Neck stiffness, drowsy/confused or purple/red rash: **meningitis** likely
 - Persistent headache since starting ART
 - Decreased consciousness →18
 - Persistent nausea/vomiting
 - Following a first seizure
 - Recent head injury
 - Unequal pupils
- Manage and refer urgently:**
- If temperature $\geq$ 38°C or **meningitis** likely: give **ceftriaxone**¹ 2g IM. Avoid injecting > 1g IM at one injection site. If referral delayed, repeat **ceftriaxone**¹ 2g IM after 12 hours. Give single dose **paracetamol** 1g and/or **ibuprofen**² 400mg for pain. If pain severe, also give single dose **tramadol** 50mg.
 - If fever now or in past 3 days, and in a malaria area in past 3 months, **malaria** likely →39.

Approach to the patient with headache not needing urgent attention

Does patient have fever and body pain or recent common cold?

Yes

Has patient had recent common cold and now any of: thick nasal/postnasal discharge, pain when pushing on forehead/cheeks, headache worse on bending forward?

Yes

Sinusitis likely

- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- Give **sodium chloride 0.9%** nose drops as needed.
- Give **oxymetazoline 0.05%** 2 drops in each nostril 8 hourly for up to 5 days. Advise against overuse which may worsen blocked nose.
- If symptoms $\geq$ 10 days, fever $\geq$ 38°C, purulent nasal discharge, facial pain $\geq$ 3 days, or symptoms worsen after initial improvement, give **amoxicillin** 500mg 8 hourly for 5 days. If severe penicillin allergy³, give instead **azithromycin** 500mg daily for 3 days.
- If recurrent, test for HIV →124.
- If tooth infection or swelling over sinus/around eye, refer same day.

No

- If patient has been in a malaria area in past 3 months, **malaria** likely →39.
- If patient has a tick bite (small dark brown/black scab) or tick present, **tick bite fever** likely →38.
- If none of above, treat as **acute viral infection**:
 - Advise on cough/sneeze hygiene and to wash hands regularly. While unwell, avoid contact with elderly/those with long-term health conditions.
 - Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
 - Explain antibiotics are not needed.
 - Advise to rest and maintain hydration.
 - Advise to return if worsening symptoms: if cough/difficulty breathing →23, if face pain →49, if ear pain →50.

No

Does patient get recurrent headaches that are throbbing, disabling with nausea or light/noise sensitivity, that resolve completely within 72 hours?

Yes

Migraine likely

- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) or **ibuprofen**² 400mg 8 hourly with/after food for up to 5 days.
- If nausea, also give **metoclopramide** 10mg 8 hourly up to 3 doses.
- Advise to recognise and treat migraine early, rest in dark, quiet room.
- Advise regular meals, keep hydrated, regular exercise, good sleep hygiene.
- Keep a headache diary to identify triggers: lack of sleep, hunger, stress, caffeine, chocolate, cheese. Avoid if possible.
- Avoid oestrogen-containing contraceptives →170.
- If $\geq$ 2 attacks/month, refer/discuss for medication to prevent migraines.

Advise to use analgesia only when necessary. Overuse may cause headaches: if using analgesia > 2 days/week for $\geq$ 3 months, advise to reduce amount used. Headache should improve within 2 months of decreased use.

No

- Check BP. If $\geq$ 140/90 →148.
- Ask about type and site of pain:

Tightness around head or generalised pressure-like pain

Tension headache likely

- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed up to 5 days.
- Assess for stress and anxiety →98.

Constant aching pain, tender neck muscles

Muscular neck pain likely →79.

Patient > 50 years, pain over temples

Giant cell arteritis likely

- Check CRP.
- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- Review next day: if CRP > 5, discuss with specialist same day.

If diagnosis uncertain or poor response to treatment, discuss/refer.

¹If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. ²Avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. ³History of anaphylaxis, urticaria or angioedema.

EYE/VISION SYMPTOMS

Give urgent attention to the patient with eye or vision symptoms and any of:

- New sudden asymmetric weakness or numbness of face, arm or leg; difficulty speaking or visual disturbance: stroke or TIA likely → 152
- If sudden redness and excessive eye discharge with recent STI symptoms: **gonococcal conjunctivitis** likely
- Whole eyelid swollen, red and painful: **orbital cellulitis** likely
- Sudden loss or change in vision/movement of eye
- Pregnant or up to 1 week post-partum, and BP ≥ 140/90: treat as **severe pre-eclampsia** → 177
- BP ≥ 180/110 and not pregnant → 148
- One painful red/watery eye
- Shingles involving eye or nose
- Sudden bulging of eye
- Penetrating injury
- Eyelid laceration
- Penetrating or metallic foreign body
- Chemical burn
- Corneal ulcer
- Hazy cornea
- Sudden drooping of eyelid
- Yellow eyes: **jaundice** likely → 94.

Manage and refer urgently:

- If painful eye with redness, blurred vision, haloes around light, dilated unreactive pupil, headache/nausea/vomiting, **acute glaucoma** likely. Give ▶ **acetazolamide** 500mg orally, then 250mg 6 hourly.
- If **gonococcal conjunctivitis** likely, give ♦ **ceftriaxone**¹ 250mg IM and ♦ **azithromycin** 1g orally.
- If **orbital cellulitis** likely, give ▶ **ceftriaxone** 2g IV²/IM. Avoid injecting > 1g IM at one injection site.
- If **chemical burn**: irrigate eye for at least 30 minutes with 1-3 litres ♦ **sodium chloride 0.9%** or sterile water until pH 7.4³. If pain, instil 1 drop ♦ **tetracaine 1%** eye drops⁴ to affected eye. Apply ♦ **chloramphenicol 1%** ointment 6 hourly.
- If **penetrating/metallic foreign body**: avoid removing, cover gently. Avoid lying flat. If deep corneal/scleral injury and transfer delay, instil 1 drop ♦ **atropine 1%** and ♦ **chloramphenicol 1%** ointment.
- If pain, give ♦ **paracetamol** 1g 6 hourly.

Approach to patient with eye/vision symptoms not needing urgent attention

Eyes discharging or watery. Is there a prominent itch?		Eyelid problems	Superficial foreign body	Poor vision
Yes • If both eyes involved or patient has eczema, hayfever or asthma, allergic conjunctivitis likely: - Help to identify and advise to avoid triggers⁵. - Give ♦ oxymetazoline 0.025% eye drops 1 drop in each eye 6 hourly up to 7 days. Advise to apply cold compresses. If no better after 7 days: give instead anti-allergy eye drops, ♦ sodium cromoglycate 2% 1 drop 6 hourly for 1-3 months or long-term. - If symptoms > 1 month, add ♦ cetirizine 10mg once daily until itch controlled. - If no better or patient wearing contact lenses, refer. - If recurrent nose problem, check for allergic rhinitis → 51. If recurrent skin problem, check for urticaria and eczema → 82. If recurrent cough or wheeze, check for asthma → 138. • If one eye involved and no eczema, hayfever or asthma, localised cause likely: wash eye with sterile water. Try to identify and remove cause. Give ♦ oxymetazoline 0.025% eye drops 1 drop 6 hourly for 3 days. If no better after 24 hours, advise to return: refer.	No. Is the discharge clear or pus? Clear watery discharge, fever, sore throat, enlarged lymph nodes Viral conjunctivitis likely • Apply cold compresses. • Give ♦ oxymetazoline 0.025% eye drops 1 drop 6 hourly up to 7 days. • Return to work once better/no discharge. • Refer if one red eye for > 1 day, or no better after 5 days. Pus Bacterial conjunctivitis likely • Wipe eyes gently from inside to outside with clean cotton wool soaked in ♦ sodium chloride 0.9% until pus clears. • Give ♦ chloramphenicol 1% ointment 6 hourly in each eye for 7 days. • Return to work after 2 days of treatment and no pus. • Refer if one red eye, or no better after 5 days.	• If painful lump on eyelid, stye likely. Apply warm compresses four times a day. Advise to return if no better, discuss. • If itchy/swollen eyelids, wash twice a day with warm water. • Discuss/refer if: - Eyelashes touching cornea - Eyelids bent in/out.	• Wash out eye with sterile water or ♦ sodium chloride 0.9%. • If foreign body not visible, use fluorescein stain and ultraviolet light. • Instil 1 drop ♦ tetracaine 1% eye drops⁴ and gently remove foreign body with moist cotton bud. • Apply eye shield until tetracaine has worn off. • Give ♦ chloramphenicol 1% ointment 6 hourly in affected eye for 5 days • Refer same day if: - Removal unsuccessful - Damage to eye - Abnormal vision or eye movement - No better 24 hours after removal.	• Check vision using Snellen E chart and pinhole test: - If vision improves when looking through pinhole and service available, refer for glasses. - If vision no better with pinhole, service not available or unsure, refer for full assessment. • Check for diabetes → 19 and hypertension → 148.

¹If severe penicillin allergy (previous angioedema, anaphylaxis, urticaria), discuss with doctor. ²Do not mix Ringer's lactate and IV ceftriaxone. ³Place pH band of urine dipstick in the outer corner of eye to test pH after irrigation. ⁴Strictly avoid giving tetracaine eye drops to patient to take home as they can cause blindness if used too often. ⁵Common triggers include pollens, household pets, house dust mite, cockroaches and moulds.

FACE SYMPTOMS

Give urgent attention to the patient with face symptoms and any of:

- New sudden asymmetric weakness or numbness of face (with no/minimal forehead involvement), arm or leg; difficulty speaking or visual disturbance: consider **stroke** or **TIA** → 152.
- Sudden face/tongue swelling and any of: difficulty breathing, BP < 90/60, dizziness/collapse, abdominal pain, vomiting or exposure to possible allergen¹, check for **anaphylaxis** → 28.
- Painful red facial swelling and temperature ≥ 38°C: **facial cellulitis** likely
- New swelling of face and blood/protein in urine: **kidney disease** likely

Manage and refer urgently:

- If likely facial cellulitis with whole eyelid swollen, red and painful, **orbital cellulitis** likely. If delay in transfer, discuss with doctor.
- If **kidney disease** likely and pulse > 100 or respiratory rate > 30, give face mask oxygen and ♦furosemide 80mg slow IV, avoid IV fluids. If BP > 150/100, give ♦amlodipine 5mg and ♦furosemide 40mg orally.

Approach to patient with face symptoms not needing urgent attention

- If rash on face → 82.
- If gum or tooth problem → 54.
- Manage according to face symptom/s:

Face pain

Pain on one side of face

Recurrent intense, superficial, stabbing pain

Trigeminal neuralgia likely

- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed.
- If needed, add ►tramadol 50mg 6 hourly.
- Refer.

Previous shingles on same side of face

Post-herpetic neuralgia likely

- Give ►amitriptyline² 25mg (10mg if ≥ 65 years) at night. If no response, increase by 25mg every 2 weeks, up to 75mg at night.
- If pain ≥ 3 months, assess and advise → 76.
- If poor response, refer.

Pain when pushing on forehead/cheeks, headache worse on bending forward. Thick nasal/postnasal discharge, recent common cold.

Sinusitis likely

- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Give ♦sodium chloride 0.9% nose drops as needed.
- Give ♦oxymetazoline 0.05% 2 drops in each nostril 8 hourly as needed for a maximum of 5 days. Advise against overuse which may worsen blocked nose.
- If symptoms ≥ 10 days, temperature ≥ 38°C, purulent nasal discharge, face pain ≥ 3 days, or symptoms worsen after initial improvement of common cold, give ♦amoxicillin 500mg 8 hourly for 5 days. If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema) give instead ♦azithromycin 500mg daily for 3 days.
- If recurrent, test for HIV → 124.
- If poor response to antibiotic, refer.
- Refer same day if:
 - Tooth infection
 - Swelling over sinus or around eye
 - Neck stiffness.

Sudden progressive weakness of one side of face and unable to wrinkle forehead or close eye. May have impaired taste or dry eye.

Bell's palsy likely

- Give ►prednisone as soon as possible (within 48 hours of onset): give 60mg daily for 7 days. If no better after 10 days, refer.
- Protect eye:
 - Advise patient not to rub eye
 - Keep eye moist with drops
 - Cover eye with transparent eye shield during the day
 - Tape eyelid closed at night
- Refer to physiotherapy, if available.
- Refer same day if: otitis media, change in hearing, recent head injury, damage to cornea, unsure of diagnosis.

Swelling of face

Painless swelling of lips/eyes

Angioedema likely

- If airway obstruction (snoring, gurgling, noisy breathing), assess airway → 16 and manage for anaphylaxis → 28.
- If no airway obstruction: if urticaria or itch present, give ♦cetirizine 10mg or ♦promethazine 25-50mg IM.
- If on enalapril: stop enalapril, never restart and educate patient to avoid it in future. Doctor to review medication.
- Help to identify and advise to avoid triggers³.
- Monitor until swelling resolves.
- If swelling not resolving or no obvious cause, refer same day.
- Record in patient's notes.
- Advise to return urgently if difficulty breathing or symptoms worsen.

Painful swelling of one/both sides of face with fever, headache, body pain.

Mumps likely

- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Advise patient can return to work after 5 days and symptoms usually resolve within 2 weeks.
- Refer if:
 - Neck stiffness
 - Painful scrotal swelling
 - Loss of hearing
 - Abdominal pain.

¹Common allergens include medication, food or insect bite/sting within the past few hours. ²Avoid if on RR-TB treatment. ³Common triggers include foods (milk, eggs, nuts, wheat, seafood), medications, insect bites/stings and latex.

EAR/HEARING SYMPTOMS

Ask about ear itch, discharge from ear, ear pain or difficulty hearing/tinnitus (ringing/buzzing in ear/s). Then look in ear.

Itchy ear

Redness, swelling and/or pus in ear canal



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Otitis externa likely

- Clean ear.¹
- After cleaning, instil **♦acetic acid 2% in alcohol** 4 drops in ear 6 hourly for 5 days.
- Give **♦paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- If severe pain, firm red swelling or temperature $\geq 38^{\circ}\text{C}$, give **♦flucloxacillin**² 500mg or **♦cefalexin** 500mg 6 hourly for 5 days.
- Refer if:
 - No better after 5 days
 - Blisters on ear, **herpes zoster** likely
 - Red swollen painful ear lobe, **cellulitis** likely.

Discharge from ear

Symptoms ≥ 2 weeks, hole in eardrum



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Chronic suppurative otitis media likely

- Clean ear¹ repeatedly.
- If poor response to treatment, test for HIV $\rightarrow$ 124 and TB $\rightarrow$ 102.
- Refer if:
 - No better after 4 weeks
 - Hole in eardrum large, not getting smaller after 3 months, or persists > 6 months
 - Difficulty hearing
 - Yellow/white deposit on eardrum, **cholesteatoma** likely.

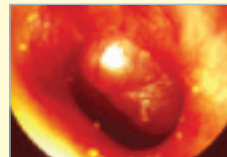
Symptoms for < 2 weeks

Painful ear

- If ear also itchy, consider otitis externa (see adjacent).
- Able to view eardrum?

Yes

- If normal looking ear, **referred pain** likely, check mouth and face:
 - If gum or tooth problem $\rightarrow$ 54.
 - If painful swelling of one/both sides of face, **mumps** likely $\rightarrow$ 49.
 - If pain in temporomandibular joint, check for joint problem $\rightarrow$ 77.
- If red bulging eardrum:



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Acute otitis media likely

- Give **♦paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Give **♦amoxicillin**² 1.5g 12 hourly for 5 days. If patient had amoxicillin in last 30 days: give instead **♦amoxicillin/♦clavulanic acid**² 875/125mg 12 hourly for 5 days.
- If nose symptoms, consider and treat for **allergic rhinitis** $\rightarrow$ 51.
- If discharge, clean ear¹ and avoid getting ear wet.
- If recurrent episodes, test for HIV $\rightarrow$ 124 and refer.
- If no response to treatment after 3 days, refer.

No

Any of:

- Pain > 2 days
- Pain that wakes patient at night
- Temperature $\geq 38^{\circ}\text{C}$ in past 2 days

Yes

No

- Give **♦paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- If no better in 2 days, advise to return and treat:

Difficulty hearing or tinnitus

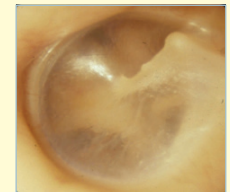
- If itchy/painful ear or discharge from ear, see adjacent column/s.
- Look in ear for foreign body and wax:

Foreign body

- Syringe ear/s with warm water.
- Avoid syringing and refer instead if:
 - Hole in eardrum
 - Chronic suppurative otitis media
- If unsuccessful after 3 attempts or causes pain, stop and refer/discuss with doctor.
- If hearing no better after foreign body/wax removal, refer for hearing test.

Wax

Normal looking ear



© University of Cape Town

- Arrange hearing test.
- Look for cause: ask about prolonged exposure to loud noise.
- Review medication: aspirin, NSAIDs and furosemide.
- Refer if:
 - Sudden onset
 - One-sided
 - Dizziness/vertigo.

How to syringe an ear

Fill a large syringe (50-200mL) with warm water. Ask patient to hold container under ear against neck to catch water. Gently pull ear upwards and backwards to straighten ear canal. Place tip of syringe at ear canal opening (no further than 8mm into canal) and direct water spray upwards in ear canal.



Refer same day if: neck stiffness or painful swelling behind ear, **mastoiditis** likely.

¹Cleaning the ear (dry mopping): roll a piece of clean soft tissue into a wick. Carefully insert wick into ear with twisting action. Remove wick and replace with clean dry wick. Repeat until wick is dry when removed. Never leave wick or other object inside ear. The ear can only heal if dry. ²If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead **♦azithromycin** 500mg daily for 3 days.

NOSE SYMPTOMS

Give urgent attention to the patient with nose symptoms and:

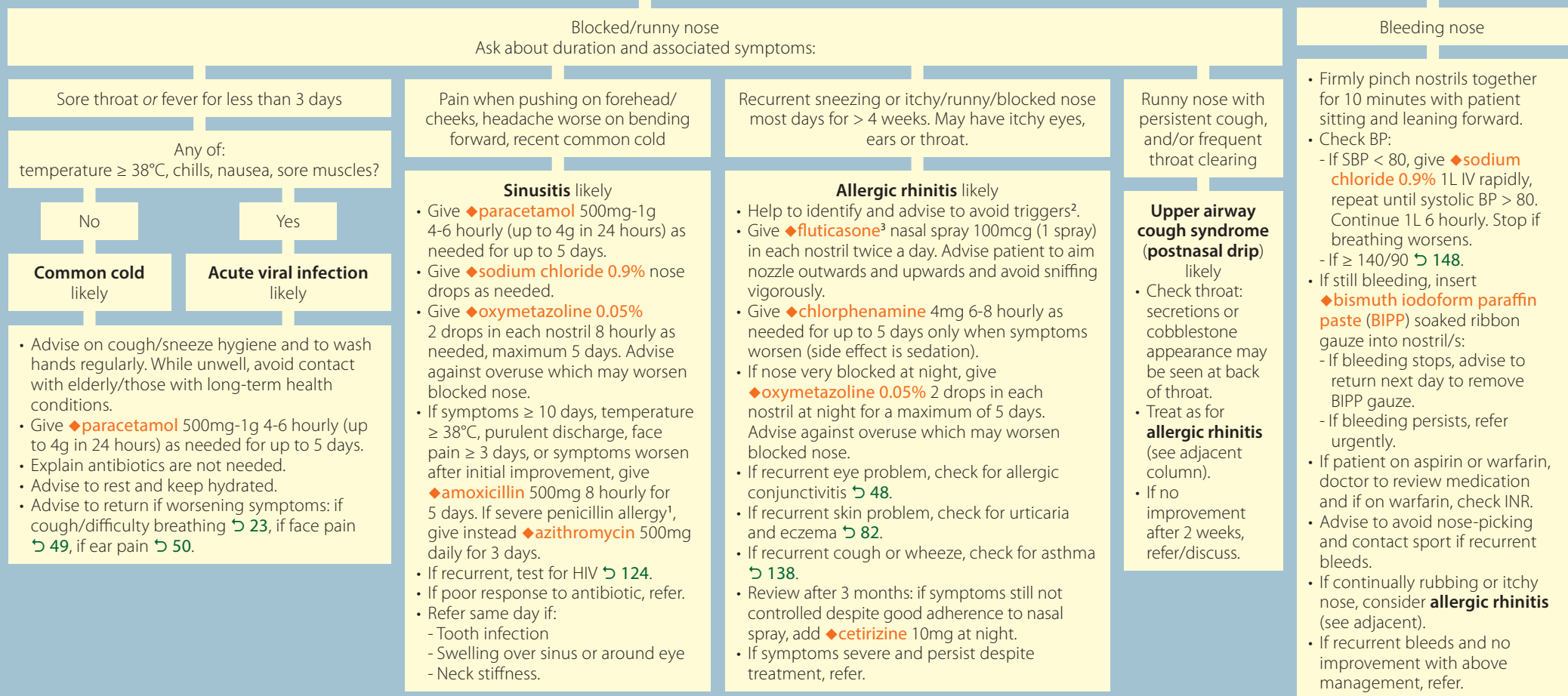
Head injury with clear watery discharge from nose →30.

Refer urgently.

Approach to the patient with nose symptoms not needing urgent attention

If sore throat, mild fever and a thick grey layer in nose/throat (pseudomembrane), consider **diphtheria** →53.

Manage according to nose symptom/s:



¹History of anaphylaxis, urticaria or angioedema. ²Common triggers include pollens, household pets, house dust mite, cockroaches and moulds. ³If on lopinavir/ritonavir or atazanavir/ritonavir, avoid fluticasone. Discuss/refer instead.

MOUTH SYMPTOMS

Give urgent attention to the patient with mouth symptoms and any of:

- Unable to open mouth
- If sudden face/tongue swelling and any of: wheeze, difficulty breathing, BP < 90/60, dizziness/collapse, abdominal pain, vomiting or exposure to possible allergen¹, check for **anaphylaxis** → 28.

Refer urgently.

Approach to the patient with mouth symptoms not needing urgent attention

- If on abacavir, check for abacavir hypersensitivity reaction (AHR) → 131. If swelling of lips → 49. If gum or tooth problem → 54.
- Ask about dry mouth. Wear a mask while examining the mouth and check for redness, white patches, blisters, ulcers or cracks:

White patches on cheeks, gums, tongue, palate



© Ourania Nicolatou-Galitis et al (CC BY-SA 4.0).

Oral thrush/candida likely

- Give ♦ **nystatin suspension** 100 000IU/mL (1mL) 6 hourly after meal for 7 days. Keep inside mouth as long as possible. Continue for 2 days after white patches resolved.
- If on inhaled corticosteroids, advise to rinse mouth with water after use.
- Test for HIV → 124 and diabetes → 19.
- If patient has a life-limiting illness, also give palliative care → 191.

If difficulty or pain on swallowing, **oesophageal candida** likely:

- Give ♦ **fluconazole** 200mg daily for 14 days.
- Test for HIV → 124. If HIV positive, start ART → 126.
- If no better, refer.

Painful blisters on lips/mouth



© Dr Mashihul Hossain

Herpes simplex likely

- Test for HIV → 124.
- Advise to rinse mouth with salt water² for one minute twice a day.
- Apply petroleum jelly to blisters on lips.
- For pain, give ♦ **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- If extensive, apply ♦ **tetracaine 0.5%** gel to blisters 6 hourly.
- If HIV, give ♦ **aciclovir** 400mg 8 hourly for 7 days.
- If severe or no better after 1 week of treatment, refer.

Painful ulcer/s with central white patch



© Florian Brandt

Aphthous ulcer/s likely

- Apply ♦ **tetracaine 0.5%** gel on ulcers 6 hourly.
- Refer if:
 - Ulcer > 1cm
 - Not healed within 10 days.

Red, cracked corners of mouth



© Dr Richard Ashton: dermnetnz.org

Angular cheilitis/stomatitis likely

- Apply ♦ **zinc and castor oil ointment** 8 hourly.
- If patient also has oral candida, treat as in adjacent column and apply ♦ **clotrimazole cream** 12 hourly for 2 weeks.
- If crusts and blisters around mouth, **impetigo** likely → 93.
- If very itchy, **contact dermatitis** likely. Identify and remove irritant.
- If dentures, ensure good fit and advise to clean every night.
- If on inhaled corticosteroids, advise to rinse mouth after use.
- If no better or uncertain of cause:
 - Check Hb. If < 12g/dL (woman) or < 13g/dL (man), **anaemia** likely → 44.
 - Test for HIV → 124 and diabetes → 19.
 - If still uncertain, refer.

Dry mouth

- If thirst, urinary frequency, weight loss, check for diabetes → 19.
- If runny or blocked nose → 51.
- Look for and treat oral candida (see adjacent).
- Review medication: furosemide, amitriptyline, chlorphenamine, antipsychotics and morphine can cause dry mouth. Discuss with doctor.
- Advise to sip fluids frequently. Sucking on oranges, pineapple, lemon or passion fruit may help.
- If patient has a life-limiting illness, also give palliative care → 191.

Advise to avoid spicy, hot, sticky, dry or acidic food and to eat soft, moist food. Keep mouth and teeth clean by brushing and rinsing regularly.

¹Common allergens include medication, food or insect bite/sting within the past few hours. ²Add 2.5mL (½ teaspoon) of table salt to 200mL lukewarm water.

THROAT SYMPTOMS

Give urgent attention to the patient with throat symptoms and any of:

- Unable to open mouth
- Unable to swallow at all
- Red swelling blocking airway, assess for airway obstruction → 16.
- If sudden face/tongue swelling and any of: generalised itch/rash, wheeze, difficulty breathing, BP < 90/60, dizziness/collapse, abdominal pain, vomiting or exposure to possible allergen¹, check for **anaphylaxis** → 28.

Refer urgently.

Assess the patient with throat symptoms not needing urgent attention

- Ask about swallowing problems. If food/liquid gets stuck with swallowing, refer.
- If difficulty or pain on swallowing, with white patches on cheeks/gums/tongue/palate, **oesophageal candida** likely → 52.
- Wear a mask while examining the throat. Check for redness, grey membrane, bleeding and white patches.

Is there sore throat and a thick grey layer (pseudomembrane) in throat/nose, with or without mild fever?

No

Yes

Are there swollen tonsils and any of: pus/white patches on tonsils or no cough or no runny nose?

No

Yes

Red throat and/or swollen tonsils, tender neck lymph nodes, cough, runny nose

Viral tonsillopharyngitis likely

Explain that antibiotics are not necessary.

Bacterial tonsillopharyngitis likely

- May also have generalised red rash, red spots in back of throat or a red tongue with bumps (strawberry tongue).
- If ≤ 21 years old, give **one** of:
 - single dose of **benzathine benzylpenicillin** 1.2MU IM² or
 - **amoxicillin** 1g 12 hourly for 10 days or
 - **phenoxymethylpenicillin** 500mg 12 hourly for 10 days.
- If severe penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead **azithromycin** 500mg daily for 3 days.
- If > 21 years old, advise to return if symptoms persist/worsen: discuss/refer.
- If ≥ 6 episodes per year, refer for ENT assessment.



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Consider diphtheria

- Protect yourself from occupational exposure → 196.
- Isolate patient. While awaiting transport:
 - Monitor pulse, BP and oxygen saturation. If oxygen saturation < 94%, give oxygen³ to keep saturation ≥ 94%.
 - If airway obstruction (snoring, gurgling, noisy breathing), assess airway → 16.
 - Give single dose **azithromycin** 500mg. If unable to swallow, give instead single dose **aqueous benzyl penicillin** 25000IU/kg IV, up to 1MIU.
- Discuss diphtheria antitoxin (DAT) with NICD hotline → 200.
- Alert lab and send swab according to NICD guidance.
- Notify⁴ within 24 hours.
- Identify close contacts and discuss with provincial CDC⁵ directorate.
- Refer.

- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Advise to gargle with salt water for 1 minute twice a day (Add ½ teaspoon of table salt to 200mL lukewarm water).
- Advise to avoid spicy, hot, sticky, dry or acidic food and to eat soft, moist food. Keep hydrated.

¹Common allergens include medication, food or insect bite/sting within the past few hours. ²Dissolve **benzathine benzylpenicillin** 1.2MU in 3.2mL **lidocaine** 1% without adrenaline (epinephrine). ³Give 1-4L/min via nasal prongs or 6-10L/min via facemask (up to 10-15L/min via non-rebreather mask). ⁴Notify within 24 hours via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process. ⁵CDC = Communicable Disease Control.

GUM/TEETH SYMPTOMS

Give urgent attention to the patient with gum/teeth symptoms and any of:

- Temperature $\geq 38^{\circ}\text{C}$ and swelling of face/jaw/next to tooth
- Unable to eat or drink
- Tooth pain that is felt without touching tooth/gum or that wakes patient at night

Refer urgently.



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Approach to the patient with gum/teeth symptoms not needing urgent attention

- Is there tooth pain, red or bleeding/enlarged gums?
- Look in mouth: lift lips to look at teeth and gums:

Brown/black staining of teeth at gumline, holes, pits or missing teeth. May have tooth pain with hot or cold food/drink.



© BMJ Best Practice

Dental caries likely

- Advise patient to care for his/her mouth (below).
- Refer to dentist.

Gums red/bleeding or enlarged



© BMJ Best Practice

Gum problem likely

- Advise patient to care for his/her mouth (below).
- Review medication: phenytoin and amlodipine may cause gum overgrowth. Discuss with doctor.
- Rinse mouth with salt water mouthwash¹ for 1 minute twice a day.
- If no better with good mouth care, rinse with **◆chlorhexidine 0.2%** mouthwash twice a day for 5 days, after brushing teeth:
 - Swirl in mouth but do not swallow.
 - Avoid repeated use as can damage teeth.
 - Advise to avoid eating/drinking for 30 minutes after rinsing.
- Give as needed for pain **◆paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- Refer to dentist if:
 - No better after 5 days
 - Foul-smelling breath
 - Swollen gums
 - Temperature $\geq 38^{\circ}\text{C}$
 - Mobile teeth
 - Loss of gum or bone around tooth
 - HIV or diabetes.

Previous/current tooth pain with pus in mouth, swelling next to tooth



© University of Cape Town

Dental abscess likely

- Give **◆paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- Give **◆amoxicillin** 500mg 8 hourly for 5 days. If penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead **◆azithromycin** 500mg daily for 3 days.
- Also give **◆metronidazole**² 400mg 8 hourly for 5 days.
- Refer to dentist.
- Advise to return and refer urgently if symptoms worsen, temperature $\geq 38^{\circ}\text{C}$ or no better after 2 days.
- Refer same day if > 65 years, alcohol/drug misuse, HIV, diabetes.

Advise the patient with gum/teeth symptoms to care for his/her mouth

- Advise a healthy diet [↗ 13](#).
- Advise to brush and floss teeth twice a day.
- If dentures, advise to clean thoroughly every day. If poorly fitting dentures or discomfort, refer to dentist.
- Ask about smoking and substance use. If patient smokes, encourage to stop [↗ 164](#). If substance use [↗ 165](#).

Health for All

↗ 136

¹Mix ½ teaspoon salt in ½ cup lukewarm water. ²Advise no alcohol until 24 hours after last dose of metronidazole.

BREAST SYMPTOMS

Give urgent attention to the patient with breast symptoms and temperature $\geq 38^{\circ}\text{C}$ or body pain with painful lump in breast/s which may be fluctuant: **breast abscess** likely.

- Give **paracetamol** 1g and **tramadol** 50mg. Refer urgently to surgical unit for incision and drainage.

Approach to the patient with breast symptoms not needing urgent attention

Carefully examine *both* breasts including nipples and axillae. If any of the following warning signs, refer to breast clinic/Regional Breast Unit same week:

- Skin changes: dimpling, ulceration, indentations or pulling ("orange peel" appearance)
- Axillary lump/s with any of: skin/nipple changes, nipple discharge, breast lump/s
- Breast lump/s with any of: patient > 25 years, family history of breast cancer, irregular fixed lump, skin/nipple changes, nipple discharge, axillary lump
- Nipple discharge/retraction with any of: patient ≥ 50 years, blood-stained or one-sided discharge, male, skin changes (crusts/ulcers), breast/axillary lump

If none of above, continue to assess the patient below:

Is the patient breastfeeding?

Breastfeeding and painful/cracked nipples

- Usually due to poor latching. Help to latch baby properly.
- Avoid using soap on nipples.
- Advise to apply breastmilk to nipples after feeding and expose to air. Apply **zinc and castor oil** ointment between feeds. Assess and manage baby for oral thrush.

Breastfeeding and painful breast/s with or without lump/s
Does patient have temperature $\geq 38^{\circ}\text{C}$ or body pain?

Yes. **Mastitis** likely

- Give **flucloxacillin**¹ 500mg 6 hourly for 5 days.
- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed up to 5 days.
- Advise warm compresses. If no better after 2 days or breast abscess develops, refer same day.

No. **Engorgement/blocked duct** likely

- Advise frequent breastfeeds, warm compresses and to gently massage breast.
- Advise to return if fever/body pain (mastitis) develops.
- If symptoms persists, consider other causes and discuss/refer.

- If HIV negative, advise to continue breastfeeding.
- If HIV positive and only one breast affected, express and discard milk from affected side. Continue breastfeeding from other side.
- If both breasts affected, temporarily stop feeding from breasts, express and discard breast milk. Replace feeds with formula until cracks/mastitis resolved.

Refer to breastfeeding counsellor/lactation consultant or support group. If HIV positive, give routine HIV care **126** and prevent transmission to baby **186**.

Symptoms not related to breastfeeding

Axillary lump/s

- Ask about other symptoms. If recent fever with cough/sore throat **23**. If skin rash/itch **82**.
- If reactive node from infection or skin cause, manage as on symptom pages. Reassure that lymphadenopathy should resolve with treatment.
- Review in 2-4 weeks. If lymph node persists, refer.

Breast enlargement

- If only one breast enlarged, refer to breast clinic/Regional Breast Unit.
- If BMI ≥ 25 **156**.
- Review medication: antipsychotics, antidepressants, efavirenz, nifedipine, amlodipine can cause breast enlargement. Discuss with doctor. If on efavirenz, doctor to consider switch to dolutegravir **132**.

Breast lump/s

Re-examine breast on day 7 of menstrual cycle. If lump persists, refer according to age:

If patient < 25 years, refer to breast clinic/Regional Breast Unit within 60 days.

If patient > 25 years, refer to breast clinic/Regional Breast Unit within 21 days.

Painful breast/s

- Check for pregnancy **174**. May be a side effect of hormonal contraception. If no better after 3 months, change contraceptive method **170**.
- If breast exam normal, **mastalgia** likely.
- Reassure this is common and advise a well-fitting bra. Give **paracetamol** 500mg-1g 4-6 hourly (max 4g/24 hours) for up to 5 days.
- If symptoms change/worsen, refer to breast clinic/Regional Breast Unit within 60 days.

Nipple discharge

- If pregnant and no other symptoms, reassure and give antenatal care **178**.
- Review medication: antipsychotics, antidepressants, COC and metoclopramide can cause nipple discharge. Discuss with doctor.
- If cause uncertain, refer.

¹If penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead **azithromycin** 500mg daily for 3 days.

ABDOMINAL PAIN

Check for pregnancy in all women of child-bearing potential.

Give urgent attention to the patient with abdominal pain and any of:

- Chest pain →24
- Pregnant with vaginal bleeding →177
- Recent delivery/miscarriage/termination of pregnancy →182
- Glucose ≥ 11.1 →19
- Unable to pass urine →69
- Jaundice
- Abdominal/pelvic mass
- Pulsatile abdominal mass: **abdominal aortic aneurysm** likely
- Pain in right lower abdomen with nausea/vomiting/fever: **appendicitis** likely
- Guarding or rigidity during peri-umbilical percussion: **peritonitis** likely
- Severe pain in right upper abdomen with nausea/fever/loss of appetite: **cholecystitis** likely
- Sudden severe upper abdominal pain spreading to back with nausea/vomiting: **pancreatitis** likely
- No stools or flatus/wind for past 24 hours
- If sudden abdominal pain and any of: generalised itch/rash, face/tongue swelling, difficulty breathing, BP < 90/60, dizziness/collapse or exposure to possible allergen¹ check for anaphylaxis → 28
- If guarding/rigidity during peri-umbilical percussion with temperature $\geq 38^\circ\text{C}$ and abnormal vaginal discharge, **infection** likely

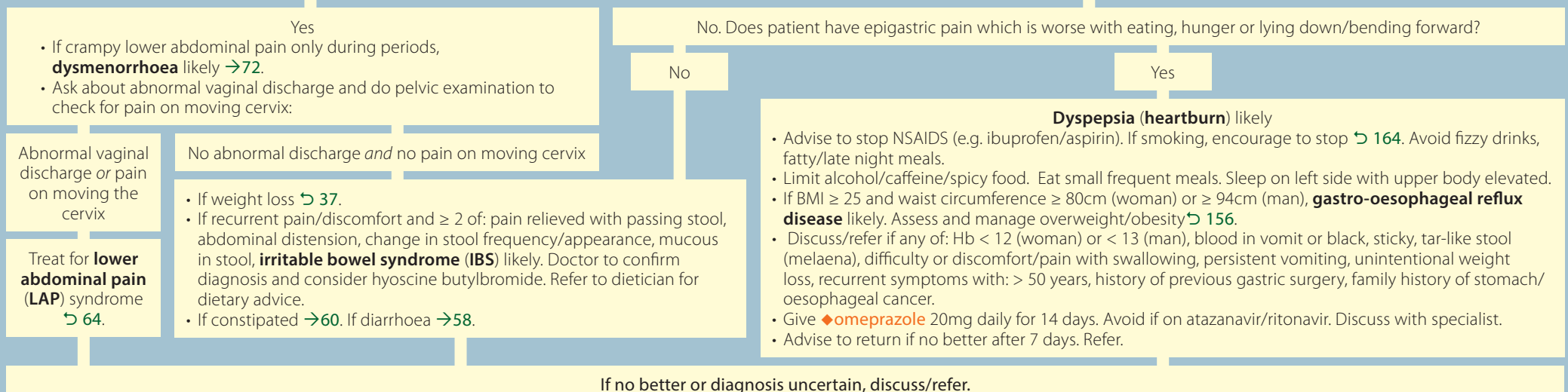
Manage and refer urgently:

- If **abdominal aortic aneurysm** likely: avoid giving IV fluids even if BP < 90/60 (raising blood pressure may worsen rupture).
- If BP < 90/60 or **pancreatitis** likely, give **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- If **infection** likely, give **ceftriaxone**² 1g IV and single dose **metronidazole**³ 400mg orally.
- If pain severe, give **morphine** 5-10mg IM, repeat 4-6 hourly until patient referred, or give diluted **morphine**⁴ 3-10mg slow IV: start with 3mL IV over 3 minutes. If needed, give another 1mL/minute until pain improved, up to 10mL. Stop if BP < 90/60.

Approach to the patient with abdominal pain not needing urgent attention

- If cramping abdominal pain with recent onset vomiting, diarrhoea, loss of appetite, body pain or fever, **gastroenteritis** likely →57.
- If urinary symptoms (burning/frequency/urgency) or leucocytes/nitrites/blood on dipstick →69.
- If on ART, check for urgent side effects → 131.

Is pain in the lower abdomen *and* is patient a woman?



¹Common allergens: medication, food or insect bite/sting within past few hours. ²Do not mix Ringer's lactate and IV ceftriaxone. ³Advise no alcohol until 24 hours after last dose. ⁴Dilute 10mg morphine with 9mL sodium chloride 0.9%.

NAUSEA/VOMITING

- Headache →47
- Chest pain →24
- If patient has watery diarrhoea (with or without vomiting) and has been in cholera outbreak area in past 5 days, **cholera** likely →59
- Neck stiffness, drowsy/confused or purple/red rash: **meningitis** likely

Manage and refer urgently:

- If shock, SBP < 80 or **pancreatitis** likely, give ♦**sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If **meningitis** likely, give ♦**ceftriaxone** 2g IV³/IM. Avoid injecting > 1g IM at one injection site.
- If pain severe, give ►**morphine** 5-10mg IM, repeat 4-6 hourly until patient referred, or give diluted ►**morphine**⁴ 3-10mg slow IV: start with 3mL IV over 3 minutes. If needed, give another 1mL/minute until pain improved, up to 10mL. Stop if BP < 90/60.
- Check fingerprick glucose. If glucose < 3 (< 4 if diabetes) or ≥ 11.1 ↪ 19.

Give urgent attention to the patient with nausea/vomiting and any of:

- Guarding or rigidity during peri-umbilical percussion: **peritonitis** likely
- Pain in right lower abdomen: **appendicitis** likely
- Sudden severe upper abdominal pain spreading to back: **pancreatitis** likely
- Shock¹/SBP < 80
- Vomiting blood
- Jaundice
- Abdominal pain/distension and no stools or flatus/wind
- Drowsy/confused/rapid deep breathing
- If sudden nausea/vomiting and any of: generalised itch/rash, face/tongue swelling, wheeze, difficulty breathing, BP < 90/60, dizziness/collapse or exposure to possible allergen², check for anaphylaxis ↪ 28

Approach to the patient with nausea/vomiting not needing urgent attention

- If thirst, dry mouth or poor skin turgor, **dehydration** likely, give single dose ♦**metoclopramide** 10mg orally/IM/IV. Then give ♦**oral rehydration solution** and observe: encourage small frequent sips. Aim for 1-2L in first 2 hours. If vomits, wait 10 minutes and try again more slowly.
- If unable to drink or no better after 2 hours, give ♦**sodium chloride 0.9%** 500mL IV over 30 minutes and refer.
- Exclude pregnancy ↪ 174. If pregnant, reassure that nausea/vomiting is common in first trimester. Encourage to eat smaller meals more frequently and drink fluids regularly.
- If associated dizziness ↪ 46.
- Review medication: NSAIDs (e.g. ibuprofen), metformin, contraceptives, hormone therapy, chemotherapy and morphine can cause nausea/vomiting. Discuss with doctor. If on DS-TB medication ↪ 108, RR-TB medication ↪ 117 or ART ↪ 131.
- Screen for alcohol/drug use: in the past year, has patient: drunk ≥ 4 drinks⁵/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↪ 165.

Is there recent onset vomiting with cramping abdominal pain, diarrhoea, loss of appetite, body pain or fever?

Yes

Gastroenteritis likely

- If nausea/vomiting, give ♦**metoclopramide** 10mg 8 hourly as needed for up to 5 days.
- Give ♦**oral rehydration solution**.
- If diarrhoea, give ♦**loperamide** 4mg initially, then 2mg after each loose stool if needed, up to maximum dose per weight⁶.
- If abdominal cramps are distressing, give ♦**hyoscine butylbromide** 10mg 6 hourly for up to 3 days.
- Advise patient to drink lots of fluids, eat small frequent meals as able and avoid fatty food.
- Advise patient to return if symptoms worsen, vomiting > 3 days or not tolerating oral fluids.

No

Does patient have epigastric pain which is worse with eating, hunger or lying down/bending forward?

Yes. Dyspepsia (heartburn) likely

- Advise to stop NSAIDs (e.g. ibuprofen/aspirin). If smoking, encourage to stop ↪ 164. Avoid fizzy drinks, fatty/late night meals.
- Limit alcohol/cafeine/spicy food. Eat small frequent meals. Sleep on left side with upper body elevated.
- If BMI ≥ 25 and waist circumference ≥ 80cm (woman) or ≥ 94cm (man), **gastro-oesophageal reflux disease** likely. Assess and manage overweight/obesity ↪ 156.
- Discuss/refer if any of: Hb < 12 (woman) or < 13 (man), blood in vomit or black, sticky, tar-like stool (melaena), difficulty or pain with swallowing, persistent vomiting, unintentional weight loss, recurrent symptoms with: > 50 years, history of previous gastric surgery, family history of stomach/oesophageal cancer.
- Give ♦**omeprazole** 20mg daily for 14 days. Avoid if on atazanavir/ritonavir. Discuss with specialist.
- Advise to return if no better after 7 days. Refer.

No

- Assess for stress and anxiety ↪ 98.
- If patient has a life limiting illness, give palliative care ↪ 191.
- Discuss/refer if:
 - Nausea/vomiting persists > 2 weeks.
 - Uncertain of diagnosis.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Medication, food or insect bite/sting within the past few hours. ³Do not mix Ringer's lactate and IV ceftriaxone. ⁴Dilute 10mg morphine with 9mL sodium chloride 0.9%. ⁵One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁶Maximum dose: 10mg (34-39kg), 12mg (40-46kg), 14mg (47-53kg), 16mg (≥ 54kg).

DIARRHOEA

Give urgent attention to the patient with diarrhoea and any of:

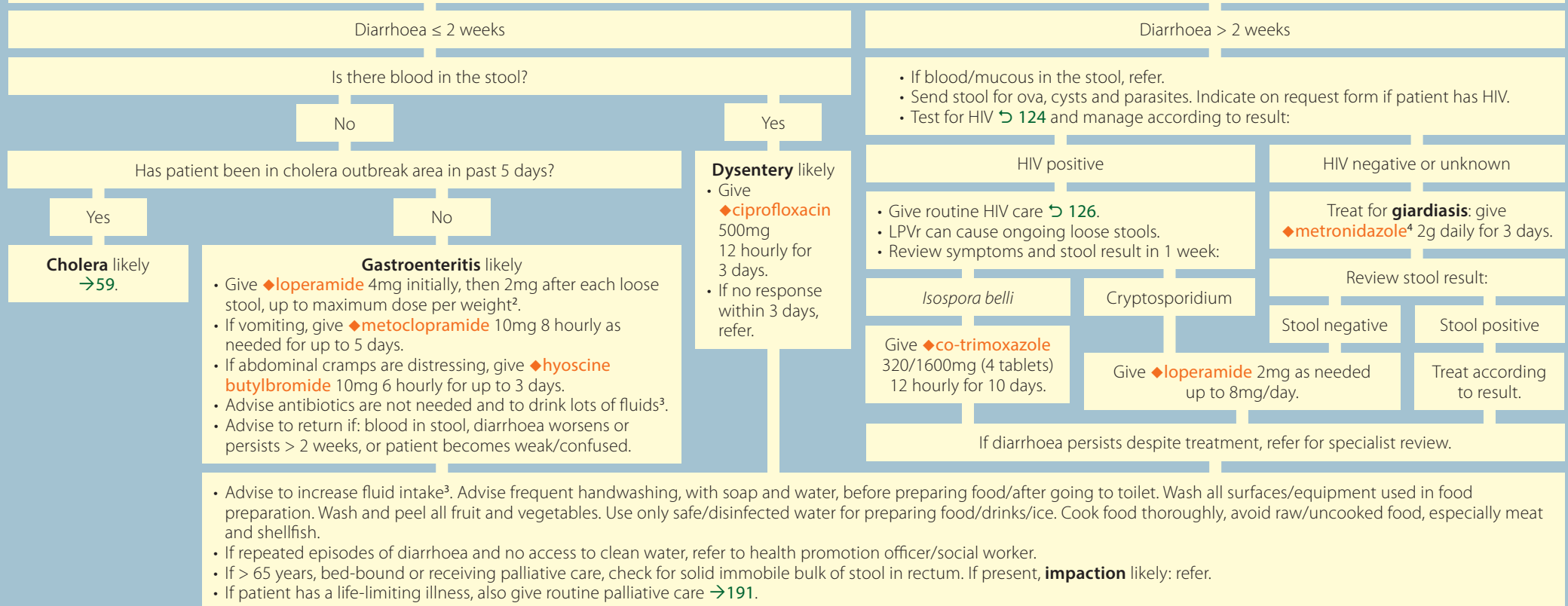
- Shock¹ or SBP < 80
- If patient has watery diarrhoea (with or without vomiting) and has been in cholera outbreak area in past 5 days, **cholera likely** →59

Manage and refer urgently:

- If shock/SBP < 80, give ♦**sodium chloride 0.9%** 1L IV rapidly, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens. Refer same day.

Approach to the patient with diarrhoea not needing urgent attention

- Confirm patient has diarrhoea: ≥ 3 loose stools/day.
- If thirst, dry mouth or poor skin turgor, **dehydration** likely. Give ♦**oral rehydration solution** and observe: encourage small frequent sips. Aim for 1-2L in first 2 hours. If vomits, give single dose ♦**metoclopramide** 10mg orally/IM/IV, wait 10 minutes and try again more slowly.
- If unable to drink or no better after 2 hours, give ♦**sodium chloride 0.9%** 500mL IV over 30 minutes and refer.
- If history of prolonged constipation followed by watery stool, **overflow diarrhoea** likely → 60.
- Ask about duration of diarrhoea:



¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Maximum dose: 10mg (34-39kg), 12mg (40-46kg), 14mg (47-53kg), 16mg (≥ 54kg). ³Give sachets of ORS and advise on home ORS solution: add 8 teaspoons of sugar and half a teaspoon of salt to 1L of boiled water. ⁴Advise no alcohol until 48 hours after last dose of metronidazole.

CHOLERA

- If patient has watery diarrhoea (with or without vomiting) and has been in cholera outbreak area in past 5 days, **cholera** likely. Discuss all suspected cases of cholera with doctor.
- If possible, isolate patient. Health worker to wear gloves and apron while attending to patient. Disinfect surfaces contaminated with secretions with 70% alcohol or chlorine-based disinfectant.
- Check fingerprick glucose: if < 3 (< 4 if diabetes) → 19.
- Record each episode of diarrhoea and vomiting and use this to calculate ongoing losses when giving fluid replacement below. Decide on further management according to level of dehydration:

Does patient have any of: drowsy/decreased consciousness, confused, difficulty breathing, weak pulse
or ≥ 2 of: unable to drink (or drinking poorly), poor skin turgor, sunken eyes?

Yes

Manage as severe dehydration and refer urgently:

- Insert 2 large bore IV lines, if possible.
- Give **◆Ringer's lactate** IV fluid as first fluid choice. If unavailable, give **◆sodium chloride 0.9% IV**:
 - Give 30mL/kg IV over first 30 minutes, then give 70mL/kg over next 2.5 hours, while awaiting transfer.
 - If transport delayed > 3 hours: continue 5mL/kg/hour IV.
 - If unable to insert IV line and patient able to drink, give **◆oral rehydration solution (ORS)** 30mL/kg over first 30 minutes, then 70mL/kg over next 2.5 hours.
 - If unable to insert IV line and decreased level of consciousness, insert nasogastric tube (NGT) and give **◆ORS** 30mL/kg over first 30 minutes, then 70mL/kg over next 2.5 hours.
- Calculate further fluids according to ongoing losses. Add 10mL/kg of IV fluid/ORS for every episode of diarrhoea or vomiting. Increase rate of fluids to give new total volume over the 2.5 hours¹.

Reassess every 15-30 minutes.

- If no better or worse, discuss with referral centre.
- If awake, able to drink *and* pulse < 100 , continue IV fluids, but also manage as **some dehydration**: give **◆ORS** 75mL/kg (or at least 2-4L) over 4 hours.

- Give single dose **◆ciprofloxacin** 1g orally.
- Send stool specimen for MCS *and* cholera². Ensure correct patient contact and address details appear on lab request form.

No: Does patient have ≥ 2 of: restless, thirsty, dry mouth, pulse ≥ 100 ?

Yes

Some dehydration likely

- Give **◆oral rehydration solution (ORS)** 75mL/kg (or at least 2-4L) over 4 hours.
- Give additional **◆ORS** (as much as tolerated) after each episode of diarrhoea/vomiting.

No

Dehydration unlikely

Give **◆oral rehydration solution (ORS)**, at least 2L (as much as patient wants) over 4 hours.

Send stool specimen for MCS *and* cholera².
Ensure correct patient contact and address details appear on lab request form.

Reassess hourly. Does patient have either of:

- Signs of dehydration: unable to drink/drinking poorly, poor skin turgor, sunken eyes, weak pulse/pulse ≥ 100 , not passing urine, unable to walk unaided
- Ongoing diarrhoea or vomiting?

Yes

Manage as severe dehydration and refer urgently (see adjacent).

No

Does patient have reliable transport to return if worse?

No

- Discuss/refer.
- Continue assessing and managing for dehydration hourly (see above).
- If some dehydration, pregnant, ≥ 60 years old or long-term health condition (e.g. HIV, diabetes), give single dose **◆ciprofloxacin** 1g orally.

Yes

- Discharge patient into reliable carer's care.
- Advise to return if worse, unable to drink, bloody diarrhoea, fever or drowsy.
- Advise to drink at least 250mL **◆ORS**³ after each stool.
- Advise handwashing with soap and water, before preparing food/after going to toilet. Use only safe/disinfected water for preparing food/drinks/ice.

Notify⁴ as suspected cholera.

¹For example, if patient weighing 50kg had 2 episodes diarrhoea and 1 episode vomiting during assessment period, add 1500mL of IV/ORS fluid to IV/ORS fluid volumes above [(3 episodes of diarrhoea/vomiting) x (10mL x 50kg)]. ²If laboratory processing delay > 2 hours, place specimen in Cary-Blair transport medium. Place in fridge or cooler box with ice before transport. Avoid freezing. ³Give at least 4 sachets of ORS at discharge. Also advise on home ORS solution: add 8 teaspoons of sugar and half a teaspoon of salt to 1L of boiled water. ⁴Notify within 24 hours via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.

CONSTIPATION

Give urgent attention to the patient with constipation and:

No stools or flatus/wind in the past 24 hours with abdominal pain/distension

Refer same day.

Approach to the patient with constipation not needing urgent attention

- Review diet, fluid intake and medication (amitriptyline, schizophrenia treatment, codeine and morphine can cause constipation: discuss with doctor).
- Advise that regular use of enemas or laxatives can worsen constipation.
- If pregnant, give routine antenatal care ➔ 175. Advise that constipation is common during pregnancy and give advice as below.
- Check Hb. If < 12 (woman) or < 13 (man), **anaemia** likely ➔ 44.
- If weakness/tiredness, weight gain, low mood, dry skin or cold intolerance, check TSH. If abnormal, refer to doctor.
- If patient is bed-bound or has a life-limiting illness, also give palliative care ➔ 191.
- If > 65 years, bed-bound/receiving palliative care, or overflow diarrhoea (prolonged constipation followed by watery stool), check for solid immobile bulk of stool in rectum. If present, **impaction** likely: refer.

Assess the patient with constipation for colorectal cancer

- Patient has an increased risk of colorectal cancer if > 50 years old and any of:
 - Previous history of colorectal cancer, polyps, ulcerative colitis, or Crohn's disease
 - Family history of colorectal cancer in first-degree relative (parent, sibling or child), especially if diagnosed before age 60, or family history of multiple polyps or Lynch syndrome.
- Ask about common colorectal cancer symptoms:
 - Change in bowel habits like constipation, diarrhoea, or change in stool consistency
 - Rectal bleeding or visible blood in stool
 - Persistent abdominal discomfort including cramps, gas or pain
 - A feeling that the bowel does not empty completely after defecation (tenesmus)
 - Unexplained weight loss/weakness/fatigue.
- If patient has any of above symptoms, discuss/refer.

Advise the patient with constipation on behavioural changes

- Advise that certain behavioural changes can help reduce the risk of colorectal cancer:

Advise a high fibre diet (vegetables, fruit, coarse mielie meal, bran and cooked dried prunes), with adequate fluid intake.



If patient smokes, encourage to stop ➔ 164.



Encourage patient at least 30 minutes of brisk physical activity (such as walking) at least 5 days a week. Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.



If overweight/obese ➔ 156.



If patient drinks alcohol, advise to stop ➔ 165.



Treat the patient with constipation

- If no better with diet and exercise, give ♦sennosides A and B 13.5mg at night or ♦lactulose 10-20 mL once daily. If needed, increase ♦sennosides A and B to 2 tablets (up to 4 tablets at night), or increase ♦lactulose to 12 hourly.
- If any of: > 65 years old/frail, postpartum woman, spinal disease, severe cognitive impairment, pelvic organ/rectal prolapse after surgery, refer to rehabilitation services for bowel care.
- If no response after 1 week of laxative use, or if recent change in bowel habits, weight loss, blood in stool or occult blood positive, or cause uncertain, refer.

ANAL SYMPTOMS

Give urgent attention to the patient with anal symptoms and any of:

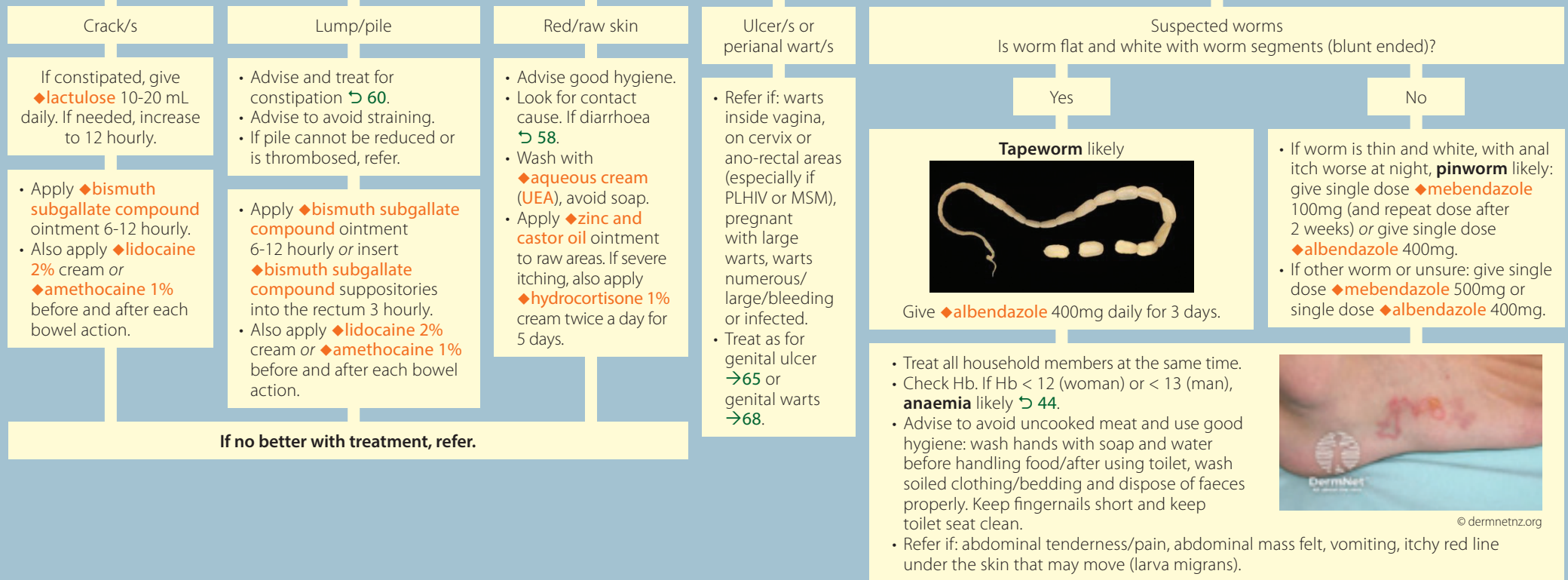
- Extremely painful lump on anus
- Unable to pass stool because of anal symptoms

Manage pain and refer same day:

- Give **paracetamol** 1g 6 hourly.
- If pain severe, give **morphine** 5-10mg IM, repeat 4-6 hourly until patient referred, or give diluted **morphine**¹ 3-10mg slow IV: start with 3mL IV over 3 minutes. If needed, give another 1mL/minute until pain improved, up to 10mL. Stop if BP drops < 90/60.

Approach to the patient with anal symptoms not needing urgent attention

- If patient has anal sex, ask about genital symptoms and treat partner **62**. If painless bleeding, passing mucus or unable to pass stools despite feeling the need to (tenesmus), treat for sexually transmitted **proctitis**: give single dose **ceftriaxone** 250mg IM² and **azithromycin** 1g orally. If severe penicillin allergy³, omit ceftriaxone and increase **azithromycin** to 2g. If diarrhoea **58**.
- Then examine anal area to look for cause:



If no better with treatment, refer.

¹Dilute 10mg morphine with 9mL sodium chloride 0.9%. ²Dissolve **ceftriaxone** 250mg in 0.9mL **lidocaine 1%** without adrenaline (epinephrine). ³History of anaphylaxis, urticaria or angioedema.

GENITAL SYMPTOMS

Assess the patient with genital symptoms and his/her partner/s

Assess	Note
Symptoms	Ask about genital discharge, rash, itch, lumps, ulcers and lower abdominal pain and manage as below. If anal symptoms (painless bleeding, passing mucus or difficulty passing stool) → 60.
Sexual health	If risky sexual behaviour: new or multiple partner/s, uses condoms unreliably, has sex while using alcohol/drugs, give safe sex advice. Ask if patient has anal sex: if anal symptoms → 61.
Abuse	If sexual assault → 32. If domestic violence refer to social worker.
Family planning	Assess patient's contraceptive needs and emphasise dual contraception → 170. Discuss infertility. Exclude pregnancy → 174.
Examination	- Woman: examine abdomen for masses, look for discharge, ulcers, rash, lumps, pubic lice. Do pelvic exam to check for pain on moving cervix/pelvic masses and speculum exam for cervical abnormalities. - Man: look for genital discharge, ulcers, rash, lumps, pubic lice or scrotal swelling, tenderness or masses. If foreskin present, pull back to check that it can retract fully and look for sores/ulcers.
HIV	Test for HIV → 124. If HIV positive, give routine care → 126. If negative, repeat in 6 weeks. Consider need for PrEP → 119.
Syphilis	If sexual assault, consensual sex without/burst condom, genital ulcer/s or sore/s, suspected secondary/tertiary syphilis ¹ or pregnant, test for syphilis → 66. If results reactive, ensure appropriate treatment → 67.
Cervical screen	Do a cervical screen if needed → 70. If abnormal vaginal discharge, delay routine cervical screen until treated → 64. If discharge persists after treatment, do cervical screen. If cervix looks abnormal/suspicious of cancer, refer same week.

Advise the patient with genital symptoms and his/her partner/s

Health for All

→ 69

- Discuss safe sex. Demonstrate and give male/female condoms, advise patient to stay with one partner at a time. Offer referral for medical male circumcision.
- If patient has a sexually transmitted infection (STI), educate about cause and increased risk of HIV transmission. Urge to adhere to treatment and abstain from sex for at least 1 week after treatment.
- Stress importance of partner treatment and give partner notification slip with the patient's diagnosis code for each partner. Consider other notification methods like active tracing and treatment.

Treat the patient with genital symptoms

Discharge	Scrotal pain/swelling	Itch	Ulcers/sores	Lump/s	Warts
Woman → 64	→ 63	Discharge in woman → 64	→ 65	Groin → 65	Skin → 68
Man → 63		Glans penis → 63			
		Pubic area → 68			

Treat the partner/s according to code given on notification slip

Notification code	Treat the asymptomatic partner/s below. If partner has other STI symptoms and signs, manage as per relevant STI algorithm found on pages listed above.
VDS or LAP	Give partner single dose ◆ceftriaxone 250mg IM ² and ◆azithromycin 1g orally and ◆metronidazole ³ 2g. If severe penicillin allergy ⁴ , omit ceftriaxone and increase ◆azithromycin to 2g.
MUS or SSW	Give partner single dose ◆ceftriaxone 250mg IM ² and ◆azithromycin 1g orally. If severe penicillin allergy ⁴ , omit ceftriaxone and increase ◆azithromycin to 2g.
GUS (no discharge)	Give partner ◆doxycycline ⁵ 100mg 12 hourly for 14 days. If partner pregnant, give instead single dose ◆benzathine benzylpenicillin 2.4MU IM ⁶ .
GUS with VDS	Give partner single dose ◆ceftriaxone 250mg IM ² and ◆azithromycin 1g orally and ◆metronidazole ³ 2g. If severe penicillin allergy ⁴ , omit ceftriaxone and increase ◆azithromycin to 2g.
GUS with MUS	Give partner single dose ◆ceftriaxone 250mg IM ² and ◆azithromycin 1g orally. If severe penicillin allergy ⁴ , omit ceftriaxone and increase ◆azithromycin to 2g.
RPR+	Give partner ◆doxycycline ⁵ 100mg 12 hourly for 14 days. If partner pregnant, give instead single dose ◆benzathine benzylpenicillin 2.4MU IM ⁶ . Also test partner for syphilis and review results after 7 days → 66.
Bubo	Give partner single dose ◆azithromycin 1g.
VDS: vaginal discharge syndrome LAP: lower abdominal pain MUS: male urethritis syndrome SSW: scrotal swelling GUS: genital ulcer syndrome RPR+: syphilis positive result BAL: balanitis	

¹Secondary syphilis: 6-8 weeks after ulcer; generalised rash (includes palms/soles), flu-like symptoms, flat moist, genital papules, mouth ulcers, patchy hair loss. Tertiary syphilis: many years later; affects skin, bone, heart, nervous system. ²Dissolve ◆ceftriaxone 250mg in 0.9mL ◆lidocaine 1% without adrenaline (epinephrine). ³Advise no alcohol until 24 hours after last dose of metronidazole. ⁴History of angioedema, anaphylactic shock or bronchospasm. ⁵If breastfeeding, avoid doxycycline and refer. ⁶Dissolve ◆benzathine benzylpenicillin 2.4MU in 6mL ◆lidocaine 1% without adrenaline (epinephrine). If benzathine benzylpenicillin unavailable, give instead ◆amoxicillin 1g 8 hourly and ◆probenecid 250mg 8 hourly for 14 days. If severe penicillin allergy, discuss/refer.

GENITAL SYMPTOMS IN A MAN

Give urgent attention to the man with genital symptoms and any of:

- Scrotal swelling/pain with any of: sudden severe pain, affected testicle higher/rotated, preceding trauma/strenuous activity: **torsion of testicle** likely
- Foreskin retracted over glans and unable to be pulled back to normal position (reduced) with swollen and very painful glans: **paraphimosis** likely
- Prolonged erection > 4 hours: **priapism** likely

Manage and refer urgently:

- If likely **torsion of testicle** or **priapism**: refer urgently to surgical unit.
- If **paraphimosis** likely:
 - If glans blue/black: refer urgently.
 - If not, doctor to attempt manual reduction or discuss with referral centre.

Approach to the man with genital symptoms not needing urgent attention

- First assess and advise the man with genital symptoms → 62. Test for HIV → 124. If HIV positive, give routine care → 126. If negative, repeat in 6 weeks. Consider need for PrEP → 119.
- Check for urethral discharge: if no visible discharge, ask patient to milk the urethra. If no urethral discharge and urinary symptoms (burning/frequency/urgency) → 69

Urethral discharge
(with or without dysuria/burning urine)



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Treat for **male urethritis syndrome (MUS)**:

- Give single dose **◆ceftriaxone** 250mg IM¹ and single dose **◆azithromycin** 1g.
- If severe penicillin allergy², omit ceftriaxone and increase **◆azithromycin** to 2g.
- If partner has vaginal discharge syndrome (VDS), add single dose **◆metronidazole**³ 2g.
- Give partner notification slip/s with code: MUS.

Advise patient to return in 7 days if symptoms persist: ceftriaxone treatment failure likely. Refer within 7 days.

Scrotal swelling or pain



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Pain with/without swelling or discharge

Treat for **scrotal swelling (SSW)**:

- Give single dose **◆ceftriaxone** 250mg IM¹ and single dose **◆azithromycin** 1g.
- If severe penicillin allergy², omit ceftriaxone and increase **◆azithromycin** to 2g.
- Give partner notification slip/s with code: SSW.
- For pain, give **◆ibuprofen**⁴ 400mg 8 hourly with/after food for up to 5 days.
- Advise to rest and elevate scrotum.
- Review after 7 days or earlier if needed: if no better, refer.

Painless lump

Exclude
Testicular cancer

Refer.

Painful, itchy or foul-smelling glans,
difficulty retracting foreskin



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If unable to retract foreskin, refer.

If able to, retract foreskin, wash with water, dry and examine:

- If ulcer/s present → 65.
- If glans inflamed, treat for **balanitis/balanoposthitis (BAL)**:
 - Advise to retract and wash daily with water, avoid soap. Dry fully.
 - Give **◆clotrimazole cream** 12 hourly for 7 days.
 - Check urine dipstick for glucose. If glucose present, refer.
 - Offer referral for medical male circumcision.
 - Advise to return if no better in 7 days:
 - If poor adherence, repeat treatment.
 - If adherent and still no better, refer.

¹For ceftriaxone 250mg IM injection: dissolve 250mg in 0.9mL **◆lidocaine 1%** without adrenaline (epinephrine). ²History of angioedema, anaphylactic shock or bronchospasm. ³Advise no alcohol until 24 hours after last dose of metronidazole. ⁴Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant.

ABNORMAL VAGINAL DISCHARGE

Abnormal vaginal discharges are itchy or different in colour, smell or quantity.

Give urgent attention to the patient with vaginal discharge and any of:

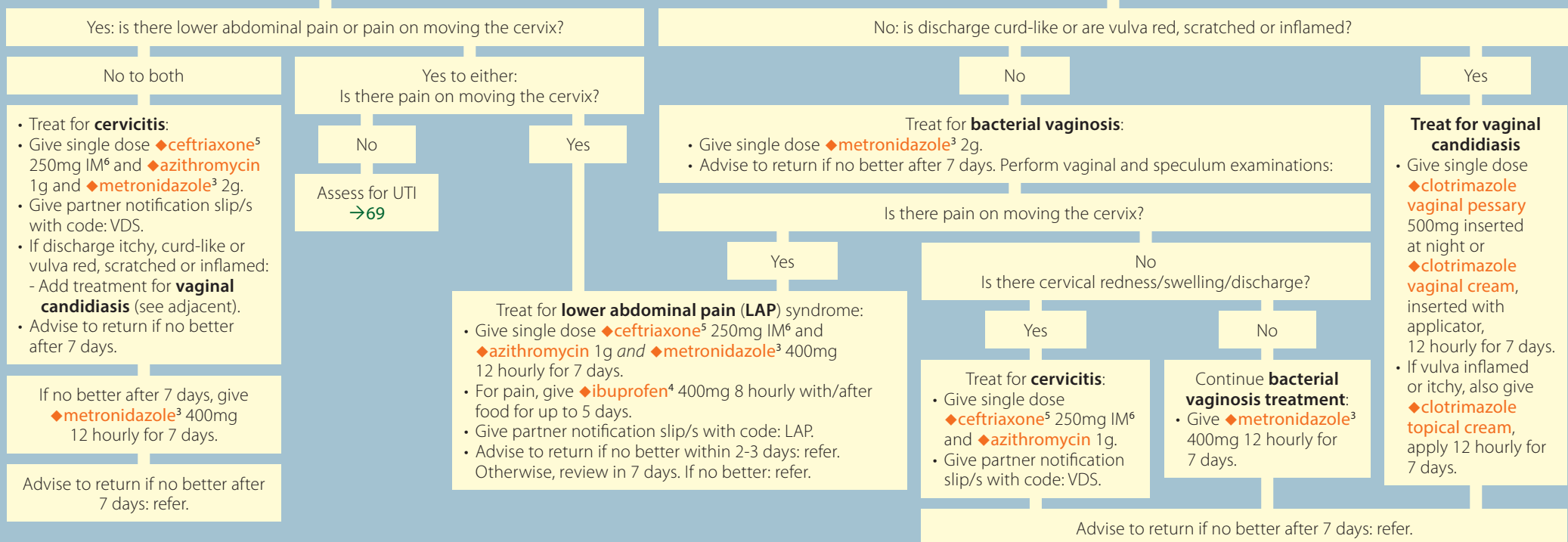
- Recent delivery/TOP/miscarriage
- Pregnant or missed/overdue period
- Abnormal vaginal bleeding
- Temperature $\geq 38^{\circ}\text{C}$
- Pulse > 100
- Shock¹/SBP < 80
- Abdominal mass
- Peritonitis (guarding, rigidity, rebound tenderness)

Manage and refer urgently for gynaecological/surgical assessment:

- If BP $< 90/60$, give **sodium chloride 0.9%** 500mL IV rapidly, repeat until systolic BP > 90 . Continue 1L 6 hourly. Stop if breathing worsens.
- Give **ceftriaxone**² 1g IV (avoid diluting with lidocaine 1%) and **metronidazole**³ 400mg orally.
- For pain, give **ibuprofen**⁴ 400mg 8 hourly with/after food.

Approach to a patient with an abnormal vaginal discharge not needing urgent attention

First assess and advise the patient with an abnormal vaginal discharge $\rightarrow$ 62. Test for HIV $\rightarrow$ 124. If HIV positive, give routine care $\rightarrow$ 126. If negative, repeat in 6 weeks. Consider need for PrEP $\rightarrow$ 119.
Has patient been sexually active in the last 3 months?



¹If SBP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, shock likely. ²If severe penicillin allergy (history of angioedema, anaphylactic shock or bronchospasm), omit ceftriaxone and discuss with doctor. Do not mix Ringer's lactate and IV ceftriaxone. ³Advise no alcohol until 24 hours after last dose of metronidazole. ⁴Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. ⁵If severe penicillin allergy (history of angioedema, anaphylactic shock or bronchospasm), omit ceftriaxone and increase **azithromycin** dose to 2g. ⁶For ceftriaxone 250mg IM injection: dissolve 250mg in 0.9mL **lidocaine 1%** without adrenaline (epinephrine).

GENITAL ULCER SYNDROME

- First assess and advise the patient with genital ulcer/s ➔ 62. The patient may have a blister, sore or an ulcer which may be painless or painful.
- Test for HIV ➔ 124. If HIV positive, give routine care ➔ 126. If negative, repeat in 6 weeks. Consider need for PrEP ➔ 119.
- If pregnant and presenting with genital ulcer(s) in the third trimester (≥ 28 weeks): refer, as foetus at risk of neonatal herpes.



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Approach to the patient with genital ulcer(s)

Does the patient also have genital discharge, scrotal swelling or lower abdominal pain?

No

Has patient been sexually active in the last 3 months?

Yes

Treat for **genital ulcer syndrome (GUS)**:
Is the patient pregnant?

Yes

Pregnant woman
Does patient have a severe penicillin allergy¹?

Yes

If severe penicillin allergy, refer for confirmation of syphilis diagnosis and possible penicillin desensitisation.

No

- Give single dose **benzathine benzylpenicillin** 2.4MU IM² and **aciclovir** 400mg 8 hourly for 7 days.
- If benzathine benzylpenicillin unavailable, give instead **amoxicillin** 1g 8 hourly and **probenecid** 250mg 8 hourly for 14 days.
- Advise to return in 6 months for RPR if treated with amoxicillin and probenecid ➔ 66.
- Give partner notification slip/s with code: GUS.

No

- Man or non-pregnant woman
- Give **doxycycline** 100mg 12 hourly for 14 days.
 - If HIV positive or unknown, add **aciclovir** 400mg 8 hourly for 7 days.
 - Advise to return in 6 months for RPR ➔ 66..
 - Give partner notification slip/s with code: GUS.

No

Genital herpes likely

- If HIV positive or unknown, give **aciclovir** 400mg 8 hourly for 7 days.
- If pain, give **ibuprofen**³ 400mg 8 hourly with/after food for up to 5 days.
- Emphasise condom use as herpes is a lifelong infection with transmission occurring even in absence of sores.
- Advise to keep lesions clean and dry.

Yes to any
Treat the associated syndrome

- If HIV positive or HIV unknown, give **aciclovir** 400mg 8 hourly for 7 days.
- Continue to manage further:
 - If **MUS** or **SSW** ➔ 63.
 - If **VDS** or **LAP** ➔ 64..

Does patient also have a red, hot, tender groin swelling (see image)?

No

Review in 7 days

- If no better, give single dose **azithromycin** 1g.
- Advise to return if still no better after 7 days: refer.

Yes

Is the swelling pulsatile or does it enlarge on coughing?

Yes to either
Refer for assessment of possible hernia or femoral aneurysm.

No to both. Treat for **bubo**:

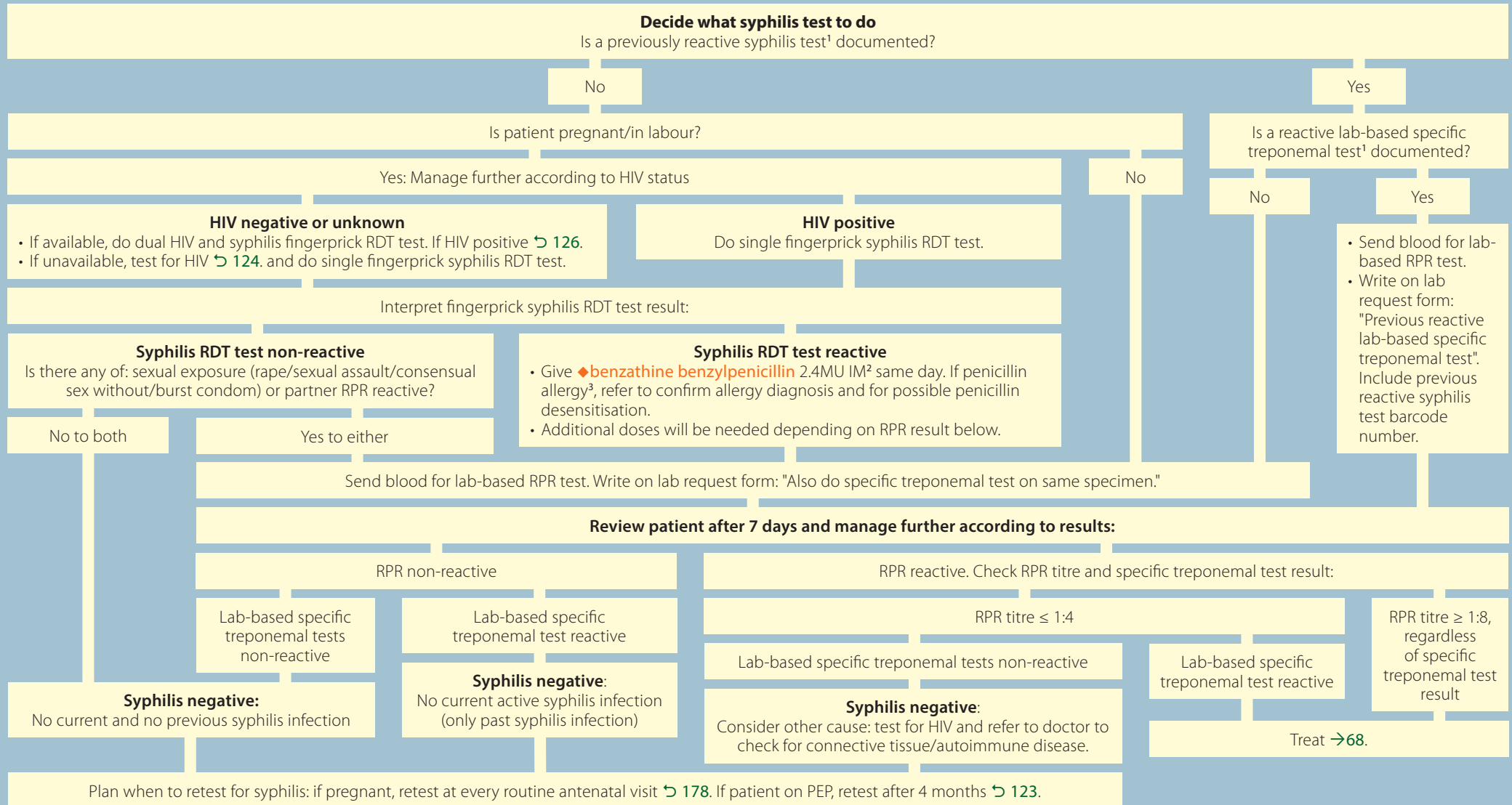
- Give **azithromycin** 1g now and repeat **azithromycin** 1g weekly for another 2 weeks.
- If fluctuant: aspirate pus through healthy skin in sterile manner every 3 days as needed.
- Give partner notification slip/s with code: Bubo.
- Review in 14 days: if no better, refer.



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¹History of angioedema, anaphylactic shock or bronchospasm. ²For benzathine benzylpenicillin 2.4MU injection: dissolve **benzathine benzylpenicillin** 2.4MU in 6mL **lidocaine** 1% without adrenaline (epinephrine) and give half the volume into each buttock. ³Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant or breastfeeding.

SYPHILIS TESTING



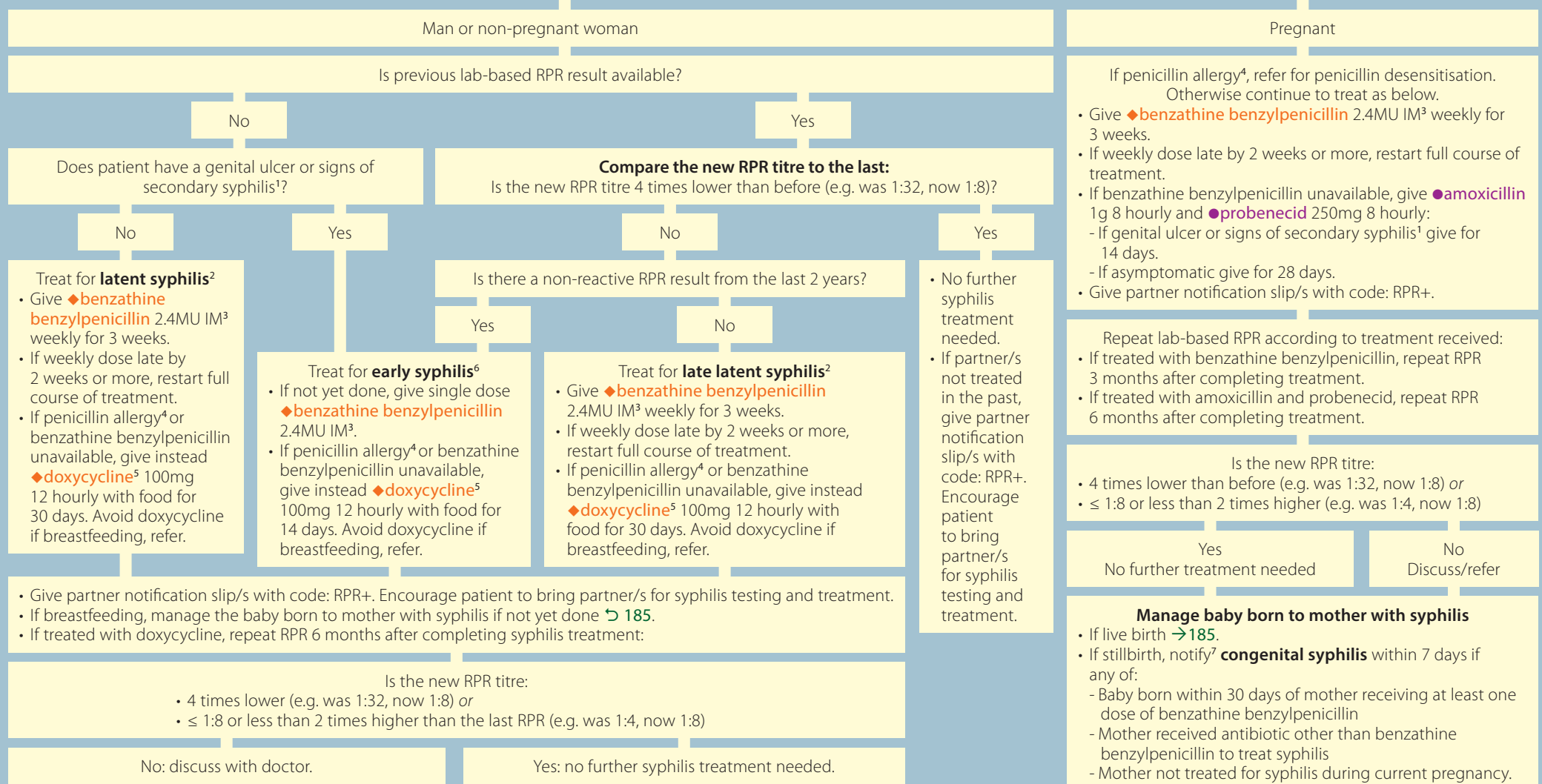
FTA - fluorescent treponemal antibody assay; RDT - rapid diagnostic test; RPR - rapid plasma reagin; TPAb - rapid treponemal antibody; TPHA - treponema pallidum haemagglutination assay; TPPA - treponema pallidum particle agglutination assay

¹Reactive fingerprick RDT or lab-based specific treponemal tests: TPHA, TPPA, FTA, syphilis ELISA, TPAb. These tests remain reactive for life, even if syphilis treated. Avoid repeating. ²Dissolve ♦benzathine benzylpenicillin 2.4 MU in 6mL ♦lidocaine 1% without adrenaline (epinephrine). ³History of angioedema, anaphylactic shock or bronchospasm.

SYPHILIS TREATMENT

Manage the patient with either of the following: RPR titre $\geq 1:8$ or $\leq 1:4$ and specific treponemal test reactive:

Check pregnancy status:



¹Primary syphilis: genital ulcer. Secondary syphilis: 6-8 weeks after ulcer; generalised rash involving palms/soles, flu-like symptoms, flat wart-like genital lesions, mouth ulcers, patchy hair loss. ²Latent syphilis: no current symptoms of syphilis, but a positive result on serological syphilis testing. Latent syphilis may early or late, depending on the duration of infection. ³Dissolve **benzathine benzylpenicillin** 2.4 MU in 6mL **lidocaine 1%** without adrenaline (epinephrine). ⁴History of angioedema, anaphylactic shock or bronchospasm. ⁵Doxycycline may interfere with oral contraceptive, advise to also use condoms. If also taking iron supplements or antacids, take these at least 2 hours before or 4 hours after doxycycline dose. ⁶Early syphilis (the highly infectious phases of syphilis within the first two years of infection): includes primary, secondary and early latent syphilis. ⁷Notify within 7 days via NMC App or www.nicd.ac.za/nmc-overview/notification-process.

OTHER GENITAL SYMPTOMS

- First assess and advise the patient ↗ 62. Test for HIV ↗ 124. If HIV positive, give routine care ↗ 126. If negative, repeat in 6 weeks. Consider need for PrEP ↗ 119.
- Then manage according to main symptom:

Lumps or warts

Painless, raised skin coloured growths with round/cauliflower-like surface (skin around genitals, anus or cervix)



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Genital warts likely

- If warts look atypical, fleshy/wet, test for syphilis ↗ 66.
- Arrange speculum examination to detect warts/ulcers involving the vaginal wall/cervix for female patients and female partner(s) of male patients presenting with genital warts. Perform cervical screening ↗ 70.
- If patient also has genital ulcer(s), manage further ↗ 65.
- Advise to avoid using over-the-counter wart removers on genital areas as these cause severe irritation.
- Explain that lesions often recur due to lifelong nature of HPV.
- Advise to use condoms reliably and screen partner(s) for STIs. Offer referral for medical male circumcision.
- Refer if:
 - Warts > 10mm in size
 - Numerous warts
 - Warts inside vagina, involving cervix, urethra or ano-rectal areas
 - Pregnant with large warts
 - Bleeding or infected warts
 - No better with previous treatment.

Papules with central dent



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Molluscum contagiosum likely

- Advise that transmission can occur sexually or non-sexually.
- Reassure that most papules resolve spontaneously within 9-12 months.
- Apply ♦tincture of iodine BP topically with an applicator to the core of the lesions.
- If no response to treatment, refer.

Itchy rash in pubic area

Intensely itchy bites
May see lice or nits (size of a pinhead) in pubic and peri-anal areas

Pubic lice (pediculosis) likely

- Apply ♦benzyl benzoate 25% lotion to whole body below the neck.
 - Leave on for 24 hours then wash off thoroughly. Avoid mucous membranes, face, eyes, urethral opening and raw areas.
- Advise to shave genital area before applying treatment.
- Treat all sexual partners and household contacts even if asymptomatic.
- Advise to wash all linen and clothing used in the 2 days prior to start of treatment in hot water. Dry items thoroughly and iron if possible.
- For itch, give ♦chlorphenamine 4mg 8 hourly as needed for up to 10 days.
- Repeat treatment for all after 1 week. Advise to return 1 week thereafter for repeat examination. If lice/eggs still present repeat treatment.
- If secondary infection, fever, or swollen, tender lymph nodes, refer.

If eyelashes/eyebrows involved, pediculosis of eyelashes/eyebrows likely.

Apply yellow ♦petroleum jelly to eyelid margins (to cover eyelashes) and eyebrows daily for 10 days to smother lice/nits. Avoid getting petroleum in eye.

Itch worse at night, with red papules and nodules



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Genital scabies likely

- Apply undiluted ♦benzyl benzoate 25% lotion to whole body from neck to feet.
 - Leave on for 24 hours, then wash off with soap and water. Avoid eyes and broken skin.
 - If severe, repeat once after 24 hours and within 5 days.
- If no better, apply undiluted ♦permethrin 5% lotion to whole body from neck to feet.
 - Leave on overnight for 8-12 hours and wash off the next morning. Repeat after 1 week if needed. Avoid eyes and broken skin.
- Put on clean washed clothes after medicine treatment.
- Cut fingernails and keep them clean.
- Wash all linen and clothing in very hot water and expose to direct sunlight to dry.
- Treat all household contacts and sexual partners at the same time, even if asymptomatic.
- For itch, give ♦chlorphenamine 4mg 8 hourly for up to 10 days. If mild itch, use only at night.
- Advise that itch may continue for 2-3 weeks after treatment and that patient may return to work after first treatment.
- If scratch marks infected (pus/red/swollen/crusts), also treat for likely impetigo ↗ 93.

URINARY SYMPTOMS

Give urgent attention to the patient with urinary symptoms and any of:

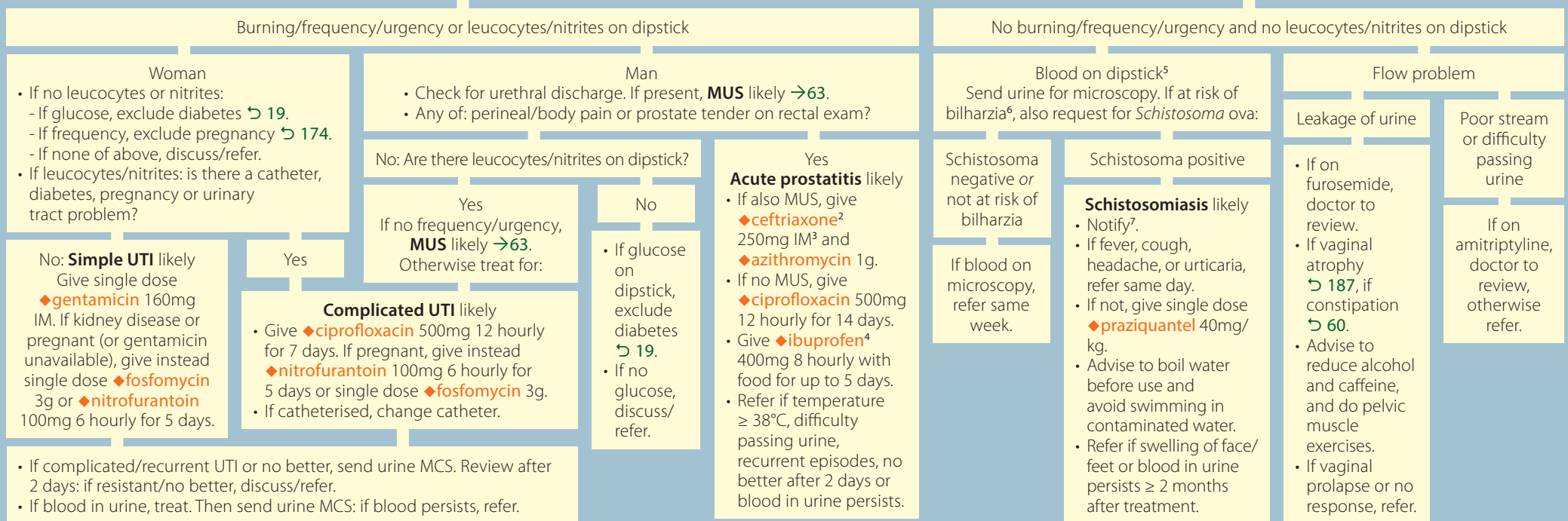
- Unable to pass urine with lower abdominal discomfort/distension
- Blood/protein in urine with new swelling of face/feet, BP $\geq$ 140/90 or passing little urine: **kidney disease** likely
- Blood in urine and sudden, severe, one-sided pain in flank or groin: **kidney stone** likely
- Flank pain with leucocytes/nitrites on dipstick and any of: vomiting, BP < 90/60, pulse $\geq$ 100, diabetes, male, pregnant or post menopause: **complicated pyelonephritis** likely

Manage and refer urgently:

- If unable to pass urine, insert urinary catheter.
- If **kidney disease** likely: if pulse > 100 or respiratory rate $\geq$ 30, give face mask oxygen and **furosemide** 80mg oral/slow IV, avoid IV fluids. If BP > 150/100, give **amlodipine** 5mg and **furosemide** 40mg orally.
- If **kidney stone** likely: give **sodium chloride 0.9%** 1L IV 6 hourly. If pain severe, give **morphine** 5-10mg IM or diluted **morphine** 3-5mg IV. If giving IV, dilute 10mg morphine with 9mL of sodium chloride 0.9%. If needed, give another 1mL/min until pain improved, up to 10mL. Repeat **morphine** after 4 hours if needed. Stop if BP < 90/60. Discuss/refer.
- If **complicated pyelonephritis** likely: first collect urine for MCS, then give **ceftriaxone** 1g IV¹/IM. Give **sodium chloride 0.9%** 1L 6 hourly. If BP < 90/60, give additional **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 90. Stop if breathing worsens. Include dose, route and time of ceftriaxone administration in referral letter.

Approach to the patient with urinary symptoms not needing urgent attention

- If flank pain with leucocytes/nitrites, **uncomplicated pyelonephritis** likely: send urine MCS. Give **ciprofloxacin** 500mg 12 hourly for 7 days and **paracetamol** 500mg-1g 4-6 hourly (max 4g/24 hours).
- Advise to return if worse: refer.



¹Do not mix Ringer's lactate and IV ceftriaxone. ²If severe penicillin allergy (history of angioedema, anaphylactic shock or bronchospasm), omit ceftriaxone and increase **azithromycin** to 2g. ³Dissolve 250mg in 0.9mL **lidocaine 1%** without adrenaline (epinephrine). ⁴Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. ⁵If menstruating, repeat dipstick after period. ⁶If washed/swam in dams/streams/lakes in endemic area (Limpopo, North West, Mpumalanga, KwaZulu-Natal, parts of Eastern Cape). If microscopy not available and patient lives in endemic area, treat as schistosomiasis. ⁷Notify within 24 hours via NMC App or www.nicd.ac.za/nmc-overview/notification-process.

CERVICAL SCREENING

- Cervical screening is done using human papillomavirus (HPV) DNA testing to detect high risk HPV subtypes.
- Send one cervical sample per patient and request HPV PCR screen on the laboratory form.
- Reflex liquid-based cytology (LBC) is done by the laboratory on a sample only if a cervical sample tests positive for high-risk HPV subtypes other than HPV 16, 18 or 45.
- Manage HPV DNA results according to the cervical screening results page → 71.

Decide when patient needs a cervical screen

Patient has no symptoms

- **If HIV negative:** start screening at age 25. Repeat every 10 years if HPV DNA test stays negative. Do last screening at age 55.
- **If HIV positive:** start screening at age 25, regardless of when ART was started. Repeat every 5 years if HPV DNA test stays negative. Continue beyond age 55 for as long as patient remains in HIV care.

Patient has symptoms

- If irregular/heavy vaginal bleeding → 73, bleeding/pain with sex → 74, or abnormal vaginal discharge → 64.
- Do routine HPV DNA screen if able to visualise cervix and there are no visible lesions.
- If a cervical lesion is visible on speculum examination, avoid HPV DNA screening.
 - If extensive ulceration, irregularity, or large lesion, refer same day.
 - If lesion not extensive, trained provider to perform punch biopsy of lesion for histology. If trained provider not available, refer for colposcopy and histology/LLETZ to receive treatment within 4 weeks.
- If patient has symptoms not responding to treatment, discuss/refer.

Assess the patient needing a cervical screen

Assess	Note
Symptoms	If abnormal vaginal bleeding → 73. If abnormal vaginal discharge → 64. If burning urination/frequency/urgency → 69. If routine cervical screen is due, delay until after treatment of symptoms. If abnormal vaginal discharge/bleeding not responding to treatment, do cervical screen at same visit. Manage other symptoms on symptom pages.
Family planning	• Assess patient's contraceptive needs → 170. Check for pregnancy → 174. • If pregnant, do cervical screen before 20 weeks gestation. - If pregnant and HPV positive with no visible cervical lesion or local swollen lymph nodes, defer treatment to 6 weeks postpartum. - If any visible lesions or invasive cancer suspected, discuss/refer same day.
Examination	• Do pelvic examination to check for pain on moving cervix and for pelvic masses. If pain on moving cervix, treat for lower abdominal pain (LAP) syndrome → 64. If mass, refer. • Do speculum examination to look at cervix. If any lesion seen, avoid HPV DNA screening. - If extensive ulceration, irregularity, or large lesion, refer same day. - If lesion not extensive, perform a punch biopsy of lesion for histology (only if trained provider available) or refer for colposcopy/LLETZ to receive treatment within 4 weeks.
HIV	• Test for HIV → 124. - If HIV positive or known HIV, give routine HIV care → 126. - If HIV negative, assess need for PrEP → 119.

Advise the patient needing a cervical screen

- Educate that cervical cancer is a disease that affects the mouth of the womb and is caused by certain types of HPV. HPV is passed on through sex and can stay in the body for years.
- Advise safer sex to lower risk of HPV and other sexually transmitted infections. Encourage consistent condom use, offer male and female condoms and advise staying with one partner at a time.
- Explain that cervical screening can prevent cervical cancer because it detects HPV infection and cervical changes years before cancer develops. Colposcopy is a closer examination of the cervix to confirm abnormal changes.
- Advise that smoking increases the risk of cervical changes. If patient smokes, encourage to stop → 164.
- If pregnant after 20 weeks gestation, advise patient to return after 6 weeks post-partum to do routine HPV DNA screening.

Review HPV DNA results → 71

CERVICAL SCREENING RESULTS

Check HPV DNA result to decide on further management

HPV DNA positive

Is patient positive for HPV types 16, 18 and/or 45?

Yes

Assess for cervical lesions using VIA

(If unable to perform VIA, refer to nearest facility where VIA available)
Is there a visible cervical lesion on VIA?

No

Is there a trained thermal ablation provider on site?

No

Refer for colposcopy and LLETZ¹.

Yes

Trained provider to perform thermal ablation¹ same day

Do follow up HPV DNA test in 12 months
Manage according to result

HPV DNA negative
Re-screen in 5 years.

HPV DNA positive (types 16, 18 and/or 45)
Request cytology and refer immediately for colposcopy and LLETZ, regardless of whether cytology is normal.

Yes

Refer for colposcopy and LLETZ¹.

No

HPV DNA positive for other high-risk types

Reflex cytology will be done by the lab. Manage according to result

Cytology Abnormal

HSIL or ASC-H

Refer for colposcopy and LLETZ to receive treatment within 4 weeks¹.

ASCUS or LSIL

- If trained provider on site, perform VIA and thermal ablation.
- If no trained provider, refer for colposcopy and LLETZ to receive treatment within 4 weeks¹.

Cytology Normal

Do follow up HPV DNA test in 12 months

Manage according to results (see adjacent column).

HPV DNA negative

- Explain that patient does not currently have the virus that can cause cancer changes.
- Re-screen, depending on HIV status:
 - If HIV negative, re-screen in 10 years
 - If HIV positive, re-screen in 5 years.

VIA - Visual Inspection with Acetic Acid

LLETZ - Large Loop Excision of the Transformation Zone

ASC-H - atypical squamous cells - cannot exclude high-grade squamous intraepithelial lesion

HSIL - high-grade squamous intraepithelial lesion

LSIL - low-grade squamous intraepithelial lesion

ASCUS - atypical squamous cells of undetermined significance

How to do a Visual Inspection with Acetic Acid (VIA)

- Insert speculum fully so that entire cervix can be seen.
- Look at cervix, check for visible lesions or signs of infection.
- Apply dilute acetic acid solution to cervix.
- Wait 1 minute for solution to be absorbed.
- Look at cervix again and note any acetowhite reactions.

Cervix **before** acetic acid applied



© WHO Cervical Screening at IARC

Cervix **after** acetic acid applied



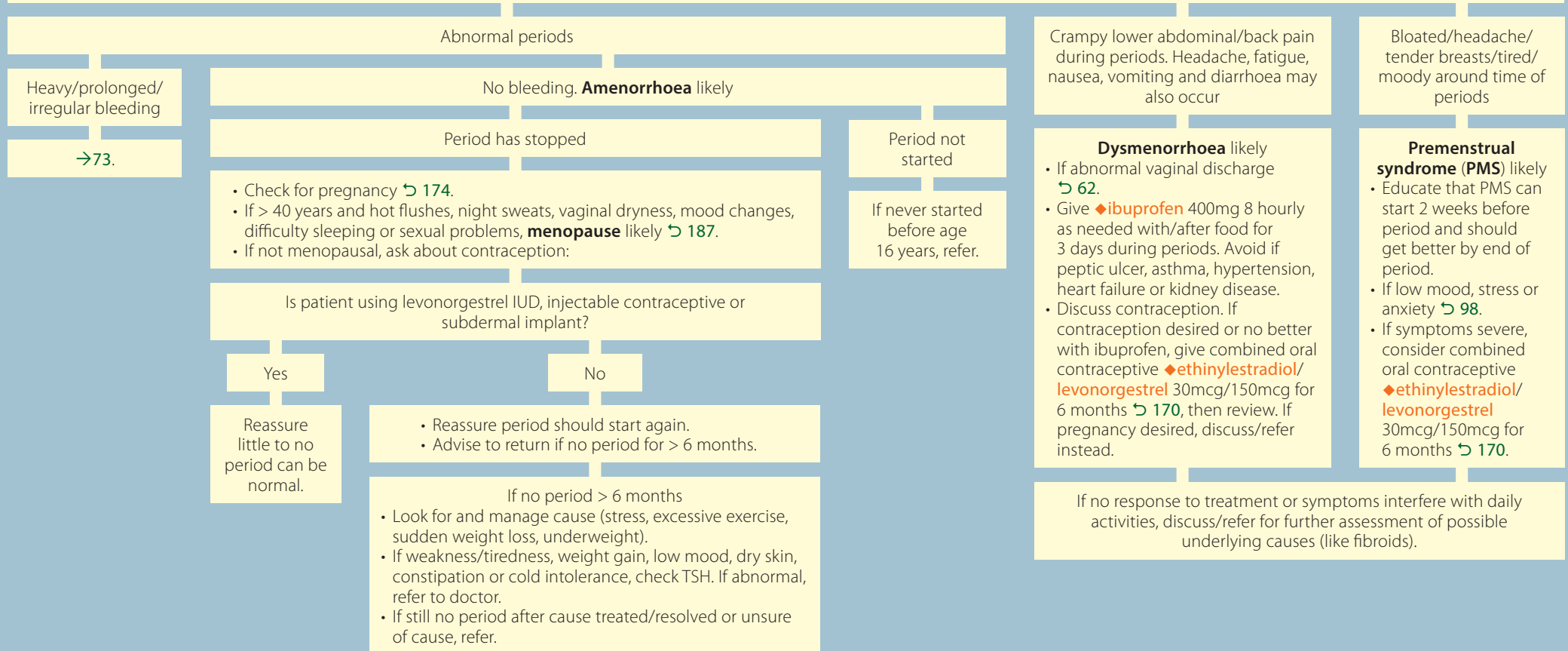
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¹If pregnant, defer until 6 weeks post-partum.

MENSTRUAL SYMPTOMS

Approach to the patient with menstrual symptoms

Manage according to symptom: ask if abnormal periods, crampy pain during periods or bloating/headache/tender breasts/tired/moody around time of periods.



Crampy lower abdominal/back pain during periods. Headache, fatigue, nausea, vomiting and diarrhoea may also occur

Dysmenorrhoea likely

- If abnormal vaginal discharge → 62.
- Give **ibuprofen** 400mg 8 hourly as needed with/after food for 3 days during periods. Avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease.
- Discuss contraception. If contraception desired or no better with ibuprofen, give combined oral contraceptive **ethinylestradiol/levonorgestrel** 30mcg/150mcg for 6 months → 170, then review. If pregnancy desired, discuss/refer instead.

Bloated/headache/tender breasts/tired/moody around time of periods

Premenstrual syndrome (PMS) likely

- Educate that PMS can start 2 weeks before period and should get better by end of period.
- If low mood, stress or anxiety → 98.
- If symptoms severe, consider combined oral contraceptive **ethinylestradiol/levonorgestrel** 30mcg/150mcg for 6 months → 170.

If no response to treatment or symptoms interfere with daily activities, discuss/refer for further assessment of possible underlying causes (like fibroids).

Advise the patient with menstrual symptoms

- Explain that menstruation (having a period) is normal and healthy, and educate what menstruation is: every month the uterus lining thickens to prepare for pregnancy. When pregnancy does not happen, the thickened lining is released through the vagina, as bleeding for a few days.
- Reassure that dysmenorrhoea (abdominal/back pain with periods) is common. Encourage to continue with daily activities and exercise.
- If premenstrual syndrome, advise to do daily exercise and try relaxation techniques → 98.

ABNORMAL VAGINAL BLEEDING

Give urgent attention to the patient with vaginal bleeding and any of:

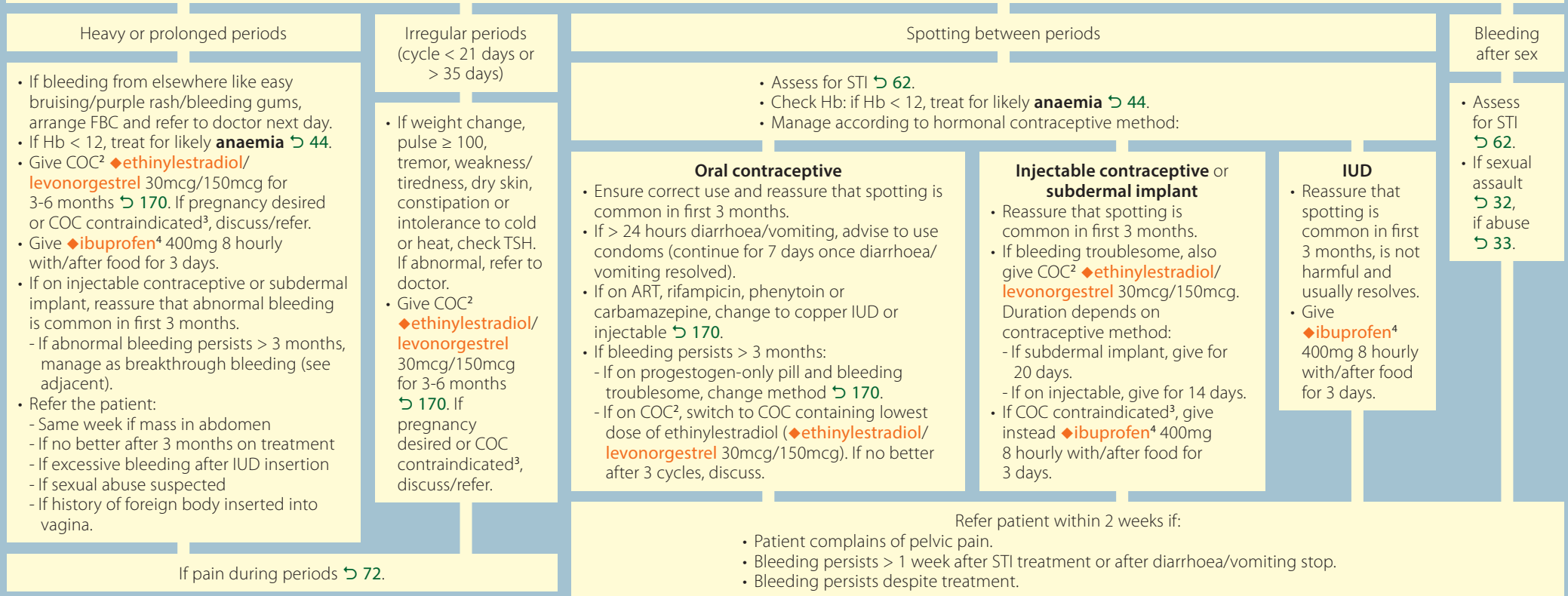
- Pregnant → 177
- Recent delivery/miscarriage/termination of pregnancy → 182
- Shock¹/SBP < 80
- Hb < 6
- Pallor with pulse ≥ 100, respiratory rate ≥ 30, dizziness/weakness or chest pain
- Sexual assault and/or rape → 32

Manage and refer urgently:

- If shock/systolic BP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Approach to the patient with abnormal vaginal bleeding not needing urgent attention:

- Check for pregnancy → 174.
- Do a pelvic examination to check for pelvic masses, a speculum examination to visualise cervix and a cervical screen if needed → 70.
- If > 40 years, ask about menopausal symptoms: hot flushes, night sweats, vaginal dryness, mood changes, difficulty sleeping and sexual problems → 74.
If new bleeding occurs > 1 year after final period, refer within 2 weeks.
- If patient is not menopausal, determine the type of bleeding problem:



¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Combined oral contraceptive. ³Avoid COC if smoker ≥ 35 years, migraines and ≥ 35 years old or visual disturbances, up to 6 weeks postpartum, BP ≥ 140/90, hypertension, CVD risk > 10%, blood clots, previous stroke, ischaemic heart disease or diabetes complications (eye, nerve, kidney damage). ⁴Avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease.

SEXUAL PROBLEMS

Ask about problems getting or maintaining an erection, pain with sex, painful ejaculation or loss of libido:

Problems getting or maintaining an erection

Does patient often wake with an erection in morning?

Yes

- If low mood, stress or anxiety ↗ 98.
- Ask about relationship problems, anxiety/fear about sex, unwanted pregnancy, infertility and performance anxiety.
- If sexual assault ↗ 32, if abuse ↗ 33.
- Discuss condom use. Ensure patient knows how to use condoms correctly.

No

- Assess CVD risk ↗ 142.
- Review medication: hydrochlorothiazide, spironolactone, risperidone, fluoxetine and amitriptyline can cause sexual problems. Discuss with doctor.
- In the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
- If patient smokes, encourage to stop ↗ 164.
- If low mood, stress or anxiety ↗ 98.
- If no better once chronic condition/s stable and treatment optimised, refer.

Painful ejaculation

- If genital symptoms ↗ 62.
- If urinary symptoms ↗ 69.
- Review medication: antidepressants and schizophrenia treatment can cause painful ejaculation. Discuss with doctor.
- If no cause found, refer.

Pain with sex (vaginal or anal) If painful ejaculation, manage in adjacent column

Is the pain superficial or deep?

Superficial pain

- If genital symptoms ↗ 62.
- If anal symptoms ↗ 61.
- If urinary symptoms ↗ 69.
- Ask about vaginal dryness:
 - If woman > 40 years, ask about menopausal symptoms: hot flushes, night sweats, mood changes and difficulty sleeping ↗ 99.
 - Review medication: oral contraceptive, antidepressants and hypertension treatment can cause vaginal dryness. Discuss with doctor.
- Advise patient to use lubricant during sex. Ensure it is condom-compatible, avoid using petroleum jelly with condoms.

Deep pain

- If genital symptoms ↗ 62.
- If recurrent abdominal pain/discomfort and ≥ 2 of: pain relieved with passing stool, abdominal distension, change in stool frequency/appearance, **irritable bowel syndrome** likely. Refer to doctor to confirm diagnosis and to dietitian for dietary advice.
- Refer if:
 - Heavy, painful or prolonged periods
 - Infertility
 - Abdominal/pelvic mass
 - Anal/rectal mass

- If low mood, stress or anxiety ↗ 98.
- If sexual assault ↗ 32, if abuse ↗ 33.

Loss of libido

Ask if pain with sex or if problem with erections, and manage in adjacent columns

- If low mood, stress or anxiety ↗ 98.
- Review medication: phenytoin, hydrochlorothiazide, spironolactone, chlorpromazine, risperidone, fluoxetine, amitriptyline and lopinavir/ritonavir can cause loss of libido. Discuss with doctor.
- In the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
- Ask about relationship problems, anxiety/fear about sex, unwanted pregnancy, infertility and performance anxiety.
- If woman > 40 years, ask about menopausal symptoms: hot flushes, night sweats, mood changes and difficulty sleeping ↗ 99.
- If sexual assault ↗ 32, if abuse ↗ 33.
- Assess patient's contraceptive needs ↗ 170.
- Offer referral to counsellor.

If sexual problems do not improve, refer to specialist.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

BODY/GENERAL PAIN

A patient has body/general pain if his/her body aches all over or most of body is painful. If pain localised to one area: if in back →78, arm/hand →79, leg →80, foot →81, neck →79.

Approach to the patient with body/general pain

- If on abacavir or zidovudine, check for urgent side effects →131.
- If fever now or in past 3 days, and in a malaria area in past 3 months, **malaria** likely →39.
- If tick bite (small dark brown/black scab) or tick present, **tick bite fever** likely →38.
- If unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, swollen lymph nodes, temperature > 38.5°C, fatigue, sore throat/nasal congestion/cough, consider **mpox** →40.
- If unintentional weight loss of ≥ 5% of body weight in past 4 weeks →37.
- Are there any of: temperature ≥ 38°C, cough, blocked/runny nose, sore throat, abdominal pain, nausea/vomiting, diarrhoea, burning urine?

No. Screen for joint problem:

Ask patient to place hands behind head, then behind back. Bury nails in palm to make a fist and open hand. Press palms together with elbows lifted. Walk. Sit and stand up with arms folded. Is patient able to do all actions comfortably?

No

Check joints: are joint/s warm, tender, swollen or have limited movement?

Yes

→77

No

- Test for HIV →124.
- If low mood, stress or anxiety →98. If patient has experienced recent physical or sexual abuse →32.
- If on simvastatin/atorvastatin/rosuvastatin and muscle pain/cramps or weakness, discuss with doctor.
- If patient has a life-limiting illness, also give palliative care →191.
- Ask about duration of pain:

< 3 months

- Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed and ♦**ibuprofen**¹ 400mg 8 hourly with/after food as needed for up to 5 days.
- Explain that pain does not always mean disease/cancer, and tests cannot always show a reason for the pain and often are not needed.
- Advise to return if no better after 2 weeks.

≥ 3 months

- Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
 - Add ♦**ibuprofen**¹ 400mg 8 hourly with/after food as needed for up to 5 days.
 - If no better, also give ►**tramadol** 50-100mg 6 hourly (max 400mg/24 hours) for up to 5 days.
- Advise to only use analgesia when necessary, avoid long term regular use.
- Assess and advise on chronic pain →76.
- Check glucose →19 and Hb →44.
- Check CRP, creatinine (eGFR). If weakness/tiredness, weight gain, low mood, dry skin, constipation or cold intolerance, also check TSH. Review in 2 weeks:
 - If blood results normal, consider **fibromyalgia** →190.
 - If blood results abnormal, refer to doctor.

Yes

- If temperature ≥ 38°C →38
- If cough →23
- If blocked/runny nose →51
- If sore throat →53
- If abdominal pain →56
- If nausea or vomiting →57
- If diarrhoea →58
- If burning urine →69

If none of these:

Is there *recent* onset body pain, headache, fever, or nausea/vomiting?

Yes

If neck stiffness, drowsy/confused or purple/red rash, **meningitis** likely →47.

No

Discuss with doctor.

Acute viral infection likely

- Advise on cough/sneeze hygiene and to wash hands regularly.
- For pain or fever, give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Advise antibiotics are not needed.
- Advise to return if symptoms persist > 7 days, or if fever returns and any of:
 - Cough →23
 - Ear pain →50
 - Pain over cheeks, **sinusitis** likely →47.
- Advise yearly influenza vaccine if HIV, heart or lung disease.

¹Avoid if: peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant.

CHRONIC PAIN

Chronic pain is pain that lasts longer than 3 months. A doctor should confirm the underlying cause of the pain.

Assess the patient with chronic pain at every visit

Assess	Note
Site and duration of pain	Ask where the pain is and when the pain started. Does pain radiate anywhere?
Type of pain	- Does patient have cancer pain or non-cancer pain? If life-limiting condition ➔ 191. - If non-cancer pain, decide if patient has tissue pain, nerve pain or central pain: - If arthritis, joint pain, lower back/neck pain or chronic lung problem, tissue pain likely. - If previous shingles, trigeminal neuralgia, peripheral neuropathy or diabetic neuropathy, nerve pain likely. - If fibromyalgia or irritable bowel syndrome, central pain likely.
Severity of pain	- Does pain limit activity or affect sleep, activities of daily living, mood or social/work functioning? - Ask patient to grade pain on a scale from 0 - 10, with 0 being no pain and 10 being the worst pain: classify pain as mild (1-3), moderate (4-7) or severe (8-10). If the patient has cognitive impairment or is non-verbal, use Abbey¹ pain scale instead. no pain mild pain moderate pain severe pain worst possible pain 0 1 2 3 4 5 6 7 8 9 10
Relieving and aggravating factors	What makes the pain better or worse? What has patient been using to help pain? Does pain medication help? Use this to help patient decide which pain strategies will help the most.
Mental health	Ask how patient is coping and what support and/or spiritual care is needed. If low mood, stress or anxiety ➔ 98.
Substance use	In the past year, has patient: drunk ≥ 4 drinks ² /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ➔ 165.
Long-term health conditions	Ensure patient is receiving appropriate care for all his/her other long-term health conditions. Manage as on routine care page/s.
Palliative care	If patient has a life-limiting illness, also give palliative care ➔ 191.
Examine area of pain	If skin problem ➔ 82. If joint problem ➔ 77. If back, neck, leg, foot, arm or hand problem, manage as on symptom page.

Advise the patient with chronic pain

- Ask what patient thinks is causing pain and what impact it is having on his/her life and family. Address patient's and family's concerns about pain. For tips on communicating effectively ➔ 198.
- Educate that non-cancer chronic pain can be because pain signals in the brain stop working normally and get stuck in the 'on' position, even when the cause has resolved. It does not always mean a disease or cancer. Tests cannot always show the reason for the pain and often are not needed. Help the patient, along with his/her family, to choose strategies to get help and cope with chronic pain:

Get enough sleep

If patient has difficulty sleeping, give advice ➔ 99.



Encourage patient to take time to relax



Spend time with supportive friends or family.



Find a creative or fun activity to do.



Do relaxing breathing and stretching exercises each day.



Get active

Aim for at least 30 minutes of moderate exercise most days. Start with 10 minutes/day and increase steadily.

Manage activities

Advise to stagger tasks and to avoid trying to fit too many activities into one day.



Access support

Link patient with helpline or support group ➔ 200.

Limit alcohol and avoid drugs

- Limit alcohol intake to ≤ 2 drinks²/day if man and 1 drink²/day if woman.
- Avoid drugs and unnecessary pain medication.



Treat the patient with chronic pain

- Manage pain together with patient and interdisciplinary team: refer if needed to physiotherapist, occupational therapist, spiritual counsellor/psychologist, social worker and community health worker.
- Together with the patient, set realistic pain management goals: to be as pain-free as possible (this might not be completely pain-free) so that s/he can do the things s/he wants and enjoys doing.
- Treat the patient's chronic pain on relevant symptom or routine care page. If appropriate, suggest patient tries movement exercise and heat/cold packs as these may help ease the pain.

¹Access the Abbey pain scale: www.mdcalc.com/calc/3627/abbey-pain-scale-dementia-patients. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

JOINT SYMPTOMS

Give urgent attention to the patient with a joint symptom/s and:

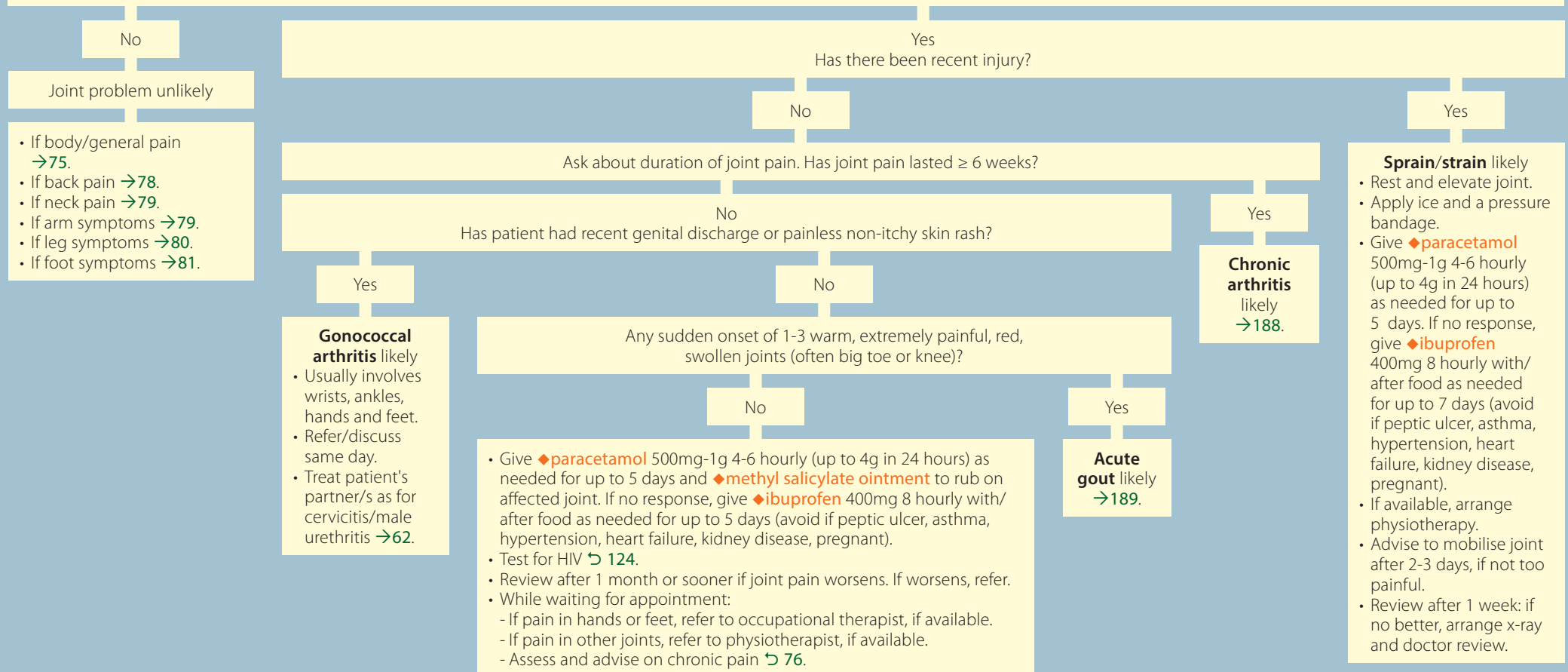
- Short history of single warm, swollen, extremely painful joint with limited range of movement, **septic arthritis** likely
- Injury in past 48 hours and severe pain/swelling or deformity, **fracture** likely →30.
- If known gout and affected joint involves big toe, midfoot or ankle *and* no fever, wound, surgery or injection into joint, **acute gout** likely →189.
- Temperature $\geq 38^{\circ}\text{C}$
- Unable to weight-bear

Manage and refer urgently:

- If septic arthritis, injury/fracture, suspected secondary gout (haematological malignancy) or known gout with chronic kidney disease, refer.

Approach to the patient with a joint symptom/s not needing urgent attention

- Check joints and ask patient to place hands behind head, then behind back. Bury nails in palm to make a fist and open hand. Press palms together with elbows lifted. Walk. Sit and stand up with arms folded.
- Is there any of: joint warm/tender/swollen or unable to do all actions comfortably?



BACK PAIN

Give urgent attention to the patient with back pain and any of:

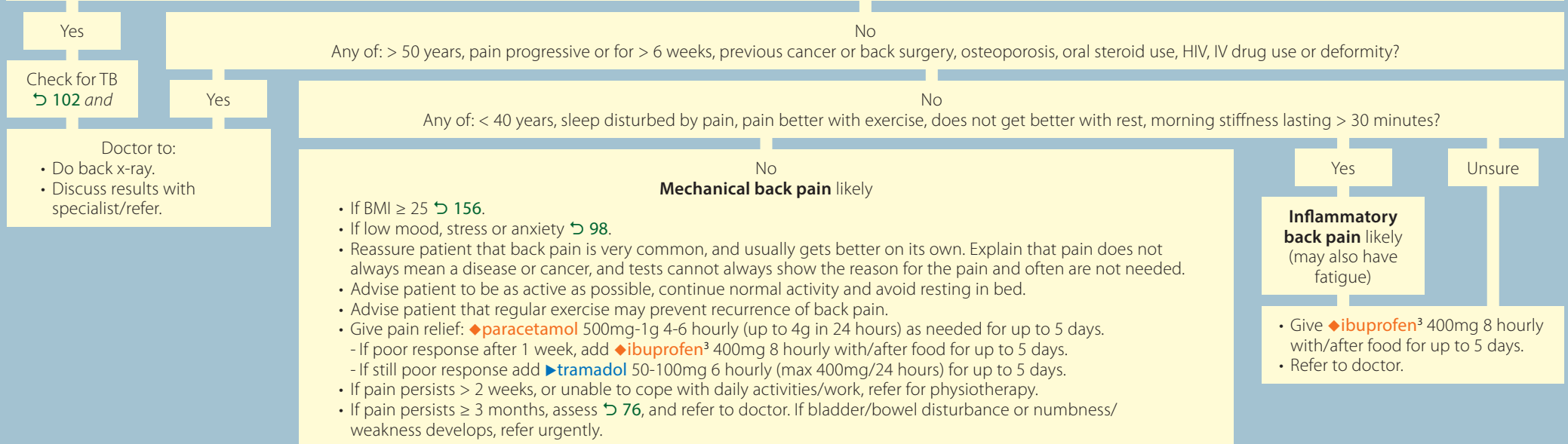
- Bladder or bowel disturbance (retention or incontinence)
- Numbness of buttocks, perineum or legs
- Leg weakness or difficulty walking
- Recent injury and x-ray unavailable or abnormal
- Sudden onset severe upper abdominal pain with nausea/vomiting, **pancreatitis** likely
- If flank pain, check urine dipstick:
 - If leucocytes/nitrites and any of: vomiting, sepsis¹, diabetes, male, pregnant or post menopause: **complicated pyelonephritis** likely
 - If blood with sudden, severe, one-sided pain radiating to groin: **kidney stone** likely
- Pulsatile abdominal mass: **abdominal aortic aneurysm** likely
- Known cancer patient

Manage and refer urgently:

- If **abdominal aortic aneurysm** likely: avoid giving IV fluids even if BP < 90/60 (raising blood pressure may worsen rupture).
- If BP < 90/60 or **pancreatitis** likely, give **◆sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 90. Continue 1L 6 hourly. Stop if breathing worsens.
- If **complicated pyelonephritis** likely: first collect urine for MCS and then give **◆ceftriaxone** 1g IV²/IM.
- If **kidney stone** likely: give **◆sodium chloride 0.9%** 1L IV 6 hourly. If pain severe, give **▶morphine** 5-10mg IM or diluted **▶morphine** 3-5mg IV. If giving IV, dilute 10mg morphine with 9mL of sodium chloride 0.9%. If needed, give another 1mL/min until pain improved, up to 10mL. Repeat **▶morphine** after 4 hours if needed. Stop if BP < 90/60. Discuss/refer.
- If patient known to have cancer, refer same day.

Approach to patient with back pain not needing urgent attention

- If flank pain with leucocytes/nitrites on urine dipstick, **uncomplicated pyelonephritis** likely: send urine for microscopy, culture, sensitivity. Give **◆ciprofloxacin** 500mg 12 hourly for 7 days and **◆paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days. If no better after 2 days, refer.
- If unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, swollen lymph nodes, temperature > 38.5°C, fatigue, sore throat/nasal congestion/cough, consider **mpox** →40.
- Does patient have any of: cough, weight loss, night sweats or fever?



¹Sepsis is any of: SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion. ²Do not mix Ringer's lactate and IV ceftriaxone. ³Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. If patient also taking aspirin, advise to wait at least 30 minutes after taking aspirin before taking ibuprofen.

NECK PAIN

Give urgent attention to the patient with neck pain and any of:

- Neck stiffness and any of: temperature $\geq 38^{\circ}\text{C}$, headache, drowsy/confused or purple/red rash: **meningitis** likely. Give **◆cefttriaxone** 2g IV¹/IM. Avoid injecting > 1g IM at one injection site
- Neurological symptoms in arms/legs: weakness, numbness, clumsiness, stiffness, change in gait or difficulty with co-ordination
- Recent injury and x-ray unavailable/abnormal or neurological symptoms: apply rigid neck collar and immobilise head with tape and sandbags/IV fluid bags on either side of head

Refer urgently.

Approach to the patient with neck pain not needing urgent attention

Any of: >50 years, pain progressive or lasting > 6 weeks, oral steroid use, HIV, diabetes, IV drug use, unexplained weight loss/fever or TB, neck surgery, previous cancer?

Yes

- Do cervical spine x-ray.
- Refer to doctor.

No

- Give **◆paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days. If no response, give **◆ibuprofen**² 400mg 8 hourly with/after food for up to 5 days.
- If no better after 5 days and no arm pain, refer for physiotherapy. If pain ≥ 3 months, assess and advise **→76**.
- If no better after 6 weeks, arm pain, weakness/numbness develops or pain worsens, do cervical spine x-rays and refer.

ARM OR HAND SYMPTOMS

- Check joints and ask patient to place hands behind head, then behind back. Bury nails in palm to make a fist and open hand. Press palms together with elbows lifted.
- If joint warm/tender/swollen or unable to do all actions comfortably, **joint problem** likely **→77**.

Give urgent attention to the patient with arm or hand symptoms and any of:

- Arm pain with chest pain **→24**
- If recent injury and severe pain/swelling or deformity, **fracture** likely **→30**
- New sudden onset of weakness of arm with/without difficulty speaking or visual disturbance: consider stroke or TIA **→152**

Approach to the patient with arm or hand symptoms not needing urgent attention

Painful shoulder

Referred pain likely
Ask about neck pain (see above), cough/difficulty breathing **→23**, chest pain **→24**, abdominal pain **→56**, pregnancy **→174**.

Wrist/hand pain: intermittent, worse at night, relieved by shaking. May be numbness/tingling in 1st, 2nd and 3rd fingers or weakness of hand.

Carpal tunnel syndrome likely

- Give **◆ibuprofen**² 400mg 8 hourly with/after food and **◆paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- Splint wrist in neutral position at night.
- Refer to occupational therapist.

Elbow pain with or after elbow flexion/extension.
May have decreased grip strength.

Tennis or golfer's elbow likely

- Apply ice to elbow and rest arm.
- Give **◆ibuprofen**² 400mg 8 hourly with/after food for 10 days.
- Refer for physiotherapy.

Thumb pain: worse with thumb/wrist movement or catching/locking of finger.

Tenosynovitis likely

- Rest and splint joint.
- Give **◆ibuprofen**² 400mg 8 hourly with/after food for up to 5 days.
- Refer to occupational therapist.

If no better after 6 weeks or worsens, refer to doctor.

¹Do not mix Ringer's lactate and IV ceftriaxone. ²Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. If patient also taking aspirin, advise to wait at least 30 minutes after taking aspirin before taking ibuprofen.

LEG SYMPTOMS

- Screen for joint problem: Check joints and ask patient to walk, sit and stand up with arms folded. If joint warm/tender/swollen or unable to do all actions comfortably, **joint problem** likely →77.
- If the problem is only in the foot →81.

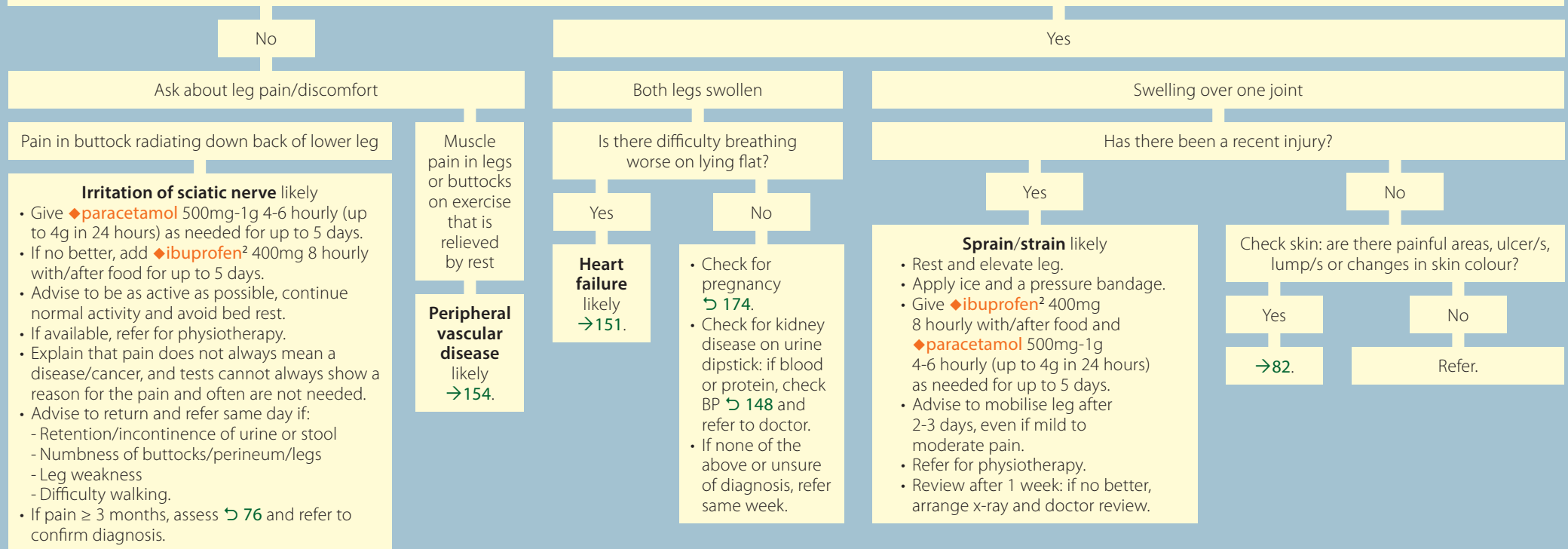
Give urgent attention to the patient with leg symptoms and any of:

- Unable to bear weight following injury, **fracture** likely → 30
- Swelling and pain in one calf: **deep venous thrombosis** likely, especially if BMI¹ > 30, smoker, immobile, pregnant, on oestrogen, leg trauma, recent hospitalisation, TB or cancer
- Sudden severe leg pain at rest with any of the following in the leg: numbness, weakness, pallor, no pulse: **acute limb ischaemia** likely
- Muscle pain in legs or buttocks on exercise associated with pain at rest, ulcer or gangrene: **critical limb ischaemia** likely

Refer urgently.

Approach to the patient with leg symptoms not needing urgent attention

If on simvastatin/atorvastatin/rosuvastatin and muscle pain/cramps or weakness, discuss with doctor/specialist.
Is there leg swelling?



¹BMI = weight (kg) ÷ height (m) ÷ height (m). ²Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant.

FOOT SYMPTOMS

Check if problem is in the joint: ask patient to walk, sit and stand up with arms folded. If unable to do all actions comfortably and problem seems to be specifically in the joint → 77.

Give urgent attention to the patient with foot symptoms and any of:

- Unable to bear weight following injury, **fracture** likely → 30.
- Sudden severe foot pain at rest with any of the following in the leg: numbness, weakness, pallor, no pulse: **acute limb ischaemia** likely
- Muscle pain in legs or buttocks on exercise associated with foot pain at rest, ulcer or gangrene on foot: **critical limb ischaemia** likely

Refer urgently.

Approach to the patient with foot symptoms not needing urgent attention

If cracks/peeling/scaly lesions between toes or thickened scaly skin on soles/heels/sides of feet, **tinea pedis (athlete's foot)** likely → 81.

Generalised foot pain

Constant burning pain, pins/needles or numbness of feet worse at night

Peripheral neuropathy likely

- Test for HIV → 124 and syphilis → 66. If HIV positive, give routine care → 126.
- Check for diabetes → 19.
- In the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165. If harmful alcohol use, give ♦**thiamine** 100mg daily.
- Give ▶**amitriptyline**² 25mg (10mg if ≥ 65 years) at night. If needed, increase by 25mg (10mg if ≥ 65 years) every 2 weeks, up to 75mg at night.
- If on isoniazid, increase ♦**pyridoxine** to 50mg 8 hourly for 3 weeks, then give 50mg daily. If pregnant, discuss/refer.
- If on linezolid, check RR-TB treatment duration and discuss with TB expert/helpline → 200.
- If one-sided, weakness or severe numbness, refer same week.
- If patient known to have cancer, refer same day.
- If available, refer to physiotherapist.
- If no better with treatment, discuss/refer.

Foot pain with muscle pain in legs or buttocks

Peripheral vascular disease likely → 154.

Localised pain

Ensure that shoes fit properly.

Heel pain, worse on starting walking

Plantar fasciitis likely

- Advise to: decrease aggravating physical activity (like running). Apply ice. Avoid bare feet - wear shoes with good support or use shoe inserts. Stretch and exercise feet regularly: stretch calf muscle/s on waking and before sleep, roll foot/feet over cold drink bottle.
- If BMI³ ≥ 25, assess and advise → 156.
- Give as needed: ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) or ♦**ibuprofen** 400mg 8 hourly with/after food for up to 5 days (avoid ibuprofen if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant).
- Refer for physiotherapy, if available.

Foot deformity
Bony lump at base of big toe; may have callus, redness or ulcer

Bunion likely

- Give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) for up to 5 days.
- If severe pain or ulcer, refer.

If the patient has diabetes or PVD, identify the foot at risk and review more frequently if patient also has any of:

- **Skin:** callus, corns, cracks, wet soft skin between toes → 85, ulcers → 90.
- **Foot deformity:** most commonly bunions (see above). If foot deformity, refer for specialist care.
- **Sensation:** light prick sensation abnormal after 2 attempts.
- **Circulation:** absent or reduced foot pulses.

Health for All

→ 59

Advise patient with diabetes or PVD to care for feet daily to prevent ulcers and amputation

- Inspect and wash feet daily and carefully dry between the toes. Avoid soaking feet.
- Moistens dry cracked feet daily with ♦**emulsifying ointment** (UE), avoid area between toes.
- If cuts/blisters/sores, keep wound clean and return to clinic if not healing.
- Avoid walking barefoot or wearing shoes without socks. Change socks/stockings daily. Inspect inside shoes daily.
- Clip nails straight, file sharp edges. Avoid cutting corns/calluses or using chemicals/plasters to remove them.
- Avoid testing water temperature with feet or using hot water bottles or heaters near feet.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²Avoid if on RR-TB treatment. ³BMI = weight (kg) ÷ height (m) ÷ height (m).

SKIN SYMPTOMS

Give urgent attention to the patient with skin symptoms and any of:

- If sudden generalised itch/rash or face/tongue swelling and any of: wheeze, difficulty breathing, BP < 90/60, dizziness/collapse, abdominal pain, vomiting or exposure to possible allergen¹, check for **anaphylaxis** → 28.
- Purple/red rash with any of: neck stiffness, drowsy/confused, temperature ≥ 38°C, headache: **meningococcal disease** likely.
- Diffuse rash appearing within 3 months of starting a new medication *and* any of the following, **serious drug reaction** likely:
 - Shock²/SBP < 80
 - Temperature ≥ 38°C
 - Abdominal pain
 - Vomiting or diarrhoea
 - Involves mouth, eyes or genitals
 - Blisters, peeling or raw areas
 - Jaundice
 - Unwell, malaise, fatigue, body pain
 - Difficulty breathing → 23



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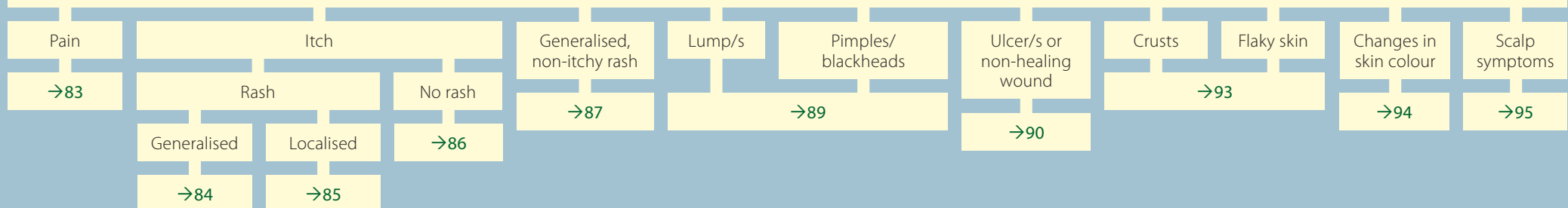
Manage and refer urgently:

- If shock/SBP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If **meningococcal disease** likely: give ♦ceftriaxone³ 2g IM. Avoid injecting > 1g IM at one injection site.
 - Notify⁴ as suspected meningococcal disease. If possible, isolate patient, and give surgical mask to prevent spread.
 - Prevent disease in close household contacts:
 - If contact < 6 years old, give ♦ceftriaxone³ 125mg IM as a single dose (dissolve ceftriaxone 250mg in 0.9mL ♦lidocaine 1% without adrenaline (epinephrine); discard half the volume and inject the rest).
 - If contact 6-12 years old, give ♦ciprofloxacin 250mg as a single dose.
 - If contact ≥12 years, give ♦ciprofloxacin 500mg as a single dose. If pregnant, give instead ♦ceftriaxone³ 250mg IM (dissolve ceftriaxone 250mg in 0.9mL ♦lidocaine 1% without adrenaline (epinephrine)).
- If **serious drug reaction** likely: stop all medication. If peeling or raw skin, also manage as for burns before referral →31.

Approach to the patient with skin symptoms not needing urgent attention

If unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, swollen lymph nodes, temperature > 38.5°C, fatigue, sore throat/nasal congestion/cough consider **mpox** →40.

Manage according to skin symptom/s:



If rash is extensive, recurrent or difficult to treat, test for HIV → 124.

¹Common allergens include medication, food or insect bite/sting within the past few hours. ²If SBP < 80, pulse ≥ 100, respiratory rate > 30, decreased level of consciousness, weakness, shock likely. ³If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. ⁴Notify within 24 hours via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.

PAINFUL SKIN

Check if the patient needs urgent attention ➔ 82.

Red, warm, painful lump which may be fluctuant in the centre. May discharge pus.



© University of Cape Town

Boil/abscess likely

- If fluctuant, arrange incision and drainage.
- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- If swollen tender lymph nodes, multiple lesions, lesion on face, extensive surrounding infection, temperature $\geq 38^{\circ}\text{C}$, HIV or diabetes, give antibiotic:
 - Give **cefalexin** 500mg 6 hourly or **flucloxacillin** 500mg 6 hourly for 5 days.
 - If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
- Advise to wash with soap and water, keep nails short and avoid sharing clothing or towels.
- If recurrent boils or abscesses:
 - If painful abscesses in axilla, groin or perineum, **hidradenitis suppurativa** likely ➔ 42.
 - Test for HIV ➔ 124 and diabetes ➔ 19.
 - Wash once with **chlorhexidine 0.05%** solution from neck down.
- Refer same day if:
 - BP < 90/60
 - Pulse > 100
 - Deep abscess in difficult area to drain (hands, breast, perineum)
 - No response to treatment within 2 days.

Red, warm, swollen skin
Are borders poorly or clearly defined?

Poorly-defined borders



© University of Cape Town

Cellulitis likely

Clearly-defined raised borders



© University of Cape Town

Erysipelas likely

- Give **cefalexin** 500mg 6 hourly or **flucloxacillin** 500mg 6 hourly for 5 days. If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
- Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.
- If limb affected, advise to keep elevated.
- Refer same day if:
 - BP < 90/60
 - Pulse > 100
 - Confused
 - Hand, face or scalp involvement
 - Extensive infection
 - Blisters or grey/black skin
 - Poorly controlled diabetes
 - Recurrent infections with underlying problem (like lymphoedema)
 - No response to treatment within 2 days.

Painful blisters in a band along one side



© University of Cape Town

Herpes zoster (shingles) likely

- Test for HIV ➔ 124.
- Advise to keep lesions clean and dry, and to avoid skin contact with others until crusts have formed.
- Give **aciclovir** 800mg 5 times a day (4 hourly missing the middle of the night dose) for days if:
 - ≤ 3 days since onset of rash or
 - At risk of severe infection (> 65 years, HIV, diabetes, severe heart/liver disease or alcohol abuse) and lesions not yet crusted.
- For pain:
 - Give **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed.
 - If needed, add **tramadol** 50mg 6 hourly. If poor response, doctor to increase dose to **tramadol** 100mg 6 hourly.
 - If pain persists after rash has healed, also give **amitriptyline**² 25mg at night. If no response, increase by 25mg every 2 weeks, up to 75mg if needed.
 - If still poor response, refer.
- If infected (skin red, warm, swollen):
 - Give **cefalexin** 500mg 6 hourly or **flucloxacillin** 500mg 6 hourly for 5 days.
 - If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
- Refer same day if:
 - Eye, ear or nose involvement
 - Suspected meningitis (headache, temperature $\geq 38^{\circ}\text{C}$, neck stiffness)
 - Rash involves more than one region of the body.

¹History of angioedema, anaphylaxis or urticaria. ²Avoid if on RR-TB treatment.

GENERALISED ITCHY RASH

Check if the patient needs urgent attention → 82.

If red itchy crops of bumps that may have blistered or healed with darkening of skin, may have scratch marks, **insect bites** likely → 85.

Small red bumps and burrows in webspaces of fingers, axillae, waist and genitals. Very itchy, especially at night



© University of Cape Town

Scabies likely

- Apply **benzyl benzoate 25%** lotion from neck to soles of feet and rub in well:
 - Leave on for 24 hours, then wash off with soap and water.
 - If severe, repeat once after 24 hours or within 5 days.
- Only if no better, apply **permethrin 5%** lotion at night from neck to soles of feet. Wash off after 8-12 hours. Repeat after 1 week if needed. Avoid using permethrin and benzyl benzoate together.
- For itch, give **chlorphenamine** 4mg 8 hourly for up to 10 days. If mild itch, use only at night.
- Advise can return to work after first treatment.
- Treat all household contacts and sexual partners at the same time, even if asymptomatic.
- Wash recently used linen and clothing in very hot water and dry well. Expose to direct sunlight.
- If yellow crusts, also treat for likely **impetigo** → 93.

If no response to treatment, discuss/refer.

Hyperpigmented, itchy bumps on limbs, trunk or face



© University of Cape Town

Papular pruritic eruption (PPE) likely

- Test for HIV → 124.
- If lesions in webspaces, axillae or genitals, also treat for scabies in adjacent column.
- Apply **hydrocortisone 1%** cream twice a day for 7 days (apply sparingly to face, avoid eyes)
- For itch, give **cetirizine** 10mg daily.
- Advise patient:
 - Reduce exposure to insect bites.
 - May be long-standing and skin often remains hyperpigmented.
 - May temporarily worsen after starting ART.

Patches of dry, scaly, itchy skin on wrists, ankles, inside elbows or behind knees



© University of Cape Town

Eczema likely

- Eczema is a chronic condition with acute exacerbations.
- Advise to avoid triggers such as soap, detergents, heat, fabrics that cause itch, overheating at night.
- If low mood, stress or anxiety → 98.
- Wash with **aqueous cream (UEA)** instead of soap.
- If severe, start at Step 3.
- **Step 1.** Moisturise skin with **emulsifying ointment (UE)** twice a day and immediately after bathing.
- **Step 2.** If no better after 7 days: apply **hydrocortisone 1%** cream twice a day for 7 days (apply sparingly to face, avoid eyes). If good response, reduce to once a day for 3 days, then stop. Continue with **UEA** and **UE** as above.
- **Step 3.** If poor response to hydrocortisone or severe eczema, apply instead **betamethasone 0.1%** ointment once a day for 7 days (avoid face, neck, flexures). If good response, reduce use to every second day for a few days, then stop. Continue with **UEA** and **UE** as above.
- For itch, give **chlorphenamine** 4mg at night for up to 2 weeks. If no better/severe daytime itch, give instead **cetirizine** 10mg daily.
- If oozing/pus/yellow crusts, treat for infection: give **cefalexin** 500mg or **flucloxacillin** 500mg 6 hourly for 5 days. If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
- Refer if: no better after 2 weeks, extensive involvement or painful pustules.

Very itchy, red, raised wheals that appear suddenly and usually disappear within 24 hours



© University of Cape Town

Urticaria likely

- Help to identify and advise to avoid triggers².
- Apply **calamine lotion** as needed.
- If recurrent eye problem, check for allergic conjunctivitis → 48.
- If recurrent nose problem, check for allergic rhinitis → 51.
- If recurrent cough or wheeze, exclude asthma → 138.
- For itch, give **chlorphenamine** 4mg 6-8 hourly. If known with chronic urticaria, give instead **cetirizine** 10mg daily.
- Advise to return immediately if any symptoms of anaphylaxis³ occur.
- If no better after 24 hours, discuss/refer.

Diffuse red rash mainly on trunk, arms and legs, which appeared within 3 months of starting a new medication



© BMJ Best Practice

Drug rash likely
→ 88.

¹History of anaphylaxis, urticaria or angioedema. ²Common triggers: foods (milk, eggs, nuts, wheat, seafood), medications, insect bites/stings and latex. ³Wheeze, difficulty breathing, dizziness/collapse, abdominal pain, vomiting.

LOCALISED ITCHY RASH

Check if the patient needs urgent attention → 82.

- If rash on scalp → 95.
- If very itchy, small red bumps and burrows in webspaces of fingers, axillae, waist or genitals, **scabies** likely → 84.
- If patches of dry, scaly, itchy skin on wrists, ankles, inside elbows or behind knees, **eczema** likely → 84.
- If dark coloured round macules (flat spots) that occur anywhere on body after ingestion of a medication and often start as itchy patches with red edges, **fixed drug eruption** likely → 88.

Are there red itchy bumps that may have blistered or healed with darkening of skin?

Yes

Usually occurs in crops



© University of Cape Town

Insect bites likely

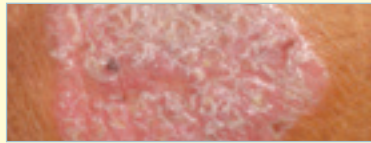
- Advise to reduce exposure to insects: treat pets, use bed nets, wash bedding, use insect repellents, clear away puddles of water around house.
- Advise to avoid scratching.
- Apply ♦ **calamine lotion** as needed.
- If severe itch, give ♦ **chlorphenamine** 4mg at night/ up to 6-8 hourly for up to 5 days.
- If blisters/heals with darkened skin, **papular urticaria** likely. Test for HIV → 124. Apply ♦ **hydrocortisone** 1% daily for 5 days. For itch, give ♦ **cetirizine** 10mg daily.
- If yellow crusts, **impetigo** likely → 93.

No: Check site of rash

Head, face, trunk or limbs

Ask where rash started and how it progressed. Look at distribution of rash, check for raised edges, check nails

Well-defined, raised plaques covered with silvery scale. Often on knees, elbows, lower back, scalp. May have pitted nails



© University of Cape Town

Psoriasis likely

- Refer/discuss all patients with specialist.
- While awaiting appointment:
 - Test for HIV → 124.
 - Apply ♦ **liquor picis carbonis** (LPC) BP 5% ointment once a day or
 - Apply ▶ **betamethasone** 0.1% ointment twice a day. Once improving, apply instead ▶ **hydrocortisone** 1% twice a day, then reduce to once a day. Stop as soon as better.
- Encourage some sun exposure.

Starts as one large ring on chest/back (herald patch) with fine scale in centre. Typically followed within 2 weeks by smaller, oval, scaly patches. May have Christmas tree pattern on back



© University of Cape Town

Pityriasis rosea likely

- Reassure that rash will resolve within 2 months.
- For itch:
 - Give ♦ **chlorphenamine** 4mg at night for up to 10 days. Can cause sedation.
 - If itch no better or severe daytime itch, give instead ♦ **cetirizine** 10mg daily.

Slow-growing lesion/s with raised edges/ring of scale, clear in centre



© University of Cape Town

Tinea corporis (ringworm) likely

Advise to avoid sharing clothes, combs and hairbrushes.

- Advise to keep skin clean, to dry well and avoid sharing towels.
- Apply ♦ **clotrimazole** 1% cream 3 times a day (twice a day if on feet). Continue for 2 weeks after rash cleared (at least 4 weeks for tinea pedis).
- If surrounding skin red/warm/swollen or if yellow crusts → 93.
- If extensive or recurrent, test for HIV → 124 and diabetes → 19.
- If extensive or no better after 1 month, refer.

Feet

Cracks, peeling or scaly lesions between toes, or thickened scaly skin on soles/heels/sides of feet



© CDC Public Health Image Library

Tinea pedis (athlete's foot) likely

- Encourage open shoes.
- Avoid synthetic socks.
- If involves nails → 97.

If diagnosis uncertain, discuss/refer.

ITCH WITH NO RASH

Check if the patient needs urgent attention → 82.

- Confirm there is no rash, scabies, lice or insect bites.
 - If generalised itchy rash → 84.
 - If localised itchy rash → 85.
- If itch around anus only → 61.

Is the skin very dry?

Yes

Dry skin (xeroderma/ichthyosis) likely



Source: Dr Nomphele Gantsho

No

Did the patient start any new medication in the weeks before the itch started?

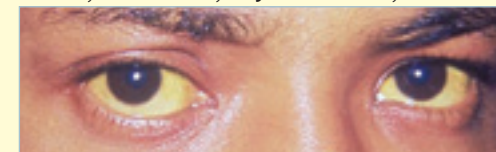
Yes

Medication side-effect likely

- Discuss with doctor whether to stop or change medication. Continue medication only if necessary.
- Advise to return if rash develops or itch persists.

No

If yellow skin/eyes, **jaundice** likely → 94.



© CDC/Dr. Thomas F. Sellers

- If itch persists > 2 weeks:
 - Test for anaemia → 44, HIV → 124 and diabetes → 19.
 - Refer to doctor same day.

- If severe itch, give ♦chlorphenamine 4mg at night, or 6-8 hourly for up to 5 days. Can cause sedation.
- If long-term itch, give instead ♦cetirizine 10mg daily.

- Advise to:
 - Avoid hot baths, wool/itchy fabrics and scratching as these may worsen itch.
 - Wash with ♦aqueous cream (UEA) instead of soap. Avoid using aqueous cream as moisturiser.
 - Moisturise skin with ♦emulsifying ointment (UE) twice a day.
 - Avoid scrubbing the skin and washing more than once a day. Gently pat skin dry.
 - Keep nails short and clean.
- If known with a life-limiting illness, also give palliative care → 191.

If no better or diagnosis uncertain, discuss/refer.

GENERALISED NON-ITCHY RASH

Check if the patient needs urgent attention → 82.

- Check for tick bite (small dark brown/black scab). If tick bite or tick present and headache, temperature $\geq 38^{\circ}\text{C}$ or body pain, **tick bite fever** likely → 38.
- If unexplained rash or lesion/s of skin/genitals/anus/rectum/mouth/eyes and ≥ 1 of: headache/backache/body pain, swollen lymph nodes, temperature $> 38.5^{\circ}\text{C}$, fatigue, sore throat/nasal congestion/cough consider **mpox** → 40.
- If patient started any medication, such as an antiseizure medication, ART, TB medication, co-trimoxazole or TB preventive treatment (TPT) in the past 3 months, consider drug rash → 88.
- Test for syphilis → 66 and HIV → 124.

Syphilis reactive

Secondary syphilis likely



© CDC Public Health Image Library



© University of Cape Town

- Rash often on palms and soles. May have wart-like lesions on genitals and patchy hair loss.
- Treat syphilis → 67.

HIV positive

Give routine HIV care
→ 126.

Syphilis and HIV negative

Was patient at risk¹ of HIV in the past 6 weeks?

Yes

- Rash may be part of HIV seroconversion illness. Repeat HIV test after 6 weeks.
- Encourage safe sex practices.

No

Non-specific viral rash likely

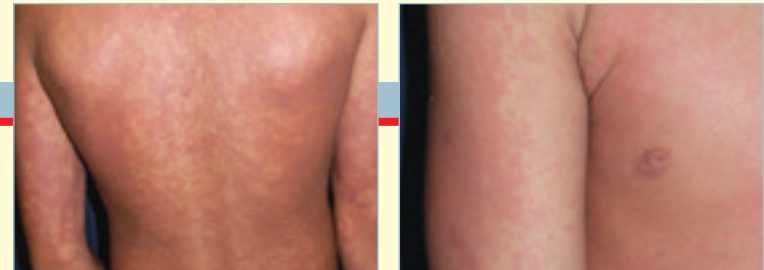
- Patient may have temperature $\geq 38^{\circ}\text{C}$, headache, lymphadenopathy, muscle pain/body aches.
- Reassure rash will resolve on its own.
- If fever or pain, give ♦**paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days.

If rash persists ≥ 2 weeks or diagnosis uncertain, discuss/refer.

¹HIV can be transmitted via exposure to infectious body fluids, through sexual contact (rape/sexual assault or consensual sex, burst condom), occupational or non-occupational exposure (sharps injury, splash to eye/mouth/nose/broken skin), sharing needles, contact with used condom and exposure to blood.

DRUG RASH

- A drug rash can be caused by any medication: antibiotics, antiseizure medication, ART (efavirenz, abacavir), TB medication, co-trimoxazole, TB preventive treatment (TPT), allopurinol, NSAIDs (like ibuprofen).
- Suspect a drug rash in a patient with a generalised rash which appeared within 3 months of starting a new medication.



© University of Cape Town

Give urgent attention to the patient with a drug rash and any markers of severity:

- Face or tongue swelling
- Difficulty breathing
- Shock¹/SBP < 80
- Temperature ≥ 38°C
- Abdominal pain
- Vomiting or diarrhoea
- Involves mouth, eyes or genitals
- Blisters, peeling or raw areas
- Jaundice
- Unwell, malaise, fatigue, body pain

Manage and refer urgently:

- Stop all medication. If peeling or raw skin, also manage as for burns before referral → 31.
- If shock/SBP < 80, give ♦sodium chloride 0.9% 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Approach to the patient with a drug rash not needing urgent attention

Is patient on ART, TB medication, co-trimoxazole or TPT?

Yes

Refer to doctor/discuss with MIC hotline → 200 whether to continue, change or stop medication:

- If on ART:
 - Continue unless on abacavir, and abacavir hypersensitivity reaction (AHR) likely → 131.
 - If on nevirapine or efavirenz, doctor to switch ART → 132.
- If itch, give ♦chlorphenamine 4mg at night, or 8 hourly for up to 5 days.
- Check ALT and eosinophil count.
- Advise to return urgently if rash worsens or markers of severity¹ occur.

No

- Discuss with doctor whether to stop or change medication.
- If itchy, give ♦chlorphenamine 4mg at night, or up to 8 hourly for up to 5 days.
- If dark coloured round flat spots that occur anywhere on body following ingestion of a medication and often start as itchy patches with red edges, **fixed drug eruption** likely: apply ♦hydrocortisone 1% to affected areas daily for 5 days.
- If extensive, refer.

Review patient and result within 24 hours:

Patient unwell or markers of severity²

Stop all medication.
Give urgent attention as above.

Patient well and no markers of severity²

ALT or eosinophil count raised
(as reported by the laboratory)

Discuss with MIC hotline/specialist.

Both ALT and eosinophil count *not* raised
(as reported by the laboratory)

- Advise to return urgently if markers of severity² occur.
- Advise to return if rash persists ≥ 2 weeks: discuss/refer.

¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Markers of severity: face/tongue swelling, difficulty breathing, BP < 90/60, temperature ≥ 38°C, abdominal pain, vomiting/diarrhoea, involves mouth/eyes/genitals, blisters/peeling/raw areas, jaundice, unwell/malaise/fatigue/body pain.

SKIN LUMP/S

Refer same week the patient with a mole that:

- Is irregular in shape or colour
- Changed in size, shape or colour
- Differs from surrounding moles
- Is > 6mm wide
- Bleeds easily
- Itches

If painful, firm, red, warm lump which softens in the centre to discharge pus, **boil/abscess** likely → 83.

Round, raised papules with rough surfaces



© University of Cape Town

Warts likely

- Usually on hands, knees or elbows but can occur anywhere.
- Plantar warts on the soles of the feet are thick and hard with black dot/s.

- Reassure that warts often resolve spontaneously.
- If treatment desired:
 - Soften wart/s by soaking in warm water for 5 minutes at night and scrub gently with clean nail file.
 - After drying well, apply **petroleum jelly** to surrounding skin to protect it, then apply **salicylic acid 15-30%** to wart, and cover with plaster.
 - Repeat every night and continue for a week after wart has come off.
- If extensive warts or plantar wart in diabetic, refer.

Small, skin-coloured pearly bumps with central dimples. Does not involve palms/soles



© University of Cape Town

Molluscum contagiosum likely

- Test for HIV → 124.
- Reassure that lesions often resolve spontaneously after years or with ART.
- If treatment desired: open molluscum with sterile needle and apply **tincture of iodine BP¹** to centre of each lesion.
- Refer if:
 - Extensive
 - Lesions on eyelid
 - Intolerable and not responding to treatment.

Painless, purple/brown lumps on skin



© BMJ Best Practice

Kaposi's sarcoma likely

- Lesions vary from isolated lumps to large ulcerating tumours.
- May also appear in mouth and on genitals.
- Test for HIV → 124.
- Refer for biopsy to confirm diagnosis and for further management.

Smooth, well defined lump beneath skin

Round, firm lump. May have central hole and discharge white substance



© University of Cape Town

Epidermoid cyst likely
Usually found on face and trunk, uncommon on limbs.

- If not infected, reassure there is no need to treat.
- If fluctuant, arrange incision and drainage. If on face, refer instead.
- If infected (skin red, warm, painful):
 - Give **cefalexin 500mg** 6 hourly or **flucloxacillin 500mg** 6 hourly for 5 days.
 - If severe penicillin allergy², give instead **azithromycin 500mg** daily for 3 days.
- If intolerable or recurrent infections, arrange for excision once infection resolved.

Soft, doughy lump which is painless and moves easily



© University of Cape Town

Lipoma likely
Usually found on trunk or upper limb.

- Reassure lump will not become cancer and usually does not need removal.
- Refer if:
 - > 3cm
 - Causing pain or discomfort
 - Getting bigger
 - Firm or deep beneath skin
 - New lump that persists > 1 month
 - Intolerable

Red papules, pustules, nodules and blackheads, usually on face. May involve chest, back and upper arms



© University of Cape Town

Acne likely

- Ask about medication, isoniazid could be a cause. Discuss with doctor.
- Wash skin with mild soap no more than twice a day. Avoid picking/squeezing/scratching.
- Avoid oily cosmetics and hair products.
- If blackheads only:
 - Apply **retinoin 0.05%** cream sparingly³ at night until better, for at least 6 weeks. Avoid if pregnant/planning a pregnancy and limit sun exposure. Acne may worsen before improving. Review after 6 weeks.
- If red and swollen areas:
 - Apply instead **benzoyl peroxide 5%** topical to affected areas in morning. Wash off in evening. If no better and tolerating gel, apply twice daily and give **doxycycline⁴ 100mg** daily with meals, for 3 months.
- If woman needing contraception, advise combined oral contraceptive → 170.
- Advise that response may take months.
- If severe or no response after 3 months of treatment, refer.

If diagnosis uncertain, discuss/refer.

¹Avoid if previous allergic reaction to iodine. ²History of angioedema, anaphylaxis or urticaria. ³Start by using twice a week and titrate up. Apply pea-sized amount to face, avoiding eyes and area around mouth and nose. ⁴Doxycycline may interfere with oral contraceptive, advise patient to use condoms as well. Avoid if pregnant or breastfeeding. If also taking iron supplements or antacids, take these at least 2 hours before or 4 hours after doxycycline dose.

SKIN ULCER OR NON-HEALING WOUND: DIAGNOSIS

Give urgent attention to the patient with a skin ulcer or non-healing wound and any of:

- Infection (surrounding skin red/warm/swollen) with any of: systolic BP < 80, pulse > 100, temperature $\geq 38^{\circ}\text{C}$, confused, blisters, crepitus¹ or severe pain
- Muscle pain in legs or buttocks on exercise associated with pain at rest or gangrene: **critical limb ischaemia** likely

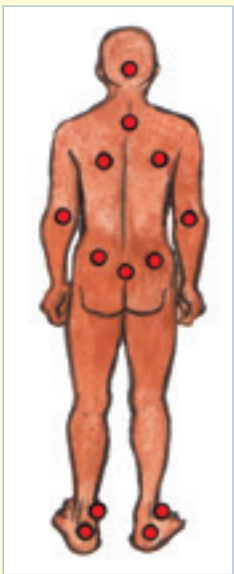
Manage and refer urgently:

- If SBP < 80, give **sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.

Identify cause of skin ulcer or non-healing wound

- If genital ulcer → 62.
- Is patient bedridden/in wheelchair and is ulcer in common pressure ulcer site (see below)?

Yes



Pressure ulcer likely

No

Is ulcer on the lower leg or foot?

Yes: Does patient have muscle pain in legs/buttocks on exercise or reduced/absent foot pulses?

Yes



Source: Francois Coetzee

Arterial (ischemic) ulcer likely

No

Is there darkening of skin around ulcer, varicose veins or chronic swelling of the leg?

Yes



Source: University of Cape Town

Venous ulcer likely

No

Is patient known with diabetes?

Yes



Source: BMJ Best Practice

Diabetic ulcer likely

No

- Ask about previous trauma, surgery, skin rash, burn, cancer or radiation therapy.
- Test for diabetes: check glucose → 19.
- Test for HIV → 124.
- If cough ≥ 2 weeks, weight loss, night sweats or fever ≥ 2 weeks, test for TB → 102.

- Give routine care for ulcer/wound → 91.
- If pressure ulcer, also arrange for doctor review.
- If arterial, venous or diabetic ulcer, or cause uncertain, also refer to district hospital for further assessment.

¹Crepitus is a crackling, popping or grating sound or feeling under the skin.

SKIN ULCER OR NON-HEALING WOUND: ROUTINE CARE

If arterial, venous or diabetic ulcer, or cause uncertain, ensure patient has been referred to district hospital for further assessment.

Assess the patient with a skin ulcer or non-healing wound

Assess	When to assess	Note
Pain	Every visit	- If pain > 3 months, assess and advise ↗ 76. - If new or worsening wound pain, also check for wound infection as below. - If muscle pain in legs/buttocks on exercise that is relieved by rest, or reduced/absent foot pulses, peripheral vascular disease (PVD) likely: give routine care ↗ 154. If newly diagnosed with PVD, also refer same week.
Long-term health conditions	As needed	Ensure patient is receiving routine care for all long-term health conditions. If diabetes ↗ 145, hypertension ↗ 149, HIV ↗ 126.
Medications	Every visit	Review medication: NSAIDs (e.g. ibuprofen), prednisone and chemotherapy can cause delayed healing. Discuss with doctor.
Mental health	Monthly	If stress, anxiety or low mood ↗ 98.
Substance use	First visit	In the past year, has patient: drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
Palliative care	First visit	If patient has a life-limiting illness, in bed/chair for 50% or more of the day or dependent on others for most care, also give palliative care ↗ 191.
BMI ² and nutrition	Monthly	- If BMI < 19.5: arrange nutritional support. If BMI < 18.5 or signs of nutritional deficiency³, also refer to dietitian. - If BMI ≥ 25: advise healthy diet and regular physical activity ↗ 156.
CVD risk	First visit	If any CVD risk factors ⁴ , assess CVD risk ↗ 142.
Wound and surrounding skin	Every visit	- Measure size and depth of wound and record in notes. - If > 10cm, circumferential (whole way round limb), visible fat/muscle/tendon/bone or increasing in size or depth, refer. - Assess colour of wound bed: is it pink (epithelialising), red (granulating), yellow (sloughy) or black (necrotic)? - Assess wound discharge: check colour, consistency, amount and smell. - If surrounding skin red/warm/swollen, or if diabetic ulcer and increasing discharge, pus or offensive smell, infection likely: - If SBP < 80, pulse > 100, temperature ≥ 38°C, confused, blisters, crepitus (crackling/popping/grating sound or feeling under the skin) or severe pain, refer urgently. - If infection extensive or getting worse despite antibiotics, undermined wound edge, ulcer/wound extends to bone, poorly controlled diabetes or previous surgery with artificial implant (like pin, plate or joint replacement), refer same day.
Blood supply to leg	If ulcer/wound on leg: every visit	If reduced or absent foot pulses, capillary refill time > 5 seconds, difference in temperature between feet, change in skin colour, loss of hair, shiny skin, numbness or weakness, reduced blood supply likely: - If new changes, discuss urgency of referral with specialist or referral hospital. - If known with reduced blood supply and already assessed at referral hospital, continue management plan given.
Mobility	Every visit	If problem with mobility, refer to physiotherapist or occupational therapist for rehabilitation support.
Fingerprick glucose	First visit	If not known with diabetes, check glucose ↗ 19. If known diabetes, also give routine diabetes care ↗ 145.
Hb	First visit	If Hb < 12 (woman) or < 13 (man), anaemia likely ↗ 44.
HIV	First visit	Test for HIV ↗ 124. If HIV positive, give routine care and ensure patient is on ART ↗ 126.
Wound swab	If infected and no better after 2-3 days of antibiotic	- Clean wound with ♦sodium chloride 0.9% and leave for 5 minutes. Then, avoiding wound edges, move swab across wound bed in a zig-zag motion, while rotating swab between the fingers. If wound dry, moisten swab tip with ♦sodium chloride 0.9% solution before taking swab. - Follow-up results to check infection has been treated appropriately.

¹ One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²BMI = weight (kg) ÷ height (m) ÷ height (m). ³Red/cracked corners of mouth, brittle/ridged nails, dry hair that falls out easily, very dry skin, muscle wasting.

⁴Smoking, BMI > 25, waist circumference ≥ 80cm (woman) or ≥ 94cm (man), hypertension, diabetes, cholesterol > 5.2, parent/sibling with early onset CVD (man < 55 years or woman < 65 years).

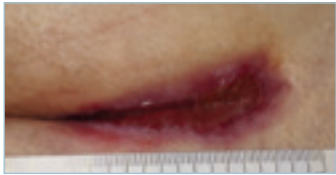
Advise the patient with a skin ulcer or non-healing wound

- Advise a healthy diet ↗ 13 and to be as active as possible. If patient smokes, advise that smoking delays healing and encourage to stop ↗ 164. Support patient to change ↗ 199.
- If **pressure ulcer**, advise to move (lift, avoid dragging) patient every 2-4 hours if unable to shift own weight.
- If **venous** or **diabetic ulcer**, advise to avoid prolonged standing and to elevate limb whenever possible.
- If **diabetes** or **PVD**, give foot care education ↗ 81.
- Encourage patient to adhere to long-term treatment and to aim towards achieving control of long-term health conditions. If difficulty with adherence ↗ 195.
- Advise patient to keep dressing in place and not to tamper with wound/dressing. If patient instructed to change dressing, advise to wash hands with soap and water before doing so.
- Refer patient to community health worker. Also consider referral to social worker if available.

Treat the patient with a skin ulcer or non-healing wound

- If pain worse with dressing changes, give dose of patient's regular pain medication one hour before removing dressing.
- Gently remove dressing to avoid damaging healing tissue. If dressing sticks, wet with ♦ **sodium chloride 0.9%** solution and wait 5-10 minutes before gently re-attempting.
- Remove dead tissue from wound. If large areas of dead tissue or undermined wound edges, arrange for debridement. Avoid debridement if reduced blood supply or cancer wound.
- Gently clean/irrigate wound, remove any plaster debris and apply appropriate dressing, if available, according to type of wound bed:

Epithelialising wound (pink)



Source: Anne Berzen

- Avoid cleaning wound bed: clean surrounding skin only with ♦ **sodium chloride 0.9%** solution or sterile water.
- Apply paraffin or petroleum gauze, or other non-adherent dressing.
- If wound dry, apply ♦ **hydrogel** to wound before dressing.

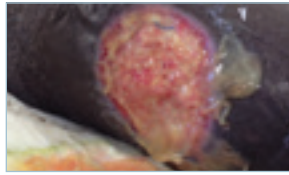
Granulating wound (red)



Source: Vanessa Lomas

- Irrigate wound and clean surrounding skin with ♦ **sodium chloride 0.9%** solution or sterile water.
- Apply paraffin or petroleum gauze, or other non-adherent dressing.

Sloughy wound (yellow)



Source: Vanessa Lomas

- Irrigate wound and clean surrounding skin with ♦ **sodium chloride 0.9%** solution or sterile water. If slough remains, gently remove with moistened gauze.
- If excessive discharge, apply barrier film/paste to surrounding skin.
- Apply hydrocolloid, hydrofibre or foam dressing.

Necrotic wound (black, dry)



Source: Anne Berzen

- Apply ♦ **hydrogel** to wound, then apply paraffin or petroleum gauze, or other non-adherent dressing. Cover with film dressing if available.
- Doctor to assess need for debridement.

Infected wound

Normal edge

Undermined edge



Source: Francois Coetzee



Source: Anne Berzen

- Irrigate wound and clean surrounding skin with ♦ **sodium chloride 0.9%** solution or ♦ **povidone iodine 10%** solution (up to 2 weeks only). If slough remains, gently remove with moistened gauze.
- Apply thin layer of ♦ **silver sulfadiazine** or ♦ **medicinal honey** to wound, then apply absorbent dressing.
- If excessive discharge, apply instead silver hydrofibre or alginate dressing.

- If non-adherent dressing used, cover with cling bandage. Avoid compression if reduced blood supply to limb.
- If **venous ulcer**, apply compression bandage over dressing, starting at toes (not higher on foot) and ending below knee.
 - Avoid compression bandage if reduced blood supply to limb.
 - If numbness, pins and needles, or severe pain develop, advise patient to remove compression bandage and return immediately.
- If pain, give ♦ **paracetamol** 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed. If no response, give ♦ **ibuprofen**¹ 400mg 8 hourly with/after food as needed.
- If **infection** likely, give ♦ **amoxicillin/clavulanic acid**² 875/125mg 12 hourly for 7 days, or 10 days if diabetic ulcer. If no better after 2-3 days, take wound swab ↗ 91. If worsens despite antibiotic, refer same day.
- If wound has offensive smell, use ♦ **activated charcoal** dressing, if available.

Review the patient with a skin ulcer or non-healing wound

- If wound **infected**: change dressing daily. If silver hydrofibre dressing used, change dressing every 2-3 days instead.
- If wound **sloughy** or **necrotic**: change dressing around every 2 days, depending on amount of discharge.
- If wound **epithelialising** or **granulating**: change dressing weekly.
- If cause uncertain, recurrent ulcers or no better after 1 month, refer.

¹Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant. ²If penicillin allergy (previous angioedema, anaphylaxis, urticaria), discuss/refer.

CRUSTS OR FLAKY SKIN

Check if the patient needs urgent attention ➤ 82.

Are there crusts or flaky skin?

Crusts

Blisters which dry to form yellow crusts often around mouth or nose. May complicate insect bites, scabies or skin trauma



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Impetigo likely

- Impetigo is contagious:
 - Advise to avoid close contact with others and sharing of towels, and to keep nails short.
 - Advise patient and household contacts to wash with soap and water twice a day.
- Apply **povidone iodine 5%** cream or **povidone iodine 10%** ointment to lesions 8 hourly.
- If extensive, temperature $\geq 38^{\circ}\text{C}$, unwell or fatigue, give **cefalexin 500mg** 6 hourly or **flucloxacillin 500mg** 6 hourly for 5 days. If severe penicillin allergy¹, give instead **azithromycin 500mg** daily for 3 days.
- If not completely resolved, repeat antibiotic course.
- If sores have been present for > 1 week, check urine dipstick.
- Refer if:
 - No better after second course of antibiotics
 - $\geq 1+$ blood on urine dipstick or little/no urine.
 - Swelling of face or limbs.

Red/pink scaly patches with fine, greasy scales. Usually on scalp, between eyebrows, in nose folds, behind ears, in axillae, groin, under breasts



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Seborrhoeic dermatitis likely

- If extensive, test for HIV ➤ 124.
- If on scalp ➤ 95.
- Advise patient to avoid scratching, keep nails short and to avoid scented soap.
- Apply **hydrocortisone 1%** cream twice a day. Once improved, reduce to once or twice a week as needed.
- If poor response or severe, apply instead **betamethasone 0.1%** ointment once a day for 7 days (avoid face, neck and flexures).
- If no response within 3 months, refer.

Flaky skin

Well-defined, raised plaques covered with silvery scale. Often on knees, elbows, lower back, scalp. May have pitted nails



© University of Cape Town

Psoriasis likely

- Refer/discuss all patients with specialist.
- While awaiting appointment:
 - Test for HIV ➤ 124.
 - Apply **liquor picis carbonis (LPC) BP 5%** ointment once a day or
 - Apply **betamethasone 0.1%** ointment twice a day. Once improving, apply instead **hydrocortisone 1%** twice a day, then reduce to once a day. Stop as soon as better.
- Encourage some sun exposure.

Patches of dry, scaly, itchy skin on wrists, ankles, inside elbows or behind knees



© University of Cape Town

Eczema likely
Manage ➤ 84.

¹History of angioedema, anaphylaxis or urticaria.

CHANGES IN SKIN COLOUR

Is the skin yellow, too dark, too light or absent of colour?

Yellow skin: **jaundice** likely

Refer urgently the patient with jaundice and any of:

- Temperature $\geq 38^{\circ}\text{C}$
- Hb < 12 (woman) or < 13 (man)
- Shock¹/BP < 80
- Severe abdominal pain
- Drowsy or confused
- Easy bruising or bleeding
- Pregnant
- Alcohol dependent $\rightarrow 165$ or recent alcohol binge (≥ 4 drinks²/session)
- Using any medication³ or illegal drugs

- Send blood for ALT, ALP, total bilirubin, full blood count, INR, hepatitis A IgM, HBsAg.
- Advise to return if worsens.

Review with results within 2 days:

Refer if ALT ≥ 200 , INR ≥ 1.5 , ALP raised out of proportion to ALT, Hb < 12 (woman), Hb < 13 (man) or plts < 150 .

Check Hepatitis A IgM result

Hepatitis A IgM positive

Patient has acute hepatitis A infection

- Notify⁴ within 7 days.
- Educate that infection will resolve by itself and no specific treatment needed. Advise strict handwashing, especially before handling food and after using toilet. Avoid alcohol and paracetamol whilst ill.
- Check HBsAg result. If positive, refer.
- If nausea/vomiting and unable to tolerate fluids, refer.

Hepatitis A IgM negative

Check HBsAg result.
If positive, refer.

Dark patches

Where are patches on body?

Lower legs

Red-brown discolouration. May have breaks in skin or ulcers, spidery veins.



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Venous stasis likely

- Encourage exercise.
- Advise elevating leg when possible and to avoid prolonged standing.
- Apply compression bandage from foot to knee.
- Assess CVD risk $\rightarrow 142$.
- Give foot care advice $\rightarrow 81$.
- If ulcer $\rightarrow 90$.

Face

Flat, brown patches on cheeks, forehead and upper lip



© University of Cape Town

Melasma likely

- Hormones and sunlight will worsen melasma:
 - Advise to apply sunscreen daily and avoid sun exposure.
 - Avoid oral contraceptive, use a different method $\rightarrow 170$.
- Advise patient:
 - If pregnant, may take up to 1 year after pregnancy to resolve.
 - Often difficult to treat and may never completely resolve.
- If not responding to above and intolerable, refer.

Light patches

Trunk

Light or dark patches with fine scale. Usually on trunk, neck and upper arms.



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Tinea versicolor likely

- Advise to wear cool clothing in hot weather to reduce perspiration.
- Apply $\blacklozenge$ **selenium sulphide 2.5%** suspension. Lather on affected areas. Apply once weekly for 3 weeks: leave on overnight then wash off next day.
- May take months for colour to return. Absence of scale indicates adequate treatment.
- Recurrence is common. Re-treatment may be needed.

Absence of colour

Is absence of colour patchy or generalised?

Patchy



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Vitiligo likely

- Advise to apply $\blacklozenge$ **sunscreen** daily at least 15 minutes before going into sun.
- Some sun-exposure is beneficial, but avoid excessive exposure.
- Refer to dermatologist.

Generalised

Present from birth. Involves skin, hair and eyes.

Albinism likely

- Advise to avoid sunburn:
 - Avoid sun exposure, especially between 10am and 3pm.
 - Apply $\blacklozenge$ **zinc oxide** ointment or $\blacklozenge$ **sunscreen** daily at least 15 minutes before going into sun. Reapply 2 hourly if in the sun.
 - Use sun hat and sunglasses and wear long-sleeves.
- Refer to dermatologist and ophthalmologist.
- If any skin lesions develop, especially in sun-exposed areas, refer to exclude skin cancer.

If diagnosis uncertain, discuss/refer.

¹If SBP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, shock likely. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ³If on atazanavir $\rightarrow 131$. ⁴Notify via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.

SCALP SYMPTOMS

- If hair loss with no rash/itch → 96.
- Is there a rash or only an itch?

Itch without rash

Severe itch with lice or white eggs. May have small red bites on back of neck.

Lice likely

- Apply **permethrin 5%** lotion to towel-dried or dry hair:
 - Using normal comb, comb into hair to ensure whole scalp is covered and hair is saturated.
 - Then using fine lice comb, remove lice and eggs from hair in sections, combing away from scalp.
 - Rinse lice comb in hot water in white bowl or wipe on white tissue between strokes to identify black lice.
 - Rinse off after combing (up to 1 hour).
 - Repeat every 5 days for 3 weeks. Lice should get smaller with each treatment. If not, check patient is applying permethrin correctly.
 - Avoid eyes/broken skin.
- Wash clothes and linen used in past 2 days in very hot water.
- Treat household contacts.
- Consider shaving head only if acceptable to patient.

Fine, white flakes on hair and clothing

Dandruff likely

- Apply **selenium sulphide 2.5%** suspension:
 - Lather on scalp.
 - Rinse off after 10 minutes.
 - Use weekly until better, then every second week.

Rash with or without itch

Scaly patches

Red/pink patches with fine greasy scales. May also occur between eyebrows, in nose folds, behind ears. Usually itchy.



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Seborrhoeic dermatitis likely

- If extensive, test for HIV → 124.
- Apply **selenium sulphide 2.5%** suspension:
 - Lather on scalp.
 - Rinse off after 10 minutes.
 - Use weekly until better, then every second week.
- For skin: apply **hydrocortisone 1%** cream twice a day. Once improved, reduce to once or twice a week as needed.
- If poor response or severe, apply instead **betamethasone 0.1%** ointment once a day for 7 days (avoid face, neck and creases).
- If no response within 2 months, refer.

Well-defined, raised plaques covered with silvery scale. Often on knees, elbows, lower back, scalp. May have pitted nails.



© University of Cape Town

Psoriasis likely

- Refer to specialist to confirm diagnosis.
- While waiting for appointment:
 - Moisturise skin with **emulsifying ointment (UE)** twice a day.
 - Apply **betamethasone 0.1%** ointment twice a day. Once improving, apply instead **hydrocortisone 1%** cream twice a day, then reduce to once a day. Stop as soon as better or apply **liquor picis carbonis (LPC) BP 5%** ointment once a day.
 - Encourage to expose skin to sunlight before 10am or after 3pm for up to 30 minutes per day.

Redness, swelling and burning/itching after recent use of hair product. May have blisters.



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Contact dermatitis likely

- Identify and advise patient to avoid cause.
- Moisturise skin with **emulsifying ointment (UE)** twice a day.
- Apply **betamethasone 0.1%** ointment twice a day. Once improving, apply instead **hydrocortisone 1%** cream twice a day, then reduce to once a day. Stop as soon as better.
- If pus or yellow crusts, treat for infection:
 - Give **cefalexin** 500mg 6 hourly or **flucloxacillin** 500mg 6 hourly for 5 days.
 - If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
- If no better, refer.

Red pimples, pustules or nodules around hair follicles



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Folliculitis likely

- Advise to wash with soap twice a day.
- Wash scalp with **chlorhexidine scrub** once a day until lesions resolve.
- If infection deep, extensive, recurrent or no response to above treatment:
 - Give **cefalexin** 500mg 6 hourly or **flucloxacillin** 500mg 6 hourly for 5 days.
 - If severe penicillin allergy¹, give instead **azithromycin** 500mg daily for 3 days.
 - Test for HIV → 124.

If diagnosis uncertain, discuss/refer.

¹History of angioedema, anaphylaxis or urticaria.

HAIR LOSS

- If rash on scalp → 95.
- Are hair follicle openings visible in area/s of hair loss?

Yes
Is hair loss patchy or generalised?

No

Patchy

Generalised

- Test for syphilis → 66.
- Does patient wear tightly-pulled ponytails, buns, braids or weaves, with hair loss along hairline or in area of braids/weave?

Scarring alopecia
likely

Refer.

Yes

No



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Traction alopecia likely

- Advise to avoid tight or painful hairstyles.
- Reassure that hair will usually grow again once cause removed.
- If no better after 3 months, refer.

Are patches well-defined with healthy underlying scalp?

Yes

No: is patient a woman with thinning of hair over top of head?



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Alopecia areata likely

- Apply ▶ **betamethasone 0.1%** cream twice a day for 3 months.
- Check TSH. If abnormal, refer to doctor.
- Advise that hair may take up to 2 years to regrow.
- Refer if:
 - Extensive/multiple patches
 - No better with treatment
 - Recurrent

Yes

No



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Female pattern hair loss likely

- Check TSH and ferritin. If abnormal, refer to doctor.
- Check Hb: if < 12 (woman) → 44.
- Advise to use hair styles that may hide hair loss.
- Refer if:
 - Abnormal hair growth on face or body
 - Irregular periods or infertility in woman of child bearing age
 - Severe acne
 - Causing severe distress.

- Refer if:
 - Syphilis negative
 - Syphilis positive and no improvement 3 months after syphilis treatment.

- Ask about recent possible causes:
 - Major illness or surgery
 - Major stress
 - Childbirth
 - Poor diet
 - Significant weight loss
- Review medication: sodium valproate, simvastatin and hormonal contraceptives can cause hair loss. Discuss with doctor.
- Test for syphilis → 66.
- Check Hb: if < 12 (woman) or < 13 (man) → 44.
- Check TSH and ferritin. If abnormal, refer to doctor.
- Reassure that hair will grow again once cause treated/resolved.
- Refer if:
 - Cause unclear
 - Woman with abnormal hair growth on face or body, irregular periods, infertility or severe acne.
 - No improvement 12 months after cause treated/resolved.

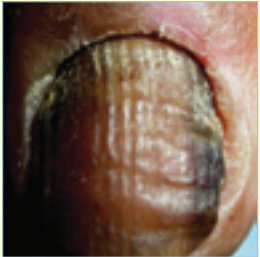
If causing patient distress, refer for counselling.

If diagnosis uncertain, discuss/refer.

NAIL SYMPTOMS

- If nails long and dirty and patient unkempt, screen for mental health problem and abuse/neglect ↗ 98.
- Manage according to type of nail problem:

Disfigured nail with swollen nail bed and loss of cuticle



© University of Cape Town

Chronic paronychia likely

Usually associated with excessive exposure to water and irritants like nail cosmetics, soaps and chemicals.

- Advise to avoid water and irritants or to wear gloves if unavoidable. Keep hands clean and dry.
- After washing hands, massage ► **betamethasone 0.1%** cream into nailfold at night.
- If nailfold painful or pus, treat for infection:
 - Give ► **cefalexin** 500mg 6 hourly or ► **flucloxacillin** 500mg 6 hourly for 5 days.
 - If severe penicillin allergy¹, give instead ► **azithromycin** 500mg daily for 3 days.
- If no better, refer.

Pain, redness and swelling of nail folds. Is pus visible?

Yes



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Acute paronychia likely

Often with history of trauma, such as nail biting, pushing the cuticle or cutting nails too short.

- Advise to avoid trauma to nail.
- If any pus, incise and drain.
- Give ► **cefalexin** 500mg 6 hourly or ► **flucloxacillin** 500mg 6 hourly for 5 days. If severe penicillin allergy¹, give instead ► **azithromycin** 500mg daily for 3 days.
- If no response, refer.

No



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Ingrown toenail likely

- If mild, pain not too severe and no signs of infection: trim nails in straight line to allow growth. Advise well fitting shoes.
- If severe redness and swelling/very painful and no pus: clean then elevate nail, separating nail from skin. Insert cotton swab to keep it separated for 2-12 weeks. Advise to apply dry dressings.
- If signs of infection, manage as acute paronychia (adjacent).
- If chronic/severe refer to surgical/orthopaedic service.

White/yellow disfigured or crumbling nails



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Fungal infection likely

- If status unknown, test for HIV ↗ 124.
- Test for diabetes ↗ 19.
- Advise that fungal nail infection is difficult to treat.
- If very distressing to patient, refer.

Blue/brown/black discolouration of nail



CDC Public Health Image Library

Has there been recent trauma to nail?

Yes

Haematoma likely

- Reassure patient.
- Treat if injury < 2 days old and painful:
 - Clean nail with ► **povidone iodine 10%** solution.
 - Hold finger secure and gently twist a large bore needle into nail over centre of haematoma. Stop when blood drains through hole.
 - Cover with sterile gauze dressing.

No

Psoriasis may discolour nails.

- If psoriasis on skin ↗ 85.
- Review medication: fluconazole, ibuprofen, lamivudine, phenytoin and zidovudine can cause discolouration of nails. Discuss with doctor.
- Refer same week to exclude melanoma (picture above) if:
 - New dark spot on 1 nail which is getting bigger quickly and no recent trauma
 - Discolouration extends into nail folds
 - Band on nail that is:
 - > 4mm wide
 - Getting darker or bigger
 - Has blurred edges
 - Nail is damaged

Transverse dents in nails (Beau's lines)

- Check for paronychia in adjacent columns
- If above excluded, reassure dents likely due to previous illness/injury and will grow out with nail.

¹History of angioedema, anaphylaxis or urticaria.

LOW MOOD, STRESS OR ANXIETY

Give urgent attention to the patient with suicidal thoughts or behaviour → 34.

Assess the patient with low mood, stress or anxiety. If patient known with depression, give routine depression care instead → 160.

Assess	Note
Anxiety	- If excessive worry causes impaired function/distress for at least 6 months with ≥ 3 of: muscle tension, restlessness, irritability, difficulty sleeping, poor concentration, tiredness, generalised anxiety disorder likely → 160. - If anxiety is induced by a particular situation/object (phobia) or is repeated sudden fear with physical symptoms and no obvious cause (panic), discuss/refer. - If anxiety > 1 month linked to a bad experience, with ≥ 3 of: nightmares/flashbacks, avoids situations/people, constantly on guard/easily startled, feels numb/detached from others/surroundings, post-traumatic stress disorder (PTSD) likely. Discuss/refer.
Depression	In the past month, has patient felt down/depressed/hopeless or little interest/pleasure in doing things? If yes to either → 159.
Substance use	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165.
Abuse	If patient is being abused → 33.
Stressors	- Help identify psychosocial stressors. Ask about family or relationship problems, infertility, financial difficulty, bereavement, chronic ill-health. If sexual problems → 74. - If patient has a life-limiting illness, in bed or chair for 50% or more of the day or dependent on others for most care, also give palliative care → 191. - If older person, ask about loneliness and if available, refer to nearest social club for older people in the area.
Women's health	- If recent delivery, give postnatal care → 182 and if available, refer to mother's support group. - If woman > 40 years, ask about menopausal symptoms: hot flushes, night sweats, vaginal dryness, mood changes, difficulty sleeping and sexual problems → 74.
Medication	Review medication: prednisone, efavirenz, metoclopramide, theophylline and contraceptives can cause mood changes. Discuss with doctor. Consider alternative contraceptive → 187.

Advise the patient with low mood, stress or anxiety

Health for All

→ 104

- Refer to social worker, occupational therapist, counsellor or psychiatric nurse/psychologist. Encourage supportive family member/friend to attend follow up visits as well.
- Encourage patient to question negative thinking and be realistic if s/he often predicts the worst, exaggerates problem, inappropriately takes the blame, takes things personally.
- Help patient to choose strategies to get help and cope:

Get enough sleep

If patient has difficulty sleeping, give advice → 99.



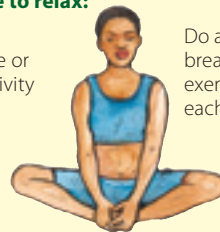
Encourage patient to take time to relax:



Spend time with supportive friends or family.



Find a creative or fun activity to do.



Do a relaxing breathing exercise each day.



Get active

Do some enjoyable physical activity



Access support

Link patient with helpline or support group → 200.

Limit alcohol and avoid drugs

- Limit alcohol to ≤ 2 drinks/day if man and 1 drink/day if woman.
- Avoid drugs.



- Deal with bereavement issues if patient or family member has a life-limiting illness or if patient is recently bereaved:
 - Acknowledge grief reactions: denial, disbelief, confusion, shock, sadness, bargaining, yearning, anger, humiliation, despair, guilt and acceptance.
 - Allow patient/family to share sorrow and talk of memories, the meaning of the patient's life or religious beliefs. Suggest connecting with a spiritual counsellor as appropriate.
 - Identify worrying issues (e.g. child care, will and funeral arrangements) and who can give practical support with these before and after the patient dies.
- For tips on how to communicate effectively → 198.

Review the patient every 2-4 weeks. If no improvement after 3 months, assess for depression/anxiety → 159.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

DIFFICULTY SLEEPING

Assess the patient with difficulty sleeping

- Ask if the patient is getting enough sleep. Adults need on average 6-8 hours sleep per night. This decreases with age.
- Determine the type of sleep difficulty: waking too early, waking frequently, difficulty falling asleep, insufficient sleep.

Exclude medical problems:

- Ask about difficulty breathing ↗ 23, urinary problems ↗ 69, and pain ↗ 75. If restless legs, refer to doctor for further assessment. If persistent snoring, consider **obstructive sleep apnoea**. If overweight ↗ 156. If enlarged tonsils, stops breathing/choke/gasps while sleeping, refer.
- If patient has a long-term health condition, give routine care.
- If pulse ≥ 100 , weight loss, palpitations, tremor, dislike of hot weather or thyroid enlargement, check TSH. If abnormal, refer to doctor.

Review medication:

- Over-the-counter decongestants, salbutamol, fluoxetine and efavirenz can cause sleep problems. Discuss with doctor.
- Reassure patient that difficulty sleeping from efavirenz is usually self-limiting and resolves within 6 weeks on ART. If severe or > 6 weeks, discuss with doctor.

Assess substance use:

- In the past year, has patient drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.

Screen for possible stressors and mental health problem:

- If low mood, stress or anxiety ↗ 98.
- Has the patient ever had a bad experience that is causing nightmares, flashbacks, avoidance of people/situations, jumpiness or a feeling of detachment? If yes ↗ 33.
- In the past month, has patient felt down/depressed/hopeless or little interest/pleasure in doing things? If yes to either ↗ 159.
- If abnormal thoughts or behaviour ↗ 36.
- If for at least 6 months ≥ 1 of: memory problems, disorientation, language difficulty, less able to cope with daily activities and work/social function, consider dementia ↗ 166.

Ask about menopausal symptoms:

- If woman > 40 years ask about hot flushes, night sweats, vaginal dryness, mood changes and sexual problems ↗ 187.

Advise the patient with difficulty sleeping

- Encourage patient to adopt healthy sleep habits. These often help to resolve a sleep problem without the use of sedatives.
 - Get regular exercise. Ensure brisk exercise for at least 30 minutes 4-5 times a week.
 - Avoid caffeine (coffee, tea, sweetened fizzy drinks), alcohol and smoking for several hours before bedtime.
 - Avoid daytime napping.
 - Encourage routine: get up at the same time each day (even if tired) and go to bed the same time every evening.
 - Allow time to unwind/relax before bed.
 - Use bed only for sleeping and sex. Only spend 6-8 hours a night in bed.
 - Once in bed, avoid clock-watching. If not asleep after 20 minutes, do a low energy activity (read a book, walk around house). Once tired, return to bed.
 - Keep a sleep diary. Review this at each visit.
- Review the patient regularly. A good relationship between practitioner and patient can help.

Refer patient for further assessment if:

problems with daytime functioning, daytime sleepiness, irritability, anxiety or headaches that do not get better with 1 month of sensible sleep habits.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

ASSESS AND MANAGE TB INFECTION

'TB infection' is different from 'TB disease'. TB infection refers to TB bacteria that has entered the body but is not yet making the body sick – often called latent TB, which means hidden/inactive TB.

Assess if patient eligible for TB preventive treatment (TPT)

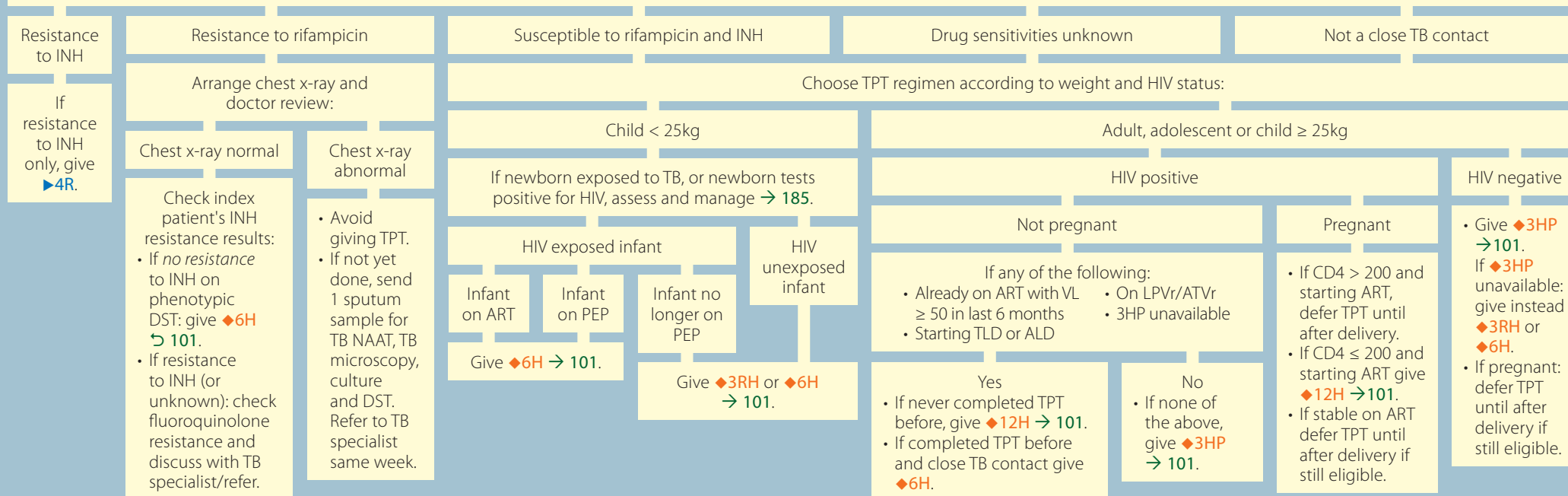
- If patient is a close TB contact: in the past 12 months they shared an enclosed space (at school/work/socially/hostel/household/prison) for ≥ 1 night or frequent/extended daytime periods with an adult/adolescent with pulmonary TB ("index patient") during the 3 months before index patient started TB treatment. Repeat TPT course for every new TB exposure.
- If patient is not a close TB contact: is there any of HIV positive, immunocompromise¹ or known with silicosis²: give TPT if patient has never completed a course of TPT before.

Check for active TB disease

- If TB symptoms³: current cough, weight loss, drenching night sweats, or fever, avoid giving TPT. Start TB workup $\rightarrow$ 102.
- If no TB symptoms, send 1 sputum sample for TB NAAT $\rightarrow$ 102. Where needed, arrange chest x-ray and do urine LAM test $\rightarrow$ 102.
- If clinically well and TB NAAT negative or unable to perform TB NAAT, active TB disease unlikely: give TPT. Repeat TPT course for every new TB exposure.

Choose TPT regimen

- If severe peripheral neuropathy, active liver disease, known alcohol use disorder or previous MDR or XDR TB, discuss with TB expert/helpline $\rightarrow$ 200.
- If a close TB contact, check drug sensitivity results of index patient⁴:



6H – 6 months isoniazid; **12H** – 12 months isoniazid; **3RH** – 3 months rifampicin and isoniazid; **3HP** – 3 months isoniazid and rifapentine; **4R** – 4 months rifampicin; DST – drug susceptibility testing

¹Cancer, those awaiting/received blood/organ transplant or receiving chemotherapy, dialysis or long term corticosteroids. ²Silicosis is a chronic lung disease caused by breathing in silica dust while working in mining or construction. ³TB symptoms in children include: current cough, poor weight gain/failure to thrive, fever, lethargy or decreased playfulness, visible neck mass. ⁴If DST results of index patient unknown, ask where index patient receives TB treatment and contact clinic for treatment details.

At TPT initiation, decide patient category

- If never had TPT before or took TPT < 4 weeks, document as **new**.
- If completed TPT before or took TPT ≥ 4 weeks and stopped (due to adverse event, developed TB or was lost to follow up), document as **previously treated**.

Treat the patient needing TPT according to chosen regimen and weight

- Give **pyridoxine** together with TPT.
- If severe peripheral neuropathy, active liver disease or known alcohol use disorder, defer TPT.

Rifapentine and isoniazid (3HP):

- 3HP is weekly rifapentine and isoniazid for 3 months.
- Take with or immediately after eating.
- Rifapentine decreases levels of protease inhibitors (lopinavir/atazanavir/ritonavir), nevirapine, and dolutegravir (when starting): use instead **12H**.
- Rifapentine decreases levels of oral contraceptive and subdermal implant: use instead condoms and injectable or IUD contraceptive.

Weight (kg)	Isoniazid (weekly)	Rifapentine (weekly)	Fixed dose combination (weekly)
	300mg tablets	150mg tablets	300/300mg tablets
25 – 29.9	2 tablets	4 tablets	3 tablets
≥ 30	3 tablets	6 tablets	3 tablets

Isoniazid (6H and 12H):

- 6H is daily isoniazid for 6 months.
- 12H is daily isoniazid for 12 months.

Weight (kg)	Isoniazid (Daily)	
	100mg tablet	300mg tablet
2 – 3.4	¼ tablet	-
3.5 – 4.9	½ tablet	-
5 – 7.4	¾ tablet	-
7.5 – 9.9	1 tablet	-
10 – 14.9	1 ½ tablet	-
15 – 19.9	2 tablets	-
≥ 20	3 tablets	1 tablet

Rifampicin and isoniazid (3RH):

- 3RH is daily rifampicin and isoniazid for 3 months.
- Rifampicin interacts with ART¹: adjust doses or TPT regimen.

Weight (kg)	RH (Daily)		
	300/150	150/75	75/50 (use mL if tablet dispersed in water)
2-2.9	-	-	½ tablet 5mL
3-3.9	-	-	¾ tablet 7.5mL
4-5.9	-	-	1 tablet 10mL
6-7.9	-	-	1 ½ tablet 15mL
8-11.9	-	-	2 tablets 20mL
12-15.9	-	-	3 tablets 30mL
16-24.9	-	-	4 tablets 40mL
25 – 37.9	-	2 tablets	-
38 – 54.9	-	3 tablets	-
≥ 55	2 tablets	-	-

Rifampicin (4R):

- 4R is daily rifampicin for 4 months.
- Rifampicin interacts with ART¹: adjust doses or TPT regimen.

< 10 years	15mg/kg daily
≥ 10 years	10mg/kg daily

Pyridoxine

Give pyridoxine whenever using isoniazid to prevent peripheral neuropathy.

< 5 years	12.5mg daily
≥ 5 years	25mg daily

- Review monthly while on TPT. Align TPT visit with other visits such as HIV routine care visit. Check for TB symptoms and side effects. Adjust dose according to weight, if needed.
 - If patient stable and enrolled in RPC³ programme or receiving facility provided multimonth dispensing, issue TPT together with other chronic medications.
- Explain possible side effects to patient: low appetite, nausea, abdominal discomfort, fatigue/weakness, dark urine, pale stools. If peripheral neuropathy develops while on TPT ➔ 81.
- If sudden new vomiting, upper abdominal pain, jaundice, hives, wheeze, difficulty breathing, BP < 90/60 or dizziness/collapse, stop TPT, refer and report ADR².
- Advise to return if TB symptoms develop. Stop TPT and send 1 sputum sample for TB NAAT ➔ 102.
- Advise to avoid alcohol/smoking.

Manage patient who interrupts TPT

- Explore reasons for treatment interruption, address individual concerns. Educate on the importance of adherence and provide adherence support ➔ 195.
- Screen clinically for TB symptoms:
 - If symptoms of TB are present, check for TB ➔ 102.
 - If no symptoms TB, continue treatment including missed doses.
- If individual interrupts for the second time, avoid restarting treatment.

Once TPT complete, decide on treatment outcome

- If completes full duration of TPT, document as **treatment completed**.
- If on 3HP, 3RH or 4R: if interrupts treatment for ≥ 4 weeks, document as **lost to follow-up**.
- If on 6H or 12H: if interrupts treatment for 3 consecutive months, document as **lost to follow-up**.
- If stops TPT due to serious adverse event or developed TB, document as **treatment stopped**.
- If died during TPT, document as **died**.

¹Rifampicin decreases levels of protease inhibitors (lopinavir/atazanavir/ritonavir), efavirenz and nevirapine: use instead **12H**. If on dolutegravir: offer **12H** or increase **dolutegravir** dose to 50mg 12 hourly. Continue until 2 weeks after TPT completed. If unsure discuss with TB expert/helpline ➔ 200. ²Email or fax adverse drug reaction (ADR) form to adr@sahpra.org.za or (012) 842 7609/10. ³Repeat prescription collection points (RPC) include 'facility pick-up points' (FAC-PUP), 'external pick-up points' (EX-PUP), clubs. Medications are predispensed by Central Dispensing Unit (CDU) or Central Chronic Medicine Dispensing and Delivery (CCMDD).

TUBERCULOSIS (TB): DIAGNOSIS

Check for TB if the patient has any TB symptoms: current cough, weight loss, drenching night sweats or fever. Also test for TB, even in the absence of symptoms, if:

- DS-TB in last 2 years: check for TB yearly for 2 years after completing TB treatment
- TB contact¹
- PLHIV: at diagnosis, at re-engagement if interrupted ART > 90 days, yearly (when viral load checked) and if pregnant at first antenatal visit
- Abnormal findings on digital CXR + computer aided detection (CAD) screening

Give urgent attention to the patient with suspected TB and any of:

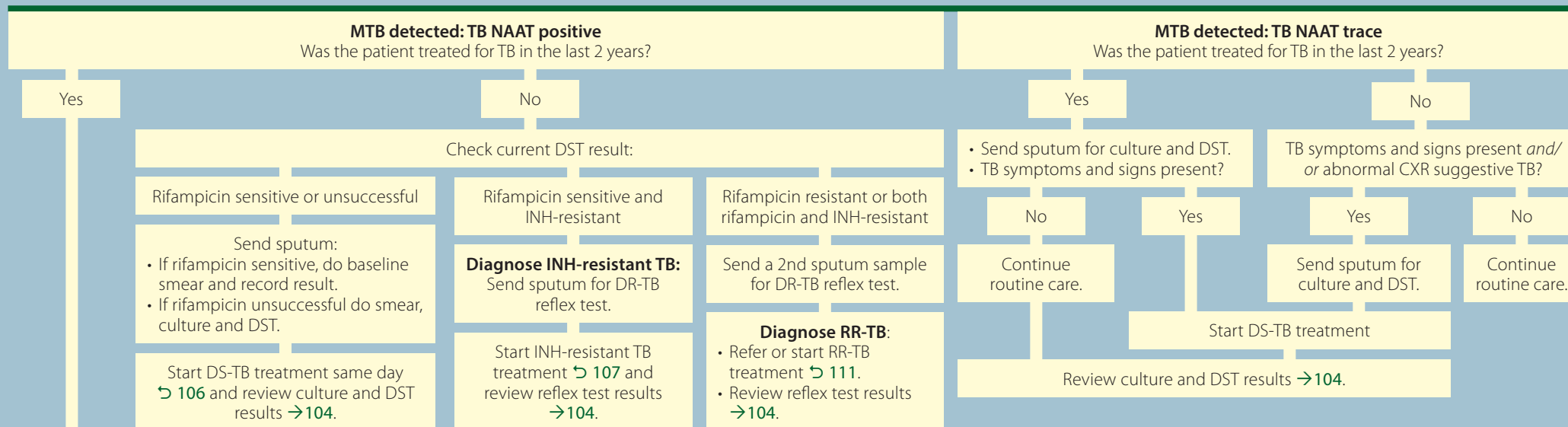
- Respiratory rate ≥ 30
- Pulse > 120
- Temperature > 39°C
- Breathlessness at rest or while talking
- Prominent use of breathing muscles
- Coughs up ≥ 1 tablespoon of fresh blood
- Drowsy/confused
- Neck stiffness
- Persistent vomiting
- New weakness of arm/leg
- Unable to walk unaided
- Severe malnutrition or wasted

Manage and refer urgently:

- If breathing difficulty, give face mask oxygen to keep saturation $\geq 92\%$ and **ceftriaxone** 1g IV²/IM to treat for suspected severe pneumonia.

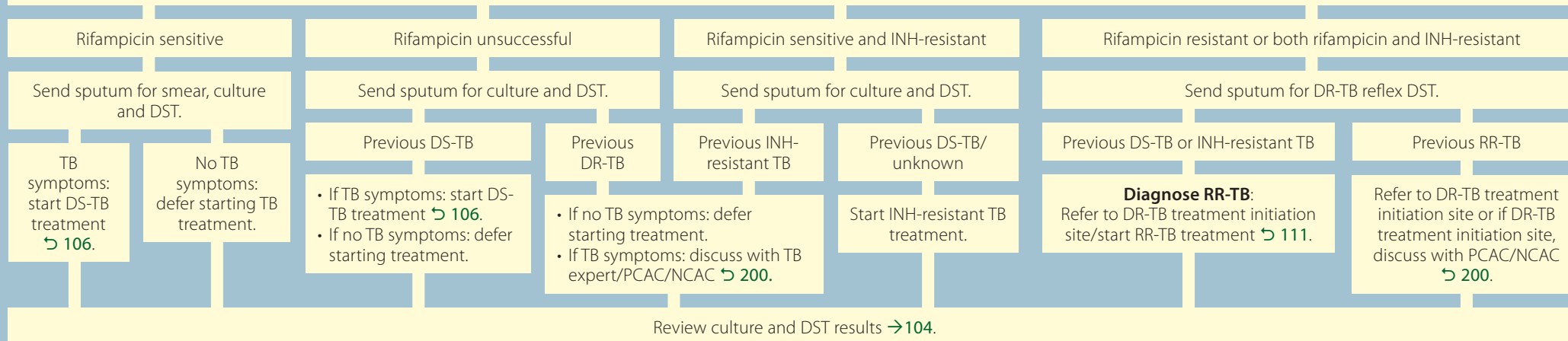
Start the workup to diagnose TB in the patient not needing urgent attention

- Determine whether the patient has been on TB treatment and interrupted treatment for > 2 months: if DS-TB **→ 110**; if INH-resistant TB or RR-TB, refer to doctor or discuss with PCAC/NCAC **→ 200**.
- Send 1 sputum sample for TB NAAT: demonstrate how to give sputum sample **→ 105**. If unable to produce sputum, induce sputum **→ 105** and refer for chest x-ray **→ 104**. Doctor to review chest x-ray.
 - Ensure specimen type, site and patient details clearly indicated on request form. Indicate on the request form: patient's HIV status *and* whether the patient had TB in past 2 years.
- Test for HIV **→ 124**.
- If HIV *and* TB symptoms *and* CD4 ≤ 200 or WHO stage 3 or 4 disease, also do urine LAM test:
 - If LAM positive, **diagnose TB on urine LAM**, start DS-TB treatment same day **→ 106** and follow up TB NAAT result. If LAM negative, manage according to TB NAAT results below.
- Ask the patient to return for results after 2 days and manage further according to results below. If TB NAAT unsuccessful, send repeat sputum sample for TB NAAT.



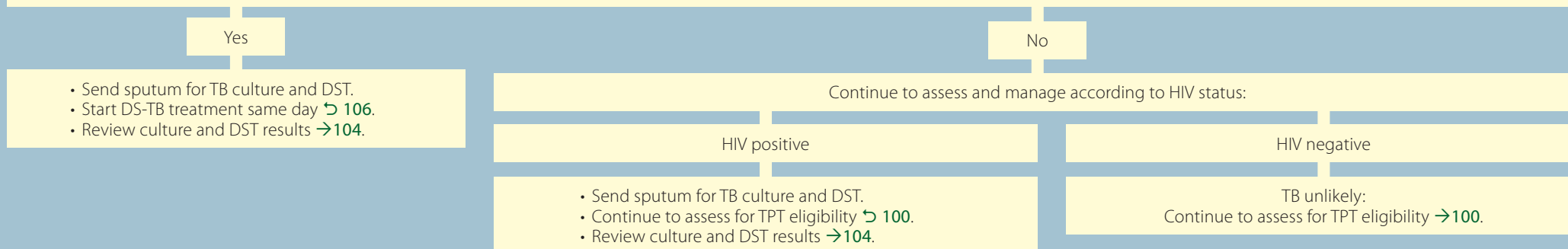
¹A TB contact refers to any person who shared an enclosed space (at school, socially, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ²Do not mix Ringer's lactate and IV ceftriaxone. If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor.

Check current DST result and previous TB treatment history:

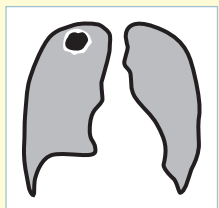


TB NAAT negative (MTB not detected)

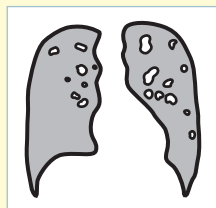
Does the patient have symptoms and signs of TB *and/or* abnormal CXR suggestive of TB?



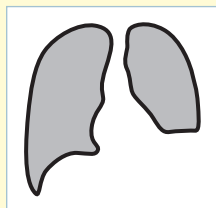
Arrange chest x-ray and doctor review. Doctor to review chest x-ray and compare with previous chest x-ray if available.
Findings suggestive of TB:



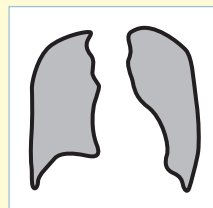
Upper lobe cavitation



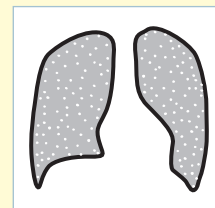
Lung opacification



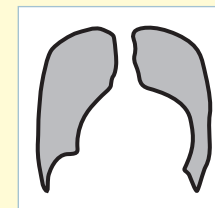
Pleural effusion



Intrathoracic lymphadenopathy



Miliary TB



Pericardial effusion

Chest x-ray suggests TB

- If bilateral pleural effusions or pericardial effusion, refer same day.
- If unilateral pleural effusion: aspirate fluid and send 2 samples:
 - Request TB NAAT, smear, culture, ADA and cell count.
 - Ensure specimen type, site and patient details clearly indicated on request form.
 - If pus on aspiration, refer same day.
- If treated for TB in last 2 years, discuss with TB expert/helpline → 200.
- If not treated for TB in last 2 years:
 - **Diagnose TB** on chest x-ray and start DS-TB treatment → 106.
 - If drug-resistant TB contact, discuss with TB expert/helpline instead → 200.

Chest x-ray abnormalities not suggestive of TB

Discuss/refer.

Chest x-ray normal

- If TB symptoms, look for extrapulmonary TB:
 - If abdominal pain, swelling or diarrhoea, refer for abdominal ultrasound.
 - If headache, refer for CT scan/lumbar puncture.
 - If back pain, arrange spinal x-ray or refer.
 - If lymph node ≥ 2 cm, aspirate → 42.
- If no TB symptoms, active TB disease unlikely:
 - Assess for TPT if HIV or close TB contact¹ → 100.
 - Advise to return if TB symptoms develop.

Review TB culture and DST results every 1-2 weeks until results confirmed:

Culture positive for *Mycobacterium tuberculosis* (MTB)

No resistance to rifampicin and INH

Diagnose DS-TB: start treatment if not yet started → 106.

Resistant to INH

- Check fluoroquinolone (FLQ) result:
- If no resistance to FLQ, **diagnose INH-resistant TB:** start treatment if not yet started → 107.
 - If FLQ resistant, refer to DR-TB treatment initiation site or consult PCAC/NCAC → 200.

Resistant to rifampicin

Diagnose RR-TB: start treatment if not yet started → 111.

Culture negative for MTB

- If TB treatment already started based on TB symptoms and/or chest x-ray findings, continue TB treatment.
- If TB treatment was deferred, TB unlikely. Do not start TB treatment and reassure the patient. Advise patient to return if symptoms recur.

Culture positive for *Mycobacterium other than tuberculosis* (MOTT) or *non-tuberculous mycobacterium* (NTM)

Refer to doctor to discuss with TB expert/helpline → 200.

¹A TB contact refers to any person who shared an enclosed space (at school, socially, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment.

HOW TO COLLECT A GOOD SPUTUM SPECIMEN FOR TB TESTING

Aim to collect sputum in the early morning. This improves the chance of an accurate result. However, avoid missing the opportunity to collect sputum anytime during a consultation.

- Explain that a good quality sputum specimen is important to make an accurate diagnosis of TB.
- Advise to avoid putting saliva or nasal secretions into specimen jar. Sputum is the secretion that comes from deep within the lungs and a forceful cough is needed to bring it up for collection.
- If observing sputum collection, health worker to use mask (N95/FFP2) in well ventilated area. Stand behind patient and check air stream (fan, air conditioner) is coming from behind back to avoid exposure.
- Explain how to collect a good sputum specimen:



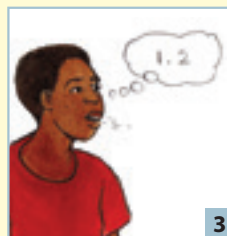
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- Ensure collection area is well ventilated and private.
- Use a designated sputum collection area or outside sputum booth if available.



2

- Rinse mouth with water to remove food, mouth wash or medication.



3

- Breathe in and out deeply two times.
- Have an open specimen jar ready.
- Keep the jar sterile (clean), avoid touching inside it.



4

- On the third breath, give a strong cough.
- Cough 5-10mL (1-2 teaspoons) sputum into the jar.
- You may need several coughs to get at least 5mL.



5

- Replace lid and screw on tightly to prevent leaking.
- Give to health worker.



6

- Wash your hands after sputum collection.

If patient unable to produce sputum, use nebuliser to induce sputum

- Health worker to wear a N95/FFP2 respirator mask in a well ventilated area. Explain process to patient: follow same steps as above only use nebuliser to help produce sputum.
- Add 5mL ♦3% saline to nebuliser and nebulise at 8L/min for 10 minutes or until sputum coughed up.
 - While nebuliser running, ask patient to breathe in and out deeply 2-3 times, followed by a strong cough to try and bring up sputum from deep within the chest.
 - If able to generate sputum, ask patient to remove mask and cough it into the specimen jar, then continue with nebulisation. Repeat until at least 5mL sputum collected.
- If no sputum coughed up by 10 minutes, repeat nebulisation once.

Prepare specimens for transport to the laboratory:

- Check specimens are adequate: if patient unable to produce 5mL (1 teaspoon) but quality of sputum is still good, still send specimens to laboratory. If quality of specimen is inadequate, see below.
- Ensure lid is closed tightly and correctly, and that the specimen jar is correctly labelled. Wash hands after handling specimens.
- If room temperature is > 25°C or transport delayed for > 24 hours, store in refrigerator (2-8°C). Keep cool but do not freeze.
- Place barcodes horizontally on specimen jars to scan easily in laboratory. Complete request form and advise patient to return for results in 2 days.
- If patient HIV-positive or had TB in past 2 years, indicate this on request form.

If specimen inadequate:

- If specimen is inadequate and of poor quality after repeated attempts, discard used jar in medical waste bin and give patient new labelled specimen jar. Instruct on how to collect sputum at home:
 - Collect sputum specimen early in the morning after waking up, before eating or taking any medications.
 - Collect sputum specimen outside home. Follow the same steps tried above.
 - Once collected, protect sputum specimen sample from heat and light. Keep at room temperature and bring to the clinic as soon as possible.
- If specimen from home is adequate, prepare for transport to laboratory (above). If still not adequate, refer/discuss with doctor for chest x-ray and review or refer to hospital for further investigation.

DRUG-SENSITIVE TB (DS-TB): ROUTINE CARE

Assess the patient with DS-TB

At diagnosis, notify¹. Also register the patient in the DS-TB register (TIER.Net) once treatment started. Update register at every visit and upon discharge from care.

Assess	When to assess	Note
Symptoms	Every visit	- If respiratory rate ≥ 30, breathless at rest or while talking, prominent use of breathing muscles, drowsy/confused, coughs up ≥ 1 tablespoon fresh blood, neck stiffness, persistent vomiting or new weakness of arm/leg, give urgent attention →102. - Expect gradual improvement on TB treatment. If symptoms worsen or do not get better, refer to doctor or hospital.
Adherence	Every visit	Request patient brings all medication to each visit. Check adherence on the TB card. If poor adherence → 195. If interrupts TB treatment → 110.
Side effects	Every visit	Ask about side effects of treatment → 109.
TB contacts	At diagnosis	Advise that all TB contacts ² visit the clinic for TB screening/prevention. Ensure CHW does a home visit to screen and test TB contacts.
Family planning	Every visit	- Check for pregnancy³ → 174. If not pregnant, advise to avoid pregnancy and assess contraceptive needs → 170. If pregnant, give routine care → 175. - Avoid oral contraceptive and subdermal implant⁴ on TB treatment, use instead injectable or IUD <i>plus</i> condoms. No need to change interval between injectable.
Mental health	Every visit	If stress, anxiety or low mood, assess and manage further → 98.
Substance use	At diagnosis and if poor adherence	In the past year, has patient: drunk ≥ 4 drinks ⁵ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
Palliative care	If advanced TB disease	Assess need for palliative care → 191.
Weight and BMI ⁶	Every visit	If BMI < 18.5 , refer for nutritional support. Expect weight gain on treatment and adjust TB treatment dose → 108. If losing weight, refer to doctor/hospital same week.
Chest x-ray	If needed	Do at 2 months if pleural effusion. Do same day if patient deteriorates or coughs up ≥ 1 tablespoon of fresh blood.
Fingerprick glucose	At diagnosis	If known diabetes, assess glucose control more often → 145. If not known with diabetes, check glucose → 19.
HIV	If unknown status or recent exposure	Test for HIV → 124. If HIV positive, give routine HIV care and start ART → 126. If on dolutegravir or lopinavir/ritonavir, increase dose → 109.
TB NAAT result	At diagnosis	Register as MTB detected, RIF sensitive, MTB not detected, or trace.
TB microscopy (smear) ⁷	At diagnosis	If TB NAAT positive at diagnosis, send sputum for smear microscopy. Record smear result in the patient's file. Register as smear negative or smear positive.
	Week 7 (only if pulmonary TB and smear positive at diagnosis)	If positive, manage the patient with a positive week 7 smear → 110.
	Week 23 (only if pulmonary TB and smear positive at diagnosis)	- Use week 23 smear result to decide treatment outcome below. - If positive, manage the patient with a positive week 23 smear → 110.
TB culture and DST	- If done during diagnostic workup - At 8 and 24 weeks: if still smear positive	- Review TB culture and DST every 1-2 weeks until results confirmed → 104. - If culture contaminated, repeat.
Treatment outcome	At completion of TB treatment	- If pulmonary TB and smear positive at diagnosis: - If smear negative at week 7 and smear negative at week 23, register as cured. - If smear positive at week 7 and smear negative at week 23, register as treatment completed. - If smear positive at week 23, register as treatment failure. - If pulmonary TB and smear negative at diagnosis: if patient well, register as treatment completed. If unwell, refer for assessment to doctor or hospital. - If TB diagnosed clinically (chest x-ray or U-LAM): if patient well, register as treatment completed. If unwell, refer for assessment to doctor or hospital.

Advise, counsel and treat the patient with DS-TB →108.

¹Notify via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process. ²A TB contact refers to any person who shared an enclosed space (at school, socially, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ³Check only if woman of child-bearing potential has missed period and not on reliable contraception. ⁴If patient already has subdermal implant, advise additional non-hormonal method (copper IUD or condoms) until 4 weeks after completing TB treatment. ⁵One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁶BMI = weight (kg) $\div$ height (m) $\div$ height (m). ⁷Make every effort to obtain sputum. If difficulty, try in early morning or arrange for induced sputum.

INH-RESISTANT TB: ROUTINE CARE

Assess the patient with INH-resistant TB

At diagnosis, notify¹. Also register the patient in the TB register (EDRWeb) once treatment started. Update register at every visit and upon discharge from care.

Assess	When to assess	Note
Symptoms	Every visit	- If respiratory rate ≥ 30, breathless at rest or while talking, prominent use of breathing muscles, drowsy/confused, coughs up ≥ 1 tablespoon fresh blood, neck stiffness, persistent vomiting or new weakness of arm/leg, give urgent attention →102. - Expect gradual improvement on TB treatment. If symptoms worsen or do not get better, refer to doctor or hospital.
Adherence	Every visit	Request patient brings all medication to each visit. Check adherence on the TB card. If poor adherence → 195. If interrupts TB treatment → 110.
Side effects	Every visit	Ask about side effects of treatment → 109.
TB contacts	At diagnosis	Advise that all close TB contacts ² visit the clinic for TB screening/prevention. Ensure CHW does a home visit to screen and test TB contacts.
Family planning	Every visit	- Check for pregnancy³ → 174. If not pregnant, advise to avoid pregnancy and assess contraceptive needs → 170. If pregnant, give routine care → 175. - Avoid oral contraceptive and subdermal implant on TB treatment, use instead injectable or IUD plus condoms. No need to change interval between injectable. If subdermal implant in place, advise additional non-hormonal method (IUD or condoms) until 4 weeks after completing TB treatment.
Mental health	Every visit	If stress, anxiety or low mood, assess and manage further → 98.
Substance use	At diagnosis and if poor adherence	In the past year, has patient: drunk ≥ 4 drinks ⁴ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
Palliative care	If deteriorating	Assess need for palliative care → 191.
Weight and BMI ⁵	Every visit	If BMI < 18.5 , refer for nutritional support. Expect weight gain on treatment and adjust TB treatment dose → 108. If losing weight, refer to doctor/hospital same week.
Chest x-ray	If needed	Do at 2 months if pleural effusion. Do same day if deteriorates or coughs up ≥ 1 tablespoon of fresh blood.
Fingerprick glucose	At diagnosis	If known diabetes, assess glucose control more often → 145. If not known with diabetes, check glucose → 19.
HIV	If unknown status or recent exposure	Test for HIV → 124. If HIV positive, give routine HIV care and start ART → 126. If on dolutegravir or lopinavir/ritonavir, increase dose → 109.
TB NAAT result	At diagnosis	Register as Rifampicin sensitive, INH-resistant.
Sputum TB smear and culture ⁶	- At baseline (start of treatment) - Month 2 and 6	Register as smear/culture positive or negative. - If still culture positive at month 2, request phenotypic DST on that same positive specimen and continue treatment while waiting for results. - If culture negative at month 2, continue treatment and repeat culture at month 6. - If culture becomes positive after previous negative culture, request phenotypic DST on that same positive specimen.
Sputum DST	- If month 2 culture positive - If negative culture becomes positive	- If resistance to INH only confirmed: discuss with TB expert/helpline → 200. - If resistant to rifampicin: diagnose multidrug-resistant TB (MDR-TB) → 111. - If resistant to fluoroquinolones, discuss with PCAC/NCAC → 200.
Treatment outcome	At completion of TB treatment	- If two consecutive negative cultures on separate occasions at least 7 days apart, register as cured. - If culture negative but does not meet criteria for cured, register as treatment completed. - If month 6 culture positive, register as treatment failure.

Advise and treat the patient with INH-resistant TB → 108.

¹Notify via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process. ²A TB contact refers to any person who shared an enclosed space (at school, socially, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ³Check only if woman of child-bearing potential has missed period and not on reliable contraception. ⁴One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁵BMI = weight (kg) ÷ height (m) ÷ height (m). ⁶Make every effort to obtain sputum. If difficulty, try in early morning or arrange for induced sputum.

Advise the patient with DS-TB or INH-resistant TB

Health for All

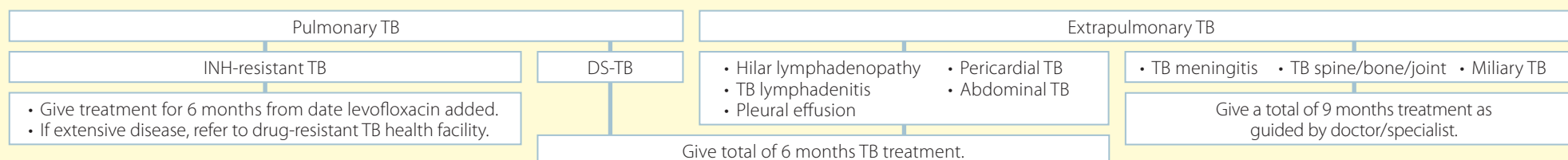
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- Provide TB counselling and refer for community or workplace adherence support.
- Educate about TB treatment side effects [↗ 109](#) and advise to return promptly should they occur.
- Educate about infection control: adequate ventilation/open windows (if area is not well ventilated, to wear a face mask), cough/sneeze into upper sleeve or elbow. Wash hands with soap or use sanitiser regularly.
- If patient smear positive, advise to stay away from work for 2 weeks, give patient a medical certificate and an appointment date for return to work assessment.
- Alert to the risks of smoking [↗ 164](#) and alcohol/drugs and support patient to change [↗ 199](#). If patient chooses to continue, advise safe alcohol use [↗ 165](#) and to continue taking TB medication daily.
- Give **enhanced adherence support** to the patient with poor adherence [↗ 195](#). Educate on the importance of adherence and the risks of resistance.

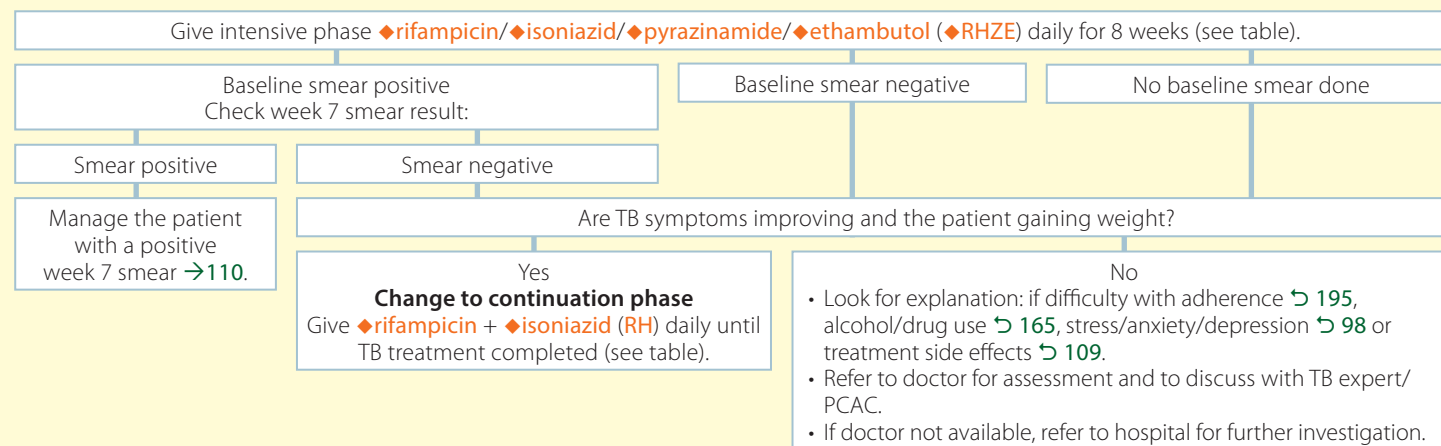
Treat the patient with DS-TB or INH-resistant TB

- If patient pregnant, has alcohol use disorder, or has diabetes, epilepsy or BMI < 18.5: give [♦ pyridoxine](#) 25mg daily until TB treatment completed.

Decide treatment duration:



If drug-sensitive TB (DS-TB):



If INH-resistant TB:

- Give [♦ RHZE](#) and [♦ levofloxacin](#) daily, for 6 months (see table). If isoniazid contraindicated give individual drugs daily as follows:
[♦ rifampicin](#) 10mg/kg + [♦ pyrazinamide](#) 25mg/kg + [♦ ethambutol](#) 15mg/kg + [♦ levofloxacin](#) 750-1000mg for 6 months.

Dose according to weight and adjust as weight increases

	♦ RHZE (150/75/400/275mg)
25-37kg	2 tablets
38-54kg	3 tablets
55-70kg	4 tablets
≥ 71kg	5 tablets

	♦ RH
25-37kg	2 tablets (150/75mg)
38-54kg	3 tablets (150/75mg)
≥ 55kg	2 tablets (300/150mg)

	♦ Levofloxacin
30-45kg	750mg
≥ 46 kg	1000mg

Review the patient with DS-TB or INH-resistant TB at 2 weeks, 4 weeks then monthly and at 23 weeks

- If stable review monthly during intensive phase, then if patient well arrange for treatment collection through RPC¹. Avoid treatment collection through RPC¹ if patient has TB and HIV: consider facility provided multi-month dispensing (MMD²) instead. Advise to return sooner if worsening or side effects develop.
- Assess patient for TB preventive treatment (TPT) [↗ 100](#) and check for TB yearly for 2 years after completing TB treatment [↗ 102](#).

¹Repeat prescription collection points (RPC) include 'facility pick-up points' (FAC-PUP), 'external pick-up points' (EX-PUP), clubs. Medications are predisensed by Central Dispensing Unit (CDU) or Central Chronic Medicine Dispensing and Delivery (CCMDD).

²Multi-month dispensing (MMD): considered for all patients for whom monthly clinical consultations are not indicated.

Treat the patient with DS-TB or INH-resistant TB and HIV

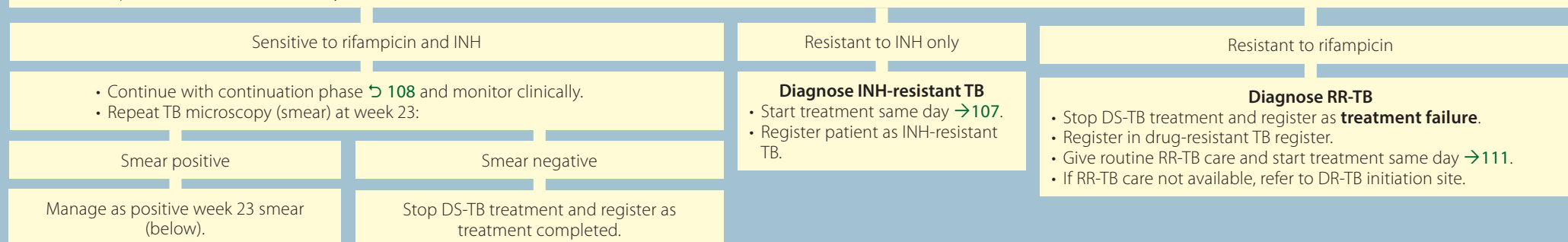
- If already on dolutegravir-based ART regimen and starting TB treatment: increase ♦DTG dose to 50mg 12 hourly. If on TLD or ALD fixed dose combination tablet, add ♦DTG 50mg 12 hours after TLD or ALD dose. Continue this dose until 2 weeks after TB treatment completed.
- If already on TB treatment:
 - If starting ART (patient has never been on ART): consider ♦TEE (♦TDF + ♦FTC + ♦EFV) or DTG based regimen ↗ 129. If starting a DTG based regimen, add ♦DTG 50mg 12 hours after TLD or ALD dose. Continue this dose until 2 weeks after TB treatment completed.
 - If re-starting ART: start DTG based regimen ↗ 129, add ♦DTG 50mg 12 hours after TLD or ALD dose. Continue this dose until 2 weeks after TB treatment completed.
- If on atazanavir/ritonavir or darunavir/ritonavir, check if eligible to switch to DTG ↗ 132. If not eligible, discuss with experienced ART clinician or HIV hotline ↗ 200 to switch rifampicin to rifabutin.
 - Do FBC + differential count monthly, while on rifabutin. If Hb or neutrophil count low discuss with experienced ART clinician or HIV hotline ↗ 200.
- If on lopinavir/ritonavir, check if eligible to switch to DTG ↗ 132. If not eligible, doctor to increase ♦lopinavir/ritonavir dose gradually:
 - After 1 week of TB treatment, increase ♦lopinavir/ritonavir to 600/150mg (3 tablets) 12 hourly for 1 week.
 - Then increase ♦lopinavir/ritonavir to 800/200mg (4 tablets) 12 hourly. Continue this dose until 2 weeks after TB treatment completed.
 - Monitor for liver problem (jaundice, abdominal pain, vomiting) and check ALT if symptomatic. If symptomatic with ALT > 120, or asymptomatic with ALT ≥ 200, refer.
 - If lopinavir/ritonavir not tolerated, discuss with experienced ART clinician or HIV hotline ↗ 200 to switch rifampicin to rifabutin.

Look for and manage TB treatment side effects

Side effect	Likely cause	Management
Jaundice	Most TB medications	Stop all medications and refer to hospital same day.
Nausea, vomiting, abdominal pain	Most TB medications	• Check ALT and review result within 24 hours: - If ALT > 120, stop all medications and refer to hospital same day. - If ALT 50-120, assess for possible causes, consider interrupting treatment and repeat ALT within 1 week. If unsure, discuss or refer. • If nausea/vomiting: advise to take medication with meals or take treatment at night. If significant nausea/vomiting, give ♦metoclopramide 10mg 30 minutes before TB medication.
Skin rash/itch	Most TB medications	Assess and manage ↗ 82.
Seizures	Levofloxacin, isoniazid	Manage seizure ↗ 20 and refer to hospital same day.
Psychosis	Levofloxacin, isoniazid	Manage psychosis ↗ 36 and discuss/refer to hospital same day.
Change in vision	Ethambutol, rifabutin	Stop ethambutol or rifabutin and refer to eye specialist same day.
Painful red eye with sensitivity to light	Rifabutin	Stop rifabutin and refer to eye specialist same day.
Joint pain	Pyrazinamide, levofloxacin	Give ♦ibuprofen 400mg 8 hourly as needed with/after food for up to 5 days (avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease, pregnant).
Orange urine	Rifampicin	Reassure this is normal while taking rifampicin.
Pain/numbness of feet	Isoniazid	Peripheral neuropathy likely ↗ 81.

Manage the patient with DS-TB and a positive week 7 smear

- Look for explanation for result: if poor adherence, give enhanced adherence support → 195, alcohol/drug use → 165, low mood/stress/anxiety → 98 or treatment side effects → 109.
- Send 1 sputum for culture and DST and change to continuation phase.
- Follow up culture and DST result every 1-2 weeks until available and review:

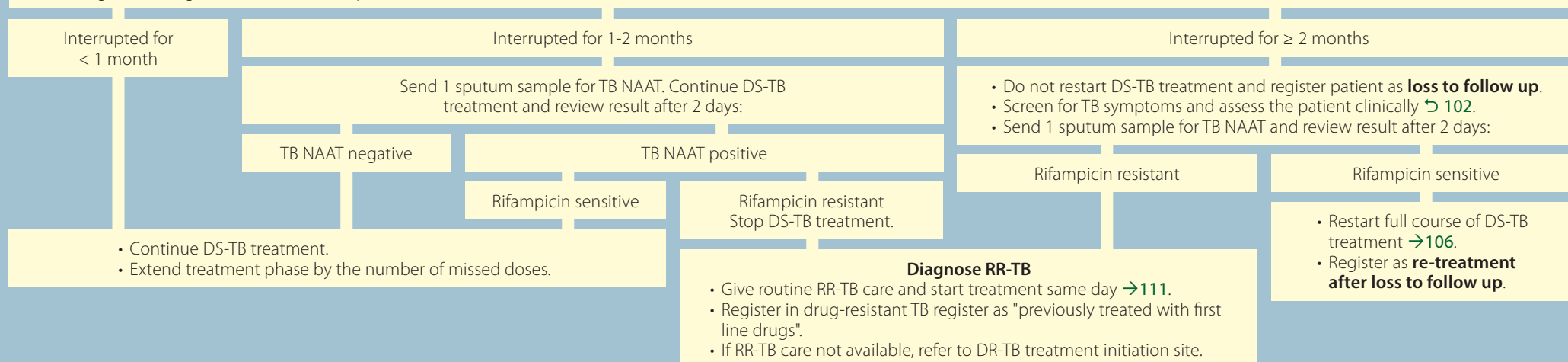


Manage the patient with DS-TB and a positive week 23 smear

- Look for explanation for result: if poor adherence, give enhanced adherence support → 195, alcohol/drug use → 165, low mood/stress/anxiety → 98 or treatment side effects → 109.
- Send 1 sputum sample for culture and DST (first line PZA and second line drugs).
- Complete current course of TB treatment while awaiting DST results. Review with DST results, stop DS-TB treatment and register as **treatment failure**.
- Follow up culture and DST result every 1-2 weeks until available and review:
 - If sensitive: re-start DS-TB treatment and give enhanced adherence support → 195.
 - If resistant: refer to DR-TB initiation site for assessment and treatment.

Manage the patient who interrupts DS-TB treatment

- Look for explanation for treatment interruption and give enhanced adherence support → 195.
 - If alcohol/drug use → 165, low mood/stress/anxiety → 98 or treatment side effects → 109. If PLHIV and interrupted ART → 129.
- Manage according to duration of interruption:



RIFAMPICIN-RESISTANT TB (RR-TB): ROUTINE CARE

RR-TB refers to TB that is resistant to rifampicin, with or without resistance to other TB medications. If patient has INH-resistant TB → 107. If RR-TB care not available, refer to closest DR-TB treatment initiation site.

If any of the following, discuss or refer to hospital for admission:

- Respiratory rate ≥ 30
- Drowsy/confused/neckstiffness/severe headache/persistent vomiting
- Unable to walk unaided
- Difficulty with adherence
- Infection control challenges at home
- Hb < 8 or BMI < 18
- Any condition that would be better managed in an inpatient setting
- Unstable social circumstances
- Patient requests admission

Assess the patient with RR-TB

At diagnosis, notify¹. Also register the patient in the RR-TB register (EDRWeb) once treatment started. Update register at every visit and upon discharge from care.

Assess	When to assess	Note
Symptoms	Every visit	• If respiratory rate ≥ 30, breathless at rest or while talking, prominent use of breathing muscles, drowsy/confused, coughs up ≥ 1 tablespoon fresh blood, neck stiffness, persistent vomiting or new weakness of arm/leg, give urgent attention and refer. If persistent episodes of coughing blood, consider referral for surgical review. • Expect gradual improvement. If not improving, assess adherence, other long-term conditions and review DST results. • If still no clinical improvement at 3-4 months or month 3 culture positive, request extended phenotypic DST and present to PCAC/NCAC → 200 to advise on rescue regimen.
Adherence	Every visit	Ask about factors that may influence adherence and give adherence support → 195. If returning after loss to follow-up, request extended phenotypic DST on latest positive culture and present to PCAC/NCAC → 200 to advise on regimen.
Side effects	Every visit	• Ask about side effects of treatment → 118. Manage promptly as side effects are common cause of treatment interruption. • If intolerance to any medication, present to PCAC/NCAC → 200 for medication substitution. • Report adverse events on EDRWeb and to SAHPRA via EDRWeb.
TB contacts	At diagnosis	• Ask if patient is a TB contact² of index patient with RR-TB. If yes, check index patient's DST results to help decide patient's RR-TB treatment regimen. • Advise that all TB contacts² of newly diagnosed RR-TB patient have symptom screen and TB NAAT. If TB NAAT negative, assess for TPT and continue TB symptom screening 3 monthly for first 12 months then 6 monthly up to 24 months. Refer to CHW/WBOTs to do home visit for TB screening/testing or advise self-screening via TB HealthCheck → 200.
Family planning	Every visit	• Check for pregnancy if patient is a woman of child-bearing potential. If not pregnant, advise to avoid pregnancy during treatment and assess patient's contraceptive needs → 170. If pregnant, give routine antenatal care → 175 and start RR-TB treatment. • If on injectable contraceptive, no need to change interval between doses.
Mental health	Every visit	If stress, anxiety or low mood, assess and manage further → 98.
Alcohol/drug use	At diagnosis, if poor adherence	In the past year, has patient: drunk ≥ 4 drinks ³ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165.
Palliative care	If deteriorating	If the patient has any of: in bed or chair for 50% or more of the day, dependent on others for most care, has had 2 or more unplanned hospital admissions in past 6 months, unintentional weight loss over the past 3-6 months or the patient/family requests palliative care; chooses to reduce, stop or not have treatment and wishes to focus on quality of life → 191.
Weight and BMI ⁴	Every visit	If BMI < 18.5 , refer for nutritional support. Expect weight gain on treatment and adjust treatment doses. If losing weight on treatment, discuss with specialist/refer.
BP	At diagnosis	If known hypertension → 149. If not, check BP: if $\geq 140/90$ → 148.
HIV	At diagnosis and after 3 months of RR-TB treatment if previous test negative	• Test for HIV → 124. If positive, give HIV routine care → 126. • Avoid giving the following medications together: zidovudine with linezolid; efavirenz with bedaquiline or pretomanid; tenofovir with amikacin.

¹Complete notifiable medical conditions (NMC) case notification form and send to NMCsurveillanceReport@nicd.ac.za or notify electronically: www.nicd.ac.za/nmc-overview/notification-process. ²A TB contact refers to any person who shared an enclosed space (at school, socially, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ³One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁴BMI = weight (kg) ÷ height (m) ÷ height (m).

Check routine screens and tests according to table and review results:

At diagnosis	At 2 weeks	At 4 weeks and then monthly	At 6 weeks	At 3 months	At 6 months	At 12 months	Other
- If not yet done: send second sputum sample for DR-TB reflex testing - ECG, chest x-ray - Vision (Snellen/tumbling E chart) - Pregnancy test - Hands and feet (peripheral neuropathy) - Fingerprick glucose, HbA_{1c} (if known diabetes) - FBC¹ with differential count - HBsAg, Anti-HCV antibody - ALT and bilirubin, creatinine, potassium, magnesium, TSH (if starting PAS/ETO) - If PLHIV: CD4, viral load - If starting amikacin: audiometry (hearing test)	If pulmonary TB: 1 TB smear and culture If on LZD: FBC with differential count, vision, hands and feet If on BDQ, CFZ, MFX or DLM: ECG	If pulmonary TB: 1 sputum for TB smear and culture If on BDQ, CFZ, MFX or DLM: ECG If on LZD: FBC with differential count, vision, hands and feet If on BDQ: ALT If on amikacin: audiometry (hearing test), creatinine, potassium, magnesium	If on LZD: FBC, differential count, vision, hands and feet	If previously negative: HIV ↗ 124 If on ETO or PAS: TSH	- Chest x-ray If previously negative: HIV ↗ 124 If on ETO or PAS: TSH	If previously negative: HIV ↗ 124 If on ETO or PAS: TSH	If on ETO or PAS: TSH 3 monthly If unwell: chest x-ray, ALT, creatinine, potassium, magnesium If PLHIV: do routine tests ↗ 127 If patient was on short regimen: review clinically and do TB smear and culture 6 and 12 months after treatment completion
If not improving or remains unwell despite treatment, request phenotypic DST on latest positive culture and discuss with TB expert.							

Assess	Note
TB smear and culture	- If initial culture negative, send new sample for DR-TB reflex testing (smear, DST, culture). - If month 3 smear/culture positive or previous negative smear/culture becomes positive: assess adherence, review all sputum results and request extended phenotypic DST on latest culture positive specimen. Present to NCAC ↗ 200 as soon as possible to advise on regimen. Consider referral for surgical assessment.
DR TB reflex test	- When a sample is submitted for DR-TB reflex testing, the lab will automatically do: - Genotypic DST: XDR cartridge providing INH and FLQ results, and Targeted next-generation sequencing (tNGS) providing BDQ, LZD, RIF, INH and FLQ results. - Phenotypic DST: for BDQ, LZD, Pa and INH (only if INH is sensitive on TB-NAAT) once the culture is positive. - Genotypic test results should be available as follows: XDR cartridge within 3 days and tNGS within 10-14 days. - If discordant/heteroresistant results: discuss with lab, send new sputum sample for DR-TB: reflex DST testing if lab requests, continue current treatment and present to PCAC/NCAC ↗ 200.
Chest x-ray	If chest x-ray worse despite treatment, discuss with TB expert/helpline or PCAC/NCAC ↗ 200.
ECG	Calculate QTcF ² . If ≥ 450ms: - If symptoms (chest pain, palpitations, dizziness or faintness), discuss with specialist or refer to hospital same day. - If no symptoms: - If QTcF < 470ms: continue treatment and routine ECG monitoring. - If QTcF 470-499ms: repeat ECG at rest same day to confirm. Check potassium, magnesium and TSH and treat if abnormal. Check for medications that prolong QT interval³ and discuss with TB expert/helpline or PCAC/NCAC ↗ 200. Repeat ECG weekly until QTcF < 470ms. - If QTcF ≥ 500ms: repeat ECG at rest same day to confirm. Check potassium, magnesium and TSH and treat if abnormal. Stop all medications that prolong QT interval³ including RR-TB medications (moxifloxacin, delamanid, clofazimine, bedaquiline). Discuss with TB expert/helpline or PCAC/NCAC ↗ 200.
Audiometry (hearing test)	If on amikacin and any changes to hearing, stop amikacin and discuss possible medication substitutions with PCAC/NCAC ↗ 200.
Vision	If change in visual acuity (> 2 line drop on Snellen/tumbling E chart/change in colour vision), refer to eye specialist same day if possible. If not possible stop linezolid/ethambutol and present to PCAC /NCAC ↗ 200.
Hands and feet	If constant burning pain, pins/needles or numbness (may be worse at night): if diabetes ↗ 145. If on linezolid, discuss with TB expert/helpline/PCAC/NCAC ↗ 200

Continue to review test results → 113.

BDQ - bedaquiline; CFZ - clofazimine; DLM - delamanid; ETO - ethionamide; LFX - levofloxacin; LZD - linezolid; Pa - pretomanid; PAS - para-aminosalicylic acid; MFX - moxifloxacin; BPAL - bedaquiline, pretomanid, linezolid; BPAL-L - bedaquiline, pretomanid, linezolid, levofloxacin

¹A point of care Hb can be done prior to taking the FBC to prevent delay in starting RR-TB treatment. It does not replace the FBC test. ²QTcF is QT interval corrected for heart rate: online calculator (Fridericia's formula) can be accessed via www.mdcalc.com/corrected-qt-interval-qt-c or calculate manually: QTcF = QT/(60/heart rate)^{0.33}. ³Medications that may prolong QT interval include: anti-arrhythmics (e.g amiodarone), chlorphenamine, antipsychotics (e.g haloperidol), macrolide antibiotics (e.g azithromycin), fluoroquinolone antibiotics (e.g ciprofloxacin, levofloxacin, moxifloxacin) and antifungal drugs (e.g fluconazole). Consult the South African Medicines Formulary (SAMF) or crediblemeds at www.crediblemeds.org to check medications that prolong QT interval.

Assess	Note
Pregnancy test	Check for pregnancy if patient is a woman of child-bearing potential. If pregnant, give routine antenatal care ↗ 175 and start RR-TB treatment.
Fingerprick glucose	If known with diabetes, assess glucose control more often ↗ 145. If not known with diabetes, check glucose ↗ 19.
HbA _{1c}	If HbA _{1c} > 8%, diabetes not controlled , manage further ↗ 145.
HBsAg	- If HIV positive and HBsAg positive, ensure TDF (tenofovir) is part of ART regimen. If on TDF, avoid stopping. If HIV negative, discuss with infectious diseases specialist. - If HBsAg positive and pregnant, manage baby born to mother with hepatitis B infection ↗ 185. Discuss mother's treatment with infectious diseases specialist.
Anti-HCV antibody	If positive, do HCV PCR test.
HIV	If HIV positive, give routine care and start ART ↗ 126. If on ART, check if ART regimen needs adjusting ↗ 133.
CD4	- Start co-trimoxazole preventive therapy (CPT) for all patients ↗ 128. - If CD4 < 200, check CrAg result.
Viral load	If VL < 50, continue ART. If VL ≥ 50, assess adherence to ART ↗ 134 and discuss with TB expert/helpline ↗ 200
FBC and differential count	- A point of care Hb test can also be used in addition to the FBC to prevent delay in starting treatment. - If Hb < 8, neutrophils < 0.75 or platelets < 50, avoid/stop linezolid and discuss with TB expert/helpline ↗ 200 or refer same day.
ALT and bilirubin	- If ALT ≥ 200 (or bilirubin ≥ 40) and/or jaundice, stop all medications and refer same day. - If ALT 120-199: - If symptoms (nausea/vomiting/abdominal pain) stop all medications and refer to hospital same day. - If no symptoms: continue medications and monitor for symptoms. Check LFT: if abnormal, discuss. Repeat ALT weekly until < 120.
Creatinine (eGFR)	If reported eGFR < 30, adjust medication doses ↗ 117 and refer/discuss.
Potassium	- If potassium ≤ 2.5, refer same day. - If potassium 2.5-3.5: do ECG to check for arrhythmia, check for symptoms (muscle weakness/vomiting) then discuss/refer same day.
Magnesium	If magnesium < 0.6, discuss/refer.
TSH (thyroid function)	- If TSH raised, check FT4. If FT4 low, hypothyroidism likely: - In consultation with specialist, give ▶levothyroxine 100mcg daily and repeat TSH and FT4 after 2 months. - If ≥ 60 years: give instead ▶levothyroxine 50mcg daily and repeat TSH and FT4 after 1 month. - If known ischaemic heart disease: give instead ▶levothyroxine 25mcg daily and repeat TSH and FT4 after 1 month. - If repeat FT4 still low, increase ▶levothyroxine by 25mcg every 4 weeks until FT4 within normal range. - Once RR-TB treatment completed, continue levothyroxine for 2-3 months, then wean while continuing to monitor TSH and FT4.

Advise the patient with RR-TB

- Provide RR-TB counselling and arrange community health worker home visit. Refer to support group if available.
- If woman of child-bearing potential, encourage to use effective contraception for the duration of treatment.
- Explain that duration of treatment will depend on previous treatment, site of disease and extent of drug resistance. Duration may need to be extended depending on response to treatment.
- Educate on the importance of adherence ↗ 195 and risks of further resistance. Educate about treatment side effects ↗ 118 and advise to return promptly should they occur.
- Educate about infection control: cough hygiene, adequate ventilation/open windows, avoid close contact with children/those with HIV. Give surgical mask for use at home if unable to isolate until culture conversion. Advise to avoid sharing a bedroom if possible.
- Encourage the patient to continue breastfeeding (if breastfeeding at time of diagnosis) while on RR-TB treatment and to continue with infection control measures above.
- If pulmonary TB, advise to return to work only when culture conversion occurs (2 consecutive negative culture results done at least 7 days apart) and that s/he should apply for a temporary disability grant. The treating doctor should assist with the application.
- Alert to the risks of smoking ↗ 164 and alcohol/drugs and support patient to change ↗ 199. If patient chooses to continue, advise safe alcohol use ↗ 165 and to continue taking TB medication daily.

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↗ 65

¹ A TB contact refers to a patient who shared an enclosed space (at work, socially, in a hostel, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment.

Treat the patient with RR-TB

If not on RR-TB treatment:

- Start and adjust treatment using steps 1-6 below.
- If previously treated for RR-TB for > 28 days, discuss with lab and request extended phenotypic DST on sputum sample already sent.

If on RR-TB treatment:

- At every visit check outstanding smear, culture and DST¹ results and clinical response to treatment.
- Confirm RR-TB treatment duration. All drugs should be continued throughout treatment unless side-effects/intolerance.
- If started on the short regimen (BPAL-L or BPAL or BDLLfx/C) and the baseline DR-TB reflex test shows resistance to BDQ, LZD, DLM, Pa, the patient is no longer eligible for the short regimen. Present to PCAC/NCAC ↗ 200 for individualised regimen.
- If on high dose isoniazid or terizidone, give ♦pyridoxine 50mg daily until TB treatment completed.

Note: manage the patient with RR-TB at a health facility that has reliable access to RR-TB medications and monitoring equipment available.

Review the patient with RR-TB and once treatment completed

- Assess patient at diagnosis, treatment initiation, 2 weeks, 4 weeks and then every 28 days throughout treatment. Review more frequently, if not improving or any problems.
- Once RR-TB treatment complete:
 - Record treatment outcome ↗ 116.
 - Follow up after 6 and 12 months: check for TB symptoms and send sputum for TB smear and culture. If symptoms, do chest x-ray. Document results in clinical records and electronic treatment register.
 - If TB symptoms, chest x-ray worse or sputum smear/culture result positive, discuss with TB expert/helpline or PCAC/NCAC ↗ 200.

How to start/adjust RR-TB treatment

STEP 1. Decide which RR-TB regimen to give. Does the patient have any of:

- Severe EPTB (TB meningitis/brain tuberculoma, TB spine/bone/joint, miliary/disseminated/pericardial/abdominal/urogenital TB)
- RR-TB with documented drug resistance to BDQ, LZD, Pa or DLM
- Hb < 8, neutrophils < 0.75, platelets < 50
- Close contact of a confirmed BDQ resistant patient

Yes
Discuss with PCAC/
NCAC ↗ 200
same day to start
individualised
regimen.

No
Is patient pregnant?

Yes: choose ▶BDQ + DLM + LZD + LFX + CFZ (BDLLfx/C) and discuss
with specialist and inform the NCAC.

No: choose ▶BDQ + Pa + LZD + LFX (BPAL-L).

STEP 2. Dose RR-TB medication according to chosen regimen, weight and eGFR ↗ 117.

STEP 3. Decide likely RR-TB treatment duration according to RR-TB regimen and TB disease severity

Is the patient on individualised regimen?

No
Does the patient have extensive pulmonary disease: bilateral cavities with fibrosis/scarring or cavities in ≥ 3 lung zones on chest x-ray?

Yes: plan to treat for **extensive TB disease** for at least 9 months.

No: plan to treat for at least 6 months.

Yes
Plan to treat for at
least 18 months.

BDQ - bedaquiline; CFZ - clofazimine; DLM - delamanid; LFX - levofloxacin; LZD - linezolid; Pa - pretomanid; BPAL - bedaquiline, pretomanid, linezolid; BPAL-L - bedaquiline, pretomanid, linezolid, levofloxacin, BDLLfx/C - bedaquiline, delamanid, linezolid, levofloxacin, clofazimine

STEP 4. Review outstanding genotypic DST results (XDR cartridge) and tNGS results and adjust treatment regimen at 2 week follow-up visit:

Is there any of: result discordant¹ or result heteroresistant²?

No
Check tNGS results. Is there resistance to BDQ or LZD?

Yes

- Discuss discordant/heteroresistant results with the lab.
- Send new sputum sample for DR-TB: reflex DST testing if requested by the lab.
- Continue current treatment and present to PCAC/NCAC ↗ 200.

Unsuccessful

Also check genotypic DST results and discuss with PCAC/NCAC ↗ 200.

Test unsuccessful or no resistance: Continue current RR-TB treatment.

No
Check genotypic DST results. Is there resistance to any of: isoniazid, fluoroquinolones, ethionamide or amikacin?

Yes to any of above.
Is the patient on individualised regimen?

Yes
Check if resistance to any of: isoniazid, fluoroquinolones, ethionamide or amikacin?

Discuss with PCAC/NCAC ↗ 200 same day to switch to/change individualised regimen.

Yes
Discuss with TB expert/helpline or PCAC/NCAC ↗ 200 same day.

No
Patient on BPAL-L or pregnant on BDLLfx/C
Is there fluoroquinolone resistance?

Yes
• Stop levofloxacin:
- If not pregnant, continue ▶BPAL.
- If pregnant, continue ▶BDLC.

No
• If not pregnant, continue ▶BPAL-L.
• If pregnant, continue ▶BDLL and stop clofazimine.

STEP 5. Review culture and phenotypic DST results every 1-2 weeks until results confirmed:

If initial culture negative, send new sample for DR-TB reflex DST testing. If resistance to BDQ, LZD, Pa present to PCAC/NCAC ↗ 200 to discuss treatment regimen.

STEP 6. Review clinical condition and sputum results monthly:

At the end month 4: review the month 3 culture result

Month 3 culture negative

Month 3 culture positive

Clinically improving

Clinically not improving

Continue with treatment regimen

- Assess adherence ↗ 195 and side effects ↗ 118.
- Optimise management of long-term conditions: if HIV ↗ 126, if diabetes ↗ 145, if hypertension ↗ 149.
- Review all previous sputum results and confirm BDQ and LZD sensitivity.
- Request extended phenotypic DST on latest culture positive specimen.
- Arrange and review chest x-ray.

If on BPAL/BPAL-L/BDLC/BDLL

- Consider possible treatment failure.
- Consider extending treatment or changing to individualised long regimen: present to PCAC/NCAC ↗ 200.

If on individualised long regimen:

- Consider possible treatment failure
- Consider changing to rescue regimen: present to PCAC/NCAC ↗ 200.

BDQ - bedaquiline; CFZ - clofazimine; DLM - delamanid; LFX - levofloxacin; LZD - linezolid; Pa - pretomanid; BPAL - bedaquiline, pretomanid, linezolid; BPAL-L - bedaquiline, pretomanid, linezolid, levofloxacin; BDLC - bedaquiline, delamanid, linezolid, clofazimine; BDLL - bedaquiline, delamanid, linezolid, levofloxacin

¹Discordance refers to instance where TB NAAT result is rifampicin-resistant and DST result is rifampicin-sensitive. ²Heteroresistance refers to both rifampicin-sensitive and rifampicin-resistant strains of TB in the same sputum sample.

Decide on treatment outcome

Record treatment outcome based on minimum treatment duration for RR-TB regimen, culture conversion, number of consecutive negative cultures and clinical response

First, check minimum treatment duration for RR-TB regimen:

If on BPaL-L/BPaL (or pregnant on BDLC/BDLL), and clinically well, minimum treatment duration is **6 months** (ensure patient received all 168 doses).

If extensive lung disease¹/slow clinical response² at the end of month 4 or month 3 smear/culture positive, minimum treatment duration is **9 months**.

If on individualised regimen, minimum treatment duration is **18 months**.

Was RR-TB treatment terminated or ≥ 2 medications changed in the regimen due to any of: slow clinical response², side effects to treatment or additional drug resistance to medicines in regimen?

No

Yes

Has the patient completed TB treatment within minimum time frame?

Yes

No

Are there ≥ 2 consecutive negative cultures, done at least 7 days apart (culture conversion) with no reversion³

Yes

No

Is there at least 3 negative cultures during the entire duration of treatment?

Yes

No

Was the patient clinically diagnosed with no bacteriological confirmation?

Yes

No

- If clinically well, document as **cured**.
- If no/slow clinical response², discuss with TB expert/helpline ↪ 200.

- If clinically well, document as **treatment completed**.
- If no/slow clinical response², discuss with TB expert/helpline ↪ 200.

- If clinically well and no clinical evidence of treatment failure, document as **treatment completed**.
- If no/slow clinical response² discuss with TB expert/helpline or PCAC/NCAC ↪ 200.

If no clinical improvement, no culture conversion or culture reversion, document as **treatment failure**.

- If interrupted treatment for ≥ 2 consecutive months from the last TB treatment taken, document as **loss to follow up**.
- If died for any reason while taking treatment, document as **died**.

- Document this treatment episode as **treatment failure** and register new treatment episode for amended regimen.
- If started on shorter regimen and later picked up on baseline sample that patient needs individualised long regimen, avoid capturing as treatment failure. De-register from shorter regimen and register and capture outcome for individualised regimen.

If none of the above, check if other outcome:

- 'Moved': referred from one facility to another within same district: treatment outcome to be captured at new facility.
- 'Transferred out': referred from one facility to another in a different district, province or country: treatment outcome to be captured at new facility.

BDQ - bedaquiline; CFZ - clofazimine; DLM - delamanid; LFX - levofloxacin; LZD - linezolid; Pa - pretomanid; BPaL - bedaquiline, pretomanid, linezolid; BPaL-L- bedaquiline, pretomanid, linezolid, levofloxacin, BDLC - bedaquiline, delamanid, linezolid, clofazimine, BDLL - bedaquiline, delamanid, linezolid, levofloxacin

¹Extensive lung disease: chest x-ray shows bilateral cavities with fibrosis, scarring or cavities in ≥ 3 lung zones. ²No/slow clinical response: poor weight gain, ongoing TB symptoms, poor improvement on chest x-ray. ³Bacteriological reversion: where at least 2 consecutive cultures taken on different occasions at least 7 days apart, are positive either after culture conversion or in patients that did not have bacteriologically confirmed TB at start of treatment.

Dose RR-TB medications according to weight

Medication	Daily dose				Note
	30-35kg	36-45kg	46-70kg	> 70kg	
►Bedaquiline (BDQ)	Bedaquiline dosing for all patients initiating BPAL/BPAL-L/BDLC/BDLL or individualised regimen: • Loading dose: 400mg daily for first 2 weeks • Then 100mg daily until treatment completed				• If already on BPAL/BPAL-L/BDLC/BDLL with loading dose of 200mg daily for 8 weeks, continue. • If already on individualised regimen with bedaquiline dosing 200mg 3 days per week (M/W/F), continue. • If previous cardiac ventricular arrhythmias, severe coronary artery disease, known or family history of prolonged QT syndrome, previous intolerance to bedaquiline, or on other QT-prolonging medications¹, discuss with PCAC/NCAC ↗ 200. • If interrupted treatment after initial 2 weeks loading phase (in any regimen): - If interrupted < 1 week: no reloading needed. Continue 100mg daily. - If interrupted 1-4 weeks, reload with 400mg daily for 3 days then continue with 100mg daily. - If interrupted 4-26 weeks, reload with 400mg daily for 7 days then continue with 100mg daily. - If interrupted ≥ 26 weeks, reload with 400mg daily for 14 days then continue with 100mg daily. • If eGFR < 30, present to PCAC/NCAC ↗ 200.
►Pretomanid (Pa)	200mg				Currently only used as part of BPAL-L/BPAL.
►Linezolid (LZD)	300mg	450mg ²	600mg	600mg	Avoid starting/stop if Hb < 8, neutrophils < 0.75 or platelets < 50: discuss instead with PCAC/NCAC ↗ 200.
►Levofloxacin ³ (LFX)	750mg	750mg	1000mg	1000mg	If eGFR < 30, give dose 3 days a week (Mon/Wed/Fri).
►Clofazimine (CFZ)	100mg	100mg	100mg	100mg	If on other QT-prolonging medications ¹ , discuss with PCAC/NCAC ↗ 200.
►Isoniazid	High dose (hdINH)	450mg	450mg	600mg	• If TB meningitis or brain tuberculoma, increase dose to 15mg/kg. • If phenotypic DST confirms sensitivity to INH, reduce high dose INH to normal dose INH.
	Normal dose (INH)	300mg	300mg	300mg	
►Pyrazinamide (Z)	1250mg	1500mg	1500mg	2000mg	If eGFR < 30, give 25-35mg/kg per dose 3 days a week (Mon/Wed/Fri).
►Ethambutol (E)	800mg	800mg	1200mg	1600mg	If eGFR < 30, give 15-25mg/kg per dose 3 days a week (Mon/Wed/Fri).
►Terizidone (TRD)	500mg	500mg	750mg	750mg	• If previous psychosis, avoid terizidone and present to PCAC/NCAC ↗ 200. Start other medications while awaiting response from PCAC/NCAC. • If eGFR < 30, give 250mg daily or give 500mg 3 days per week (Mon/Wed/Fri).
►Delamanid (DLM)	50mg 12 hourly	50mg 12 hourly	100mg 12 hourly	100mg 12 hourly	If eGFR < 30, present to PCAC/NCAC ↗ 200.
►Para-aminosalicylic acid (PAS)	4g 12 hourly	4g 12 hourly	4g 12 hourly	4-6g 12 hourly	If eGFR < 30, maximum 4g 12 hourly.
►Ethionamide (ETO)	500mg	500mg	750mg	1000mg	-
►Moxifloxacin (MFX)	Normal dose	400mg	400mg	400mg	If on other QT-prolonging medications ¹ , discuss with PCAC/NCAC ↗ 200.
	High dose	400-600mg	600mg	800mg	
►Amikacin (Am)	625mg	750mg	750-1000mg	1000mg	• Ensure audiometry (hearing test) done at baseline and then monthly. • If eGFR < 30, avoid.
►Rifabutin (RBT)	300mg	300mg	300mg	300mg	• Give for 6 months if heteroresistance confirmed by laboratory in consultation with TB expert/helpline or PCAC/NCAC ↗ 200. • If on lopinavir or atazanavir, reduce rifabutin dose to 150mg daily.

BPAL - bedaquiline, pretomanid, linezolid; BPAL-L- bedaquiline, pretomanid, linezolid, levofloxacin, BDLC - bedaquiline, delamanid, linezolid, clofazimine, BDLL - bedaquiline, delamanid, linezolid, levofloxacin

¹Medications that may prolong QT interval include anti-arrhythmics, tricyclic antidepressants, antipsychotics and chlorphenamine. Consult the South African Medicines Formulary (SAMF) or crediblemeds at www.crediblemeds.org to check medications that prolong QT interval. ²Crush 1 x ►linezolid 600mg tablet in 10mL of water, give 7.5mL and discard the rest. ³If levofloxacin shortage, moxifloxacin must be used.

Look for and manage RR-TB treatment side effects

Report adverse events on EDRWeb and to SAHPRA via EDRWeb.

Side effect		TB medication likely to cause side effect	Management: consult latest NDoH guideline or discuss with PCAC/NCAC.
Chest pain, palpitations		Bedaquiline, clofazimine, delamanid, moxifloxacin, linezolid	Do Hb and ECG and discuss with PCAC/NCAC ↗ 200 same day.
Faintness			
Dizziness		Bedaquiline, clofazimine, delamanid, moxifloxacin, linezolid, amikacin	- Do Hb and ECG and discuss with PCAC/NCAC ↗ 200 same day. - If on amikacin, stop amikacin and present to PCAC/NCAC ↗ 200 for medication substitution¹.
Jaundice		Most RR-TB medications	Stop all medications and refer same day.
Nausea, vomiting, abdominal pain		Most RR-TB medications	- Check ALT and review result within 24 hours: - If ALT > 120, stop all medications and refer same day. - If ALT 50-120, doctor to assess for possible causes, consider interrupting treatment and repeat ALT within 1 week. If unsure, discuss with specialist. - If nausea/vomiting: - Reassure that this usually improves after a few weeks. - Advise to eat a non-fatty meal before taking medication. - If no better, give ▶metoclopramide 10mg to take 30 minutes before taking RR-TB medication. - If still no better: if on ethionamide, give in divided doses; if on PAS, doctor to consider giving full dose at night.
Skin rash/itch		Most RR-TB medications	Assess and manage ↗ 82.
Seizures		Terizidone, levofloxacin, high dose INH	Manage seizure ↗ 20 and refer same day.
Psychosis		Terizidone, high dose INH, levofloxacin, ethionamide	Manage psychosis ↗ 36 and discuss/refer same day.
Change in vision	Change in visual acuity or colour vision	Linezolid, ethambutol	- Stop linezolid and ethambutol and refer to eye specialist same day. - Discuss possible medication substitution¹ with PCAC/NCAC ↗ 200.
	Painful/red eyes, blurred vision, sensitive to light	Rifabutin	Stop rifabutin and refer to eye specialist same day.
Hearing loss/ringing in ears		Amikacin	Stop amikacin and discuss possible medication substitution ¹ with PCAC/NCAC ↗ 200.
Diarrhoea		Ethionamide, PAS, delamanid, bedaquiline, linezolid	- Reassure that this usually improves and advise to increase fluid intake. - Assess further ↗ 58. Give ♦loperamide 4mg initially, then 2mg after each loose stool, up to maximum dose². - If severe and not resolving, discuss with PCAC/NCAC ↗ 200. Consider taking blood for sodium, potassium and creatinine.
Joint pain		Pyrazinamide, levofloxacin, delamanid, bedaquiline	- Give ♦ibuprofen 400mg 8 hourly as needed with/after food for up to 5 days (avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease, pregnant). - If available, refer for physiotherapy. If no improvement, discuss with PCAC/NCAC ↗ 200.
Pain/numbness of feet		Terizidone, high dose INH, linezolid	Peripheral neuropathy likely, discuss with PCAC/NCAC ↗ 200.
Headaches		Linezolid, delamanid, bedaquiline	- Give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) as needed for up to 5 days. - Exclude meningitis and other cause of headache ↗ 47.
Skin darkening		Clofazimine	Reassure that this will improve after treatment completed. Advise to limit exposure to sunlight to reduce hyperpigmentation.
Low mood or anxiety		Terizidone, high dose isoniazid	Assess low mood or anxiety ↗ 98. If antidepressant started, avoid amitriptyline (prolongs QT interval).
Dry skin		Clofazimine	- Wash with ♦aqueous cream (♦UEA) instead of soap. Avoid using aqueous cream as moisturiser (emollient). - Moisturise skin with ♦emulsifying ointment (♦UE) twice a day.

¹Continue other medications while awaiting response from PCAC/NCAC. ²Maximum dose: 10mg (34-39kg), 12mg (40-46kg), 14mg (47-53kg), 16mg (≥ 54kg).

HIV: PRE-EXPOSURE PROPHYLAXIS (PREP)

If HIV negative, sexually active patient requests HIV PrEP or is at high risk of HIV infection (see below), offer Pre-Exposure Prophylaxis (PrEP) to prevent HIV infection. If exposed to infectious fluid (blood, blood-stained fluid, vaginal fluid or semen) in the last 72 hours, assess need for post-exposure prophylaxis (PEP) instead → 122.

Assess need for PrEP

Patient requests PrEP

- Patient has sex without a condom
- Patient has sex with more than one partner
- Patient has sex while using alcohol/drugs

- Patient at high risk of HIV infection if any of:
- Patient has sex with an HIV-positive partner (especially if partner not on ART/not virally suppressed)
 - Patient has sex with a partner/s whose HIV status is unknown

- Patient has a partner who is more than 5 years older than him/her
- Patient recently or frequently diagnosed with STI

Yes to one or more

No to all of above

Explain that patient is at high risk for HIV infection and would benefit from PrEP. Continue to assess and advise below:

- Explain that patient is at low risk for HIV infection. Encourage safe sex: use condoms reliably and have only 1 partner at a time.
- Offer referral for medical male circumcision. Encourage prompt treatment of STIs for patient and partner.
- Advise patient and partner to re-test for HIV every 6-12 months.
- Educate about availability of PrEP to prevent HIV. If patient interested in starting PrEP continue below:

Advise and assess eligibility of the patient needing or requesting HIV PrEP

- Explain HIV PrEP: Oral PrEP is two medications in one tablet and needs to be taken every day. LEN PrEP is two tablets together with two injections given into the skin every 6 months. Both help to prevent HIV negative people from getting HIV.
- Advise that HIV PrEP should be used together with other prevention methods (condoms, lubricants, male circumcision and contraception).
- Explain that regular HIV testing is needed: test for HIV before starting PrEP, after 1 month and then every 3 months (oral PrEP) or every 6 months (LEN PrEP).
- Reassure patient that both oral PrEP and LEN PrEP are safe in pregnancy and breastfeeding.

Is patient willing and ready to start HIV PrEP, to adhere to medication and to return for follow-up visits and HIV tests every 3 months (oral PrEP) or every 6 months (LEN PrEP)?

Yes: test for HIV → 124 (if not already done at this visit). Manage according to result:

HIV negative

Was patient at risk of HIV infection in the past 6 weeks (new or multiple sexual partner/s, or unprotected sex)?

No

Yes

Does patient have any of: unwell, poor appetite, body pain, headache, sore throat, enlarged tender lymph nodes, rash, fever, sweating?

No

Acute HIV infection unlikely

Yes

Acute HIV infection possible

- If < 35kg or on medications that affect the kidneys (e.g. amikacin, gentamicin), discuss with doctor or HIV hotline → 200.
- If history of kidney disease, do creatinine before starting PrEP. Await results: if eGFR < 60, avoid starting oral PrEP. If eGFR < 15 avoid starting LEN PrEP.
- If none of above, continue to assess for and start HIV PrEP same day (no need to await blood results) → 120.

- Manage as on symptom pages.
- Repeat HIV test after 4 weeks.
- Delay giving HIV PrEP until confirmed HIV negative at 4 weeks.

HIV positive

- Avoid giving HIV PrEP.
- Explain the benefits of starting ART.
- Give routine HIV care → 126.

- No
- Encourage patient to follow safe sex practices.
 - Advise patient and partner to test regularly for HIV (at least 6 monthly).
 - Advise patient to return once willing and ready to start HIV PrEP.

HIV PRE-EXPOSURE PROPHYLAXIS (PREP): ROUTINE CARE

Assess the patient starting HIV PrEP at baseline, within 28 days, then 3 monthly (oral PrEP) or 6 monthly (LEN PrEP).

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom pages. If cough or fever ≥ 2 weeks, unexplained weight loss or night sweats, exclude TB → 102.
STI symptoms	Every visit	Screen for STIs. If discharge, rash, itch, lump/s, ulcer/s → 62.
Adherence	Every visit	Ask about pill taking pattern and missed doses. If difficulty with adherence → 195. If possible, align HIV PrEP visit with other visits (e.g. contraceptive visits).
Side effects	Every visit	Ask about side effects of medication (see below). Reassure these usually resolve within a few weeks.
Substance use	Every visit	In the past year, has patient: drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165.
Sexual health	Every visit	If risky sexual behaviour: new or multiple partner/s, uses condoms unreliably, has sex under influence of alcohol/drugs, give safe sex advice.
Drug interactions	Every visit	Review other medications that patient may be on: • Avoid starting LEN PrEP if using rifabutin, rifampicin, rifapentine, antiseizure medication (carbamazepine, phenytoin), ketamine or medicines used for erectile dysfunction e.g. sildenafil. • Avoid starting oral PrEP if using medications that affect the kidneys (e.g. amikacin, gentamicin).
Family planning	Every visit	Check for pregnancy → 174. Assess patient's contraceptive needs → 170. There are no interactions between HIV PrEP and hormonal contraception.
HIV test	Baseline ² , at 1 month, then 3 monthly (oral PrEP) or 6 monthly (LEN PrEP)	If positive, stop HIV PrEP and give routine HIV care → 126. If negative, continue HIV PrEP.
HBsAg	Baseline if using oral PrEP	If positive, continue oral PrEP, and refer. If negative, continue oral PrEP, consider giving hepatitis B vaccine → 135.
Creatinine (eGFR)	• At baseline: - If using oral PrEP - If using LEN PrEP and ≥ 50 years • For both: - If diabetes/hypertension: baseline then yearly - If pregnant: baseline, at 3 and 6 months.	• If using oral PrEP and not pregnant: - If eGFR < 30, refer same day. If eGFR < 60, stop PrEP and repeat eGFR after two weeks. - If repeat eGFR ≥ 60, continue PrEP. If repeat eGFR still < 60, discuss with experienced ART clinician or HIV hotline → 200. • If using LEN PrEP and not pregnant: - If eGFR < 15, refer same day. If eGFR ≥ 15, continue LEN PrEP. • If pregnant: if creatinine > 85, repeat creatinine on a separate day: if repeat creatinine ≤ 85, continue PrEP. - If repeat creatinine still > 85, stop PrEP and discuss with experienced ART clinician or HIV hotline → 200.
Syphilis	At baseline	Test for syphilis → 66.

Advise the patient starting/on HIV PrEP

- Advise that HIV PrEP can be started and stopped according to risk. Discuss with nurse/doctor before stopping. Advise patient that HIV PrEP is not treatment for HIV and to avoid sharing medication.
- Emphasise that HIV PrEP does not prevent pregnancy or other STIs. Advise to avoid unprotected sex. Encourage reliable use of condoms and supply male and female condoms and lubricants. Offer referral for male circumcision. Explain the need for regular HIV testing and advise partner/s to test for HIV. Help patient to plan and set goals for behaviour changes that may reduce his/her risk.
- Support adherence, encourage patient to identify friends/family who can support adherence. Refer patient to local/online support group or adherence club, if available.

Continue to treat the patient starting/on HIV PrEP → 121.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²If starting PrEP is delayed, repeat HIV test on same day that PrEP is started → 124.

Treat the patient starting/on HIV PrEP
Complete PrEP Clinical Form at each visit.

Medication	Dose	When to avoid	Notes	Side effects
◆ Tenofovir/emtricitabine	300/200mg once daily	Avoid if < 35kg or eGFR < 60	- Effective after taking it for at least 7 days. Ensure condom use, especially for first 7 days. - If starting, give medication for 1 month. If already on HIV PrEP, give medication for 3 months. - Advise that oral PrEP must be taken every day for it to be effective in preventing HIV infection. - If missed pill, advise to take it as soon as patient remembers (within 24 hours) and not to take more than 1 pill in one day.	- Side effects: nausea, headache, tiredness, diarrhoea, vomiting, rash, changes in appetite. - Urgent side effects: kidney failure
◆ Lenacapavir	Initiation: - Day 1: give 2 x 464mg SC injections PLUS 2 x 300mg oral tablets. - Day 2: take 2 x 300mg oral tablets at home. Continuation: give 2 x 464mg SC injections every 26 weeks (6 monthly)	Avoid if < 35kg or eGFR < 15	- Effective against HIV on day 3. Ensure condom use, especially for first 2 days. - Advise that LEN PrEP requires 6-monthly injections to be effective. - If a patient stops LEN PrEP, start oral PrEP within 28 weeks of last injection or use condoms reliably for 6 months to prevent drug resistance¹. - Continuation dose may be given 2 weeks before or up to 2 weeks after last injection. If missed injection: - If 24-28 weeks since last injection, give continuation dose. - If > 28 weeks since last injection restart initiation dosing. - If a patient starts rifampicin while using LEN, repeat the initiation dosing (the day 1 injections plus oral tablets and the day 2 oral tablets) 2 days after starting rifampicin, continue scheduled doses. If unsure discuss with doctor/HIV hotline ↗ 200.	Side effects: nodules, pain, swelling or redness at injection site common. Advise to alternate injection site at every visit: abdomen (preferred), thigh, back of upper arm or buttocks

Review after 1 month, or sooner if side effects develop. Then review 3 monthly if oral PrEP and 6 monthly if LEN PrEP.
Repeat HIV test and provide PrEP medication at each visit.

Decide when to stop HIV PrEP

If patient is no longer at risk of HIV and wishes to stop PrEP, plan with patient to stop:

- If patient on oral PrEP, stop at least 7 days after last potential HIV exposure. If HBsAg positive, avoid stopping oral PrEP and refer instead.
- If patient on LEN PrEP, advise to start oral PrEP within 28 weeks of last injection or use condoms reliably and continue for up to 6 months to prevent drug resistance¹.

¹LEN PrEP offers protection from HIV for up to 6 months, but remains in the body at low levels for up to 12 months after last injection. If patient is infected with HIV during this time, they are at risk for developing drug resistance.

HIV: POST-EXPOSURE PROPHYLAXIS (PEP)

Body fluids transmit infection through sexual exposure (rape/sexual assault or consensual sex, burst condom), occupational or non-occupational exposure (sharps injury, splash to eye, mouth, nose or broken skin), sharing needles, contact with used condom and exposure to blood. Tears, saliva (non-bloodstained), sweat, urine and stool are considered non-infectious fluids.

Give urgent attention to the patient exposed to infectious fluid. Does patient have either of:

- Exposure to blood, blood-stained fluid/tissue, pleural/pericardial/peritoneal/amniotic/synovial/cerebrospinal fluid, vaginal secretions, semen or breast milk
- Human bite severe enough to cause bleeding

Yes: was there sexual contact, sharps injury, splash to eye/open wound/mouth/nose?

No

Yes: STEP 1. Give exposed patient immediate attention:

- If broken skin, clean area immediately with soap and water.
- If splash to eye, mouth or nose, immediately rinse mouth/nose or irrigate eye thoroughly with sterile water.

No

STEP 2. Assess need for HIV PEP and give immediately if ≤ 72 hours since exposure. Check HIV status:

Patient known
HIV positive

Patient HIV negative or unknown: obtain consent and do HIV rapid test → 124.

Positive

Negative

Results inconclusive

Patient refuses HIV rapid test

Avoid giving HIV PEP, give instead
routine HIV care → 126.

Give HIV PEP¹ only if ≤ 72 hours since exposure (ideally within 1 hour) for 28 days:

- Give ♦TDF 300mg + ♦3TC 300mg + ♦DTG 50mg once daily for 28 days as a fixed combination tablet (TLD). If kidney disease, give instead ♦AZT 300mg + ♦3TC 150mg 12 hourly *plus* ♦DTG 50mg once daily².
- Check for medication interactions and adjust doses if needed → 133, especially TB, antiseizure medication, contraceptives and other common medications like: calcium, iron, zinc, antacids, metformin.
- If source is failing 2nd line ART, discuss PEP with HIV hotline → 200.

- If human bite severe enough to cause bleeding, prevent hepatitis B only. Risk of HIV transmission is negligible and there is no need for HIV PEP.
- For all other exposures, reassure that HIV and hepatitis transmission is unlikely, avoid giving PEP.
- If unsure, discuss with HIV hotline → 200 or specialist.

STEP 3. Take blood from exposed patient: Do HIV ELISA, unless known HIV positive. If giving TDF, do creatinine (eGFR). If giving AZT, do FBC.

Send blood for HBsAb titre (unless documented HBsAb titre ≥ 10).

If source hepatitis C positive/unknown, do hepatitis C antibody. If source RPR positive/unknown, test for syphilis → 66.

STEP 4. Take blood from source if possible and if source consents:

- Do rapid HIV test and send blood for HIV ELISA, HBsAg and hepatitis C antibody. If human bite, only do HBsAg. Also test for syphilis → 66.
- If source HIV rapid negative, no need to continue PEP unless signs of acute HIV infection (history of flu-like symptoms - fever, sore throat, headache). If unsure, discuss PEP with HIV hotline → 200.

STEP 5. Give hepatitis B PEP if needed:

If exposed patient unvaccinated, vaccinations incomplete or HBsAb titre < 10, give 1st dose of ♦hepatitis B vaccine 1mL IM within 7 days if sharps injury or within 14 days if sexual exposure. Also give ►hepatitis B immunoglobulin (HBIG)³ 500IU IM as soon as possible, within 7 days of exposure.

STEP 6. Continue to assess and manage the patient:

If sexual assault → 32. If emergency contraception needed → 170. Record correct contact details in case of abnormal results. Review patient and blood results within 3 days → 123.

AZT – zidovudine; DTG – dolutegravir; FTC – emtricitabine; TDF – tenofovir; 3TC – lamivudine; HBsAg – Hepatitis B surface antigen; HBsAbs – Hepatitis B surface antibody

¹Advise patient on possible side effects of HIV PEP and to return promptly if they occur. Advise condom use. ²If dolutegravir not tolerated or contraindicated, give instead ♦atazanavir 300mg + ♦ritonavir 100mg once daily or ♦lopinavir 400mg + ♦ritonavir 100mg 12 hourly. ³If giving both hepatitis B vaccine and immunoglobulin, give at different sites.

REVIEW THE PATIENT ON POST-EXPOSURE PROPHYLAXIS (PEP)

Review patient at 2 weeks, 6 weeks and 4 months

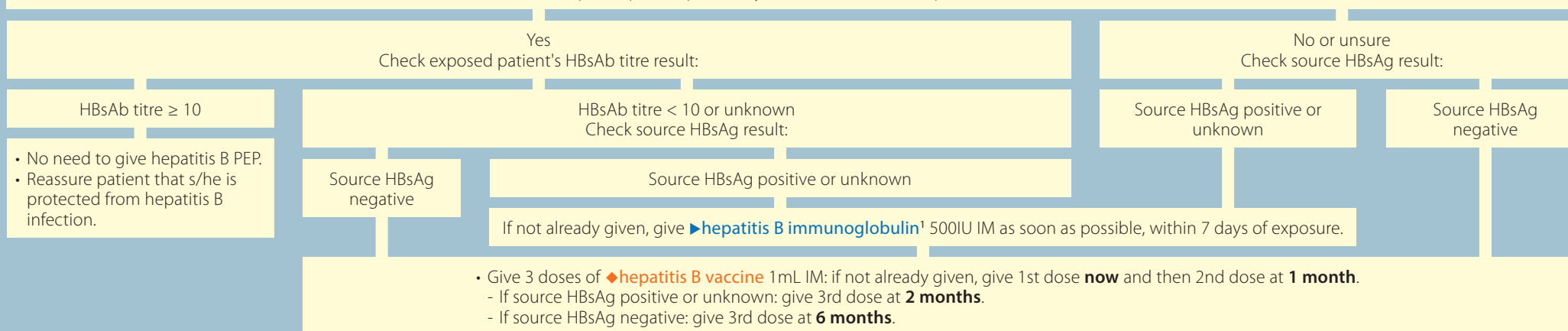
- Check all baseline results within 3 days and recall patient if abnormal results.
- Check adherence and ask about side effects from HIV PEP ↗ 131. Advise patient of side effects and to return promptly if they occur. Advise patient to use condoms for 4 months until results confirmed.
- If sexual assault ↗ 32. If human bite severe enough to cause bleeding, only repeat HBsAg at 4 month follow up. No need to do other blood tests.

Assess	When to do/repeat	Note
HIV rapid test	If previous result negative, repeat at 6 weeks and 4 months	• Test for HIV ↗ 124. • If HIV negative, assess the need for PrEP ↗ 119. If HIV positive, give routine HIV care ↗ 126.
HIV ELISA	If previous result negative, repeat at 6 weeks and 4 months	If positive, give HIV routine care ↗ 126.
Hepatitis B surface antigen (HBsAg)	If previous result negative, repeat at 4 months	• If positive, refer and avoid giving further hepatitis B prophylaxis. • If negative, continue to give hepatitis B prophylaxis below.
Hepatitis C antibody	If source patient hepatitis C antibody positive/unknown: check baseline result	If positive, refer. If negative, do hepatitis C PCR at 6 weeks.
Hepatitis C PCR	If exposed patient is hepatitis C antibody negative: do at 6 weeks	If positive, refer.
Syphilis	If sexual exposure: repeat at 4 months ↗ 66	If positive ↗ 67.
Creatinine (eGFR) result	If on TDF: repeat at 2 weeks	If eGFR ≤ 50, stop TDF + 3TC (or TDF + FTC), give instead ♦AZT 300mg + ♦3TC 150mg 12 hourly and continue ♦DTG. Check FBC and differential count.
FBC	If on AZT: repeat at 2 weeks	If Hb ≤ 8 discuss with HIV hotline ↗ 200.
Source blood results (if done)	-	• If source HIV ELISA negative, discuss if HIV PEP needs to be continued with HIV hotline ↗ 200. • If any of source tests positive, manage source further.

AZT – zidovudine; FTC – emtricitabine; TDF – tenofovir; 3TC – lamivudine.

Continue to give hepatitis B prophylaxis according to vaccination status

Has exposed patient previously received 3 doses of hepatitis B vaccine?



¹If giving both hepatitis B vaccine and immunoglobulin, give at different sites. If immunoglobulin not available, refer to secondary care within 7 days but ideally within 24-72 hours after exposure. ²If health worker, repeat HBsAb titre 1-2 months after the last vaccine dose to ensure HBsAb ≥ 10.

HIV: DIAGNOSIS

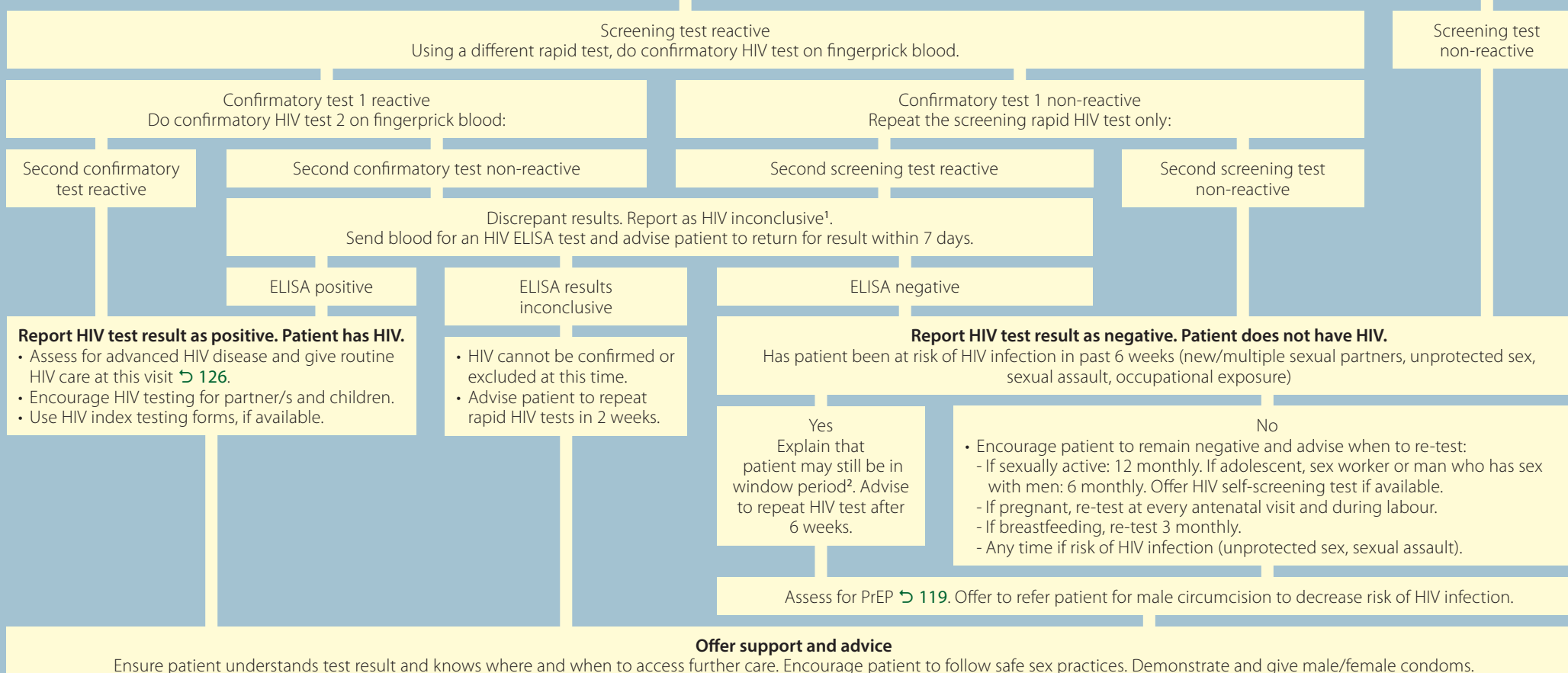
- Encourage patient and his/her partner/s and children to test for HIV.
- If HIV self-screening test done, confirm results with routine tests below.

Obtain informed consent

- Educate about HIV, routes of HIV transmission, risk factors, treatment and benefits of knowing one's HIV status.
- Explain test procedure and that it is completely voluntary.
- Obtain consent (children < 12 years need parental, guardian or caregiver consent). If consent is granted, use the 'three-test kit HIV test' approach:

Do first HIV rapid screening test on fingerprick blood.

If pregnant use dual HIV and syphilis rapid diagnostic test. Interpret syphilis component ➔ 66, interpret HIV component below:



¹If pregnant in labour, manage baby as high-risk until mother's status confirmed. ²The window period is the time between HIV infection and the point when a test can accurately pick up HIV in the blood.

Advanced HIV disease (AHD)

Any patient newly diagnosed or returning to care, may have advanced HIV disease if CD4 cell count ≤ 200 or if WHO clinical stage 3 or 4. Patients with advanced HIV disease may appear well but may deteriorate and remain at higher risk for death. If advanced HIV disease suspected, follow these steps:

Give urgent attention to the patient with any danger signs:

- Respiratory rate ≥ 30
- Breathlessness at rest or while talking
- Unable to walk unaided
- Drowsy/confused
- Seizures
- Pulse rate ≥ 120
- Coughs up ≥ 1 tablespoon of fresh blood
- Aggressive or agitated
- Neck stiffness
- New sudden weakness/numbness or visual disturbance

- Step 1** **If danger signs, manage and refer to hospital for admission**
- If oxygen saturation $< 92\%$, respiratory rate ≥ 30 or difficulty breathing, give face mask oxygen to keep saturation $\geq 92\%$ and **◆ ceftriaxone¹ 1g IV/IM** for suspected **severe pneumonia**.
 - If neck stiffness, drowsy/confused or purple/red rash: **meningitis** likely. Give **◆ ceftriaxone¹ 2g IM**. Avoid injecting $> 1g$ IM at one injection site.
- Step 2** **If hospital admission not needed, identify patients at high-risk of AHD**
- Newly diagnosed
 - On ART with VL > 1000
 - Unstable/clinically unwell
 - Known with opportunistic infection
 - Returning to care after > 90 days, regardless of symptoms
- Step 3** **If starting treatment, assess and treat any HIV-associated conditions**
- Do CD4 count on all patients suspected of AHD to confirm diagnosis. If cryptococcal antigen (CrAg) positive, recall and refer for lumbar puncture. If headache, confusion or pregnant, refer urgently.
 - Do TB-NAAT. Ask about TB symptoms: cough, weight loss, night sweats or fever. If symptomatic, also do urine LAM test **→ 102** and arrange chest X-ray **→ 104**. If generalised lymphadenopathy **→ 42**.
 - If recent hospital admission, known with TB, cryptococcal disease or any opportunistic infection, ensure correct treatment was started.
 - Ask about symptoms of cancer: unexplained weight loss, anal symptoms **→ 61**, abnormal vaginal discharge/bleeding **→ 70**, purple/brown skin lumps **→ 89**.
- Step 4** **Prevent opportunistic infections**
- Provide co-trimoxazole preventive therapy (CPT) **→ 128**. Provide TPT if TB has been excluded and patient never had TPT. If patient is a TB contact, give TPT even if already had TPT **→ 100**.
- Step 5** **Provide ART**
- Start ART same day unless TB/cryptococcal disease. Check if reason to delay ART **→ 130**. If using metformin, antiseizure medication or already on TB treatment, check for drug interactions **→ 133**.
 - If already on ART and VL ≥ 50 , manage the patient with an unsuppressed viral load **→ 134**.
- Step 6** **Provide other care**
- Ensure patient is receiving routine care for all other long-term health conditions. Support patient to use medications correctly.
 - Align other visits such as TB treatment visit with HIV routine care visit, if possible.
- Step 7** **Provide adherence support**
- Offer intensified adherence support. Patients with AHD and other infections/long-term health conditions may struggle with increased pill burden, medication side-effects or difficulty attending multiple clinic visits. Counsel about IRIS², warning signs, medication side-effects and when to return to clinic. Involve patient's family/support person in treatment and follow-up plan.
- Step 8** **Ensure continuity of care between hospital and clinic**
- Patients with AHD have an increased risk of complications and death. Follow the hospital discharge plan and ensure hospital follow-up appointments are attended. Maintain a low threshold to refer back to hospital for re-admission if patient deteriorates clinically.
- Step 9** **Provide intensified follow up**
- Patients with AHD need to be reviewed more frequently for the first 3 months. Review *two-weekly* if recent hospital admission, opportunistic infection, limited family/social support. Review monthly if clinically well, difficulties in getting to clinic, good family/social support. These can include telephonic check-in or CHW home visits. Ensure correct contact details and plan for follow up recorded.

Continue to provide routine care **→ 126**

¹If severe penicillin allergy (previous angioedema, anaphylaxis or urticaria), discuss with doctor. Do not mix Ringer's lactate and IV ceftriaxone. ²Immune Reconstitution Inflammatory Syndrome (IRIS) occurs when the immune system begins to recover after starting/restarting ART. As the immune system gets stronger it might start fighting infections already in the body. IRIS is not drug side effects, it is not a reason to stop/change ART. Counsel patient if feeling worse/new symptoms (cough, fever, headache, losing weight, skin changes), to not stop medication but to return to clinic, even if it is not their appointment date.

HIV: ROUTINE CARE

Assess the patient with HIV

Assess	When to assess	Note
Symptoms	Every visit	Manage patient's symptoms as on symptom pages. If genital discharge/ulcer or partner has been treated for an STI in the past 8 weeks, manage for STI → 62. If <i>unexplained weight loss</i> → 37; if <i>anal symptoms</i> → 61; if <i>abnormal vaginal discharge/bleeding</i> → 70; if <i>purple/brown skin lumps</i> → 89; if <i>generalised lymphadenopathy</i> → 42.
TB	Every visit	- Ask about TB symptoms at every visit: if cough, weight loss, night sweats or fever, test for TB → 102. - Also send 1 sputum sample for TB NAAT: at HIV diagnosis, yearly with VL tests and any time patient is a close TB contact¹.
Adherence	Every visit	Check record of adherence to treatment and facility visits. If difficulty with adherence, give adherence support → 195.
Side effects	Every visit	- Ask about side effects from ART → 131, TB preventive treatment (TPT) → 100, co-trimoxazole preventive therapy (CPT) and fluconazole → 128. - If suspected adverse drug reaction, report via the MedSafety app or fill form and submit to pharmacist, or email to adr@sahpra.org.za.
Mental health	Every visit	If stress, anxiety or low mood → 98.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ² /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
Family planning	Every visit	- If woman of child bearing potential, if missed period and not on reliable contraception, do pregnancy test → 174. If planning pregnancy → 173. - Assess patient's contraceptive needs → 170. Align contraception visit with HIV routine care visit, if possible. - If not on DTG-based regimen, assess eligibility to switch to DTG → 132 or adjust contraception to avoid medicine interactions → 133.
Vertical transmission prevention (VTP)	Pregnant/breastfeeding	- If not on ART, start ART same day. If pregnant, also give antenatal care → 177. - If breastfeeding/postpartum, check that HIV-exposed infant has received correct PEP and check PCR results → 186.
Palliative care	If deteriorating	If failing ART and deteriorating, also assess need for palliative care → 191.
Weight	Every visit	- Calculate BMI: BMI = weight (kg) ÷ height (m) ÷ height (m). If BMI < 18.5, refer for nutritional support. If BMI ≥ 25 → 156. - If unintentional weight loss ≥ 5% of body weight in 4 weeks → 37.
Long-term health conditions and CVD risk	At diagnosis	- Check BP: if ≥ 140/90 → 148. If known hypertension, check control → 149. - Check glucose → 19. If known diabetes, check glucose control and adjust doses of metformin if also taking dolutegravir → 145. - If known with epilepsy, check seizure control and for possible medication interactions → 167. - Assess CVD risk → 142. If CVD risk > 20%, start DTG-based regimen and give ♦simvastatin 10mg at night. If known CVD³ give ♦rosuvastatin 10mg daily; if patient develops muscle pain/cramps on rosuvastatin, reduce dose to 5mg daily.
WHO Clinical Stage	Every visit	Before starting ART: check weight, mouth, skin, previous and current problems to determine WHO stage. After starting ART: use WHO stage to assess adherence and response to treatment. If WHO stage 3 or 4 disease develops, start co-trimoxazole → 128 and assess for AHD → 125.

WHO Clinical Stage 1	WHO Clinical Stage 2	WHO Clinical Stage 3	WHO Clinical Stage 4
- No symptoms - Persistent painless swollen glands	- Recurrent sinusitis, tonsillitis, otitis media, pharyngitis - Papular pruritic eruption (PPE) - Fungal nail infections - Chronic/seborrhoeic dermatitis - Herpes zoster (shingles) - Recurrent mouth ulcers - Angular cheilitis/stomatitis - Unexplained weight loss < 10% body weight	- Pulmonary TB within past year - Oral candida - Oral hairy leukoplakia - Unexplained weight loss ≥ 10% body weight or BMI < 18.5 - Unexplained diarrhoea > 1 month - Unexplained fever > 1 month - Severe bacterial infections (pneumonia, meningitis) - Unexplained anaemia < 8, neutropaenia < 0.5 or chronic thrombocytopenia < 50	- Extrapulmonary TB within past year - Weight loss ≥ 10% and diarrhoea or fever > 1 month - Pneumocystis pneumonia (PJP) - Recurrent severe bacterial pneumonia - Herpes simplex of mouth or genital area > 1 month - Oesophageal candida - Widespread non-TB mycobacterial infection - Kaposi's sarcoma, lymphoma, invasive cervical cancer - Cytomegalovirus infection - Toxoplasmosis - HIV-associated dementia, encephalopathy - Cryptococcal disease (including meningitis) - Cryptosporidium or Isospora belli diarrhoea - Symptomatic HIV-associated kidney disease or cardiomyopathy

Continue to assess the patient with HIV → 127

¹A TB contact refers to a patient who shared an enclosed space (at work, socially, in a hostel, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ³Cardiovascular disease includes ischaemic heart disease, peripheral vascular disease and stroke/TIA.

Decide which tests to do

At diagnosis	Starting/ changing ART	After 1 month on ART	After 3 months on ART	After 10 months on ART	6 monthly	Yearly	Also
• Urine: dipstick and pregnancy test¹ • Sputum: TB NAAT • Blood: creatinine, Hb, HBsAg, CD4 (and CrAg² if CD4 < 200) • Cervical screening	• Changing to TDF: creatinine • Changing from TDF: HBsAg • Starting AZT: Hb	AZT: FBC + differential count	• Viral load • TDF: creatinine • AZT: FBC + differential count • ATVr or LPVr or DRVr: fasting total cholesterol, triglycerides	• Viral load • CD4 • TDF: creatinine	Check CD4 if: • Previous CD4 < 200 • Not on ART • Previous VL ≥ 1000	• Viral load • TDF: creatinine • Sputum: TB NAAT	• Check viral load more often if: - Pregnant: at 1st antenatal visit and delivery - Breastfeeding: 6 monthly - RR-TB: 6 monthly • Cervical screen 5 yearly

Review results: Results do not have to be available to start ART same day. Record correct contact details in case of abnormal results to recall patient.

Urine dipstick	-	• If proteinuria, check creatinine (eGFR). Interpret result below. If pregnant, recheck urine dipstick, do BP and manage further ↗ 178. • If glycosuria, check random fingerprick glucose ↗ 19.
Urine pregnancy test	-	If pregnancy test positive, give antenatal care ↗ 177 and if not on ART, start same day.
Urine LAM	If positive and not yet on TB treatment, start treatment ↗ 102.	If TB symptoms, or WHO stage 3 or 4 disease, do urine LAM ↗ 102.
TB sputum test	If sputum TB NAAT positive and not yet on TB treatment, recall within 3 days to start treatment ↗ 102.	Interpret sputum TB NAAT results ↗ 102. Repeat TB sputum test yearly, at same time as yearly viral load.
CD4	-	If CD4 < 200: if not yet done, recall patient to start co-trimoxazole ↗ 128 and assess for AHD ↗ 125. If TB symptoms do urine LAM ↗ 102.
CrAg ²	If new positive, recall within 3 days and refer for lumbar puncture. If headache, confusion or pregnant, refer urgently.	If CrAg positive after treatment for cryptococcal disease and no symptoms (headache, confusion, blurred/double vision, neck stiffness) continue routine HIV care, do not recall patient.
Creatinine (eGFR)	If eGFR < 30, recall within 3 days and refer/discuss with experienced ART clinician or HIV hotline ↗ 200.	• If eGFR 30 - 50 (or creatinine > 85 in pregnant patient): recall within 7 days. Switch ART according to HBsAg result: - If HBsAg negative: switch to ♦ABC + ♦3TC + ♦DTG. If previous hypersensitivity to ABC, use ♦AZT instead of ABC. - If HBsAg positive: switch to ♦TAF + ♦FTC + ♦DTG. If unsure, discuss with experienced ART clinician or HIV hotline ↗ 200. - If rise in creatinine 20-29 after starting DTG, continue ART and repeat creatinine after 1 month. If repeat the same or decreased, continue ART. If repeat increased further, manage as above. • Check for proteinuria and repeat eGFR after 1 month. If repeat eGFR ≤ 50, refer to doctor to check BP, glucose, urine dipstick, send urine for protein/creatinine ratio and arrange kidney ultrasound.
FBC + differential count	If Hb ≤ 6, recall within 3 days and discuss/refer urgently.	• If Hb < 12 (woman) or < 13 (man), anaemia likely ↗ 44. If difficulty breathing, chest pain or dizziness, refer same day. • If Hb ≤ 8 or neutrophils ≤ 1.0 avoid AZT. Switch to ♦TDF or ♦ABC. If on AZT because of kidney problem and ABC hypersensitivity, discuss with experienced ART clinician or HIV hotline ↗ 200.
Hepatitis B surface antigen (HBsAg)	-	• If HBsAg positive, and eGFR > 50, ensure TDF is part of ART regimen ↗ 135. If eGFR 30-50, start/switch to ♦TAF + ♦FTC + ♦DTG. • If HBsAg negative, check HBsAb and give 3 doses of hepatitis B vaccine if needed ↗ 135.
Cervical screen	-	Start screening at age 25 years ↗ 70. Repeat every 5 years if HPV DNA test stays negative.
ALT	• If ALT ≥ 200, regardless of symptoms: recall within 3 days. Stop medications and discuss/refer same day. • If ALT 120-199 (or total bilirubin > 40) with symptoms (nausea/vomiting/abdominal pain): recall within 3 days. Stop all medication and discuss/refer same day.	If ALT < 200: • If no symptoms: recall within 7 days. Continue medication and monitor for symptoms. Repeat ALT weekly until < 120. • If symptoms (nausea/vomiting/abdominal pain): - If ALT 50-119: doctor to assess for causes (check HBsAg; consider alcohol or drug-induced liver injury), consider interrupting/delaying ART and repeat ALT within 1 week. If unsure, discuss with experienced ART clinician or HIV hotline ↗ 200.
Fasting total cholesterol, triglycerides	If fasting triglycerides > 10, discuss with experienced ART clinician or HIV hotline ↗ 200.	• If total cholesterol > 6 or triglycerides > 5, and on LPV/r or ATV/r, switch to ♦DTG ↗ 132, repeat fasting total cholesterol and triglycerides after 3 months. If still raised, start ♦simvastatin 10mg at night. • If on LPV/r and unable to switch to DTG, switch to ♦ATVr and repeat fasting total cholesterol and triglycerides after 3 months: if still raised, start ♦atorvastatin 10mg at night. If on ATV/r and unable to switch to DTG or if on DRVr, start ♦atorvastatin 10mg at night.
Viral load (VL)	-	• If VL < 50, continue routine VL monitoring (see table above). If not yet on TLD (TDF + 3TC + DTG), switch ART ↗ 132. • If VL ≥ 50, manage unsuppressed viral load ↗ 134. If VL ≥ 1000, do CD4 to identify advanced HIV disease (AHD).

¹Only do pregnancy test if woman of child bearing potential has missed period and is not on contraception. ²Cryptococcal antigen test (CrAg): Laboratory will automatically do this if CD4 < 200.

Advise the patient with HIV

- Encourage disclosure to supportive partner, family member or friend and refer to counsellor/support group. Advise patient's partner/s and children be tested for HIV.
- Encourage safe sex: use condoms reliably and have only one partner at a time. Demonstrate and give male/female condoms.
- Explain that HIV is treatable but not curable and needs lifelong adherence to treatment to stay well and to prevent resistance.
- Explain the benefits of starting ART early, regardless of CD4 or stage but especially if CD4 $\leq$ 200, stage 3 or 4, pregnant or breastfeeding.
- If patient chooses not to start ART: identify barriers, link to counselling and review blood results and ART readiness in 1 week. If still unwilling to start, re-educate and advise to return immediately if unwell.

Health for All

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Treat the patient with HIV

If patient *not* on ART

Plan to start or restart **◆TDF + ◆3TC + ◆DTG (◆TLD)**, same day if possible (or within 7 days). Follow Steps 1-5 **↪ 129**.

- Give **◆influenza vaccine** 0.5mL IM yearly. Avoid if CD4 $\leq$ 100.
- Give prophylaxis: TB preventive treatment (TPT), co-trimoxazole preventive therapy (CPT) and fluconazole as needed:

If patient on ART

- If not on a DTG-based regimen, check if eligible to switch same day **↪ 132**.
- Ask about any new medications: especially TB treatment, antiseizure medication, contraceptives, calcium, iron, zinc, antacids, metformin. If needed, adjust ART or dosing **↪ 133**.

Medication	When to give/avoid	What to give	Side effects	When to stop
TB preventive treatment (TPT)	• Start TPT if not already had TPT <i>and</i> no current TB symptoms. • If pregnant start TPT based on CD4 - If CD4 $\leq$ 200 start TPT - If CD4 > 200, defer TPT until after delivery. • If TB contact¹: start TPT even if already had TPT. • Avoid if previous RR-TB, neuropathy, liver disease, alcohol misuse.	• If already on ART with VL < 50 in last 6 months, give ◆3HP and ◆pyridoxine ↪ 100. • If pregnant, starting DTG-based regimen, on LPVr/ATVr or on ART and viral load $\geq$ 50, give instead ◆isoniazid 300mg daily for 12 months (◆12H). Also give ◆pyridoxine 25mg daily.	• If pain/numbness of feet, peripheral neuropathy likely ↪ 81. • If rash ↪ 82. • If jaundice: refer same day. • If nausea, vomiting, abdominal pain: check ALT and review result within 24 hours ↪ 127.	• If on 3HP, stop after 3 months. • If on 12H, stop after 12 months.
Co-trimoxazole preventive therapy (CPT)	Start if: • CD4 $\leq$ 200 <i>or</i> • WHO stage 3 or 4 disease	• If eGFR > 50, give ◆co-trimoxazole 160/800mg daily. • If eGFR 10-50, give ◆co-trimoxazole 80/400mg daily. • If eGFR < 10, give ◆co-trimoxazole 80/400mg 3 days a week (Mon/Wed/Fri).	• If jaundice: refer same day. • If nausea, vomiting, abdominal pain: check ALT and review result within 24 hours ↪ 127. • If rash ↪ 82.	Stop once CD4 > 200, regardless of stage. If started for TB and CD4 > 200, stop after 6 months.
Fluconazole	• If cryptococcal antigen (CrAg) result positive, refer for lumbar puncture (LP). If delay in referral for LP, start fluconazole. • If pregnant/breastfeeding, liver disease, previous CCM², discuss with HIV hotline before starting ↪ 200.	• If delay in LP, give ◆fluconazole 1200mg daily. • If CCM² once discharged, give ◆fluconazole 800mg daily for 2 months, then 200mg daily to complete at least 1 year. • If no symptoms and LP clear: complete ◆fluconazole 1200mg daily for 2 weeks, then 800mg daily for 2 months, then 200mg daily to complete at least 1 year.	• If jaundice: refer same day. • If nausea, vomiting, abdominal pain: check ALT and review result within 24 hours ↪ 127.	Stop after at least 1 year if CD4 > 200 and VL < 50.

Review the patient with HIV

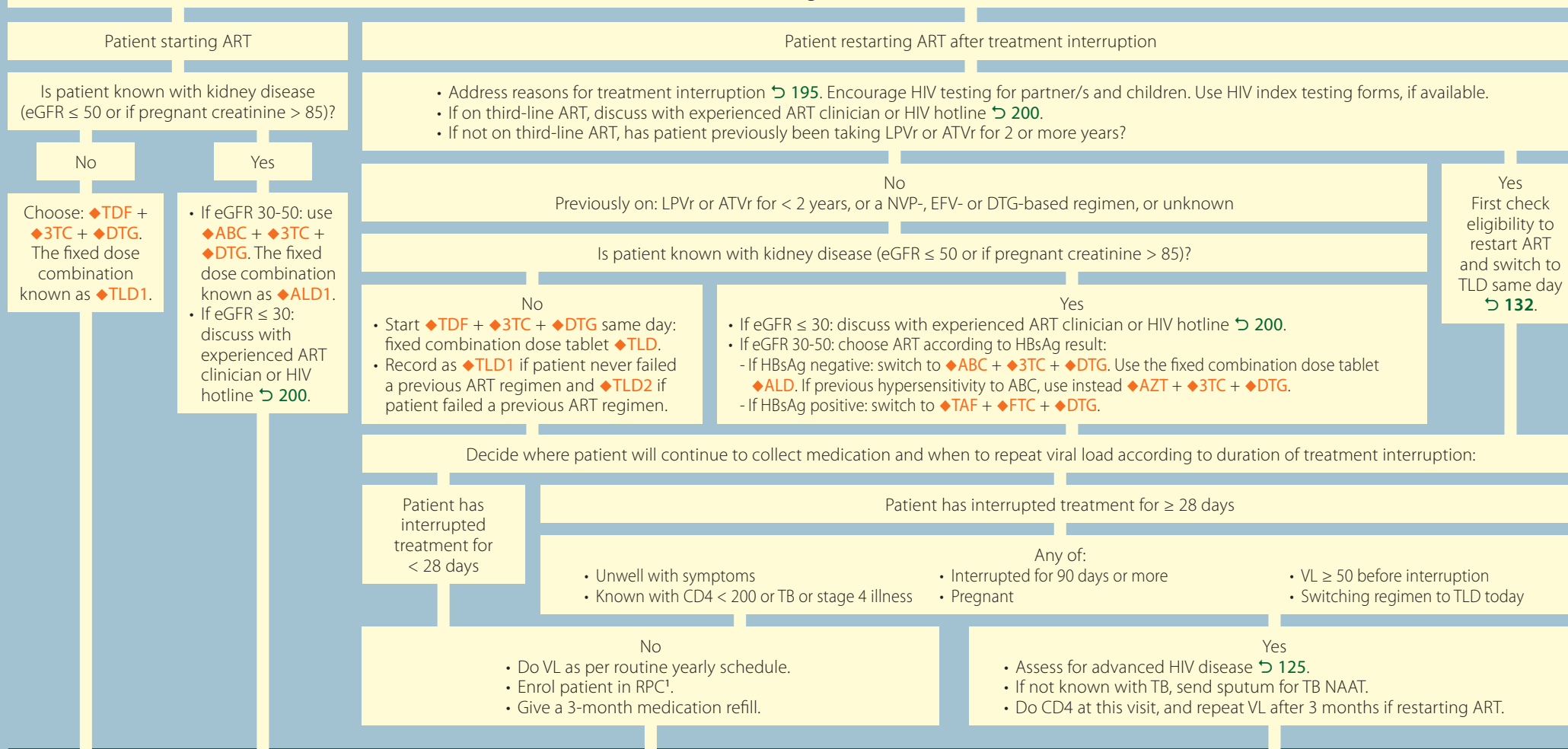
Visit	At diagnosis	Month 1	Month 3	Month 4	Month 10	6-monthly	Yearly
Note	• Baseline tests - follow up results and recall patient if needed. • Start ART.	• Review patient. • If well, give 2 months ART. • If unwell, review more often.	• Review patient. • Do VL and other monitoring blood tests.	• Review results. • Assess for repeat prescription (below).	• Review patient. • Do VL, CD4 and other monitoring blood tests.	• Repeat medication script. • Do CD4 if needed.	• Review patient. • Do VL and other monitoring blood tests.

- Patient eligible to use RPC³ if: 1) viral load < 50, 2) clinically well, 3) no other infections/uncontrolled long-term health conditions, 4) not pregnant in last 12 months.
- If patient stable on TLD for $\geq$ 12 months with 2 recent viral loads < 50, and prefers to avoid repeat collections from RPC locations, consider facility provided 6 month supply of treatment (6MMD).
- If not eligible or if RPC³ refused: if patient well enough, give more than 1 month of medication at a time.

¹A TB contact refers to a patient who shared an enclosed space (at work, socially, in a hostel, or in a household setting), for $\geq$ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ²CCM - Cryptococcal meningitis. ³Repeat prescription collection points (RPC) include 'facility pick-up points' (FAC-PUP), 'external pick-up points' (EX-PUP), clubs. Medications are pre-dispensed by Central Dispensing Unit (CDU) or Central Chronic Medicine Dispensing and Delivery (CCMDD).

Start or restart ART

STEP 1. Decide what ART regimen to start or restart



STEP 2. Check for possible medication interactions and adjust ART or dosing if needed

Ask about other medication especially TB treatment and antiseizure medication, contraceptives, calcium, iron, zinc, antacids, metformin [↗ 133](#).

STEP 3. Take bloods according to chosen ART regimen [↗ 127](#).

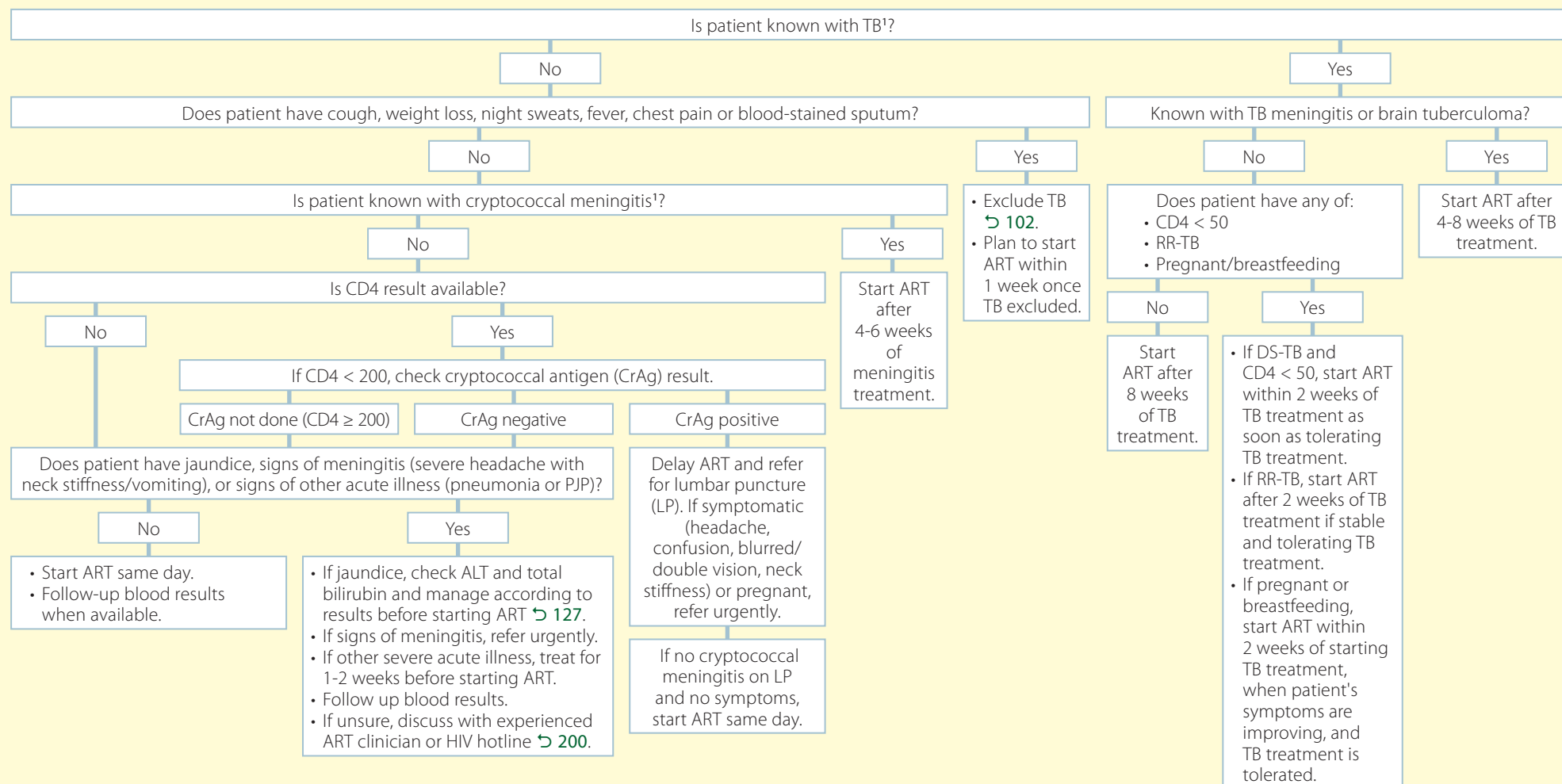
ABC – abacavir; ATVr – atazanavir/ritonavir; AZT – zidovudine; DTG – dolutegravir; EFV – efavirenz; FTC – emtricitabine; LPVr – lopinavir/ritonavir; TDF – tenofovir disoproxil fumarate; TAF – tenofovir alafenamide; 3TC – lamivudine

¹Repeat prescription collection points (RPC) include 'facility pick-up points' (FAC-PUP), 'external pick-up points' (EX-PUP), clubs. Medications are pre-dispensed by Central Dispensing Unit (CDU) or Central Chronic Medicine Dispensing and Delivery (CCMD).

STEP 4. Check if there is a reason to delay ART

Aim to start same day but first check if there is a reason to delay ART:

- If any of the following danger signs, delay starting ART and refer same day:
- Respiratory rate ≥ 30
 - Pulse rate ≥ 120
 - Breathlessness at rest or while talking
 - Coughs up ≥ 1 tablespoon of fresh blood
 - Unable to walk unaided
 - Aggressive or agitated
 - Drowsy/confused
 - Neck stiffness
 - Seizures
 - New sudden weakness/numbness or visual disturbance



STEP 5. Dose ART correctly according to chart → 131

¹If patient has TB and cryptococcal meningitis, discuss with experienced ART clinician or HIV hotline about when to start ART.

STEP 5. Dose ART correctly according to chart

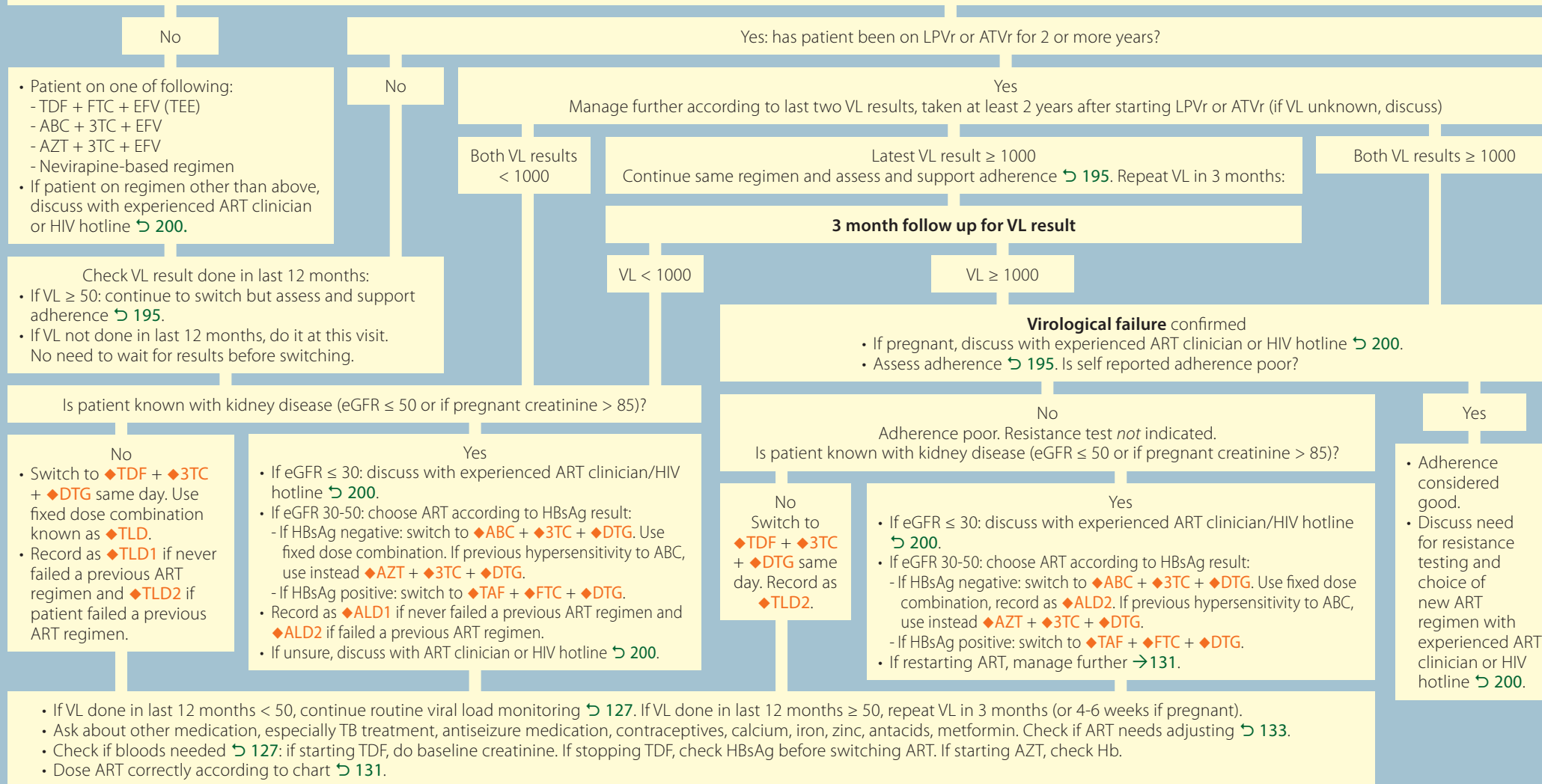
- Give 3 antiretrovirals (1 from each of the 3 sections in the table below) according to chosen ART regimen and blood results, if available.
- Where available, use fixed dose combination tablets. Prescribe in full (e.g. for TLD (TDF + 3TC + DTG): write tenofovir oral 300mg daily + lamivudine oral 300mg daily + dolutegravir oral 50mg daily).

	Medication	Dose	When to avoid	Urgent side effects: stop antiretroviral and refer same day	Short-term side effects: usually resolve. If persists ≥ 6 weeks, discuss/refer.	Long-term side effects
1	Tenofovir disoproxil fumarate (TDF)	If eGFR ≥ 50, give 300mg daily.	• Kidney disease: eGFR < 50 • If pregnant and creatinine > 85	Kidney failure: • If eGFR < 30, refer same day. • If eGFR 30-50 and unwell, refer same day. • If eGFR 30-50 and well, refer to doctor.	Nausea, vomiting	Reduced bone mineral density.
	Tenofovir alafenamide (TAF)	• 25mg daily • Only use if TDF not suitable and HBsAg positive	eGFR < 30	Kidney failure: • If eGFR < 30, refer same day.		Reduced bone mineral density.
	Abacavir (ABC)	• 300mg 12 hourly or 600mg daily • Give "alert card" found in packaging to warn about Abacavir Hypersensitivity Reaction (AHR).	Previous AHR	AHR likely if ≥ 2 of: fever, rash, fatigue/body pain, nausea/vomiting/diarrhoea/abdominal pain, sore throat/cough/difficulty breathing.		
	Zidovudine (AZT)	• Use only if TDF and ABC not suitable. • eGFR ≥ 10: give 300mg 12 hourly. • eGFR < 10: give 300mg daily.	• Hb ≤ 8 • Hb ≤ 7 if pregnant • Neutrophils ≤ 1.0 • On linezolid	Anaemia (pallor) with respiratory rate ≥ 30, dizziness/faintness or chest pain.	Headache, nausea, muscle pain, fatigue (if Hb ≤ 8, doctor to switch ART ↗ 132).	Lipoatrophy (fat loss in face, limbs and buttocks): switch to TDF or ABC.
2	Lamivudine (3TC)	• eGFR > 30: give 150mg 12 hourly or 300mg daily. • eGFR 10-30: give 150mg daily. • eGFR < 10: give 50mg daily.		Uncommon	Uncommon	Uncommon
	Emtricitabine (FTC)	• eGFR > 30: give 200mg daily. • eGFR 15-29: give 200mg every 3 days. • eGFR < 15: discuss.		Uncommon	Uncommon	Darkening of palms/soles.
3	Dolutegravir (DTG)	• 50mg daily • If also on any of the following medication, adjust medication/dosing ↗ 133: rifampicin (DS-TB), iron, calcium, magnesium, aluminium, metformin, carbamazepine, phenytoin.		Uncommon	• Headache, nausea, diarrhoea • Insomnia: advise to take treatment in the morning. • Rise in creatinine < 30 without renal failure at start, review results ↗ 127.	
	Efavirenz (EFV)	• ≥ 40kg: give 600mg daily. • < 40kg: give 400mg daily.	• Active psychiatric illness • On bedaquiline	• Rash ↗ 82, jaundice, psychosis. • Nausea/vomiting/abdominal pain: check ALT. Review results within 24 hours ↗ 127.	• Rash ↗ 82. • Headache, dizziness, sleep problems • Low mood ↗ 98.	Gynaecomastia (breast enlargement): switch to DTG ↗ 132.
	Lopinavir/ritonavir (LPVr)	• 400/100mg 12 hourly with food. If never taken LPVr or ATVr in past, give 800/200mg daily. • If also on any of the following, adjust medication/dosing ↗ 133: rifampicin, carbamazepine, phenytoin, lamotrigine, oral contraceptive, fluticasone/budesonide.	• Chronic diarrhoea • Cholesterol/triglycerides raised • CVD risk > 20%	• Jaundice • Nausea/vomiting/abdominal pain: check ALT and review results within 24 hours ↗ 127.	Diarrhoea: if intolerable or lasts > 6 weeks, switch to DTG ↗ 132.	Dyslipidaemia: if total cholesterol > 6 or triglycerides > 5, switch to ATVr ↗ 132.
	Atazanavir/ritonavir (ATVr)	• 300mg/100mg daily with food. • If also on any of the following, adjust medication/dosing ↗ 133: rifampicin, carbamazepine, phenytoin, lamotrigine, oral contraceptive, fluticasone/budesonide.	• On rifampicin • On omeprazole, lansoprazole or pantoprazole	• Jaundice <i>with</i> other symptoms • Nausea/vomiting/abdominal pain: check ALT and review results within 24 hours ↗ 127.	• Headache • Jaundice <i>without</i> other symptoms: check ALT, review result within 24 hours. ATVr can cause jaundice without hepatitis. Discuss with ART clinician or HIV hotline ↗ 200.	

Switch ART

Aim to switch all patients to dolutegravir (DTG). Resistance to DTG is rare and DTG provides rapid VL suppression and has minimal side effects.

Check if patient eligible to switch or restart DTG-based regimen same day. Does patient's ART regimen include LPVr or ATVr?



ABC – abacavir; ATVr – atazanavir/ritonavir; AZT – zidovudine; DTG – dolutegravir; EFV – efavirenz; FTC – emtricitabine; LPVr – lopinavir/ritonavir; TDF – tenofovir disoproxil fumarate; TAF – tenofovir alafenamide; 3TC – lamivudine

¹If available, also do drug level on urine or blood specimen: adherence is considered good if medications are detected in patient's urine/blood.

Manage ART medication interactions

- Ask if patient is taking any over-the-counter or herbal/traditional medication.
- For other interactions: check SAMF, EMGuidance app, Liverpool HIV iChart app, use web-based interaction checker (see QR code) or discuss with HIV expert/hotline ↗ 200.



Check for HIV
medication
interactions

Assess and manage common medication interactions:

If on this ART medication	Check for interacting medication	Adjust medication and/or doses
Dolutegravir (DTG)	Rifampicin	• Increase DTG dose to 50mg 12 hourly. If on TLD or ALD fixed dose combination tablet, add ♦DTG 50mg 12 hours after TLD or ALD dose. Continue this dose until 2 weeks after TB treatment completed, or • If already on TB treatment and starting ART (patient has never been on ART), consider ♦TEE (♦TDF + ♦FTC + ♦EFV). Switch to DTG-based regimen 2 weeks after TB treatment complete.
	• Carbamazepine • Phenytoin	Avoid carbamazepine or phenytoin with DTG: Switch to ●lamotrigine ↗ 168. If unable to use lamotrigine, consider valproate (avoid if woman of child-bearing potential) ↗ 168. If unable to switch antiseizure medication, increase ●DTG to 50mg 12 hourly.
	Iron and/or calcium	• If taking iron only, advise to take iron and DTG together with food. • If taking calcium only, advise to take calcium and DTG together with food. • If taking iron <i>and</i> calcium, advise to take DTG and calcium together with food, then to take iron at least 4 hours later.
	Zinc	Advise to take zinc at least 6 hours before or 2 hours after DTG.
	Magnesium/aluminium (antacids)	Advise to take antacid at least 6 hours before or 2 hours after DTG.
	Metformin	Avoid giving more than 2g metformin per day. If diabetes uncontrolled ↗ 145.
Lopinavir/ritonavir (LPVr)	Rifampicin	Assess eligibility to switch to DTG ↗ 132. If not eligible for DTG switch, gradually increase dose of LPVr according to ALT ↗ 109.
	• Carbamazepine • Phenytoin	• Assess eligibility to switch to DTG ↗ 132. If switching to DTG, continue to manage as above (see dolutegravir row). • If not eligible for DTG switch, avoid giving carbamazepine or phenytoin together with LPVr: - Switch antiseizure medication to ●lamotrigine and double lamotrigine dose ↗ 168. If unable to use lamotrigine, consider valproate (avoid if woman of child-bearing potential) ↗ 168. If unsure, discuss with HIV expert/hotline ↗ 200.
	Oral contraceptive	Avoid with LPVr. Assess eligibility to switch to DTG ↗ 132. If not eligible to switch to DTG, use instead IUD, subdermal implant or injectable <i>and</i> condoms.
	Fluticasone/budesonide	Avoid with LPVr. Assess eligibility to switch to DTG ↗ 132. If not eligible to switch to DTG, use instead ♦beclomethasone 12 hourly.
Atazanavir/ritonavir (ATVr)	Rifampicin	Avoid ATVr. Assess eligibility to switch to DTG ↗ 132. If not eligible, discuss with TB expert/hotline to switch rifampicin to rifabutin or switch ATVr to LPVr ↗ 109.
	• Carbamazepine • Phenytoin	• Assess eligibility to switch to DTG ↗ 132. If switching to DTG, also adjust choice of antiseizure medication as for LPVr/r above. • If unable to switch to DTG, discuss with experienced ART clinician or HIV hotline ↗ 200
	Oral contraceptive	Avoid with ATVr. Assess eligibility to switch to DTG ↗ 132. If not eligible to switch to DTG, use instead IUD, subdermal implant or injectable <i>and</i> condoms.
	Fluticasone/budesonide	Avoid with ATVr. Assess eligibility to switch to DTG ↗ 132. If not eligible to switch to DTG, use instead ♦beclomethasone 12 hourly.
Efavirenz (EFV)	Bedaquiline	Avoid EFV. Switch to DTG ↗ 132.
	• Carbamazepine • Phenytoin	Avoid carbamazepine or phenytoin with EFV: Switch to ●lamotrigine ↗ 168. If unable to use lamotrigine, consider valproate (avoid if woman of child-bearing potential) ↗ 168. If unable to switch antiseizure medication, increase ●DTG to 50mg 12 hourly.
	Oral contraceptive/subdermal implant	Avoid giving these with EFV. Assess eligibility to switch to DTG ↗ 132. If not eligible to switch to DTG, use instead IUD or injectable <i>and</i> condoms.
Zidovudine (AZT)	Linezolid	Avoid AZT. Discuss with experienced ART clinician or HIV hotline ↗ 200.

ATVr - atazanavir/ritonavir; AZT - zidovudine; DTG - dolutegravir; EFV - efavirenz; FTC - emtricitabine; LPVr - lopinavir/ritonavir; TDF - tenofovir; TLD - TDF + 3TC + DTG; 3TC - lamivudine

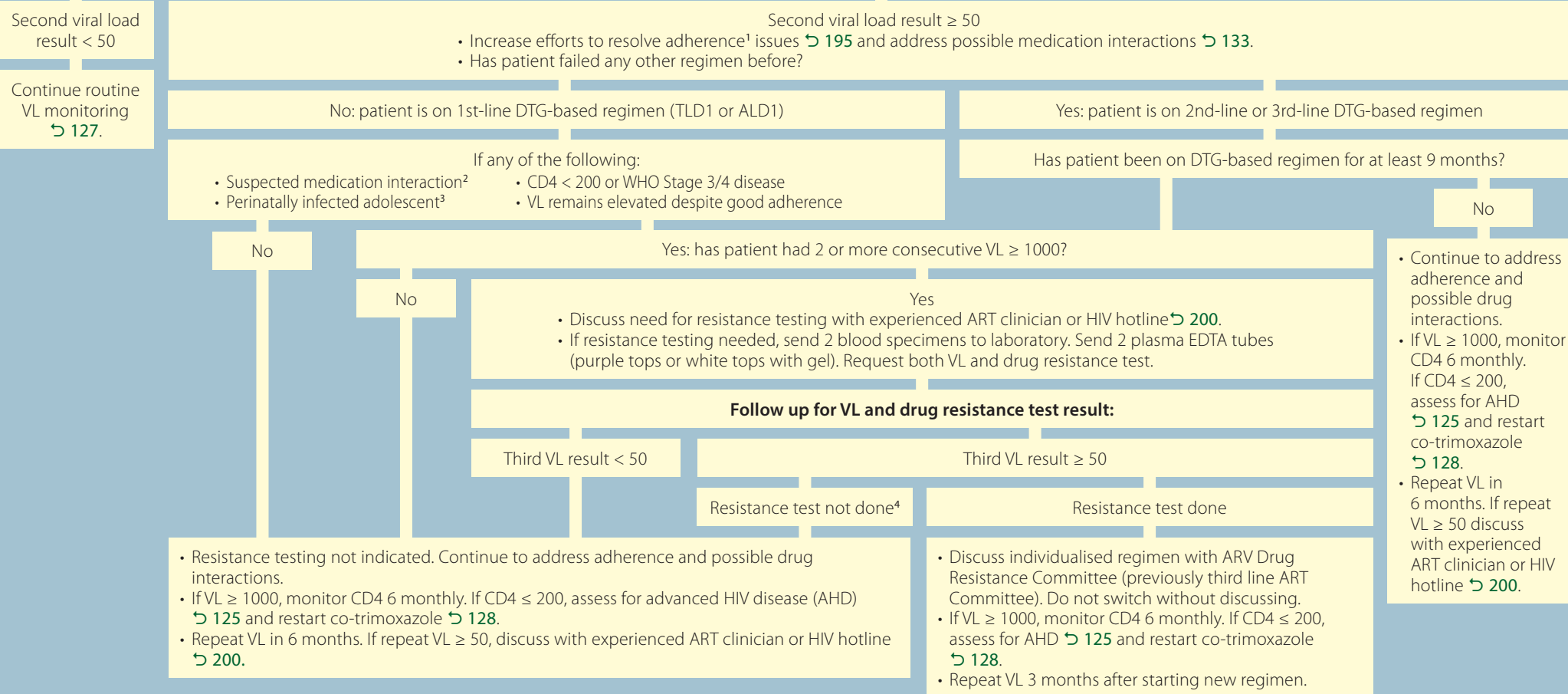
Manage the patient with an unsuppressed viral load (VL ≥ 50)

Assess and manage possible causes of unsuppressed viral load (VL ≥ 50):

- If pregnant or breastfeeding → 184.
- Check for underlying causes like adherence issues → 195 and medication interactions → 133. Emphasise condom and contraception use. Encourage HIV testing for partner/s and children.

- If patient is *not* on TLD or ALD, check if same day ART switch is appropriate → 132.
- If patient is on DTG-based regimen, repeat VL in 3 months.

3 month follow up for VL result



¹Resistance to DTG-based regimen is rare – the most likely cause for VL non-suppression is poor adherence. ²Consider medication interactions if using rifampicin, carbamazepine, phenytoin, phenobarbital, calcium, iron, antacids. ³Perinatally infected adolescents should be classified as TLD2 due to high likelihood of ART exposure and virological failure in the past. ⁴Dolutegravir drug-level testing is a reflex test done by the laboratory if available, when a drug resistance test is requested. Only if DTG is detected and VL ≥ 1000 will the laboratory do HIV drug-resistance test.

CHRONIC HEPATITIS B (HBV)

Test for hepatitis B infection: send blood routinely for hepatitis B surface antigen (HBsAg) if:

- HIV positive starting ART
- Patient starting pre-exposure prophylaxis (PrEP)
- Contact¹ of person known with hepatitis B infection
- Pregnant (at booking visit)

- If patient has any of: yellow skin or eyes (jaundice), nausea/vomiting, dark urine, pale stools, severe itchy skin with no rash or confusion, refer same day.
- If not done already, also test for HIV → 124 and syphilis → 66. Manage further according to HBsAg result:

HBsAg positive

Patient has chronic hepatitis B infection

- Notify within 7 days via NMC App (download from NICD website/app store) or www.nicd.ac.za/nmc-overview/notification-process.
- Educate that hepatitis B spreads via blood and sexual fluids. Advise patient to:
 - Use condoms reliably and encourage partner/s to test.
 - Avoid sharing toothbrushes, razors or needles and advise household contact/s and needle-sharing/sexual contact/s to test.
- Also screen for hepatitis C: send blood for anti-HCV (EIA-antibody). If positive, refer.
- Manage further according to pregnancy status:

Pregnant woman

Discuss with doctor/specialist experienced in managing hepatitis infection in pregnancy:

- If HIV positive: start/continue ART (usually as a fixed dose combination):
 - If eGFR > 50, include tenofovir disoproxil fumarate (TDF) in regimen
 - If eGFR 30-50, include tenofovir alafenamide (TAF) in regimen
 - If eGFR < 30, refer.
- If HIV negative: consider need for oral PrEP: tenofovir/emtricitabine (TDF/FTC) → 119, which will function as treatment to prevent transmission of hepatitis B to baby.
 - Advise patient not to stop treatment without discussing with doctor first.
- Arrange delivery at facility where hepatitis B immunoglobulin (HBIG) and hepatitis B monovalent vaccine available → 185.
 - Ensure baby receives vertical transmission prevention (VTP) after delivery.

Non-pregnant woman or man

- If HIV positive: start/continue ART (usually as a fixed dose combination):
 - If eGFR > 50, include tenofovir disoproxil fumarate (TDF) in regimen
 - If eGFR 30-50, include tenofovir alafenamide (TAF) in regimen
 - If eGFR < 30, refer.
- If HIV negative: refer to doctor to manage further.

HBsAg negative

Has patient been fully immunised previously with documented evidence of receiving 3 doses of hepatitis B vaccine?

Yes

No further treatment needed.

No

If hepatitis B vaccine available, send blood for hepatitis B surface antibodies (HBsAbs):

HBsAbs ≥ 10

Patient is immune, no further treatment needed.

HBsAbs < 10

Give 3 doses of **hepatitis B vaccine** 1mL IM at 0, 1 month and 6 months.

Manage the baby born to mother with hepatitis B infection → 185.

¹Contact refers to asymptomatic household contact or needle-sharing/sexual partner of person known with hepatitis B (HBsAg-positive).

LONG COVID: ROUTINE CARE

A patient is considered to have 'Long COVID' if s/he has ongoing symptoms for ≥ 2 months following acute COVID-19 infection (usually 3 months from the onset of COVID-19 symptoms).

Assess the patient with Long COVID

Assess	When to assess	Note
Symptoms	Every visit	- Ask about difficulty sleeping and ongoing pain. Manage as on symptom pages. - If patient was hospitalised for COVID-19 and breathlessness lasts > 6 weeks after discharge, refer to physiotherapist if available, for assessment/home programme. - If persistent dry cough ≥ 8 weeks, refer to speech and language therapist, if available. - If symptoms still present and troubling after 12 weeks, or uncommon symptoms (like palpitations, skin rash), discuss/refer with doctor/specialist.
TB	Every visit	Follow up TB sputum results. If not done during 'Long COVID' work-up, send 1 sputum sample for TB NAAT at this visit ↗ 102 .
Daily activities	Every visit	If patient not able to cope with activities of daily living (like bathing, dressing, grooming, homemaking), refer to available rehabilitation team member.
Long-term health conditions	Every visit	If patient has long-term health condition, check control and give routine care. Check that routine bloods have been done and follow up results.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98 .
Family planning	At diagnosis	If patient had severe COVID-19 and is on combined oral contraceptive (COC), doctor to discuss risks of thrombosis and consider switch to progestogen-only pill, copper IUD or subdermal implant. Assess family planning needs ↗ 170 .
Carer/family	Every visit	Ask how carer/family is coping. Refer to support group ↗ 200 or social worker if needed.
CVD risk	At diagnosis	Assess CVD risk ↗ 142 .
Weight	Every visit	If unintentional weight loss, assess further ↗ 37 .
Chest x-ray	If cough/breathlessness ≥ 12 weeks	If chest x-ray abnormal, discuss/refer.
Thyroid function	If tiredness ≥ 12 weeks	Check TSH. If abnormal, refer to doctor.

Advise the patient with Long COVID

- Reassure that many people with COVID-19 have ongoing symptoms, even in mild cases. Explain that symptoms usually resolves slowly without specific treatment.
- Advise that symptoms may fluctuate and to expect good days and bad days. Advise to rest and pace activity. Set achievable targets and gradually increase activity according to symptom severity.
- Advise to look after general health: eat a healthy diet, get enough sleep, limit alcohol and caffeine and avoid illicit drugs.
- Extend sick leave as needed. Suggest patient speaks to employer about options to return to work more slowly. If unemployed, refer to SASSA to apply for COVID-19 Social Relief of Distress Grant.
- Support carer/s and family. Identify local resources, social worker, counsellor, NGO, community action networks. Refer to occupational therapy if available.

Treat the patient with Long COVID

- Treat pain with [♦ paracetamol](#) 500mg-1g 4-6 hourly (max 4g/24 hours) or [♦ ibuprofen](#) 400mg 8 hourly with/after food for up to 2 weeks. Review need for pain medication after 2 weeks.
- Chronic overuse may cause headaches. If using analgesia > 2 days/week for ≥ 3 months, advise to reduce amount used, or stop.
- Help patient to manage ongoing symptoms of tiredness, breathlessness and cough [↗ 137](#). Avoid prescribing inhalers used for asthma to treat breathlessness unless patient known with asthma.

Review the patient with Long COVID

- If TB sputums sent at this visit: review in 2 days, otherwise review 2-4 weekly as needed. Expect gradual improvement.
- If no gradual improvement, discuss/refer. Advise to return urgently if breathlessness worsens, new or worsening confusion or unable to wake patient, chest pain or pressure that won't go away, new sudden weakness or numbness in face, leg or arm: refer.

Support the patient with 'Long COVID' to manage symptoms at home

- Explain that symptoms may differ between patients (no typical presentation) and may vary from day to day. S/he may find normal activities (washing/dressing/doing housework) difficult.
- Invite patient to look at the below and help him/her to choose behavioural changes that may help to manage symptoms. Explore what might hinder or support this.

Pace yourself, plan and prioritise tasks

- Build a regular routine. Plan each day so important tasks are done first.
- Avoid overdoing things on a good day. This may cause exhaustion the next day.
- Allow enough time to complete activities and to rest in between. Break tasks down into smaller ones.
- Ask others to help with the less important tasks. Think about how others can help you save your energy, like helping with groceries, cleaning and cooking.

Keep a diary to track improvement

Learn what brings on utter exhaustion or other symptoms, and try to avoid these.



Get enough sleep

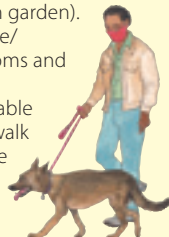
Tiredness feels much worse if sleep patterns are disturbed. If difficulty sleeping:

- Establish a routine: try to get up at the same time each day (even if tired) and go to bed the same time every evening. Avoid daytime napping if able.
- Avoid caffeine and smoking for several hours before bedtime.
- Allow time to unwind/relax before bed.
- Use bed only for sleeping and sex.
- Once in bed, avoid clock-watching. If not asleep after 20 minutes, do a low energy activity (read a book, walk around house). Once tired, return to bed.



Keep active

- Start with light exercise (walking) for around 4-6 weeks. Gradually increase intensity to aim for 150 minutes per week (moderate intensity - working in garden). Monitor immediate symptoms (like fatigue/breathlessness) as well as delayed symptoms and adapt as needed.
- Before returning to sport, ensure you are able to complete activities of daily living and walk 500m on the flat without excessive fatigue or breathlessness. Ensure you have at least 10 days' rest and be symptom-free for a minimum of 7 days before starting.



Eat well

- Where possible, eat regular healthy meals that include fruit and vegetables.
- Drink plenty of water.
- Limit alcohol and caffeine.



Get help when you need it

- Discuss your worries with someone you trust. Join a support group, if available.
- Consider speaking to your employer about options to return to work more slowly.
- If you have financial worries, arrange to see a social worker.

Look after your mental health

- Find time to relax. Try deep breathing exercises, yoga, reading or having a relaxing bath/shower. Relaxing activities can help sleep and mental well-being.
- Find a creative or fun activity that you enjoy.
- Set small achievable goals that will give you a sense of accomplishment.
- Stay connected and spend time with supportive family and friends.
- Talk to family/friends and share/explain the impact that symptoms are having on your life. It can be hard for them to understand.



Help the patient to manage ongoing breathlessness and cough

• Advise patient to do the following when feeling breathless:

- Stay calm, relax your neck and shoulders and choose a position that eases your work of breathing (see pictures). Think about your breathing: breathe in slowly through your nose, as if you are smelling roses. Breathe out through your mouth, pursing your lips as if you are blowing out a candle and try to relax rather than forcing it. Slowly count to 2 when inhaling and 3 counts during relaxation.
- Wipe a cool wet cloth over your nose and cheeks, this can help to relieve the feeling of breathlessness.



Sit on a chair and lean forward with elbows resting on knees.



Lean forward with elbows resting on the back of a chair.



Lean forward with hands resting on knees.



Lean against a wall for support and rest your hand on your thigh or tuck your hand into your pocket.

• Advise the patient with ongoing dry cough:

- Avoid breathing through your mouth as dry air irritates the airways and causes a cough. Try to interrupt cough cycle by closing your mouth, swallowing repeatedly and gently breathing through your nose until the urge to cough goes away. Sip drinks regularly (hot or cold). Suck boiled sweets or lozenges.

• If productive cough, arrange physiotherapist for further techniques.

ASTHMA AND COPD: DIAGNOSIS

Asthma and chronic obstructive pulmonary disease (COPD) both present with cough, wheeze, tight chest or difficulty breathing. Distinguish asthma from COPD:

Asthma likely if several of:

- Onset before 20 years of age
- Associated hayfever, allergic conjunctivitis or eczema, other allergies
- Intermittent symptoms with normal breathing in between
- Symptoms worse at night, early morning, with cold or stress
- Patient or family have a history of asthma
- PEF¹ response to inhaled beta-agonist (e.g. salbutamol) improves $\geq 20\%$ (see below).

Give routine asthma care → 140.

COPD likely if several of:

- Onset after 40 years of age
- Symptoms are persistent and worsen slowly over time
- Cough with sputum starts long before difficulty breathing
- History of heavy smoking or heavy cannabis use
- Previous TB
- Little response to inhaled beta-agonist (e.g. salbutamol)

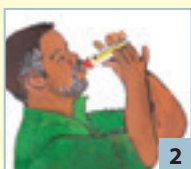
Give routine COPD care → 141.

Doctor to confirm diagnosis. If doctor not available, treat as asthma → 140 and refer to doctor within 1 month.

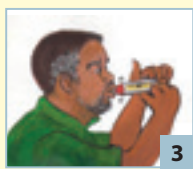
How to measure peak expiratory flow rate (PEFR)



1
Move marker to bottom of numbered scale.



- 2
• Stand up and take a full, deep breath.
• Hold breath and place mouthpiece between teeth.
• Form a seal with lips.



3
Breathe out as hard and as fast as possible (keeping fingers clear of scale).



- 4
• Read the result.
• Move marker back to bottom and repeat twice. Use the highest of the 3 readings.

How to assess response to inhaled beta-agonist

Calculate % PEFR response to inhaled beta-agonist to help diagnose asthma

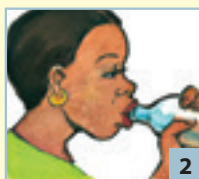
- Measure 'initial PEFR'. Use the highest reading of 3 results.
- Give inhaled **salbutamol** 200mcg (2 puffs via a spacer) and wait for 15 minutes.
- Repeat PEFR - this is the 'repeat PEFR'
- Calculate % PEFR response = $\frac{(\text{repeat PEFR} - \text{initial PEFR})}{\text{Initial PEFR}} \times 100$
- If % PEFR response is $\geq 20\%$, **asthma** likely.

Using inhalers and spacers²

- If patient unable to use an inhaler correctly, add a spacer to increase drug delivery to lungs, especially if using inhaled corticosteroids. This may also reduce the risk of oral candida.
- Clean the spacer before first use and weekly: remove the canister and wash spacer with soapy water. Allow to drip dry. Avoid rinsing with water after each use.



1
Shake inhaler and insert into spacer.



2
Stand up and breathe out. Then form a seal with lips around mouthpiece.



3
Press pump once to release one puff into spacer.



- 4
• Then take 6 breaths keeping spacer in mouth.
• Repeat step 3 and 4 for each puff.
• Rinse mouth after using inhaled corticosteroid.

¹Peak expiratory flow rate. ²If no spacer available, explain how to use inhaler without spacer: take off cap and shake inhaler. Stand up and breathe out. Then form seal with lips around inhaler mouthpiece. Breathe in slowly. As breathing in, press pump once and keep breathing in slowly. Close mouth and hold breath for 10 seconds. Breathe out. Repeat for each puff prescribed, resting for 60 seconds between puffs. Rinse mouth after using inhaled corticosteroid.

Calculate % of predicted PEFR

Calculate % of predicted PEFR to help provide routine asthma/COPD care.

e.g. 60 year old man with asthma who is 188cm tall.

Step 1

Measure patient's PEFR ➔ 138. Use the highest of 3 results - this is the 'observed PEFR'.

e.g. his PEFR readings are: 450, 420, 400. Use 450 as the 'observed PEFR'.

Step 2

Plot the patient on the adjacent PEFR graph using height, sex and age.

Step 3

If patient a man, look at group of lines next to 'Men'.
If patient a woman, look at group of lines next to 'Women'.

e.g. this patient is a man, look at group of lines next to 'Men'.

Step 4

Identify the patient's height and choose the coloured line closest to that height.

e.g. this patient's height is 188cm, choose the red line.

Step 5

Identify the patient's age on the bottom axis and draw a line up until it meets the coloured height line identified in step 4.

e.g. this patient is 60 years old

Step 6

From this point on the coloured line, draw a straight line left until you reach the left axis (labelled Predicted PEFR). The closest number is the 'predicted PEFR'.

e.g. this patient's 'predicted PEFR' is ± 590 L/min.

Step 7

Calculate % of predicted PEFR:
observed PEFR $\div$ predicted PEFR $\times 100$

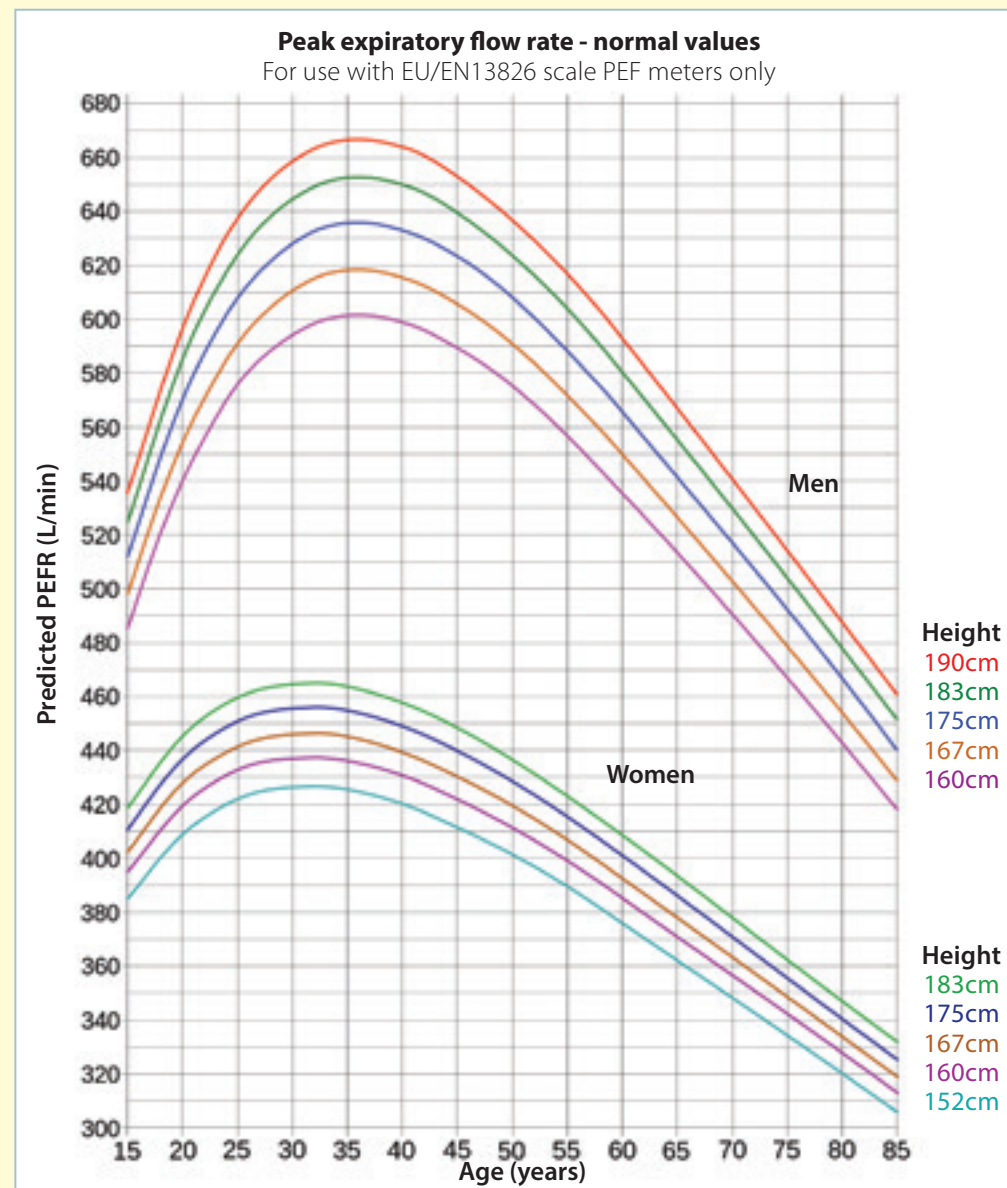
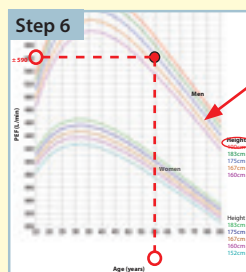
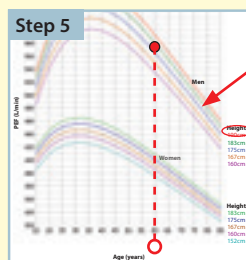
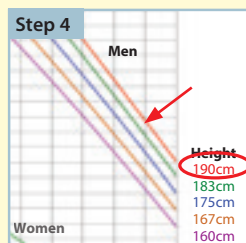
e.g. $450 \div 590 \times 100 = 76\%$.

Step 8

Interpret result:

- If known asthma and PEFR is $< 80\%$ of predicted, asthma is not controlled.
- If known COPD and PEFR is 50-75% of predicted, COPD is moderate.
- If PEFR is $< 50\%$ of predicted, COPD is severe.

e.g. this patient whose PEFR is 76% of his predicted PEF has asthma that is not controlled.



Adapted by Clement Clarke for use with EN13826 / EU scale peak flow meters from Nunn AJ Gregg I, Br Med J 1989;298:1068-70

ASTHMA: ROUTINE CARE

Ensure that a doctor confirms the diagnosis of asthma within 1 month. Refer the patient with newly diagnosed asthma for community health worker support, if available.

Assess the patient with asthma

Assess	When to assess	Note
Asthma symptoms to determine control	Every visit	- If wheeze, tight chest or difficulty breathing and no response to salbutamol inhaler, manage acute exacerbation ↗ 22. - The patient's asthma is controlled when: - Daytime symptoms (cough, wheeze, tight chest or difficulty breathing) occurs ≤ 2 times a week - No night-time symptoms (cough, wheeze, tight chest or difficulty breathing) - No admission to hospital for asthma in the last year² - If patient's asthma is not controlled, check patient is adherent and using inhaler/spacer correctly ↗ 138 before adjusting medication below.
Other symptoms	Every visit	- Manage symptoms as on symptom pages. Ask about and manage cough ↗ 23, allergic rhinitis ↗ 51 and dyspepsia ↗ 56. - If using inhaled corticosteroid and white patches on cheeks/gums/tongue/palate, oral candida likely ↗ 52.
Adherence and inhaler technique	Every visit	Check adherence and that patient is using inhaler and spacer correctly ↗ 138. If not adherent, give adherence support ↗ 195.
Peak expiratory flow rate (PEFR)	At diagnosis, if symptoms worsening, if change to medication at last visit	Calculate % of predicted PEFR ↗ 139. If < 80%, patient's asthma is not controlled .

Health for All

↗ 116

Advise the patient with asthma

- Advise to avoid triggers that may worsen asthma/hayfever (e.g. animals, cigarette smoke, dust, chemicals, pollen, grass), NSAIDs (e.g. aspirin, ibuprofen) and beta-blockers (e.g. atenolol).
- If patient smokes, encourage to stop ↗ 164. Support the patient to make a change ↗ 199.
- Ensure the patient understands medication: beta-agonist inhaler (salbutamol) relieves symptoms but does not control asthma. Inhaled corticosteroid (budesonide, beclomethasone or fluticasone) prevents but does not relieve symptoms and it is the mainstay of treatment.
- Inhaled corticosteroids can cause oral candida: advise patient to rinse and gargle after each dose.

Treat the patient with asthma

- Give ♦influenza vaccine 0.5mL IM yearly.
- If acute exacerbation, give ♦prednisone 40mg daily for a total of 7 days. If > 2 courses of oral prednisone given in past 6 months or exacerbation occurs on maximum treatment, also refer to doctor.
- Manage according to asthma control:

If symptoms < twice a month and no exacerbation in past year:

- Give inhaled ♦salbutamol 200mcg together with ♦budesonide² 200mcg as needed.
- If exercise-related symptoms, advise client to use ♦salbutamol 200mcg before exercise.

If symptoms ≥ twice a month or exacerbation in past year:

- Give inhaled ♦salbutamol 200mcg as needed, up to 4 times a day plus ♦budesonide² 200mcg 12 hourly.
- If still not controlled: doctor to review and step up treatment.

If symptoms most days or waking up from asthma ≥ once a week:

- Give inhaled ♦salbutamol 200mcg as needed, up to 4 times a day plus ♦budesonide² 400mcg 12 hourly.
- If still not controlled: stop budesonide and give instead salmeterol/fluticasone³ 50/250mcg 12 hourly. If still not controlled after 3 months, refer.

- If recent exacerbation, review after 1 week. If treatment adjusted or symptoms worse, review monthly.
- If controlled and no acute exacerbations for ≥ 6 months, step down treatment:
 - If on salmeterol/fluticasone, stop this and give instead ♦budesonide² 400mcg 12 hourly. If on budesonide, decrease dose to 200mcg 12 hourly. If already on 200mcg 12 hourly, decrease to daily dose. If on daily dose, decrease to as needed.

If asthma controlled, review 3 monthly. If not controlled, review monthly. Advise to return before next appointment if symptoms persist/worsen.

¹History of anaphylaxis, urticaria or angioedema. ²If on lopinavir/ritonavir or atazanavir/ritonavir, avoid budesonide and give ♦beclomethasone at the same dose instead. ³If on lopinavir/ritonavir or atazanavir/ritonavir, avoid fluticasone and refer.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD): ROUTINE CARE

Ensure that a doctor confirms the diagnosis of COPD within 1 month and refer for spirometry if available. Refer the patient with newly diagnosed COPD for community health worker support.

Assess the patient with COPD

Assess	When to assess	Note
COPD symptoms	Every visit	- If patient has wheeze/tight chest and breathless at rest or while talking or respiratory rate ≥ 30, manage acute exacerbation ↗ 22. Assess disease severity: if patient can walk as fast as others of same age, COPD is mild. If not, COPD is moderate or severe. - Investigate for TB only if patient has other TB symptoms like weight loss, night sweats, blood-stained sputum ↗ 102.
Other symptoms	Every visit	- Manage symptoms as on symptom pages. Ask about and manage cough ↗ 23, allergic rhinitis ↗ 51 and dyspepsia ↗ 56. - If using inhaled corticosteroid and white patches on cheeks/gums/tongue/palate, oral candida likely ↗ 52. - If swelling in both legs, refer to doctor to consider heart failure.
Adherence and inhaler technique	Every visit	Check adherence and that patient can use inhaler and spacer correctly ↗ 138. If not adherent, give adherence support ↗ 195.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98.
Palliative care	Every visit	Assess need for palliative care ↗ 191.
CVD risk	At diagnosis	The patient with COPD is at increased risk of cardiovascular disease. Assess CVD risk ↗ 142.
Peak expiratory flow rate (PEFR)	At diagnosis, if symptoms worsening or recent change to medication	Calculate % of predicted PEFR ↗ 139. • If 50-80%, COPD is moderate . If $< 50\%$, COPD is severe .
Eosinophil level	Before starting inhaled corticosteroid	If $> 0.1 \times 10^9$ cells/L start salmeterol/fluticasone as below. If $< 0.1 \times 10^9$ cells/L and patient not controlled, discuss.

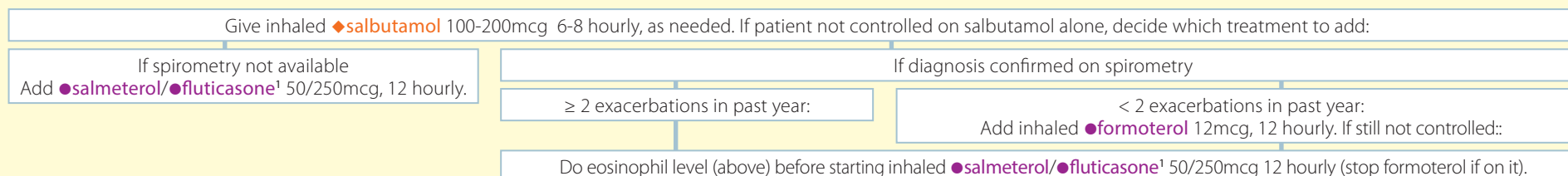
Advise the patient with COPD

- If patient smokes, encourage to stop ↗ 164. Stopping smoking is the mainstay of COPD care. Support patient to change ↗ 199.
- Encourage the patient to take a walk daily and to increase activities of daily living like gardening, housework and using stairs instead of lifts.
- Inhaled corticosteroids can cause oral candida: advise patient to rinse and gargle after each dose of salmeterol/fluticasone.

Health for All

↗ 120

Treat the patient with COPD



- If acute exacerbation was managed at this visit:
 - If patient received prednisone or hydrocortisone, continue ♦prednisone 40mg daily for a total of 7 days. If sputum increased or colour changed to yellow/green, give ♦amoxicillin² 500mg 8 hourly for 5 days.
- Give ♦influenza vaccine 0.5mL IM yearly.

- If recent exacerbation, treatment adjustment, symptoms worse than usual or not coping as well as before, review monthly. Otherwise review 3-6 monthly.
- If no better with treatment after 3 months, discuss/refer.
 - Refer to Lung Unit to arrange long-term home oxygen therapy if patient is not smoking and still has moderate to severe symptoms (decreased oxygen saturations) despite treatment for ≥ 3 months.

¹If on lopinavir/ritonavir or atazanavir/ritonavir, avoid fluticasone and discuss/refer instead. ²If severe penicillin allergy (anaphylaxis, urticaria or angioedema.) give instead ♦azithromycin 500mg daily for 3 days.

CARDIOVASCULAR DISEASE (CVD) RISK: DIAGNOSIS

CVD risk is the chance of having a heart attack or stroke over the next 10 years

Step 1

Identify if the patient has established CVD

- If patient has had previous heart attack, stroke or TIA or is known with angina (ischaemic heart disease) or peripheral vascular disease, manage as CVD → 144.
- If current/recent chest pain → 24.
- If current/recent leg pain, especially on walking and relieved by rest, consider **peripheral vascular disease** → 154.
- If new sudden asymmetric weakness/numbness of face/limbs, difficulty speaking/understanding, visual disturbance, dizziness/loss of balance, sudden severe headache, consider **stroke/TIA** → 152.

Step 2

Look for modifiable CVD risk factors

- Calculate **BMI**. BMI = weight (kg) ÷ height (m) ÷ height (m). A BMI ≥ 25 is a risk factor.
- Measure **waist circumference** (while standing and breathing out, at the narrowest part of the upper body, usually just above the navel) and **hip circumference** (measure at the widest part of the hips/buttocks) and calculate the **waist-hip ratio** (waist circumference ÷ hip circumference). A waist circumference of ≥ 80cm if woman or ≥ 94cm if man, and a waist-hip ratio of ≥ 0.85 if woman and ≥ 0.90 if man are risk factors.
- Look for **hypertension**. If BP ≥ 140/90 and not known hypertension → 148. Look for **diabetes**: if not known diabetes, check glucose → 19.
- Ask if currently **smoking**.
- Look for **psychological stress**: if low mood, stress or anxiety → 98.

Step 3

Calculate the patient's CVD risk if no established CVD

If total and HDL cholesterol results available, calculate patient's 10-year CVD risk score. If not available, use BMI chart instead → 143.

If no established CVD and cholesterol available, calculate the patient's 10-year CVD risk using the scoring system below

- Calculate CVD risk score by adding the points in each of the tables below, using patient's age, sex, total cholesterol, HDL cholesterol, BP, smoking status and diabetes status:

Age (years)	Man	Woman
35-39	2	2
40-44	5	4
45-49	6	5
50-54	8	7
55-59	10	8
60-64	11	9
65-69	12	10
70-74	14	11
75-79	15	12

Total cholesterol (mmol/L)	Man	Woman
< 4.1	0	0
4.1-5.19	1	1
5.2-6.19	2	3
6.2-7.2	3	4
> 7.2	4	5

HDL cholesterol (mmol/L)	Man	Woman
> 1.5	-2	-2
1.3-1.49	-1	-1
1.2-1.29	0	0
0.9-1.19	1	1
< 0.9	2	2

Systolic BP (mmHg)	Man		Woman	
	Not on BP treatment	On BP treatment	Not on BP treatment	On BP treatment
< 120	-2	0	-3	-1
120-129	0	2	0	2
130-139	1	3	1	3
140-149	2	4	2	5
150-159	2	4	4	6
≥ 160	3	5	5	7

	Man	Woman
Smoker	4	3
Diabetes	3	4

- If **man** and score < 11, then CVD risk is < 10%. If score 11-14, then CVD risk is 10-20%. If score ≥ 15, then CVD risk is > 20%.
- If **woman** and score < 13, then CVD risk is < 10%. If score 13-17, then CVD risk is 10-20%. If score ≥ 18, then CVD risk is > 20%.

Step 4

Explain to patient what his/her risk of heart attack or stroke might be over the next 10 years

- If CVD risk is < 10%, there is a less than 1 in 10 chance that patient may have a heart attack or stroke over the next 10 years.
- If CVD risk is 10-20%, the risk is between a 1 in 10 and a 1 in 5 chance that patient may have a heart attack or stroke over the next 10 years.
- If CVD risk is > 20%, there is more than a 1 in 5 chance that patient may have a heart attack or stroke over the next 10 years.

Step 5

Use the patient's CVD risk to decide treatment and frequency of follow-up

- If CVD risk factor or a CVD risk ≥ 10%, manage CVD risk → 144.
- If CVD risk < 10% and no CVD risk factors, advise behavioural change → 144 and reassess CVD risk after 5 years.

CVD risk: diagnosis if cholesterol not available

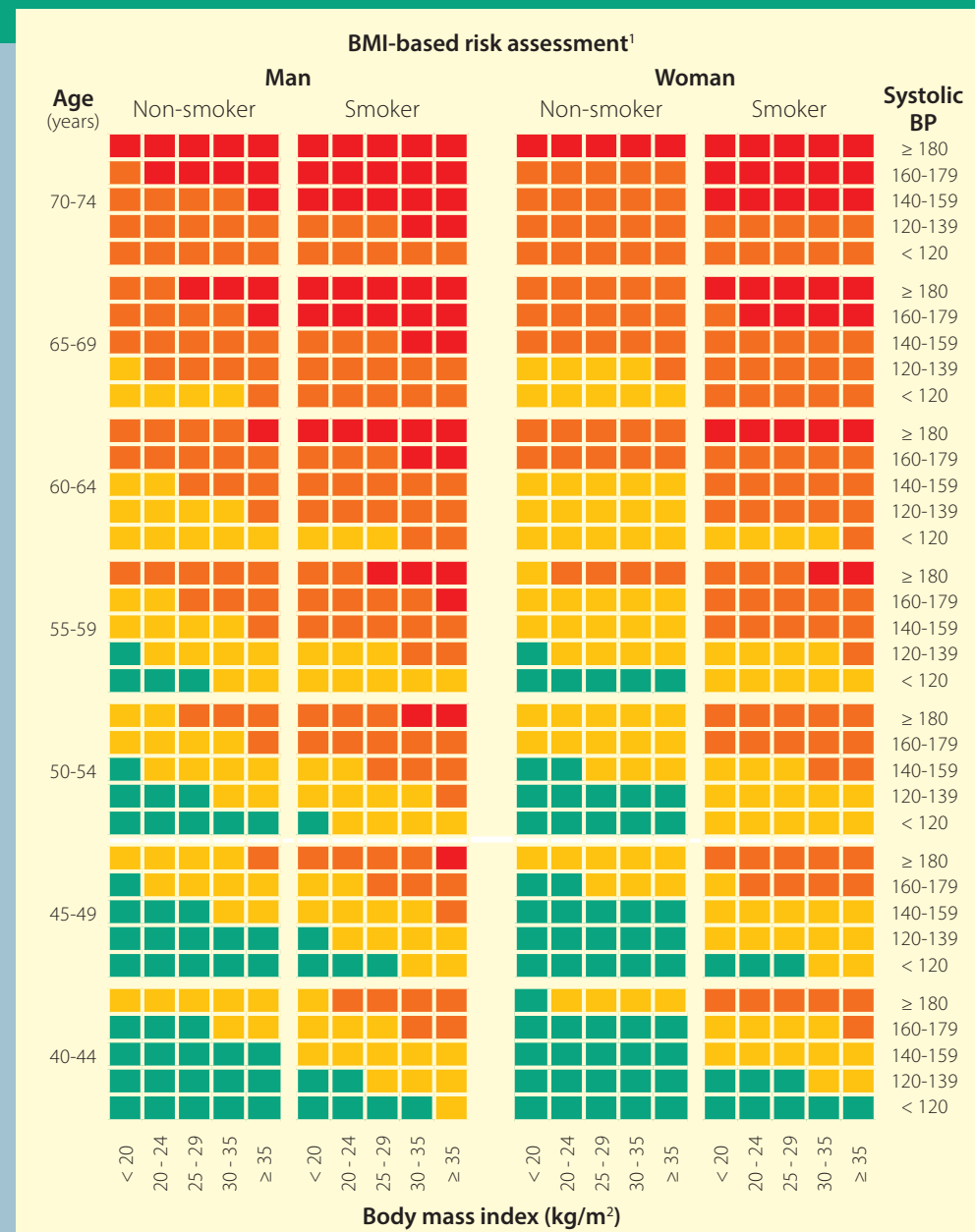
Step 3 If no established CVD and cholesterol *not* available, calculate the patient's 10-year CVD risk using the BMI-based risk assessment chart:
Use the patient's sex, age, BMI, systolic BP and smoking status to work out what colour block they fall into.

Step 4 Explain to the patient what his/her risk of heart attack or stroke might be over the next 10 years:

- **CVD risk < 5%:** this means there is less than a 1 in 20 chance that the patient may have a heart attack or stroke over the next 10 years.
- **CVD risk 5-10%:** this means there is between a 1 in 20 and a 1 in 10 chance that the patient may have a heart attack or stroke over the next 10 years.
- **CVD risk 10-20%:** this means there is between a 1 in 10 and a 1 in 5 chance that the patient may have a heart attack or stroke over the next 10 years.
- **CVD risk > 20%:** this means there is more than a 1 in 5 chance that the patient may have a heart attack or stroke over the next 10 years.

Step 5 Use the patient's CVD risk to decide treatment and frequency of follow-up:

- If CVD risk factor or a CVD risk $\geq 10\%$, manage CVD risk → 144.
- If CVD risk < 10% and no CVD risk factors, advise behavioural changes → 144 and reassess CVD risk after 5 years.



¹Adapted from WHO cardiovascular disease risk non-laboratory-based Southern Sub-Saharan Africa. From: HEARTS technical package for cardiovascular disease management in primary health care: risk-based CVD management. World Health Organization. Geneva, 2020.

CARDIOVASCULAR DISEASE (CVD) RISK: ROUTINE CARE

Assess the patient with CVD risk

Assess	When to assess	Note
Symptoms	Every visit	Ask about chest pain ↗ 24, difficulty breathing ↗ 23, leg pain ↗ 80 and symptoms of stroke/TIA ↗ 152.
Modifiable CVD risk factors	Every visit	Ask about smoking, diet, substance misuse, stress, exercise, and activities of daily living. Manage below.
BMI and waist circumference	At diagnosis, then yearly	Aim for BMI of 18 to < 25 and a waist circumference < 80cm if woman and < 94cm if man. If BMI ≥ 25 ↗ 156.
Waist-hip ratio	At diagnosis, then yearly	Aim for < 0.85 if woman and < 0.90 if man.
BP	Every visit	If known hypertension ↗ 149. If not known hypertension, and BP ≥ 140/90 ↗ 148.
CVD risk (if no known CVD ¹)	At diagnosis, then depending on risk	If CVD risk < 10% reassess after 5 years. If CVD risk 10-20%, reassess after 1 year. If CVD risk > 20%, reassess after 6 months.
Fingerprick glucose	At diagnosis, then depending on result	If known diabetes ↗ 145. If not known diabetes ↗ 19.
Random total cholesterol	At diagnosis if patient/family has any of: early onset ² CVD, yellow fatty lumps under skin/tendons, or familial hyperlipidaemia	- If cholesterol > 7.5, check TSH and refer to doctor. - If yellow fatty lumps under skin (excluding around the eyes) and tendons, refer.

Health for All

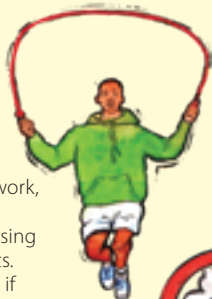
↗ 92

Advise the patient with CVD risk

- Discuss CVD risk: explore patient's understanding of CVD risk and need for a change in behaviour. Support the patient to change ↗ 199.
- Invite patient to address 1 modifiable CVD risk factor at a time: help plan how to fit the behavioural change into his/her day. Explore what might hinder or support this. Set reasonable target/s for next visit.

Physical activity

- Aim for at least 30 minutes brisk exercise at least 5 days/week.
- Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.
- Exercise with arms if unable to use legs.



Health for All

↗ 19



Smoking

If patient smokes, encourage to stop ↗ 164.

Health for All

↗ 33

Diet

- Eat a variety of foods in moderation. Reduce portion sizes.
- Increase fruit, vegetables, nuts and legumes.
- Choose whole wheat bread, brown rice, sorghum, samp or potatoes rather than white bread/rice.
- Replace brick margarine/butter with vegetable oil or soft tub margarine.
- Reduce salty processed foods like gravies, stock cubes, packet soup. Avoid adding salt to food.
- Avoid/use less sugar.
- Refer to dietician (if available).

Health for All

↗ 23

Weight

Aim for BMI 18 to < 25, and waist circumference < 80cm if woman and < 94cm if man. If BMI ≥ 25 ↗ 156. Any weight reduction is beneficial, even if targets not met.



Screen for substance misuse

- Limit alcohol intake to ≤ 2 drinks³/day if man and 1 drink³/day if woman.
- In the past year, has patient drunk ≥ 4 drinks³/session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any ↗ 165.



Health for All

↗ 37 and 41

Stress

Assess and manage stress ↗ 98.



Health for All

↗ 100

- Identify support to maintain behavioural change: health promoter, friend, partner or relative to attend clinic visits, a healthy lifestyle group, helpline ↗ 200.
- Be encouraging and congratulate any achievement. Avoid judging, criticising or blaming. It is the patient's right to make decisions about his/her own health. For tips on communicating effectively ↗ 198.

Treat the patient with CVD risk

- If **known CVD**¹: give ♦**rosuvastatin** 10mg daily. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to ♦**simvastatin** 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.
- If **no known CVD**¹: If CVD risk > 20%, diabetes > 10 years, diabetes with eGFR < 60, type 2 diabetes and > 40 years old, give ♦**simvastatin**⁴ 10mg at night. Avoid if pregnant or breastfeeding.

Review the patient with CVD risk < 10% every 5 years and CVD risk 10-20% yearly. Review the patient with CVD risk > 20% every 6 months.

¹Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA. ²CVD that develops in man < 55 years or in woman < 65 years. ³One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁴If HIV positive and on LPVr/ATVr switch to dolutegravir. If unable to switch to dolutegravir, switch to/continue ATVr. If on ATVr/DRVr, avoid simvastatin, give ♦**atorvastatin** 10mg daily instead.

DIABETES: ROUTINE CARE

Give urgent attention to the patient with diabetes and any of:

- Chest pain → 24
- Seizures → 20
- Decreased consciousness, drowsiness
- Confusion or unusual behaviour
- Weakness or dizziness
- Shaking
- Sweating
- Palpitations
- Rapid deep breathing
- Nausea or vomiting
- Abdominal pain
- Thirst or hunger
- Temperature $\geq 38^{\circ}\text{C}$
- Dehydration: dry mouth, poor skin turgor, BP $< 90/60$, pulse ≥ 100

Check random fingerprick glucose:

- If fingerprick glucose < 4 with/without symptoms → 19.
- If fingerprick glucose ≥ 11.1 with symptoms → 19.
- If fingerprick glucose ≥ 11.1 without symptoms, check urine dipstick for ketones. If ketones present → 19. If no ketones, give routine diabetes care below:

Assess the patient with diabetes not needing urgent attention

Assess	When to assess	Note
Symptoms	Every visit	Ask about chest pain → 24 and leg pain → 80. Manage other symptoms as on symptom pages.
TB	Every visit	If cough, weight loss, night sweats or fever, test for TB → 102. If TB contact ¹ → 100.
Mental health	At diagnosis and if control poor	If stress, anxiety or low mood → 98.
Cancer risk	Yearly	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening → 194.
Substance use	At diagnosis and if control poor	In the past year, has patient drunk ≥ 4 drinks ² /session, used drugs or misused prescription/over-the-counter medications? If yes to any → 165.
Palliative care	If advanced diabetes-related complications	If any of: kidney failure, severe CVD, stroke, non-healing diabetic foot disease or recurrent severe emergencies → 191.
BP	Every visit	If known hypertension → 149. If not known hypertension and BP $\geq 140/90$ → 148.
BMI, waist circumference (WC), waist-hip ratio (WHR)	• Weight: every visit • BMI, WC, WHR: at diagnosis, yearly	• Aim for BMI 18 to < 25. If BMI ≥ 25, manage the overweight patient → 156. • Aim for WC $< 80\text{cm}$ if woman or $< 94\text{cm}$ if man. Aim for a WHR < 0.85 if woman and < 0.90 if man.
Eyes	At diagnosis, yearly and if visual problems	Check visual acuity and funduscopy. If visual problems, cataracts or retinopathy, refer.
Feet	At diagnosis, yearly and more often if problems	Check for pain, pulses, sensation, deformity, skin problems. For foot screen and foot care education → 81.
Family planning	Every visit	Assess patient's contraceptive needs → 170. If pregnant or planning pregnancy, refer for specialist care.
Fingerprick glucose	Every visit	If fasting glucose > 8 or glucose taken 2 hours after eating > 10 , step up treatment → 147.
HbA _{1c} (glucose control over past 3 months)	• Yearly • 3-6 monthly if treatment aim not reached or treatment change	• Aim for HbA_{1c} $< 7.0\%$ for most patients; HbA_{1c} $< 6.5\%$ if young/newly diagnosed/CVD risk $< 10\%$/no known CVD; HbA_{1c} $< 7.5\%$ if > 65 years, CVD risk $> 10\%$ or poor short-term prognosis. • If treatment aim not reached and adherent → 147. If not adherent, give support → 195 and repeat HbA_{1c} after 3 months.
Urine dipstick	At diagnosis and yearly	• If protein, start enalapril if not already on it → 147. • If no protein and not on enalapril, send urine to lab for albumin/creatinine ratio. If ratio $> 3\text{mg}/\text{mmol}$ or $> 30\text{mg}/\text{g}$, start enalapril → 147.
Creatinine (eGFR)	• At diagnosis, then yearly • If eGFR 30-60 and on metformin: 3-6 monthly	• If eGFR < 60, discuss with doctor. If known chronic kidney disease → 155. • If eGFR < 30 stop metformin and glimepiride and discuss/refer same day.
Potassium	If on enalapril/eGFR < 30 : at diagnosis and yearly If starting enalapril: at baseline and after 4 weeks ³	If potassium > 5.5 , discuss/refer to doctor same day to assess whether to decrease/stop enalapril.
Lipids	At diagnosis	Check fasting total cholesterol, triglycerides, HDL/LDL. Assess CVD risk → 142. If total cholesterol > 7.5 or triglycerides > 10 , discuss/refer.

¹A TB contact refers to a patient who shared an enclosed space (at work, socially, in a hostel, or in a household setting), for ≥ 1 night or for frequent/extended daytime periods, with an adult/adolescent with pulmonary TB ("index patient"), during the 3-month period before the index patient started their TB treatment. ²One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ³If eGFR < 60 , repeat instead at 2 weeks.

Adherence

- Explain importance of taking medication every day and eating regular meals.
- Advise patient to know what medication they are taking and educate about side-effects.
- Use a pill box or a pill diary to help remember to take medication every day.
- Give adherence support if needed [↗ 195](#) and refer to community health worker, if available.



Diet

- Eat a variety of foods in moderation.
- Avoid/limit foods with added fats, sugars, or salt (e.g. takeaway meals, deep-fried foods, pies, doughnuts, cakes, biscuits, white bread).
- Increase fruit, vegetables, nuts and legumes.
- Choose brown bread/brown rice or potatoes rather than white bread/white rice.
- Avoid/use less sugar and salt.
- Drink water instead of sugary drinks.
- Eat small portions of food 3-5 times per day. Avoid snacks between meals.
- Eat one portion of fruit twice a day and about half a plate of vegetables every day.
- Choose lean cuts of meat.
- Avoid deep-frying foods.



Glucose levels and HbA_{1c}

- Explain the importance of monitoring glucose levels at every visit.
- Educate about how glucose levels change with meals and advise what levels patient should aim for.
- Explain why HbA_{1c} testing is done and encourage patient to reach target.



Advise the patient with diabetes

Better food and drinks choices

- Educate how to read food labels to make better food and drinks choices when shopping.
- Avoid ultra-processed food with additives (complicated names, E-numbers).
- Avoid if front-of-package label warning.
- Check ingredient list for items that are high in sugar, salt and fat.
- Check nutritional information table for actual amounts of sugar, salt, fat and fibre. Use table below to guide on limits:



Total sugar	< 5g per 100g food/< 2.5g per 100mL drink
Saturated fat	< 2.5g per 100g food or drink
Total sodium	< 120mg per 100g food or drink
Dietary fibre	> 3g per 100g food or drink

Exercise and physical activity

- Aim for at least 30 minutes brisk exercise at least 5 days/week.
- Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts.
- Exercise with arms if unable to use legs.



Hypoglycaemia

- Blood sugar can drop if patient does not take medication correctly, misses meals, uses alcohol or becomes ill.
- Educate on signs of low blood sugar: palpitations, sweating, headaches, weakness, shaking and hunger.
- Advise to eat or drink something sweet immediately.
- Always carry something sweet.
- If patient uses insulin, advise to always wear a Medic Alert tag.



CVD risk factors

- Ask about CVD risk factors and calculate patient's CVD risk [↗ 142](#).
- Help patient to manage CVD risk [↗ 144](#).
- If BMI ≥ 25 [↗ 156](#). Advise patient any weight reduction is beneficial, even if targets not met.
- Advise to avoid/limit alcohol intake to ≤ 2 drinks/day if man and 1 drink/day if woman.
- If smoking, encourage to stop [↗ 164](#).



Foot care

- Advise foot care is important to prevent ulcers and amputations.
- Examine and wash feet daily, carefully dry between toes.
- Avoid testing water temperature with feet or using hot water bottles/heaters near feet.
- If cuts/blisters/sores, keep wound clean and return to clinic if not healing.
- Cut nails straight with nail cutter and file sharp edges.
- Moisturise skin with lotion/cream.
- Wear comfortable shoes. Avoid high heels, shoes with pointed toes or wearing open shoes.
- Wear loose absorbent socks and change socks daily.
- Avoid walking on hot surfaces or walking barefoot.
- Examine shoes daily for any foreign objects.



Insulin

If on/starting insulin:

- Discuss: injection technique/sites (abdomen, thighs, arms), storage of insulin (fridge/cool dark place), meal frequency, symptoms of low/high blood sugar, disposal of sharps.
- Advise that if unwell and vomiting/not eating as usual to increase fluid intake, check glucose 3 times a day if possible and adjust insulin dose if necessary (avoid stopping insulin).



Treat the patient with diabetes

- Refer to a dietitian (if available) for dietary management with yearly follow-up.
- Give **◆influenza vaccine** 0.5mL IM yearly.
- If **known CVD¹**:
 - Give **◆rosuvastatin** 10mg daily. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to **◆simvastatin** 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.
 - Give **◆aspirin** 150mg daily. Avoid if peptic ulcer, dyspepsia, kidney or liver disease.
- If **no known CVD¹** but CVD risk > 20%, diabetes with eGFR < 60, diabetes > 10 years, or type 2 diabetes and age > 40 years, give **◆simvastatin²** 10mg at night. Avoid if pregnant or breastfeeding.
- If albuminuria/proteinuria, give **◆enalapril³** 5mg 12 hourly, regardless of BP. If proteinuria persists and systolic BP > 100, increase to 10mg 12 hourly, if tolerated.
- Give glucose-lowering medication using stepwise approach as in table below. Ensure patient is adherent before stepping up treatment.

Step	Medication	Breakfast	Supper	Bedtime (before 22h00)	Note
Step 1	◆Metformin	500mg 500mg 850mg 1g	500mg 850mg 1g		• Avoid if eGFR < 30, liver disease, uncontrolled heart failure, alcoholism. • If eGFR 30-45, maximum dose is 1g daily. • If on dolutegravir, initiate metformin at a low dose (500mg to 1000mg total daily dose), titrating up as needed, up to 2g daily. If already on metformin and initiating dolutegravir, maintain/reduce dose to ≤ 2g daily. • Take with meals. Nausea/abdominal cramps/diarrhoea usually resolves: advise not to stop treatment. • Increase monthly if fasting glucose > 8 (or postprandial⁴ glucose > 10) or HbA_{1c} > 8%, and patient adherent. • If up to 2g daily needed, metformin may be given as 850mg 8 hourly <i>instead of</i> 1g twice daily. • If after 3 months on maximum dose HbA_{1c} > 8%, move to step 2.
Step 2	Add ◆glimepiride (preferred if patient > 65 years) or ◆glibenclamide	1mg 2mg 3mg 4mg (up to 8mg) 2.5mg 5mg 5mg 5mg 7.5mg 10mg	 2.5mg 5mg 5mg 5mg		• Continue metformin. • Glimepiride: take with breakfast. - Increase glimepiride by 1mg, at weekly intervals, up to 8mg daily if fasting glucose > 8 (or postprandial⁴ glucose > 10) or HbA_{1c} > 8%, and patient is adherent. • Glibenclamide: avoid if > 65 years. - Take glibenclamide 30 minutes before meals. Avoid missing meals. - Increase every 2 weeks if fasting glucose > 8 (or postprandial⁴ glucose > 10) or HbA_{1c} > 8%, and patient adherent. • Avoid both if pregnant, eGFR < 60, liver disease and co-trimoxazole allergy. • If after 3 months on maximum dose HbA_{1c} > 8%, move to step 3.
Step 3	Add ●basal insulin (intermediate or long-acting)			Start at 10IU. If glucose remains raised, increase by 2-4units each week	• Stop glimepiride/glibenclamide but continue metformin when starting insulin. Educate about insulin ↗ 146. • Advise to check glucose daily (2 hours after a meal) and on waking 3 times a week. Keep a record of readings. • If fasting glucose frequently > 8 (or postprandial⁴ glucose > 10), increase by 2-4units each week. • If patient having episodes of hypoglycaemia, refer to doctor. If > 20IU needed, move to step 4.
Step 4	Substitute basal insulin with ●biphasic insulin	0.2IU/kg 0.2IU/kg + 4IU 0.2IU/kg + 4IU 0.2IU/kg + 8IU 0.2IU/kg + 8IU 0.2IU/kg + 12IU	0.1IU/kg 0.1IU/kg 0.1IU/kg + 4IU 0.1IU/kg + 4IU 0.1IU/kg + 8IU 0.1IU/kg + 8IU etc.		• Continue with metformin. Stop glimepiride/glibenclamide and basal insulin. • Educate about insulin ↗ 146. • Start with 0.3units/kg/day. Patient to give two-thirds of total daily insulin dose 30 minutes before breakfast and one-third of total daily insulin dose 30 minutes before supper. • Advise to check glucose daily (2 hours after a meal) and on waking 3 times a week. Keep a record of readings. • If fasting glucose frequently > 8 (or postprandial⁴ glucose > 10), increase dose by 4 units each week. • If HbA_{1c} > 8% after 3 months, discuss with specialist.

Review the patient with diabetes 6 monthly once stable.

¹Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA. ²If HIV positive and on LPVr/ATVr switch to dolutegravir. If unable to switch to dolutegravir, switch to/continue ATVr. If on ATVr/DRVr, avoid simvastatin, give **◆atorvastatin** 10mg daily instead. ³Avoid in pregnancy, previous angioedema or renal artery stenosis. If persistent cough, refer to doctor to consider alternative. ⁴Two hours after eating.

HYPERTENSION: DIAGNOSIS

Check blood pressure (BP)

- **Position patient:** ask patient to remove tight clothing covering upper arm. Sit with back against chair, both feet flat on floor and arm supported at heart level. Patient to avoid talking during reading.
- **Position cuff** correctly and ensure appropriate size. If obese (mid-upper arm circumference ≥ 33 cm), use a large BP cuff.
- **Measure and record** systolic BP (SBP) and diastolic BP (DBP). Take at least two readings 1-2 minutes apart.
 - If first time BP measurement, or readings differ by > 5 mmHg, or if BP $\geq 180/110$, take a third reading. Use average of last 2 readings to interpret BP measurement.
- If taking BP manually, SBP is the first appearance of sound. DBP is the disappearance of sound.
- If patient is pregnant, interpret reading $\rightarrow 177$.

Give urgent attention to the patient with systolic BP ≥ 180 and/or diastolic BP ≥ 110 and symptoms:

Sudden onset of: severe headache, weakness on 1 or both sides, seizure/s, visual disturbances, dizziness, difficulty speaking or swallowing, **stroke likely** $\rightarrow 152$

Hypertensive emergency likely if SBP ≥ 180 and/or DBP ≥ 130 and any of:

- Severe headache
- Known kidney failure (eGFR < 15)
- Chest pain/unstable angina $\rightarrow 24$
- Shortness of breath/severe heart failure

Manage and refer urgently:

- Give $\blacklozenge$ **amlodipine** 10mg.
- If shortness of breath/severe heart failure, also give single dose $\blacklozenge$ **furosemide** 40mg IV and face mask oxygen at 6-8 L/minute.

Hypertensive urgency likely if SBP ≥ 180 and/or DBP ≥ 110 and any of:

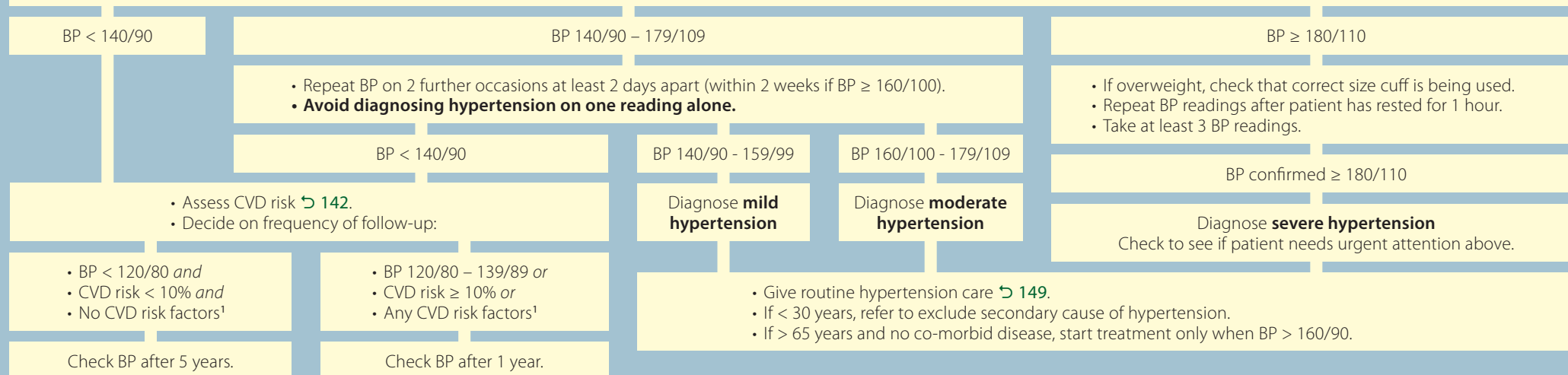
- Severe headache
- Known kidney impairment (eGFR < 60)
- Difficulty breathing worse on lying flat or leg swelling, **heart failure** likely

Manage and refer same day:

- If normal kidney function and no heart failure, give $\blacklozenge$ **amlodipine** 5mg or $\blacklozenge$ **enalapril** 10mg followed by $\blacklozenge$ **hydrochlorothiazide (HCTZ)** 12.5mg to lower BP slowly.
- If eGFR < 60 or heart failure likely, give instead $\blacklozenge$ **amlodipine** 5mg followed by $\blacklozenge$ **furosemide** 40mg orally or $\blacklozenge$ **hydrochlorothiazide (HCTZ)** 12.5mg

Approach to interpreting a BP in a patient not needing urgent attention.

If systolic BP and diastolic BP fall into 2 different categories, use the higher blood pressure reading to classify further.



¹CVD risk factors include smoking, diabetes, BMI ≥ 25 , waist circumference ≥ 80 cm if woman or ≥ 94 cm if man, or waist-hip ratio ≥ 0.85 if woman or ≥ 0.90 if man.

HYPERTENSION: ROUTINE CARE

Assess the patient with hypertension

Assess	When to assess	Note
Symptoms	Every visit	Ask about symptoms of heart failure ↗ 151, ischaemic heart disease ↗ 153 or stroke/TIA ↗ 152. Manage other symptoms as on symptom pages.
Family planning	Every visit	- If woman of childbearing age, check for pregnancy ↗ 174. If pregnant, stop current hypertension medication, give instead ♦methyldopa 250mg 8 hourly (avoid taking iron within 4 hours of taking methyldopa). Refer to high-risk antenatal clinic within 2 days. - Assess patient's contraceptive needs ↗ 170. If planning pregnancy, refer to doctor.
Mental health	At diagnosis	If stress, anxiety or low mood ↗ 98.
Substance use	At diagnosis	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any ↗ 165.
Cancer risk	Yearly	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.
Adherence	Every visit	If BP not controlled, assess and support adherence ↗ 195.
BP control	Every visit: check 2 readings (for correct method ↗ 148)	- If BP < 140/90, BP is controlled. Continue current treatment and review 6 monthly. If SBP consistently ≤ 110, consider decreasing dose or medication. - If BP ≥ 140/90, BP is not controlled. If adherent, step up treatment ↗ 150. If not adherent, give support ↗ 195 and review in 1 month. - If BP ≥ 180/110: also check if urgent attention needed ↗ 148.
BMI, waist circumference (WC), waist-hip ratio (WHR)	- Weight: every visit - BMI, WC, WHR: at diagnosis, yearly	- BMI = weight (kg) ÷ height (m) ÷ height (m). Aim for BMI of 18 to < 25. If BMI ≥ 25 ↗ 156. - Aim for WC < 80cm if woman or < 94cm if man. - Aim for WHR < 0.85 if woman and < 0.90 if man.
CVD risk	At diagnosis, then depending on risk	Assess CVD risk ↗ 142.
Urine dipstick	At diagnosis, then yearly	- At diagnosis: if proteinuria, discuss with doctor to exclude secondary causes of hypertension. - If known diabetes ↗ 145. If not known diabetes and ≥ 1+ proteinuria, repeat on midstream urine sample on separate day. If persists, do spot urine protein:creatinine ratio. If > 0.15g/g or 0.015g/mmol, discuss/refer to specialist.
Fingerprick glucose	Yearly and if glucosuria	If known diabetes ↗ 145. If not known diabetes ↗ 19.
Creatinine (eGFR)	- At diagnosis - Yearly if: ≥ 1+ proteinuria on dipstick, existing CVD², hypertension for ≥ 10 years, uncontrolled hypertension, eGFR < 60	- If known chronic kidney disease ↗ 155. - If eGFR < 30, refer. - If eGFR < 60, send urine to lab for albumin/creatinine ratio and refer to doctor. If ratio > 3mg/mmol or > 30mg/g, discuss/refer.
Potassium	- If on enalapril or eGFR < 30: at baseline - If eGFR < 30 or on spironolactone: 6 monthly	If potassium > 5.5, discuss/refer to doctor same day to assess whether to decrease/stop enalapril.

Advise the patient with hypertension

Health for All

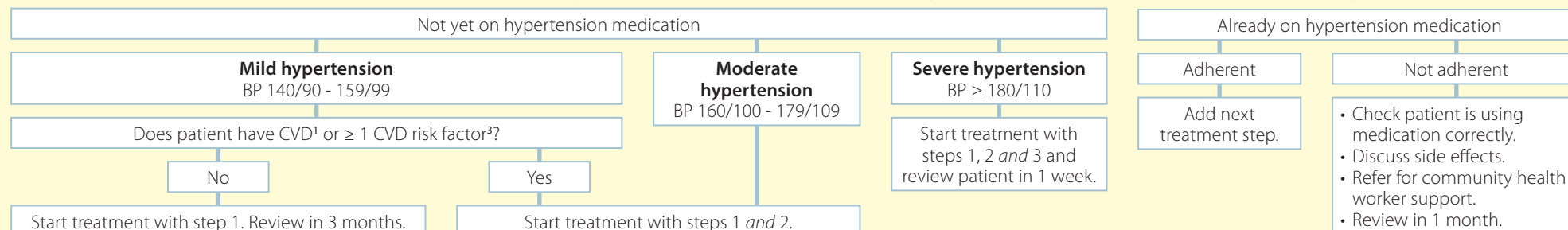
↗ 82

- If newly diagnosed, refer for community health worker support. Advise behavioural changes and help patient to manage CVD risk ↗ 144.
- Educate patient that blood pressure changes slightly during the day and night: hypertension is when it stays high, above a certain level. Patient may not have any symptoms.
- Explain importance of adherence and that patient will need lifelong hypertension care to prevent stroke, heart disease, eye disease and kidney disease. Agree on a dosing time that is convenient for the patient that fits the patient's daily routine.
- Advise to take medication every day, including on the day of the clinic visit, even if no breakfast eaten. A single missed dose does not cause severe elevations in BP.
- Advise to avoid NSAIDs (e.g. ibuprofen) and combined oral contraceptive. If on hydrochlorothiazide, advise to limit exposure to sunlight and use sunscreen when going outside.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA.

Treat the patient with hypertension

- Give **influenza vaccine** 0.5mL IM yearly.
- If **known CVD**¹:
 - Give **rosuvastatin** 10mg daily. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to **simvastatin** 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.
 - Give **aspirin** 150mg daily. Avoid if peptic ulcer, dyspepsia, kidney or liver disease.
- If **no known CVD**¹: if CVD risk > 20%, give **simvastatin**² 10mg at night. Avoid if pregnant or breastfeeding.
- If BP **controlled**, continue current treatment step and review 6 monthly. If BP **not controlled**, decide treatment for hypertension using algorithm and table below. If already on step 7, refer instead.



	Medication	Note
Step 1	Address modifiable CVD risk factors.	Manage CVD risk ↗ 144. If BP not controlled after 3 months, add step 2.
Step 2	Add hydrochlorothiazide (HCTZ) 12.5mg daily	• Avoid if pregnant, gout, severe liver disease or eGFR < 30. • Use with caution if personal/family history of skin cancer. • If diabetes or known left ventricular hypertrophy on ECG start enalapril 10mg daily instead of HCTZ. Then if needed, add HCTZ as next step once on maximum dose of enalapril. • If heart failure, treat ↗ 151. If ischaemic heart disease (IHD), treat ↗ 153.
Step 3	Add either amlodipine or enalapril	Amlodipine: • Choose if: isolated systolic hypertension, asymptomatic severe hypertension. • Avoid if untreated heart failure. Enalapril: • Choose if: previous stroke. • Avoid if: pregnant, potassium > 5.5, bilateral renal artery stenosis or stenosis of an artery to a dominant/single kidney, aortic valve stenosis, or history of angioedema. • If eGFR < 30, discuss with specialist. • Advise to stop enalapril and return immediately if swelling of tongue/lips/face develops, angioedema likely ↗ 49.
	Add amlodipine 5mg daily	
	Add enalapril 10mg daily	
	Increase amlodipine to 10mg daily	
Step 4	Increase amlodipine to 10mg daily	Amlodipine: • Choose if: isolated systolic hypertension, asymptomatic severe hypertension. • Avoid if untreated heart failure. Enalapril: • Choose if: previous stroke. • Avoid if: pregnant, potassium > 5.5, bilateral renal artery stenosis or stenosis of an artery to a dominant/single kidney, aortic valve stenosis, or history of angioedema. • If eGFR < 30, discuss with specialist. • Advise to stop enalapril and return immediately if swelling of tongue/lips/face develops, angioedema likely ↗ 49.
	Increase amlodipine to 10mg daily	
	Increase amlodipine to 10mg daily	
	Increase amlodipine to 10mg daily	
Step 5	Add enalapril 10mg daily	Amlodipine: • Choose if: isolated systolic hypertension, asymptomatic severe hypertension. • Avoid if untreated heart failure. Enalapril: • Choose if: previous stroke. • Avoid if: pregnant, potassium > 5.5, bilateral renal artery stenosis or stenosis of an artery to a dominant/single kidney, aortic valve stenosis, or history of angioedema. • If eGFR < 30, discuss with specialist. • Advise to stop enalapril and return immediately if swelling of tongue/lips/face develops, angioedema likely ↗ 49.
	Add enalapril 10mg daily	
	Add enalapril 10mg daily	
	Add enalapril 10mg daily	
Step 6	Increase enalapril to 20mg daily	Amlodipine: • Choose if: isolated systolic hypertension, asymptomatic severe hypertension. • Avoid if untreated heart failure. Enalapril: • Choose if: previous stroke. • Avoid if: pregnant, potassium > 5.5, bilateral renal artery stenosis or stenosis of an artery to a dominant/single kidney, aortic valve stenosis, or history of angioedema. • If eGFR < 30, discuss with specialist. • Advise to stop enalapril and return immediately if swelling of tongue/lips/face develops, angioedema likely ↗ 49.
	Increase enalapril to 20mg daily	
	Increase enalapril to 20mg daily	
	Increase enalapril to 20mg daily	
Step 7	Add spironolactone 25mg daily and increase HCTZ to 25mg daily.	Only use spironolactone if potassium can be monitored. Avoid spironolactone if pregnant or eGFR < 30.

Review the patient with hypertension monthly until BP controlled. Once controlled, review 6 monthly. If BP not controlled after 1 month on step 7, refer.

¹Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA. ²If HIV positive and on LPVr/ATVr switch to dolutegravir. If unable to switch to dolutegravir, switch to/continue ATVr. If on ATVr/DRVr, avoid simvastatin, give **atorvastatin** 10mg daily instead ³CVD risk factors include smoking, diabetes, BMI ≥ 25, waist circumference ≥ 80cm if woman or ≥ 94cm if man or, waist-hip ratio ≥ 0.85 if woman or ≥ 0.90 if man.

HEART FAILURE: ROUTINE CARE

The patient with heart failure has leg swelling and difficulty breathing which worsens on lying down/with effort. **A doctor must confirm the diagnosis and refer the patient for specialist assessment.**

Give urgent attention to the patient with heart failure and any of:

- Chest pain → 24
- Rapid worsening of symptoms
- Respiratory rate ≥ 30 or difficulty breathing
- BP $< 90/60$
- New wheeze

Manage and refer urgently:

- Sit patient up and if oxygen saturation $< 94\%$, give 40% face mask oxygen at 6-8L/min.
- If systolic BP > 90 , give **furosemide** 40mg slow IV. If no response after 30 minutes, give another 80mg IV. If good response, give 40mg IV after 2-4 hours.
- If systolic BP > 90 , give sublingual **isosorbide dinitrate** 5mg even if there is no chest pain. Repeat every 10 minutes if SBP remains > 90 .
- If BP $\geq 180/130$, give single dose **enalapril** 10mg orally.

Assess the patient with heart failure

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as on symptom pages. If fainting/blackouts, refer same day.
Family planning	Every visit	Assess patient's contraceptive needs → 170. If pregnant or planning pregnancy, refer for specialist care.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any → 165.
Weight	Every visit	Assess changes in fluid balance by comparing with weight when patient least symptomatic.
BP and pulse	Every visit	If known hypertension → 149. If not known hypertension and BP $\geq 140/90$ → 148. If new irregular pulse, refer same day.
Palliative care	Every visit	Assess need for palliative care → 191.
Creatinine (eGFR) and potassium	At diagnosis, 6 monthly	• If starting/increasing dose of enalapril/spironolactone: also check after 2 weeks if eGFR < 60, or after 4 weeks if eGFR ≥ 60. • If creatinine increases by $> 20\%$, eGFR < 30 or potassium > 5.0, stop enalapril/spironolactone and discuss with specialist.
Other blood tests	At diagnosis	Test for HIV → 124. Check Hb, TSH and if not known diabetes, check fingerprick glucose → 19. If abnormal, discuss with specialist.

Advise the patient with heart failure

- Advise to adhere to treatment even if asymptomatic. Advise to avoid NSAIDs (e.g. ibuprofen). Advise regular exercise within limits of symptoms. Help patient to manage CVD risk → 144.
- Advise to restrict salt to $<$ half a teaspoon/day and fluids to 1.5L/day (6 cups). If possible, advise to monitor weight daily. If patient gains ≥ 2 kg in 2 days, advise to return to clinic.

Treat the patient with heart failure

- Give **influenza vaccine** 0.5mL IM yearly. Aim to have patient on steps 1 and 2. Add step 3 if patient has ongoing symptoms on steps 1 and 2. If uncontrolled on steps 1-3, refer to specialist for digoxin.

	Medication	Dose	Note
1	• Hydrochlorothiazide - or furosemide - and enalapril	25-50mg daily Start 40mg daily. If needed, increase every 2-3 days until symptoms improve, up to 250mg/day. Start 2.5mg 12 hourly. If needed, increase up to 10mg 12 hourly.	For mild heart failure. Avoid if: eGFR < 30 , liver disease, gout, pregnancy. Use cautiously if personal/family history of skin cancer. • Use if severe heart failure symptoms or eGFR < 60. Once improved, consider switch to HCTZ if eGFR ≥ 60. • If > 80mg needed, give half dose 12 hourly. Avoid if pregnant, previous angioedema, aortic stenosis, hypertrophic obstructive cardiomyopathy, renal artery stenosis.
2	Add carvedilol	Start 3.125mg 12 hourly. If tolerated, double dose every 2 weeks until symptoms improve, up to 25mg 12 hourly.	• Start once on optimal dose of enalapril and aim for resting pulse 50-70. • If > 85 kg, titrate to a maximum of 50mg twice daily, if tolerated. If still symptomatic, do ECG² and/or refer. • Avoid if severe fluid overload, cardiogenic shock³, BP $< 90/60$, asthma. Avoid or decrease dose if pulse < 50.
3	Add spironolactone	25mg daily	Monitor potassium and kidney function. Avoid if eGFR < 30 or potassium > 5.0 . Stop potassium supplements.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²If ECG shows heart block or bradyarrhythmias, refer. ³If SBP < 80 , pulse ≥ 100 , respiratory rate > 30 , confusion/restlessness, weakness, shock likely.

STROKE: ROUTINE CARE

Sudden onset of one or more of the following suggests a stroke (or a transient ischaemic attack (TIA) if symptoms lasted < 24 hours and resolved completely):

- Weakness or numbness of face/arm/leg, especially on one side of the body
- Difficulty speaking or understanding
- Blurred or decreased vision in one/both eyes or double vision
- Difficulty walking, dizziness, loss of balance or co-ordination

Give urgent attention to the patient with a new stroke/TIA:

- If oxygen saturation < 94% or respiratory rate $\geq$ 30, give face mask oxygen.
- Keep patient nil by mouth until swallowing is formally assessed.
- Check glucose: if < 3 (< 4 if diabetes) [↗ 19](#).
- Avoid treating BP $\geq$ 140/90 as this may worsen stroke. If BP $\geq$ 220/120, discuss with specialist about need for pre-referral treatment.
- Decide where to refer the patient depending on when symptoms started:
 - If patient can reach hospital within 3 hours of onset of symptoms, *refer urgently* for thrombolysis to specialist stroke unit (if available).
 - If patient cannot reach hospital within 3 hours of symptoms onset, refer same day and give single dose [♦aspirin](#) 300mg if fully conscious and can swallow (avoid if on long-term anticoagulant or headache/neck stiffness).

Assess the patient with previous stroke/TIA

Assess	When to assess	Note
Symptoms	Every visit	Ask about chest pain ↗ 24 or leg pain ↗ 80 .
Mental health	Every visit	If stress, anxiety or low mood ↗ 98 .
Rehabilitation needs	Every visit	Refer to physiotherapist for mobility/self care; occupational therapist for self care; speech therapist for swallowing/coughing after eating/speaking/drooling.
Palliative care	Every visit	Assess need for palliative care ↗ 191 .
BP	Every visit	If known hypertension ↗ 149 . If not, and BP $\geq$ 140/90 ↗ 148 .
Fingerprick glucose	At diagnosis and yearly	If known diabetes ↗ 145 . If not known with diabetes ↗ 19 .
Fasting cholesterol and triglycerides	At diagnosis if not already done	If cholesterol > 7.5 or triglycerides > 10, check TSH and refer to doctor.
HIV	At diagnosis, especially if < 50 years	Test for HIV ↗ 124 . If known HIV, give routine care ↗ 126 .
ECG	At diagnosis if not already done	If abnormal, discuss/refer.

Advise the patient with stroke/TIA

- Educate the patient that stroke/TIA is a brain attack. Quick treatment of a minor stroke or TIA can reduce the risk of a major stroke. Refer to available helpline/s [↗ 200](#).
- If < 55 years (man) or < 65 years (woman), advise the first-degree relatives (parents, siblings, children) to have CVD risk assessment [↗ 142](#).
- Avoid oral contraceptives containing oestrogen. Advise other method such as copper IUD, injectable, progestogen-only pill [↗ 170](#).

Treat the patient with stroke/TIA

- Give [♦influenza vaccine](#) 0.5mL IM yearly.
- Give [♦aspirin](#) 150mg daily for life. Avoid if < 30 years, haemorrhagic stroke, previous peptic ulcer, dyspepsia or on anticoagulant. If prosthetic heart valve, valvular heart disease or atrial fibrillation, refer for warfarin instead.
- If patient had an ischaemic stroke, give [♦rosuvastatin](#) 10mg daily for life, regardless of cholesterol. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to [♦simvastatin](#) 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.

ISCHAEMIC HEART DISEASE: ROUTINE CARE

Assess the patient with ischaemic heart disease

Assess	When to assess	Note
Symptoms	Every visit	If recent episodes of chest pain/discomfort, assess ↗ 24. Ask about leg pain ↗ 80, symptoms of stroke/TIA ↗ 152 and symptoms of heart failure ↗ 151.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98.
Cancer	Yearly	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.
Palliative care	Every visit	Assess need for palliative care ↗ 191.
BP	Every visit	If known hypertension ↗ 149. If not, and BP ≥ 140/90 ↗ 148.
Fingerprick glucose	At diagnosis and yearly	If known diabetes ↗ 145. If not known diabetes ↗ 19.

Advise the patient with ischaemic heart disease

- Patient can resume normal daily activity and sexual activity 1 month after heart attack if symptom free.
- Advise to avoid NSAIDs (like ibuprofen), as they may precipitate chest pain. Emphasise the importance of lifelong adherence to medication. If difficulty with adherence ↗ 195.
- If < 55 years (man) or < 65 years (woman), advise first degree relatives (parents, siblings, children) to have CVD risk assessment.

Treat the patient with ischaemic heart disease

- Help patient to manage CVD risk ↗ 144.
- Give ◆influenza vaccine 0.5mL IM yearly.
- Give ●aspirin 150mg daily for life. Avoid if peptic ulcer, dyspepsia, kidney or liver disease.
- Give ◆rosuvastatin 10mg daily. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to ◆simvastatin 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.
- Give ●atenolol 50mg daily, even if no chest pain/discomfort. Avoid if asthma, COPD, heart failure, peripheral vascular disease.
- If unstable angina or following heart attack: if signs of heart failure, also give ●enalapril 2.5mg 12 hourly and increase slowly to 10mg 12 hourly. Avoid if pregnant, angioedema or renal artery stenosis.
- If patient has **stable angina**¹, also treat using stepwise approach as in table below:
 - If chest pain/discomfort controlled, continue same medication and dose. Ensure patient knows how and when to use sublingual nitrates.
 - If still gets episodes of chest pain/discomfort, increase to maximum dose. If symptoms continue, add next step. Ensure patient is adherent before increasing medication.

	Medication	Dose	Maximum dose	Note
Step 1	●Isosorbide dinitrate and ●atenolol	5mg sublingual with angina	4 doses of 5mg with each episode of angina	If chest pain on exertion, rest and take 1st dose. If pain persists, take a further 3 doses 5 minutes apart. If no better, patient to seek medical attention urgently. Patient can also take a preventative dose before exertion.
		50mg daily	100mg daily	Aim for resting pulse rate of 60. Avoid if asthma, COPD, heart failure, peripheral vascular disease or if side effects (headache, cold hands/feet, impotence, tight chest, fatigue) are intolerable. Use amlodipine instead.
Step 2	Add ●amlodipine	5mg in the morning	10mg daily	Avoid if heart failure, discuss with specialist.
Step 3	Add: ●isosorbide mononitrate or ●isosorbide dinitrate	10mg at 8am and 2pm	20mg at 8am and 2pm	Modify dosing times for night shift workers.
		20mg at 8am and 2pm	30mg at 8am and 2pm	Modify dosing times for night shift workers.

If atenolol and amlodipine contraindicated/not tolerated or chest pain/discomfort persists on full treatment, refer to specialist. Review monthly until symptoms controlled. Then review 3-6 monthly.

¹If recurrent characteristic chest pain (burning or heavy discomfort behind sternum) usually lasting < 15 minutes, due to myocardial ischaemia. Occurs with exercise/exertion and relieved by rest.

PERIPHERAL VASCULAR DISEASE (PVD)

- Peripheral vascular disease is characterised by claudication: muscle pain in legs or buttocks on exercise that is relieved by rest. Leg pulses are reduced and skin may be cool, shiny and hairless.
- Refer the patient newly diagnosed with peripheral vascular disease for specialist assessment.

Give urgent attention to the patient with peripheral vascular disease and any of:

- Sudden severe leg pain at rest with any of the following in the leg: numbness, weakness, pallor, no pulse, **acute limb ischaemia** likely
- Leg pain occurring at rest, ulcer or gangrene on leg, **critical limb ischaemia** likely
- Pulsatile mass in abdomen with abdominal/back pain or BP < 90/60: **ruptured abdominal aortic aneurysm** likely

Manage urgently:

- If **acute limb ischaemia** likely, refer urgently.
- If **critical limb ischaemia** likely, discuss same day urgency of referral with specialist.
- If **ruptured abdominal aortic aneurysm** likely, avoid giving IV fluids even if BP < 90/60 (raising blood pressure may worsen the rupture). Refer urgently.

Assess the patient with peripheral vascular disease

Assess	When to assess	Note
Symptoms	Every visit	- Ask about chest pain ↗ 24 and symptoms of stroke/TIA ↗ 152. Manage other symptoms as on symptom pages. - Document the walking distance before onset of claudication.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98.
Cancer	Yearly	Check if eligible for cancer screening or if early symptoms/signs of cancer ↗ 194.
BP	Every visit	If known hypertension ↗ 149. If not, and BP ≥ 140/90 ↗ 148.
Legs and feet	Every visit	Check for pain, pulses, sensation, deformity, skin problems. For foot screen and foot care education ↗ 81.
Abdomen	Every visit	If pulsatile mass felt, refer for assessment for possible abdominal aortic aneurysm.
Fingerprick glucose	At diagnosis, then yearly	If known diabetes ↗ 145. If not known diabetes ↗ 19.

Advise the patient with peripheral vascular disease

- Advise patient to keep legs warm and below heart level (especially at night), and to avoid decongestant medications that may constrict blood vessels.
- If patient smokes, encourage to stop ↗ 164. Support the patient to make a change ↗ 199.
- Advise patient that physical activity is an important part of treatment. It increases the blood supply to the legs and may significantly improve symptoms.
- If < 55 years (man) or < 65 years (woman), advise first-degree relatives (parents, siblings, children) to have CVD risk assessment ↗ 142.

Treat the patient with peripheral vascular disease

- Help patient to manage CVD risk ↗ 144. Advise brisk exercise for 30 minutes at least 3 times a week (preferably daily). Advise patient to pause and rest whenever claudication develops.
- Give **rosuvastatin** 10mg daily regardless of cholesterol level. If patient develops muscle pain/cramps, reduce dose to 5mg daily. If no improvement and not on LPVr/ATVr/DRVr switch to **simvastatin** 10mg at night or discuss with specialist. Avoid if pregnant or breastfeeding.
- Give **aspirin** 150mg daily for life. Avoid if peptic ulcer, dyspepsia, kidney or liver disease.

- Refer to specialist at diagnosis (start medication and exercise while waiting for appointment) and if pain interferes with activities of daily living after 3 months of medication and exercise.
- Review 3 monthly until stable (coping with activities of daily living and able to work), then yearly.**

CHRONIC KIDNEY DISEASE (CKD): ROUTINE CARE



Scan for kidney adjusted dosages of medication

- The patient with CKD has structural kidney damage (e.g. protein/blood in urine) or abnormal function (eGFR < 60) for > 3 months.
- If new or suspected CKD, doctor to review the patient and discuss/refer to specialist for initial assessment and treatment plan.

Assess the patient with chronic kidney disease

Assess	When to assess	Note
Symptoms	Every visit	If loss of appetite, nausea/vomiting, itchy skin, restless legs, shortness of breath, weakness/tiredness, seizures: repeat urine dipstick and creatinine (eGFR). Manage other symptoms as on symptom pages.
Mental health	Every visit	If stress, anxiety or low mood ➔ 98.
Palliative care	Every visit	Assess need for palliative care ➔ 191.
Medication	Every visit	• Review all patient's medication and assess need to adjust dose based on eGFR (use QR code). • Avoid NSAIDs (ibuprofen, aspirin), tenofovir, amikacin, glimepiride, traditional medicine. • If eGFR < 30 and unable to monitor potassium: avoid HCTZ, spironolactone, metformin and enalapril.
BP	Every visit	If known hypertension ➔ 149. If BP difficult to control, refer. If not known hypertension and BP ≥ 140/90 ➔ 148.
CVD risk	At diagnosis, then depending on risk	Assess and manage CVD risk ➔ 142.
Fingerprick glucose	Every visit	If known diabetes ➔ 145. If not known diabetes ➔ 19.
Urine dipstick	• At diagnosis, then yearly • If symptoms worse • If change in treatment	• If glucosuria and known diabetes ➔ 145. If glucosuria and not known diabetes, check glucose ➔ 19. • If not known with diabetes and ≥ 1+ proteinuria on dipstick, repeat on midstream urine sample on separate day. If it persists, do spot urine protein:creatinine ratio. If > 0.15g/g or 0.015g/mmol, start enalapril. If proteinuria does not improve despite enalapril, refer. • If blood in urine, discuss/refer with specialist.
Haemoglobin	At baseline	If < 13 man or < 12 woman, anaemia likely ➔ 44.
Potassium	• At diagnosis and yearly • 6 monthly if hypertension with eGFR < 30, then yearly • If starting enalapril: at baseline and after 2 weeks¹	If potassium > 5.5, discuss/refer to doctor same day to assess whether to decrease/stop enalapril.
Creatinine (eGFR)	• At diagnosis, yearly, if symptoms worse or treatment change • If starting enalapril: at baseline, and after 2 weeks¹	• If creatinine increases by > 20% from baseline, stop enalapril and refer. • If eGFR < 30, discuss/refer to specialist.
Fasting lipogram	At diagnosis	If cholesterol > 7.5 or triglycerides > 10, discuss/refer to specialist.

Advise the patient with chronic kidney disease

- Help patient to manage CVD risk ➔ 144. Advise to limit salt intake to ≤ 1 teaspoon/day and to avoid processed foods (gravies, stock cubes, packet soup).
- Advise to avoid medication that might interfere with kidney function e.g. NSAIDs, tenofovir, amikacin, traditional medicine, and illegal drugs (especially methamphetamines). Scan QR code above.
- Explain importance of adherence to medication for control of long-term health conditions (hypertension, diabetes) to prevent worsening of kidney disease ➔ 195.

Treat the patient with chronic kidney disease

- If proteinuria and potassium normal, start ♦enalapril 5mg 12 hourly. If no side-effects and BP remains normal, titrate up to maximum 10mg 12 hourly or until proteinuria disappears.
- Avoid enalapril if eGFR < 30 and unable to check potassium, potassium > 5.5, hypersensitivity, bilateral renal artery stenosis or pregnant.
 - If no reduction in proteinuria on enalapril or enalapril contraindicated/not tolerated, refer.

¹If eGFR > 60, test 4 weeks after starting enalapril.

OVERWEIGHT/OBESITY

Screen for overweight/obesity and assess risk

- Calculate Body Mass Index (BMI): $\text{BMI} = \text{weight (kg)} \div \text{height (m)} \div \text{height (m)}$. A patient with BMI ≥ 25 is overweight; a patient with BMI ≥ 30 is obese.
- If BMI ≥ 25 , **also** measure waist circumference (WC)¹ and waist-hip ratio (WHR)². Patient has an increased risk of cardiovascular disease, type 2 diabetes and obesity-related conditions if:
 - Waist circumference $\geq 94\text{cm}$ if man and $\geq 80\text{cm}$ if woman.
 - Waist-hip ratio ≥ 0.90 if man and ≥ 0.85 if woman.

Assess the patient who is overweight/obese

Assess	When to assess	Note
Symptoms	Every visit	If joint pain ↗ 77 , back pain ↗ 78 . Manage other symptoms on symptom pages.
Diet	Every visit	• Assess eating habits: frequency of meals, volumes eaten and if patient eats sugary snacks, sweetened drinks and fast food. Ask what patient has eaten in the past 24 hours. Ask about patient's readiness for change, and offer behaviour change support ↗ 157. • If no improvement in condition after behaviour change support, refer to dietitian for dietary management.
Physical activity	Every visit	Assess frequency and intensity of physical activity as planned exercise or as part of daily work/domestic activities.
Sleep	Every visit	If difficulty sleeping and/or persistent snoring interrupts sleep ↗ 99 .
Mental health	Every visit	If stress, anxiety or low mood ↗ 98 .
Long-term health conditions	At diagnosis	Ask about diabetes ↗ 145 , hypertension ↗ 149 , cardiovascular disease ↗ 144 , osteoarthritis ↗ 188 , and give routine care.
Cancer risk	Yearly and if indicated/needed	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194 .
Medication	Every visit	Review medication: steroids, antiseizure medication, antipsychotics, antidepressants, diabetes medication, oral contraceptives and some antiretroviral therapy are associated with weight gain. Discuss with doctor.
Abuse	Every visit	Assess for past or current abuse. This may affect eating behaviours and obesity management. If patient is being abused ↗ 33 .
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ³ /session, used illegal drugs or misused prescription/over-the-counter medications? If yes to any ↗ 165 . Ask about smoking. If patient smokes, encourage to stop ↗ 164 .
Weight (BMI)	Weight: every visit BMI: 3 monthly	Aim for gradual decrease in weight.
Waist circumference (WC), Waist-hip ratio (WHR)	WC: monthly WHR: 3 monthly	• Waist circumference (WC) and waist-hip ratio can show weight loss before changes in BMI are seen. • Aim for gradual decrease in waist circumference and waist-hip ratio.
BP	Every visit	Use a larger cuff if mid-upper arm circumference $> 32\text{cm}$. If known hypertension ↗ 149 . If not, and BP $\geq 140/90$ ↗ 148 .
CVD risk	At diagnosis, then depending on risk	Assess and manage CVD risk ↗ 142 .
Cause of obesity	At diagnosis	Check thyroid (goitre), skin (acne, hirsutism, purple stretchmarks), moon-shaped face and shoulders/hips for muscle weakness. If any, refer.
Fingerprick glucose	At diagnosis, then depending on risk	If known diabetes ↗ 145 . If not known diabetes ↗ 19 .
Random total cholesterol	At diagnosis	If cholesterol > 7.5 , check TSH and refer to doctor.
TSH	At diagnosis if needed	If low mood, dry skin, constipation, fatigue or cold intolerance, check TSH. If abnormal, refer to doctor.

¹Waist circumference: while standing and breathing out, measure at the narrowest part of the torso (upper body), usually just above the navel. ²Waist-hip ratio: waist circumference $\div$ hip circumference (measure at the widest part of the hips and buttocks). ³One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

Approach to the patient who is overweight/obese

Health for All

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Ask permission first

- Do not assume patient wants to discuss weight. For tips on communicating effectively [↗ 198](#).
- To build trust, ask if patient is comfortable/willing to discuss his/her weight. For example: "Would it be okay if we take a few minutes to discuss your weight and how it might impact your overall health?"
- If patient declines, be respectful. Encourage patient to return whenever s/he feels comfortable to discuss further. Focus on the presenting symptom/condition instead.
- If patient willing to discuss weight:

Assess the patient's readiness to change

- Assess patient's understanding of his/her current health risks and discuss benefits of healthy behaviour and weight loss.
 - Educate patient about risks of being overweight/obese (e.g. cardiovascular disease, type 2 diabetes, joint pain) and the advantages of losing weight.
 - Advise that weight loss is not the only important outcome. Also consider quality of life, improvements in health (e.g. lower blood pressure, decreased joint pain, improved energy levels), fitness, patient's sense of confidence/self-esteem/well-being.
- Ask the patient to rate how confident s/he feels about making a change:

Not at all important/not at all confident	1	2	3	4	5	6	7	8	9	10	Very important/very confident
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- If the patient is not ready to change:
 - Respect the patient's decision.
 - Invite patient to identify the pros and cons of behaviour change.
 - Acknowledge patient's concerns about change and explore ways of overcoming the difficulties preventing change.
 - Offer more information or support if the patient would like to consider the issue further.
- If the patient is ready to make behavioural changes:

Advise the patient

- Advise to avoid smoking and limit alcohol intake, and discuss physical activity and healthy eating:
 - Physical activity:
 - Advise patient to limit time spent being inactive while awake, and to gradually become more physically active. Encourage patient to do at least 30 minutes of brisk physical activity (such as walking) at least 5 days a week (150 minutes/week). Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts. Refer to physiotherapy if available.
 - Give healthy eating advice:
 - Eat a variety of foods in moderation and reduce portion sizes.
 - Increase fruit, vegetables, nuts and legumes (beans, lentils, split peas, soya). Choose whole wheat bread, brown rice, potatoes, sump or sorghum rather than white bread/rice.
 - Replace brick margarine/butter with vegetable oil or soft tub margarine.
 - Reduce salty processed foods like gravy, stock cubes, packet soup. Avoid adding salt to food and eating less healthy food (e.g. takeaways, deep-fried food, pies, doughnuts, cakes, biscuits, sugary drinks).

Agree on patient goals

- Agree on goals that are specific and realistic and that the patient feels capable of achieving in a specific time.
- Document decision and goals set by the patient.

Assist the patient to make behaviour changes

- Identify possible motivating factors that can support the patient to make a change.
- Ask the patient what might stop them from reaching their goals (e.g. cost of food, unsafe environment for walking, stress/emotional eating, lack of time).
- Refer to dietitian and offer referral to physiotherapist, occupational therapist, counsellor, psychologist, and available support services (social worker, health promoter, community care worker, helpline [↗ 200](#)).
- Identify a friend, partner, or relative to support the patient and if possible to attend clinic visits.
- Schedule follow-up contact (clinic visit, email, phone) to review readiness and goals.

Review 3-6 monthly or as needed.

THE MENTALLY ILL PATIENT NEEDING TREATMENT OR ADMISSION

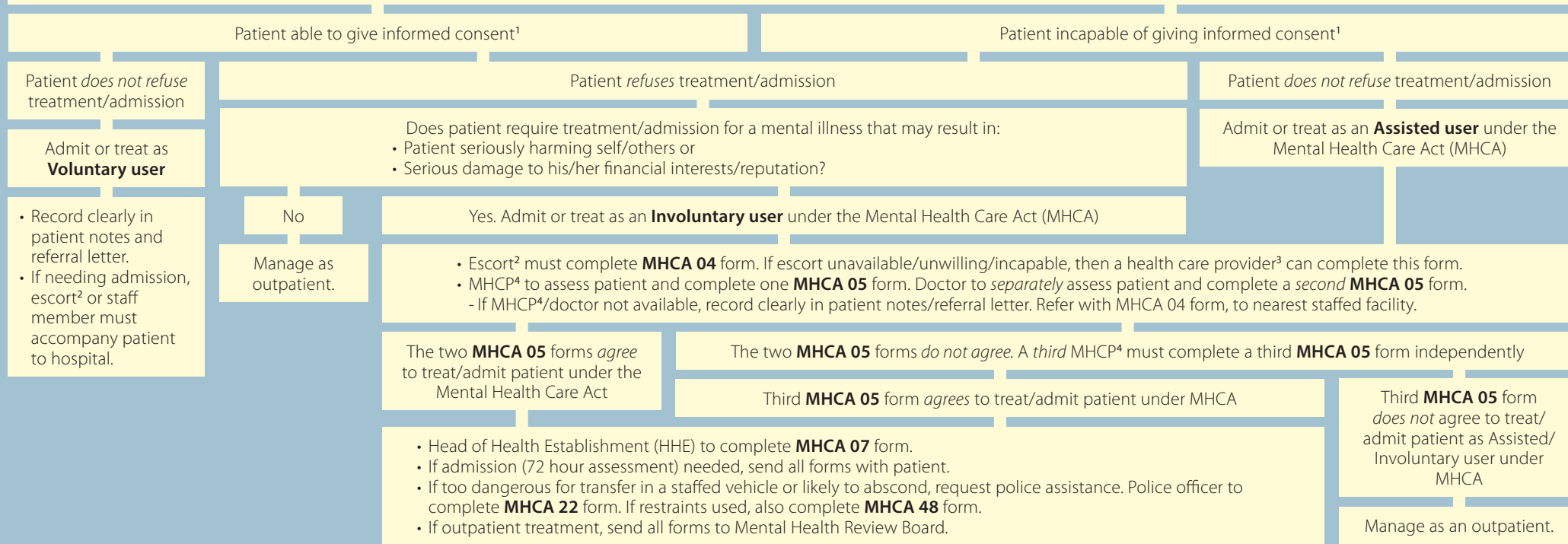
Give urgent attention if a delay in referral may lead to the patient's mental illness causing any of:

- Death
- Irreversible health problem/s
- Patient inflicting serious harm to self/others
- Patient causing serious damage to or loss of property

Manage and refer urgently with or without patient consent:

- If aggressive/disruptive → 35. If restraints used, document type, duration and site. Check restraint sites every 15 minutes. Counsel the family regarding reasons for restraints. Complete **MHCA 48** form.
- If patient is not alert, fully conscious or physically stable, check for underlying causes → 36.
- Complete **MHCA 01** form (**Emergency care, treatment and rehabilitation or admission without consent**) to admit for 24 hour assessment.
- If too dangerous for transfer in a staffed vehicle or likely to abscond, request police assistance. Police officer to complete **MHCA 22** form.

Approach to the mentally ill patient in need of hospital admission/treatment not needing emergency referral



The patient may present to primary care with **authorisation/order by a Court or Mental Health Review Board** to receive mental health care, treatment and rehabilitation on an outpatient basis. Review patient and provide prescribed health intervention, regardless of patient consent. Record clearly in patient file. Report to Mental Health Review Board as requested.

MHCA 01 - Report to MHRB on provision of care, treatment and rehabilitation without consent or emergency admission. **MHCA 04** - Application to the HHE for assisted or involuntary care, treatment and rehabilitation. **MHCA 05** - Report on examination and findings by MHCP following an application for assisted or involuntary care treatment and rehabilitation. **MHCA 07** - Notice by HHE on decision whether to provide assisted or involuntary inpatient care, treatment and rehabilitation services. **MHCA 22** - Handing over custody by the South African Police Services of a person suspected of being mentally ill and likely to inflict serious harm. **MHCA 48** - Mechanical restraint and seclusion register.

¹Informed consent means patient understands s/he is ill, accepts that s/he needs treatment and can communicate his/her choice to receive treatment. ²If patient < 18 years, escort must be a parent/guardian. If patient ≥ 18 years, escort can be spouse/next of kin/partner/associate. ³Can be any health care provider but needs to have observed patient's behaviour and must *not* be one of the mental health care practitioners who complete either of the MHCA 05 forms. ⁴Mental Health Care Practitioner.

THE PATIENT WITH SYMPTOMS OF DEPRESSION

Has patient had 1 or more of the following core features of depression for at least 2 weeks?

- Depressed mood most of the day, nearly every day
- Loss of interest/pleasure in activities that are usually pleasurable

Yes. Refer to doctor to assess further

No

Has patient had 5 or more of the following features of depression for at least 2 weeks?

- Depressed mood most of the day, nearly every day
- Loss of interest/pleasure in activities that are usually pleasurable
- Fatigue/loss of energy
- Disturbed sleep/sleeping too much
- Change in appetite/weight
- Feeling guilty/worthless
- Reduced concentration/indecisiveness
- Visible agitation/restlessness or talking/moving more slowly than usual
- Ideas or acts of self-harm/suicide

Yes. Does patient have difficulty carrying out ordinary work, domestic or social activities?

No

Yes. Does patient have any of:

- History of self-harm/suicide attempt
- Extreme hopelessness/despair/emotional distress
- Known with other mental health condition or long-term health condition (e.g. chronic pain/disability)
- Current thoughts/plans of self harm/suicide
- Key population groups (adolescent, sex worker or man who has sex with men)
- Pregnant > 34 weeks gestation or post-partum < 12 weeks
- Adolescent mother

No

Continue to assess patient with low mood
→98.

Yes

High risk of suicide

No. Does patient have any symptoms of psychosis?

- Hallucinations (hearing voices/seeing things that are not there)
- Delusions (unusual/bizarre beliefs not shared by society; beliefs that thoughts are being inserted or broadcast)
- Disorganised speech (incoherent/irrelevant speech)
- Disorganised/catatonic behaviour (inability to talk, move or respond)

Yes

No. Check if known bipolar or symptoms of mania (now or in the past)

3 or more of the following for ≥ 1 week and interfered with ordinary work, domestic or social activities:

- Elevated mood and/or irritability
- Decreased need for sleep
- Inappropriate social behaviour
- Easily distracted
- Increased activity, feeling of increased energy, talkative, rapid speech
- Impulsive/reckless behaviour like excess spending, thoughtless decisions, risky sexual behaviour
- Inflated self esteem

Yes

No. Has there been any major stressful events (bereavement, divorce, loss of job) in the last 3 months?

Discuss/refer same day.

Yes. Has patient had depression in the past?

No

No

Symptoms of depression likely due to stressor

- Refer for counselling and to social worker/support group.
- Review after 1 month, if symptoms persist, reassess.

Yes

Depression likely

- Continue to assess and manage → 160.
- If pregnant or breastfeeding, discuss/refer same day.

DEPRESSION AND/OR ANXIETY: ROUTINE CARE

Assess the patient with depression and/or generalised anxiety

Assess	When to assess	Note
Symptoms	Every visit	- Ask about ongoing or new symptoms of depression and anxiety. If no better after 8 weeks of treatment or worse on treatment, discuss/refer. - Manage other symptoms as on symptom pages.
Self-harm	Every visit	Asking a patient about thoughts of self-harm/suicide does not increase the chance of this. If patient has suicidal thoughts or plans, assess and manage risk before continuing ↗ 34. Discuss with specialist before starting antidepressant.
Mania	Every visit	If abnormally happy, energetic, talkative, irritable or reckless, discuss/refer.
Anxiety	At diagnosis	- If excessive worry causes impaired function/distress for at least 6 months with ≥ 3 of: muscle tension, restlessness, irritability, difficulty sleeping, poor concentration, tiredness, generalised anxiety disorder likely. - If anxiety is induced by a particular situation/object, phobia likely. Discuss/refer. - If repeated sudden fear with physical symptoms and no obvious cause, panic disorder likely. Discuss/refer. - If previous bad experience causing nightmares, flashbacks, avoidance of people/situations, jumpiness or a feeling of detachment, post-traumatic stress disorder likely.
Dementia	At diagnosis	If for at least 6 months any of: memory problems, disorientation, language difficulty, less able to cope with daily activities and work/social function, consider dementia ↗ 166.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↗ 165.
Side effects	Every visit	Ask about side effects of antidepressant medication ↗ 161.
Stressors	Every visit	Help identify domestic, social and work factors contributing to depression or anxiety. If patient is being abused ↗ 33. If recently bereaved ↗ 98.
Family planning	Every visit	- Assess patient's contraceptive needs ↗ 170. - If patient pregnant/breastfeeding, doctor to discuss risks. The risk to baby from untreated depression may outweigh any risk from antidepressant medication. If possible, avoid antidepressants in first trimester of pregnancy. Ensure counselling/support and follow-up 2 weekly until stable. If possible, discuss with specialist.
Long-term health conditions	Every visit	Ensure that other long-term health conditions are adequately treated and patient is adherent. If diabetes ↗ 145, if hypertension ↗ 149, if HIV ↗ 126, if asthma ↗ 140 or COPD ↗ 141. If on oral steroids or atenolol, discuss with specialist.

Health for All

Depression ↗ 96

Anxiety ↗ 100

Advise the patient with depression and/or anxiety

- Be supportive and empathetic. Explain that depression is a very common illness that can happen to anybody. It does not mean that a person is lazy or weak.
- Explain that thoughts of self-harm and suicide are common. Advise patient that if s/he has these thoughts, s/he should not act, but tell a trusted person and return for help immediately.
- Advise patient that treatment can take 2-4 weeks to start working. Explain there may be some side effects, but these usually resolve in the first few days.
- Emphasise importance of adherence even if feeling well. Advise that patient will likely be on treatment for at least 9 months and it is not addictive. If difficulty with adherence, give support ↗ 195.
- Advise to avoid stopping treatment abruptly as patient may have withdrawal symptoms. If stopping, treatment needs to be tapered. Avoid taking herbal/traditional medication while using antidepressants.
- Help patient to develop strategies to get help and cope:

Get enough sleep

If patient has difficulty sleeping, give advice ↗ 99.



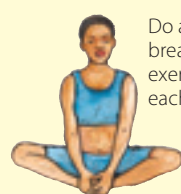
Encourage patient to take time to relax:



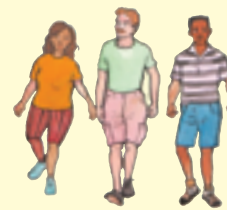
Spend time with supportive friends or family.



Find a creative or fun activity to do.



Do a relaxing breathing exercise each day.



Get active

Do some physical activity.



Access support
Link patient with helpline or support group ↗ 200.

Avoid alcohol and drugs

Alcohol and drugs can worsen your symptoms



¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

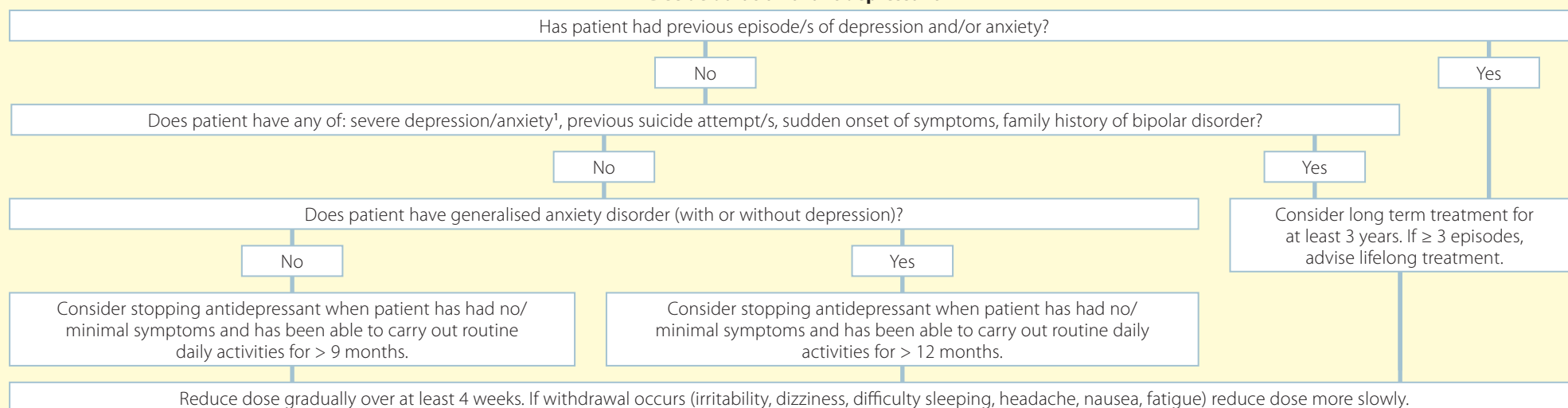
Treat the patient with depression and/or generalised anxiety

- Doctor to discuss treatment options with patient: psychotherapy (if available) or medication.
- Explain that medication may cause anxiety/agitation during the first 2-4 weeks. Advise family to monitor patient closely and advise to return to clinic if condition worsens, patient becomes suicidal or displays unusual changes in behaviour. Discuss/refer.
- Refer to social worker and/or helpline/support group if needed ➔ 200. If occupational therapist (OT) available, refer for mood, self-esteem, motivation, coping skills and constructive use of leisure time.
- If pregnant, refer to community health worker for regular home visits and adherence support.
- If post-partum, encourage breastfeeding, if not contraindicated medically. Continue home-based adherence support for at least one year.

Medication	Starting dose	Maintenance dose	Note	Side effects
►Fluoxetine	Start 20mg on <i>alternate days</i> for 2 weeks, then increase to 20mg <i>daily</i> in the morning. If patient has increased anxiety, delay increase in dose for another 2 weeks.	20mg daily	• Discuss with specialist if patient has epilepsy, liver or kidney disease. • If diabetes, monitor glucose more often. • If patient unable to tolerate fluoxetine, stop fluoxetine and start ►citalopram 10mg next day.	Changes in appetite and weight, headache, restlessness, difficulty sleeping, nausea, diarrhoea, sexual problems.
►Citalopram	Start 10mg daily for 1 week, then increase to 20mg daily.	20mg daily	Avoid if heart failure, arrhythmias, kidney failure.	Drowsiness, difficulty sleeping, headache, dry mouth, nausea, sweating, changes in appetite and weight.
►Amitriptyline	Start 25mg at night. Increase by 25mg every 5 days. Review at 2 weeks, if good response, continue 75mg. If partial/no response, continue to increase by 25mg every 5 days as needed, up to 150mg/day.	75mg-150mg daily	Use if difficulty sleeping or fluoxetine/citalopram contraindicated or poorly tolerated. Avoid if on RR-TB treatment, suicidal thoughts (can be fatal in overdose), heart disease, urinary retention, glaucoma, epilepsy and elderly patients.	Dry mouth, constipation, difficulty urinating, blurred vision, sedation.

Review 2 weekly until symptoms improve, then monthly. Once stable, review 3-6 monthly.
If no improvement after 8 weeks, refer.

Decide duration of antidepressant



¹Patient has multiple depressive/anxiety symptoms, occurring nearly every day, that severely impairs daily functioning.

SCHIZOPHRENIA

- **Ensure a specialist confirms the diagnosis of schizophrenia.**
- Consider schizophrenia in the patient who (if no mental health or alcohol/drug disorder) has for at least 6 months had difficulty carrying out ordinary work, domestic or social activities *and* for at least 1 month has had ≥ 2 of the following symptoms of psychosis:
 - Delusions: unusual/bizarre beliefs not shared by society; beliefs that thoughts are being inserted or broadcast
 - Hallucinations: hearing voices or seeing things that are not there
 - Disorganised speech: incoherent or irrelevant speech
 - Behaviour that is disorganised or catatonic (inability to talk/move/respond) or negative symptoms (lack of emotion/facial expression, no motivation, not moving/talking much, social withdrawal).
- If known schizophrenia with sudden/recent onset of abnormal thoughts ➔ 36, aggressive/disruptive behaviour ➔ 35 or thoughts of self-harm/suicide ➔ 34.

Doctor to assess the patient with schizophrenia

Assess	When to assess	Note
Symptoms	Every visit	• Assess symptoms of psychosis above. If symptoms of psychosis and: - Aggressive/violent ➔ 35. - Varying levels of consciousness over hours/days and/or temperature $\geq 38^{\circ}\text{C}$, delirium likely ➔ 36. - Patient is pregnant or post-partum, discuss/refer same day. - Patient has interrupted treatment. Restart intramuscular treatment ➔ 163 and explore reasons for poor adherence (like side effects, substance misuse) ➔ 195. - Good adherence to optimal doses of treatment, discuss/refer. • Manage other symptoms as on symptom pages.
Self-harm	Every visit	If patient has suicidal thoughts/plans, or expresses intent to harm others, refer same day ➔ 34.
Stressors	Every visit	Help identify stressors that may worsen or cause symptoms to recur. If patient is being abused ➔ 33.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ➔ 165.
Family planning	Every visit	Assess patient's contraceptive needs ➔ 170. If patient is pregnant/planning pregnancy/breastfeeding, refer to specialist.
Medication	Every visit	• Ask about treatment side effects ➔ 163. • Ask about adherence. If non-adherent, restart medication at same dose, explore reasons for stopping treatment and refer for community health worker support. • Avoid medication that might cause acute psychosis, like prednisone, efavirenz, moxifloxacin and terizidone.
BP	At diagnosis, then yearly	If known hypertension ➔ 149. If not known hypertension and BP $\geq 140/90$ ➔ 148.
Weight (BMI)	Every visit	BMI = weight (kg) $\div$ height (m) $\div$ height (m). If BMI ≥ 25 ➔ 156. If concerning weight gain after starting medication, discuss alternative treatment with specialist.
Glucose	At diagnosis, then yearly	If known diabetes ➔ 145. If not known diabetes, check glucose ➔ 19.
Total cholesterol	At diagnosis, then 2 yearly	Assess and manage CVD risk ➔ 142. If cholesterol increasing, discuss with specialist about possible alternative schizophrenia treatment.
HIV	At diagnosis or if status unknown	Test for HIV ➔ 124. If HIV positive, avoid efavirenz and discuss treatment with specialist.
Syphilis	At diagnosis	If positive, treat ➔ 67 and refer.

Advise the patient with schizophrenia and the patient's carer

- Educate patient/carer/family that the patient often lacks insight into the illness and may be hostile towards carers. Patient may have difficulty functioning, especially in high stress environments.
- Encourage carer to be supportive and avoid trying to convince patient that beliefs or experiences are false or not real. Avoid hostility and criticism towards patient.
- Advise patient to avoid substance use and encourage regular sleep routine. Emphasise importance of treatment adherence.
- Advise patient to continue social/educational/occupational activities if possible. Refer to social worker to help find educational or employment opportunities.
- Consider housing/assisted living support and try to avoid long-term hospitalisation.

Health for All

➔ 108

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

Treat the patient with schizophrenia

- Give medication as in table below. Use lowest effective dose and give one medication at a time. Allow 6 weeks on typical maintenance dose before considering medication ineffective.
- If repeated adherence problems, health care worker with advanced psychiatric training to consider changing from oral to long-acting intramuscular (IM) depot.
 - If possible, stabilise patient on oral antipsychotic agent, and continue this while starting long-acting IM depot.
 - Once stable on long-acting IM depot, reduce oral antipsychotic agent.
- If unsure or more than typical effective dose needed, discuss with specialist.
- Refer patient to support group and cognitive behavioural therapy if available, and to community health worker for adherence support. Refer carer/family to support group or social worker if needed.

Medication	Starting dose	Maintenance dose	Note
►Haloperidol	Start 1.5mg orally daily. Increase gradually up to 5mg daily, until symptoms controlled. If > 65, start 0.75mg 12 hourly and increase more gradually.	Usually 5mg given as single dose at bedtime.	• Minimal anticholinergic side effects¹. • If extrapyramidal side effects (EPSE)², switch to risperidone.
►Risperidone	Start 2mg orally daily. If poor response after 4 weeks, increase to 4mg daily.	Usually 2-4mg daily.	• Use in patients with extrapyramidal side effects (EPSE)². • Use short term for breakthrough episodes. Discuss, if possible.
►Flupenthixol decanoate	• Start single dose 10mg IM. If poor response, give further 20mg IM after 1-2 weeks. • If > 65 years, avoid use of IM antipsychotics. Discuss with specialist.	Usually 10-40mg IM every 4 weeks.	• Full response can take 2 months. • Fewer anticholinergic side effects¹ than chlorpromazine. • If any extrapyramidal side effects (EPSE)² develop, start ♦orphenadrine 50mg 8 hourly and refer for specialist review.
►Zuclopenthixol decanoate	• Start single dose 100mg IM. If poor response, give further 200mg IM after 1-2 weeks. • If > 65 years, avoid use of IM antipsychotics. Discuss with specialist.	Usually 100-400mg IM every 4 weeks.	
►Chlorpromazine	Start 25mg orally 12 hourly. If poor response increase at 25mg intervals.	Usually 75-300mg daily, but 800mg may be needed. Once symptoms controlled, give as single dose at bedtime.	• One of the most sedating antipsychotics. Avoid starting unless no other option. • Continue chlorpromazine only if patient stable on it and coping with any side effects.

Look for and manage schizophrenia treatment side effects

Urinary retention	Stop treatment, insert urinary catheter and refer same day.
Blurred vision	Stop treatment and refer same day.
Painful muscle spasms, acute dystonic reaction likely	Usually within 2 days of starting medication. Give ♦biperiden 2.5mg IM. If needed, repeat after 30 minutes, up to 3 doses in 24 hours. If biperiden unavailable, give instead ♦promethazine 50mg IM. Refer same day.
Abnormal involuntary movements	Stop treatment and discuss/refer same day. Doctor to consider switch to risperidone (see above).
Muscle restlessness	Stop treatment and discuss/refer same day. Doctor to consider switch to risperidone (see above).
Slow movements, tremor or rigidity	Discuss switch to risperidone (see above) and arrange specialist review. Give ♦orphenadrine 50mg 8 hourly whilst awaiting review.
Breast enlargement, nipple discharge, amenorrhoea	Discuss with specialist whether to change medication.
Dizziness/fainting on standing	Usually when starting/increasing dose. Usually self-limiting over hours to days. Advise to stand up slowly.
Dry mouth/eyes	Usually self-limiting.
Constipation	Usually self-limiting. Advise high fibre diet and adequate fluid intake.

Once stable, review 6 monthly. Advise to return immediately if symptoms of psychosis. If restarting treatment after interruption, review after 2 weeks, sooner if symptoms worsen.

¹Anticholinergic side effects include: urinary retention, blurred vision, dry mouth/eyes, constipation. ²Extrapyramidal side effects (EPSE) include: acute dystonic reaction (acute painful muscle spasm), abnormal involuntary movements, muscle restlessness, slow movements, tremor or rigidity.

TOBACCO SMOKING

Assess the patient who smokes tobacco currently or who recently stopped

Assess	When to assess	Note
Symptoms	Every visit	- If chest pain ↗ 24, if leg pain ↗ 80, if new sudden onset of any of: asymmetric weakness of face, arm or leg; numbness, difficulty speaking or visual disturbance ↗ 152. - Ask about symptoms of lung disease/cancer: cough/difficulty breathing ↗ 23, symptoms of TB ↗ 102 or unexplained weight loss ↗ 37. - Manage other symptoms as on symptom pages.
Tobacco use	Every visit	- Ask about number of cigarettes per day and what activities patient does while smoking. - If recently stopped, praise patient and encourage to avoid re-starting. Reinforce advice about risks, benefits, distraction techniques and support helpline/groups available ↗ 200. - Ask about previous attempt at stopping. Review what helped and why attempt failed, address reason for relapse before another quit attempt.
Stressors	Every visit	Help identify domestic, social and work factors contributing to smoking tobacco. If low mood, stress or anxiety ↗ 98.
COPD	First visit	If gradual onset of cough with or without sputum, wheeze, shortness of breath that gets worse over time, consider COPD ↗ 138. If known COPD ↗ 141.
CVD risk	First visit	Assess CVD risk ↗ 142.
Cancer risk	Every visit	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.

Advise the patient who smokes tobacco

- Ask if patient is willing to discuss tobacco smoking. For tips on how to communicate effectively ↗ 198. Support the patient to make a change ↗ 199.
- Advise patient that stopping tobacco smoking is the most important action to improve health, quality of life and increase life expectancy.
- Explain that nicotine is very addictive and stopping can cause withdrawal symptoms like increased appetite, mood changes, difficulty sleeping/concentrating, irritability, anxiety, restlessness. These should improve after 2-4 weeks.
- Advise that most smokers make several attempts to stop before they are successful.
- If patient is pregnant/breastfeeding, stress the importance of stopping for baby's health.
- Ask if patient is willing/ready to stop smoking tobacco and give advice below:

If patient is not ready to stop in the next month

- Discuss risks to patient (worsening asthma, infertility, heart attack, stroke, COPD, cancer) to spouse (lung cancer, heart disease) and to children (low birth weight, asthma, respiratory infections).
- Help identify benefits of stopping tobacco smoking like saving money, improved health, taste, sense of smell and appearance and being a positive role model for children.
- Help identify barriers to stopping tobacco smoking and possible solutions.
- Ask if patient is ready to stop smoking tobacco in the next month. If not ready to stop, encourage patient to return, use helpline ↗ 200 or support group when ready to stop.

If patient is ready to stop in the next month

- Help patient plan: set date to stop within 2 weeks, seek support from family and friends, support group or helpline ↗ 200, avoid/manage situations associated with smoking and remove cigarettes, matches, and ashtrays. Help manage cravings using a stepwise approach, starting with step 1. If urge does not subside, move on to next step.
 - Step 1: delay as long as you can.
 - Step 2: take a deep breath and blow out slowly (repeat 10 times).
 - Step 3: drink water as an alternative to tobacco smoking.
 - Step 4: distract yourself with reading a book, going for a walk, listening to music, watching TV or other hobby.
- Offer referral for counselling especially if failed previous attempt at stopping, previous depression or alcohol misuse.

Review patient within the first week of stopping tobacco smoking and then as needed.

¹Cardiovascular disease (CVD) includes ischaemic heart disease, peripheral vascular disease and stroke/TIA.

ALCOHOL AND/OR DRUG USE

Harmful alcohol use refers to a pattern of use that puts patient at risk of dependence and physical, mental and social harm. Any drug use is harmful. If patient smokes, encourage to stop ↗ 164.

Assess the patient with harmful alcohol use or any drug use

Assess	Note
Symptoms	- If recently reduced/stopped use and restless, agitated, difficulty sleeping, confused, anxious, hallucinating, sweating, tremors, headache or nausea/vomiting, treat for likely withdrawal ↗ 36. - If aggressive, violent or disruptive behaviour ↗ 35. - If patient has suicidal thoughts or plans, refer same day ↗ 34.
Harmful use	- Assess quantity and frequency of alcohol use. If drinking > 14 drinks¹/week or ≥ 4 drinks¹/session, explain that this increases risks of harm and dependence. - Look for physical harm (injuries, liver disease, gout, stomach ulcer), mental harm (depression), social harm (relationship, legal or financial) or risky behaviour.
Dependence	Patient is dependent if ≥ 3 of: strong need to use substance; difficulty controlling use; withdrawal on stopping/reducing; tolerance (needing more); neglecting other interests; continued use despite harm.
Stressors	Help identify domestic, social and work factors contributing to alcohol/drug use. Ask about reasons for substance use. If patient is being abused ↗ 33.
Mental health	- If known with mental health condition, assess whether patient is taking prescribed medication and provide adherence support ↗ 195. - If low mood, stress or anxiety ↗ 98.
Long-term health conditions	- Ensure that long-term health conditions are adequately treated and provide adherence support ↗ 195. - If diabetes ↗ 145, if hypertension ↗ 149, if HIV ↗ 126, if TB ↗ 106, if asthma ↗ 140 or COPD ↗ 141.
CVD risk	Assess CVD risk ↗ 142.
Cancer risk	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.

Health for All

↗ 37 and ↗ 41

Advise the patient with harmful alcohol use or any drug use

- If pregnant/planning pregnancy/breastfeeding, advise to avoid alcohol/drugs completely. Alcohol/drugs can harm the developing baby.
- Suggest patient seeks support from close family/friends who do not use alcohol/drugs, a support group or a helpline ↗ 200. Refer patient to social worker for rehabilitation and counsellor/psychologist.
- Discuss risks/harms that using alcohol/drugs may cause. Allow patient to decide for him/herself to stop or cut down. Support the patient to make a change ↗ 199.

Harmful alcohol use without dependence

- If pregnant, harmful drinking, previous dependence problem or contraindication (like liver damage, mental illness), advise to stop alcohol completely. Avoid drinking places and keeping alcohol at home.
- If none of above and patient chooses to continue alcohol, advise to limit use: ≤ 2 drinks¹/day if man and 1 drink¹/day if woman.

Any drug use without dependence

- Advise to stop using illegal or misusing prescription drugs completely.
- If patient chooses to continue, advise to reduce harm: avoid injections or use sterile injection technique, test regularly for HIV and hepatitis.
- Consider PrEP ↗ 119.

Alcohol/drug dependence

Advise that alcohol/drugs need to be stopped slowly. If stopped suddenly, withdrawal effects can be harmful. Detoxification will safely wean the body from alcohol or drug/s.

Doctor to manage the patient with alcohol/drug dependence

- Arrange inpatient detoxification if severe alcohol dependence, previous withdrawal delirium/fits or failed detoxification, > 60 years old, cognitive impairment, pregnant, chronic medical/mental illness, homeless/no social support, dependent on opioid or > 1 drug.
- If none of the above, doctor to refer patient to an outpatient detoxification centre.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

DEMENTIA

• **Ensure a doctor confirms the diagnosis of dementia. Consider dementia in the patient who for at least 6 months has the following, which are getting worse:**

- Problems with memory. Test this by asking patient to repeat 3 common words immediately and then again after 5 minutes.
- Disorientated to time (unsure what day/season it is) and place (unsure of shop closest to home or where the consultation is taking place).
- Difficulty with speech and language (unable to name parts of the body).
- Struggles with simple tasks, decision making and carrying out daily activities.
- Is less able to cope with social and work function.
- If patient has HIV, has difficulty with coordination.

Assess the patient with dementia with the help of the carer

Assess	When to assess	Note
Symptoms	Every visit	• If recent change in mood, energy/interest levels, sleep or appetite, consider depression and discuss/refer. • If suicidal thoughts or plans → 34. • If sudden deterioration in behaviour → 36. • If hallucinations (seeing or hearing things), delusions (unusual/bizarre beliefs), agitation or wandering, discuss/refer to mental health practitioner. • Manage other symptoms as on symptom pages.
Side effects	If on treatment	If abnormal movements or muscle restlessness, stop treatment and discuss/refer same day.
Vision/hearing problems	Every visit	Refer to optometry/audiology services for testing and proper devices.
Nutritional status	Every visit	Ask about food and fluid intake. If BMI < 18.5 arrange nutritional support. BMI = weight (kg) ÷ height (m) ÷ height (m).
Palliative care	Every visit	If bed-bound, unable to walk and dress alone, incontinence, unable to talk meaningfully or do activities of daily living, also give palliative care → 191.
BP	At diagnosis	If known hypertension → 149. If not known hypertension and BP ≥ 140/90 → 148.
CVD risk	At diagnosis, then depending on risk	Assess CVD risk → 142.
Glucose	At diagnosis	If known diabetes → 145. If not known diabetes → 19.
HIV	At diagnosis or if status unknown	Test for HIV → 124. If HIV positive, give routine care → 126. If new HIV diagnosis with dementia, discuss with specialist.
Syphilis	At diagnosis	If positive, treat → 67 and refer.
Thyroid function	At diagnosis	Check TSH. If abnormal, refer.

Advise the patient with dementia and his/her carer

Health for All

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- Discuss what can be done to support the patient, carer and family. Identify local resources, social worker, counsellor, NGO → 200. Refer to occupational therapy if available.
- Discuss with carer if respite or institutional care is needed. Advise carer to:
 - Give regular orientation information (day, date, weather, time, names).
 - Stimulate memories and give current information with newspaper, radio, TV, photos.
 - Use simple short sentences.
 - Maintain a routine.
 - Remove clutter and potential hazards at home.
 - Maintain physical activity and plan recreational activities.

Treat the patient with dementia

- If HIV positive, ensure patient on ART → 126, as HIV-associated dementia often responds well to ART.
- If aggression, wandering, night-time disturbance or psychotic symptoms or anxiety, discuss/refer. Avoid benzodiazepines (lorazepam, diazepam, midazolam) if > 65 years.

Review the patient with dementia every 6 months.

EPILEPSY: ROUTINE CARE

- If having a seizure now or not known with epilepsy and had a recent seizure →20 to assess further.
- A doctor must confirm the diagnosis of epilepsy, start long term antiseizure medication and manage the patient until seizures are controlled.

Assess the patient with epilepsy

Assess	When to assess	Note
Symptoms	Every visit	Ask about seizure frequency and review seizure diary. Manage other symptoms as on symptom pages.
Adherence	Every visit	Ask if patient takes treatment every day. If not, explore reasons, give adherence support → 195 and refer to community health worker.
Side effects	Every visit	Ask about side effects of treatment → 168. If side effects intolerable, switch antiseizure medication.
Other medication	Every visit	If patient on any other medication (especially TB treatment, ART or contraceptive), consider possible interactions: check the South African Medicines Formulary (SAMF), or discuss with MIC hotline → 200.
Family planning	Every visit	• Assess patient's contraceptive needs → 170. • If woman of child-bearing potential/planning a pregnancy on sodium valproate, discuss the risk of birth abnormalities¹ and neurodevelopmental problems² and advise to switch antiseizure medication. If patient agrees, switch to lamotrigine or levetiracetam → 168. If patient wishes to continue valproate, ensure patient on reliable contraception (intrauterine device, subdermal implant, injectable or sterilisation). Doctor to discuss and have patient sign risk acknowledgement form³ yearly.
Pregnant	Every visit	Give routine antenatal care → 177 and ♦folic acid 5mg daily. Refer to high risk antenatal clinic within 2 weeks. If on sodium valproate, discuss with specialist and switch to levetiracetam.
Depression	Every visit	In the past month, has patient: felt down, depressed, hopeless or felt little interest or pleasure in doing things? If yes to either → 159.
Substance use	Every visit	In the past year, has patient: drunk ≥ 4 drinks ⁴ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165.
Drug levels	If needed	Drug levels should be done if: poor seizure control without alternative reason/to confirm poor adherence if good adherence reported or to confirm toxicity in symptomatic patient.

Advise the patient with epilepsy

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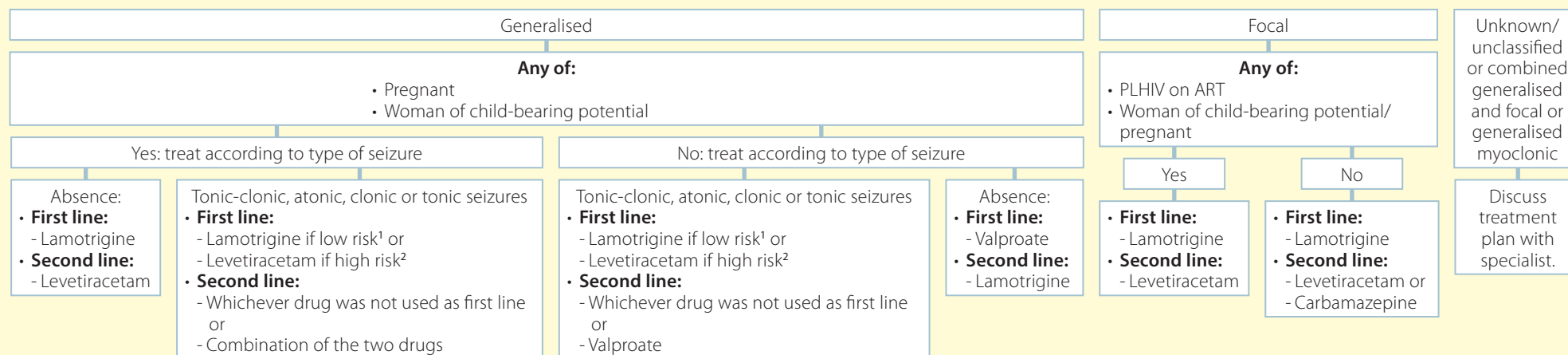
- If newly diagnosed, refer to community health worker and Epilepsy South Africa for support → 200. Help to get a MedicAlert® bracelet → 200.
- Advise to keep a seizure diary to record frequency and duration of seizures, triggers and changes in medication. Educate about the need for adherence and to continue treatment even if no seizures.
- Help identify and avoid triggers like lack of sleep, alcohol/drug use, dehydration, flashing lights and video games.
- Advise to avoid dangers like: driving, swimming alone, fires, walking/cycling on busy roads, working at heights and operating machinery until seizure free for 1 year. Document discussion in clinical notes.
- Advise patient there are many medications that may interact with antiseizure medication (see table → 168) and to discuss with doctor before starting any new medication.

Treat the patient with epilepsy

- **If not on treatment:**
 - Choose an antiseizure medication based on seizure type, if patient is a man or woman, of child-bearing potential/pregnant, level of risk and other medication → 168.
 - Start a single antiseizure medication at low dose and increase until seizures stop/side effects intolerable.
- **If already on treatment:**
 - If no further seizures, continue same dose. If still having seizures:
 - If poor adherence, support adherence. If alcohol use/misuse, support the patient to make a change → 199. If either of the two, continue same dose and review in 2 weeks.
 - If medication interaction, adjust medications as needed. Review in 2 weeks.
 - If none of above: increase antiseizure medication dose → 168. If already on maximum dose for 4 weeks, switch antiseizure medication once → 168. If already on second antiseizure medication, avoid switching again and doctor to consider add on treatment in consultation with a specialist. If needed, start add on treatment and review clinically in 1-2 weeks, while awaiting specialist advice/appointment.
 - **If switching medication** due to poor control, intolerable side effects or pregnant/woman of child-bearing potential, doctor to manage as below:
 - Continue old antiseizure medication and add new medication, increasing dose 2 weekly until no further seizures. Then slowly reduce old antiseizure medication over 6-8 weeks, until stopped.

¹Could include abnormalities of the spine, face, skull, limbs and heart. ²Could include delayed learning to walk and talk, lower intelligence, poor speech and language skills, memory problems, autism and attention deficit hyperactivity disorder. ³Form available from: www.sahpra.org.za/wp-content/uploads/2025/05/GLF-CEM-PV-S01_v2-Valproate-Annual-Risk-Acknowledgement-Form-ARF.pdf. ⁴One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

Treat the patient with epilepsy according to type of seizure



Medication	Dose	Notes	Side effects
●Lamotrigine	• Starting dose: - Week 1 and 2: 25mg daily - Week 3 and 4: 25mg 12 hourly - Increase by 50mg every 1-2 weeks until controlled • Usual maintenance dose: 50-100mg 12 hourly (or 100-200mg daily) • Maximum dose: 250mg 12 hourly • If switching from sodium valproate: • Continue sodium valproate while starting lamotrigine. • Titrate lamotrigine up slowly: - Week 1 and 2: 25mg on alternate days - Week 3 and 4: 25mg daily - Week 5: 25mg 12 hourly - Week 6: 25mg in the morning and 50mg at night - Week 7: 50mg 12 hourly • Once on full dose of lamotrigine, slowly reduce sodium valproate dose over 4-6 weeks until stopped.	• Use if: focal, tonic-clonic (low risk¹) or absence seizures • Preferred anticonvulsant if on ART. • If on lopinavir/ritonavir or atazanavir/ritonavir: consider switch to dolutegravir. If unable to switch, doctor to assess need to increase the dose of lamotrigine. • May also interact with paracetamol, rifampicin, other anticonvulsants, oral contraceptive: check SAMF or discuss with MIC ↗ 200. • If known liver or kidney disease, discuss with specialist. • If pregnant, lamotrigine may need to be increased. Do plasma concentrations (if available) and discuss dose adjustments with a specialist. • If treatment is interrupted for > 1 week, titrate up again using starting dose.	• Urgent: rash (Stevens-Johnson Syndrome) ↗ 82. • Self-limiting: nausea, vomiting, blurred/double vision, dizziness, drowsiness, insomnia, fatigue.

¹Low-risk: infrequent seizures, no previous hospitalisation for seizures, no history of status epilepticus. ²High-risk: frequent seizures, previous history of hospitalisation for seizures, previous history of status epilepticus.

● Levetiracetam	• Starting dose: - Week 1 and 2: 250mg 12 hourly - Week 3 and 4: 500mg 12 hourly - Increase by 500mg 12 hourly every 2-4 weeks until controlled • Maximum dose: 1500mg 12 hourly (3000mg daily)	• Use if: absence or high risk¹ tonic-clonic seizures, poor response or side-effects to lamotrigine. • Avoid if previous allergic reaction. • If known liver/kidney disease, discuss dose with specialist. • Risk factors for developing/worsening of psychiatric symptoms: female, known with depression/anxiety or substance use.	• Urgent: - Rash ➔ 82. - Psychiatric symptoms (e.g. psychosis, depression, suicidal thoughts and behavioural changes), discuss/refer same day. - Self-limiting: dizziness, fatigue, drowsiness, weakness, headache.
● Carbamazepine	• Starting dose: - Week 1: 100mg 12 hourly - Increase weekly by 100-200mg/day • Maximum dose: 600mg 12 hourly	• Avoid if on/need ART. • May interact with dolutegravir, isoniazid, rifampicin, warfarin, fluoxetine, amitriptyline, theophylline, other anticonvulsants, oral/subdermal contraceptive: check SAMF or discuss with MIC hotline ➔ 200.	• Urgent: rash ➔ 82. • Self-limiting: drowsiness, dry mouth, dizziness, nausea.
● Phenytoin	• Starting dose: - 200mg at night (this is equivalent to 4.5–5mg/kg lean body mass daily) - If needed, increase up to 300mg daily (or 150mg 12 hourly) • Maximum dose: 300mg daily	• Only use if already well controlled on phenytoin. • Avoid if a woman or on/need ART. • May interact with isoniazid, rifampicin, warfarin, fluoxetine, fluconazole, theophylline, folate, other anticonvulsants, oral/subdermal contraceptive: check SAMF or discuss with MIC hotline ➔ 200.	• Urgent: - Rash ➔ 82. - If unsteady on feet, blurred/double vision or slurring, doctor to check phenytoin level for toxicity. If doctor not available, refer same day. • Self-limiting: drowsiness. • Other: large gums; facial hair/coarse features in women: switch medication.
● Valproate (if used in a man or woman not of childbearing potential) ▶ Valproate (if used in a woman of childbearing potential)	• Starting dose: - 200-300mg 12 hourly - Increase by 200mg/day every 3-14 days depending on seizure frequency • Maximum dose: 1200mg 12 hourly	• Avoid if woman of child-bearing potential/pregnant or liver disease. • Use if absence, myoclonic or generalised tonic/clonic seizures. • May interact with other antiseizure medication and AZT.	• Urgent: - Jaundice: stop medication. Refer same day. - Nausea/vomiting/abdominal pain: check ALT and review result within 24 hours: if ALT > 100, stop medication and refer same day. • Self-limiting: nausea, diarrhoea, constipation, drowsiness.

Review the patient with epilepsy

- If still fitting, doctor to review monthly until fits stop.
- If seizure free, review 6 monthly.
- Refer if any of:
 - Newly diagnosed for CT scan
 - Seizures other than generalised tonic-clonic seizures (e.g. absence and focal seizures)
 - Fits increasing in frequency or changing in type
 - If patient develops new neurological signs or symptoms
 - Patient has switched anticonvulsant once and is adherent but still fitting after 4 weeks on maximum dose of second anticonvulsant.
- If no seizures for ≥ 2 years: doctor to assess the patient for possible treatment withdrawal.
 - Wean off medication gradually.
 - If on 2 antiseizure medications, stop one at a time.

¹High-risk: frequent seizures, previous history of hospitalisation for seizures, previous history of status epilepticus.

CONTRACEPTION

Give emergency contraception if patient had unprotected sex in past 5 days and does not want pregnancy:

- Check pregnancy test and if negative, insert **◆Copper IUD¹** as soon as possible **or** give single dose **◆levonorgestrel** 1.5mg orally.
 - If patient > 80kg, BMI² ≥ 30, or on efavirenz, rifampicin, phenytoin or carbamazepine, offer **◆Copper IUD¹** **or** increase dose of **◆levonorgestrel** to 3mg.
 - If patient on ketoconazole/fluconazole, advise **◆levonorgestrel** may cause nausea/vomiting and offer **◆Copper IUD¹** instead.
 - If patient vomits < 2 hours after taking levonorgestrel, repeat dose.
 - Offer to start long-term contraceptive at same visit (if IUD not chosen). If injectable or implant given, check pregnancy test in 2 weeks.
- Assess for HIV and hepatitis B post-exposure prophylaxis **↗ 119**. Advise patient to return for pregnancy test if next period is more than 7 days late.

Assess the patient starting and using contraception

Assess	When to assess	Note
Symptoms	Every visit	Check for symptoms of STIs: vaginal discharge, ulcers, lower abdominal pain. If present ↗ 62 . Manage other symptoms as on symptom pages.
Long-term health conditions	First visit	Check suitability of method if any of: cancer (especially breast, cervical, uterine), blood clots, hypertension, stroke, ischaemic heart disease, diabetes, liver disease, migraines, or unexplained vaginal bleeding ↗ 172 .
Medication	Every visit	If on ART, TB treatment or antiseizure medication, check method is suitable ↗ 172 .
Periods	Every visit	Ask about interval between periods, blood loss, number of days period lasts, dysmenorrhoea (pain/cramps associated with periods).
Menopause	If > 40 years: yearly	Ask about menopausal symptoms: hot flushes, night sweats, vaginal dryness, mood changes, difficulty sleeping. If menopausal ↗ 187 .
Sexual health	Every visit	If risky sexual behaviour (new or multiple partner/s, uses condoms unreliably, has sex under influence of alcohol/drugs), give safe sex advice.
Adherence	Every visit	• If using contraceptive, ask about concerns and satisfaction with method. If unsatisfied, consider different contraceptive, rather than risking unwanted pregnancy. • If patient has missed injections or pills, manage ↗ 171.
Side effects	Every visit	If already on contraceptive, ask about and manage side effects ↗ 171 .
Weight (BMI ²)	Every visit	BMI = weight (kg) ÷ height (m) ÷ height (m). Aim for BMI of 18 to < 25. If BMI ≥ 25 ↗ 156 .
BP	First visit; every visit if on pill or injectable	• Check BP: if ≥ 140/90 ↗ 148. • If known hypertension or BP ≥ 140/90, avoid/change from combined oral contraceptive. If BP ≥ 160/100, also avoid/change from injectable.
Breasts	First visit, then yearly ³	Check for lumps in breasts and axillae. If lumps in breasts ↗ 55 ; if lumps in axillae ↗ 42 .
Pregnancy	Every visit	Before starting contraception or if pregnancy suspected (nausea/breast tenderness/missed period when using combined oral contraceptive), check for pregnancy ↗ 174 .
HIV	Every visit	Test for HIV ↗ 124 . If positive, give routine HIV care ↗ 126 . If negative, consider need for PrEP ↗ 119 .
Cervical screen	When needed	If HIV negative: start screening at 25 years, repeat every 10 years ↗ 70 . If HIV positive: start screening at 25 years, regardless of when ART was started, repeat every 5 years ↗ 70 .

Advise the patient starting/on contraception

Health for All

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- Educate patient to use contraceptive reliably. Advise to discuss concerns/problems with method and find an alternative, rather than stopping it and risking unwanted pregnancy.
- Recommend dual contraception: one method of contraception *plus* condoms to protect from STIs and HIV. Demonstrate and give male/female condoms.
- Discuss risky sexual behaviour. Explain risks of pregnancy and infections. Encourage patient to have 1 partner at a time and if HIV negative, to test for HIV between partners. Advise that partner/s test too.
- Educate about the availability of emergency contraception (see above) and termination of pregnancy **↗ 175** to prevent unwanted pregnancy. Also educate about PrEP.
- Advise patient on pill/implant to tell clinician if starting ART, TB treatment or antiseizure medication as these may interfere with pill/implant effectiveness.
- If on pill: if vomits within 2 hours/severe diarrhoea within 12 hours of taking pill, repeat dose as soon as possible. If persistent vomiting/diarrhoea > 24 hours, advise to use condoms or abstain during illness and for 7 days after.

¹The **◆levonorgestrel IUD** 52mg (LNG-IUD) is not coded for emergency contraception. ²BMI = weight (kg) ÷ height (m) ÷ height (m). ³If patient > 40 years old, check breasts 6 monthly.

Starting or changing contraception

Use steps 1-4 to help patient to choose best option according to her needs ↗ 172.

Already using contraceptive

- If patient satisfied with method, check method is still suitable.
- If using IUD or subdermal implant, check when replacement needed.
- If using DMPA > 2 years, consider switch to alternative method.

Treat the patient according to her current situation

Recent delivery, miscarriage or termination of pregnancy (TOP)

- Insert IUD within 48 hours if no reason to avoid ↗ 174, otherwise insert ≥ 4 weeks *or*
- Insert subdermal implant, or start injectable or POP at any stage, *or*
- Offer sterilisation (tubal ligation), if appropriate, *or*
- Start COC or POP immediately after miscarriage/TOP.
- Start POP immediately after delivery:
 - Avoid COC for 6 weeks after delivery.
 - Avoid COC for 6 months if exclusively breastfeeding.

Menopausal

- If < 50 years, give contraception for 2 years after last period.
- If ≥ 50 years, change to progestogen-only or non-hormonal contraceptive for 1 year after last period.

Manage the patient who has missed an injection or pill

Late injection

- If ≤ 4 weeks late: give the injection.
- If > 4 weeks late: check for pregnancy ↗ 174.
- If not pregnant, give injection and use condoms/abstain for 7 days. If unprotected sex in past 5 days, offer emergency contraception ↗ 170.

Missed progestogen-only pill (> 3 hours late)

- Take pill as soon as remembered, continue pack.
- If unprotected sex in past 5 days, also offer emergency contraception ↗ 170.
- Advise to use condoms/abstain for 7 days.

Missed combined oral contraceptive (> 24 hours late)

- If 1 active pill missed: take 1 pill immediately and take next pill at usual time.
- If ≥ 2 active pills missed during:
 - First 7 active pills: offer emergency contraception ↗ 170, and restart active pills 12 hours later.
 - Middle 7 active pills: take the most recent missed pill immediately (discard others). Continue remaining pills as usual. No emergency contraception required.
 - Last 7 active pills: finish active pills of current pack. Omit inactive pills. Immediately start active pills of next pack.
 - Advise to use condoms/abstain for 7 days.

Manage contraception side effects

Side effect	Management
Menstrual abnormalities	Reassure that menstrual abnormalities usually resolve within 3-6 months. If no periods or periods irregular/heavy/painful: assess and manage ↗ 73.
Headaches	• Reassure that headaches are common and should resolve within 3 months. If headaches persist, consider switch to non-hormonal method like copper IUD. If headache not resolved after stopping/switching method, refer. • If severe headaches or headache with change in vision/hearing/smell, memory loss, weak/numb limb, refer. • If using LNG-IUD and first time migraines or severe headaches, refer.
Sexual problems	• If using IUD and irritation of partner's penis during sex, cut IUD strings shorter. • Reassure that contraceptives unlikely to affect sexual function. If sexual problems persists, consider alternative method (IUDs, subdermal implant or sterilisation if appropriate).
Acne	Consider switch to combined oral contraceptive. If not resolved or severe, discuss/refer.
Weight gain	Reassure this is often temporary due to fluid retention, and resolves within 3 months. If BMI ≥ 25 ↗ 156. Advise healthy behaviour.
Breast tenderness	Reassure this usually resolves within 3 months. Advise to wear supportive bra.
Moodiness	Reassure this should resolve. If persists, assess for low mood, stress or anxiety ↗ 98 or consider switch to non-hormonal method like copper IUD.
Red, swollen, painful wound after implant insertion or sterilisation	• If surrounding tissue involved, infection likely. Give ♦flucloxacillin 500mg 6 hourly <i>or</i> ♦cefalexin 500mg 6 hourly for 5 days. • If infection extensive or getting worse despite antibiotics, discuss/refer same day.

Review the patient on contraception

- If LNG-IUD or subdermal implant inserted this visit, review in 3-6 weeks. If copper-IUD inserted this visit review in 4-12 weeks. Thereafter, review yearly as needed.
- If oral or injectable contraceptive started this visit, review in 3 months. Thereafter, review as needed.

Start or change contraception

STEP 1. Help the patient decide which method is best according to her needs.

- If wanting long term protection, consider IUD (5 years), subdermal implant (3-5 years), injectable (3 months), or sterilisation (permanent).
- If needing quick return to fertility, consider IUD or subdermal implant.
- If worried about adherence issues, consider IUD, subdermal implant or injectable.
- If problems with heavy/painful/irregular periods, acne or premenstrual syndrome, consider COC.
- If the patient prefers to avoid hormones, consider copper IUD and/or reliable condom use (both hormone free), sterilisation or LNG-IUD (low dose hormone released locally into uterus).

STEP 2. Check if reasons to avoid chosen method (use table). If there is a reason, consider another method that will be acceptable to patient:

Heavy or painful periods

Use LNG-IUD or COC.

≥ 35 years old and smoker

Use IUD, implant, DMPA or POP.

Medications

- If on rifampicin/rifapentine, use injectable or IUDs.
- If on phenytoin/carbamazepine, use injectable or IUD.
- If on lamotrigine, use IUD, implant, injectable or POP.
- If on EFV, use IUD or injectable.
- If on NVP/LPVr/ATVr use IUD, implant or injectable.

Long-term health conditions

- If breast cancer: use copper IUD to avoid pregnancy for 5 years after diagnosis.
- If cancer of uterus/cervix/ovary: use implant, injectable, COC or POP.
- If severe liver disease: use copper IUD.
- If history of blood clots and stable on blood thinner: use implant, POP or injectable.
- If history of stroke/TIA, heart attack, ischaemic heart disease: use IUD or implant.
- If hypertension and blood pressure controlled use: IUD, implant, DMPA or POP.
- If diabetes complications (eye, nerve, kidney damage): use IUD, implant or POP.

STEP 3. Explain possible side effects (use table). If unacceptable to patient, consider another method.

STEP 4. Explain instructions for use (use table) and check understanding.

Method	Reasons to avoid	Side effects	Instructions for use
Intrauterine devices (IUDs) <i>(Small device fitted inside uterus)</i> 1. ♦Levonorgestrel IUD 52mg (LNG-IUD) 2. ♦Copper IUD e.g. Cu T380A	• Avoid both IUDs if: current STI/PID, previous recurrent STI, unexplained vaginal bleeding, abnormality/cancer of cervix/uterus, or if HIV with stage 3 or 4 disease. • Also avoid LNG-IUD if breast cancer, current blood clots or severe liver disease. • Also avoid copper IUD if heavy/prolonged periods. • Postpartum (≤ 48 hours): avoid if chorioamnionitis, rupture of membranes for > 18 hours or postpartum haemorrhage.	• Discomfort or cramping during/ following insertion. • Menstrual abnormalities. • LNG-IUD usually results in no/ lighter periods, but may cause irregular bleeding. • Headaches with LNG-IUD are rare.	• Trained staff to insert/remove. Insert any time during cycle. • If pain, give ♦ibuprofen¹ 400mg 8 hourly with/after food for 3 days. • Advise to return if excessive bleeding/pain, fever, foul-smelling discharge: refer. • Advise to check strings monthly at home and return if strings not felt. • If after delivery/miscarriage/TOP: insert ≤ 48 hours (if no reason to avoid) or after 4 weeks. • Gives long-term protection: 5 years.
Subdermal implant <i>(Small plastic rod/s just under skin of upper arm)</i> e.g. ♦ Etonogestrel 68mg (1x rod: 3 years)	• Unexplained vaginal bleeding, breast cancer, liver disease. • Patient on rifampicin, efavirenz, phenytoin, carbamazepine.	• Pain/bruising following insertion. • Irregular bleeding, breast tenderness, weight gain, acne, headaches, moodiness, nausea.	• Trained staff to insert/remove. • If inserted after day 5 of cycle, use condoms/ abstain for 7 days. • If pain, give ♦ibuprofen¹ 400mg 8 hourly with or after food for 3 days. • Gives long-term protection: 3-5 years depending on device used.
Injectable <i>(Long-lasting injection into upper arm)</i> e.g. ♦ Medroxyprogesterone (DMPA) IM 150mg or SC 104mg 12 weekly	• Unexplained vaginal bleeding, breast cancer, severe liver disease, stroke, ischaemic heart disease, BP ≥ 160/100, diabetes complications (eye, nerve, kidney damage). • Also avoid DMPA if history of meningioma.	• Irregular/heavy/prolonged bleeding or no periods, hot flushes, breast tenderness, appetite changes, weight gain, acne, nausea/bloating.	• If IM injection started after day 7 or SC injection started after day 5 of cycle, use condoms/abstain for 7 days. • Protection lasts 3 months. May be delay in return to fertility (± 9 months). • No need to adjust dosing interval for ART, TB or antiseizure medication. • If using DMPA > 2 years, review and discuss switch to alternative method. Advise that long-term use carries low risk of meningioma.
Oral pill <i>(1 tablet swallowed daily)</i> 3. Combined oral contraceptive (COC): • Monophasic: e.g. ♦ ethinylestradiol/levonorgestrel 30mcg/150mcg • Triphasic: e.g. ♦ ethinylestradiol/levonorgestrel (varying doses) 4. Progestogen-only pill (POP): e.g. ♦ levonorgestrel 30mcg	• Avoid both POP and COC if breast cancer, stroke, severe liver disease or on rifampicin, phenytoin/carbamazepine, EFV, NVP, LPVr, ATVr. • Avoid COC if: on lamotrigine, blood clots/stroke, smoker ≥ 35 years, migraines and ≥ 35 years or visual disturbances, BP ≥ 140/90, hypertension, CVD risk > 10%, ischaemic heart disease, diabetes complications (eye, nerve, kidney damage), for 6 weeks after delivery and for 6 months if breastfeeding.	• Menstrual abnormalities, breast tenderness, headaches, moodiness, weight gain.	• If POP/COC started after day 5 of cycle, use condoms/abstain for 7 days. • Strict adherence needed: take every day at same time. POP less effective if taken ≥ 3 hours late. If taken ≥ 3 hours late, use condoms/abstain for 7 days. • If vomits < 2 hours or severe diarrhoea < 12 hours of taking pill, repeat dose. If > 24 hours diarrhoea/vomiting, use condoms or abstain for 7 days after better. • May be a delay in return of fertility (± 3 months). • Give 3 month supply.
Sterilisation <i>(Reproductive tubes closed)</i> • Tubal ligation or vasectomy	Ensure patient understand this is permanent and cannot be reversed. Avoid if patient unsure.	• No return to fertility. • Surgical complication risks.	• Permanent. • Refer for procedure. Consent needed.

¹Avoid if peptic ulcer, asthma, hypertension, heart failure or kidney disease.

PLANNING A PREGNANCY

Assess the patient planning a pregnancy

Assess	When to assess	Note
Symptoms	Every visit	If vaginal discharge, ulcer, lower abdominal pain ↗ 62.
Long-term health conditions	Every visit	- Assess control on long-term condition pages. If not well controlled, advise to delay pregnancy until control achieved. - If on any of: tretinoin, doxycycline, enalapril, hydrochlorothiazide, statins, NSAIDs, sodium valproate, phenytoin or warfarin, doctor to review medications.
Substance use	Every visit	Ask about alcohol/drug use, assess for dependence and support to stop ↗ 165. If patient smokes, encourage to stop ↗ 164.
Menstruation	Every visit	If heavy, prolonged or irregular periods ↗ 73. If irregular periods with hot flushes, night sweats, vaginal dryness, mood changes, difficulty sleeping, menopause likely ↗ 187.
Family planning	First visit	- Ask about contraception use: if previously on injectables, advise fertility should return within 9 months. If previously on oral contraceptives, advise fertility should return within 3 months. If patient or partner with previous sterilisation, refer. - Ask about previous pregnancies. If ≥ 3 consecutive miscarriages, refer.
Psychosocial risk	First visit	Patient at risk of mental health problem if any of: difficult life event in last year, unsupportive partner, violence at home, no social/family support, previous depression/anxiety, < 20 years, no money for food, patient is a refugee or has long-term health conditions. Refer to social worker.
BP	First visit	- If not known hypertension and BP ≥ 140/90 ↗ 148. - If known hypertension or on enalapril, discuss with doctor to switch.
BMI ¹	First visit	- If BMI < 18.5, test for TB ↗ 102 and HIV ↗ 124 and refer for nutritional support. If unintentional weight loss ≥ 5% of body weight in 4 weeks ↗ 37. - If BMI ≥ 25, advise to lose weight ↗ 156.
Examination	First visit	- Do pelvic examination. If pelvic mass, refer. If scar from previous pelvic surgery, discuss, refer. - Do speculum examination to look for abnormalities of cervix.
HIV	If status unknown, 3 monthly	- Test for HIV ↗ 124. If positive, give routine HIV care ↗ 126 and advise to use contraception until viral load undetectable. - If negative, assess for HIV PrEP ↗ 119.
Haemoglobin	First visit	If Hb < 12, anaemia likely. Investigate cause and manage further ↗ 44.
Cervical screen	If needed	- If HIV negative: start screening at 25 years. Repeat every 10 years if HPV DNA test stays negative. Stop screening at 55 years ↗ 70. - If HIV positive: start screening at 25 years, regardless of when ART was started. Repeat every 5 years if HPV DNA test stays negative ↗ 70.
Thyroid	If needed	If weight change, pulse ≥ 100, tremor, weakness/tiredness, dry skin, constipation or intolerance to cold/heat, check TSH. If abnormal, refer to doctor.

Advise the patient planning a pregnancy

- Advise patient to track menstruation in diary or app. Advise condomless sex during ovulation window:
 - Ovulation usually occurs in the middle of the cycle. The ovulation window is 4 days before and 4 days after ovulation (e.g. if cycle is 28 days, ovulation window will be day 10-18 of cycle).
- Advise patient and partner to avoid smoking and alcohol/drug/anabolic steroid use, as these can affect fertility. Also advise male partner to avoid hot baths and tight fitting underwear.
- Educate patient/partner to report STI symptoms, test for HIV regularly, and continue safe sex practices (use condoms when not in ovulation window, avoid new partners outside of current relationship).
- If patient/partner HIV positive, advise to delay pregnancy until VL undetectable, ideally for 6 months, before trying to conceive. If only one partner known with HIV, offer PrEP to uninfected partner.

Treat the patient planning a pregnancy

Give ♦ **folic acid** 5mg daily, and continue up to 13 weeks gestation. If on antiseizure medication, family history or previous baby with neural tube defect, continue folic acid throughout pregnancy.

Review after 1 month, then 3 monthly and decide when to refer

If regular menstrual cycle *and* patient has regular unprotected sex (≥ 1 year if < 35 years *or* ≥ 6 months if ≥ 35 years), **infertility** likely. Refer to next level of care.

¹Body Mass Index (BMI) = weight (kg) ÷ height (m) ÷ height (m).

PREGNANCY

Approach to diagnosing pregnancy in a sexually active woman of child-bearing potential

Decide if a pregnancy test is needed:

Did woman's last period start within the past 7 days¹?

Yes

No

Has woman had sexual intercourse since her last period (or since a delivery, miscarriage or TOP)?

No

Yes

Has woman used reliable contraceptive method consistently and correctly since her last period (or since a delivery, miscarriage or TOP)?

Yes

No

Has woman had a baby in the last 4 weeks?

Yes

No

Did woman deliver baby less than 6 months ago?

Yes

No

Is woman fully or nearly-fully² breastfeeding?

Yes

No

Has woman had a period since delivery?

Has woman had a miscarriage or TOP in the last 7 days¹?

No

Yes

No

Yes

Pregnancy unlikely

No need for further pregnancy test at this time.
If starting contraception, provide method → 172.

The patient might be pregnant. Do a urine pregnancy test:

Positive

Negative

Patient is pregnant

Discuss if patient wants to continue with pregnancy and if so, where to receive antenatal care
→ 175.

Pregnancy unlikely

A negative test result may be unreliable if done very early in a pregnancy. If starting contraception:

- If IUD chosen method, delay insertion by 4 weeks. Advise to abstain or use pill, injectable or condoms in meantime and repeat pregnancy test in 4 weeks. If 2nd pregnancy test negative, insert IUD.
- If chosen method is implant, injectable or pill, provide method now → 172. Arrange to repeat pregnancy test in 4 weeks.

Pregnancy unlikely

No need for further pregnancy test at this time.
If starting contraception, provide method → 172.

¹Or 12 days if excluding pregnancy as part of work up to insert IUD. ²Fully breastfeeding means baby gets all his/her food from suckling the breast. Nearly-fully breastfeeding means baby gets some liquid/food in addition to breastfeeding but no more than 1 or 2 mouthfuls a day.

Approach to the newly diagnosed pregnant patient

If pregnancy unintended, discuss patient's feelings around pregnancy/motherhood and plans for the future. Respect her feelings and decisions and be supportive.
Does the patient want the pregnancy?

No or patient unsure

Yes

- Discuss the options around continuing with pregnancy, choosing adoption or termination of pregnancy (TOP). Advise that TOPs performed outside of a health facility can be dangerous. If the patient chooses adoption, refer to social worker.
- Discuss future contraceptive needs → 170.
- Determine gestational age:
 - Use ultrasound if available. If ultrasound not available, estimate gestational age by dates and on examination. If dates and examination disagree or uterus felt abdominally or patient is obese, refer for ultrasound.
 - If gestational age determined by ultrasound and/or dates and examination agree, manage further:

Patient requests a TOP

Patient decides to continue with pregnancy

Gestation < 20 weeks

Gestation ≥ 20 weeks

- Be supportive and non-judgemental. Avoid calling the foetus "baby".
- If any of: uterus smaller than expected for gestation, adnexal mass, pain on moving the cervix, lower abdominal pain or vaginal bleeding/spotting, arrange ultrasound to check for ectopic pregnancy if not yet done.

- TOP is not allowed at PHC level. If concerns that pregnancy may endanger life of patient/foetus or fetal abnormalities suspected, discuss with specialist.
- Discuss possibility of adoption and refer to social worker.
- If patient agrees to adoption:

Decide if patient eligible for basic antenatal care

Ask about previous pregnancies and operations. Has patient had any of:

- Stillborn or newborn that died within first 28 days of life
- ≥ 3 consecutive miscarriages
- Birth weight of previous baby < 2500g or > 4500g
- Hospital admission for gestational hypertension or pre-eclampsia
- Surgery to uterus or cervix (caesarean section, fibroid removal, cone biopsy, cervical stitch for cervical incompetence)

No: Ask about current pregnancy. Does patient have any of:

- Diagnosed/suspected multiple pregnancy
- Age ≤ 16 or ≥ 37 years
- Rhesus negative with antibodies
- Vaginal bleeding
- Pelvic mass
- Diastolic BP ≥ 90 at booking

No: Ask about general medical problems. Does patient have any of:

- Diabetes
- Heart disease
- Kidney disease
- Asthma
- Epilepsy
- TB
- Alcohol/drug use disorder
- Hypertension

No

Yes

Yes

Patient is eligible for basic antenatal care

- If ≥ 5 pregnancies or previous postpartum haemorrhage, arrange hospital delivery.
- Continue routine first antenatal visit → 177.

Patient is **not** eligible for basic antenatal care

- Complete booking/first antenatal visit, then refer to next level of antenatal care → 177.
- If known hypertension: stop hypertension medication, give instead ♦methyldopa¹ 250mg 8 hourly, and refer urgently (within 2 days) to next level of antenatal care. Avoid starting calcium and aspirin at this visit.

¹Avoid taking iron within 4 hours of taking methyldopa.

MANAGE THE PATIENT REQUESTING A TERMINATION OF PREGNANCY (TOP)

Does patient have any of: heart disease, hypertension, asthma, diabetes, anaemia, bleeding disorder, epilepsy, substance abuse or large fibroids?

No. Arrange TOP booking as soon as possible (within 2 weeks) according to gestation

Yes

Gestation ≤ 12 weeks and 0 days. Is current facility a 24 hour maternity unit and/or are staff appropriately trained to offer TOP¹?

No

Refer to a facility offering 1st trimester TOP.

Yes: Offer choice of medical TOP or surgical TOP with manual vacuum aspiration (MVA)

- Check Hb and rapid rhesus antibody (Rh). Also test for HIV → 124 and do a cervical screen if needed → 70.
- If not already done, use ultrasound to determine gestational age. If ultrasound not available, estimate gestational age by dates and examination. If dates and examination disagree or uterus felt abdominally or patient is obese, refer for ultrasound.
- If gestational age determined by ultrasound and/or dates and examination agree, manage further:

Patient consents to medical TOP

If ≤ 9 weeks

- Give single dose ♦mifepristone 200mg orally.
- Then give single dose ♦misoprostol 800mcg sublingual to take at home after 24-48 hours:
- Explain that abdominal cramping and bleeding (with products of conception) occur 2-4 hours after taking misoprostol dose and can continue (on and off) for up to a month.
- If no or minimal bleeding within 4 hours advise to return to facility:

If > 9 weeks

- If MVA/resuscitation equipment not available, refer to another facility for supervised medical TOP.
- If MVA/resuscitation equipment available, offer supervised medical TOP:
 - Give single dose ♦mifepristone 200mg orally.
 - Advise to return to facility early morning within 48 hours for supervised misoprostol dose.
 - Give single dose ♦misoprostol 800mcg sublingual and observe patient at the facility:

If no or minimal bleeding within 4 hours, give second dose ♦misoprostol 400mcg orally or vaginally. If no or minimal bleeding after 4 hours of second dose, refer for ultrasound.

- For pain, give ♦paracetamol 500mg-1g 4-6 hourly (max 4g/24 hours) once cramping starts and ♦ibuprofen² 400mg 8 hourly with/after food up to 3 days.
- Advise to return immediately if any of: heavy bleeding (2 pads soaked within 2 hours), fever, persistent/worsening abdominal pain or foul-smelling discharge. Refer.
- Follow up within 14 days. Advise patient pregnancy is possible within 2 weeks following TOP and to avoid intercourse for 7 days after TOP.

Patient consents to surgical TOP/MVA

- If MVA/resuscitation equipment not available, refer to another facility for surgical TOP.
- Give single dose ♦misoprostol 400mcg vaginally 3 hours before procedure.
- For pain during MVA:
 - Give ►morphine 0.1mg/kg IM 30 minutes before procedure (max 10 mg).

Gestation ≥ 12 weeks and 1 day - 20 weeks:

Book assessment for TOP as soon as possible (before 20 weeks) at a facility offering 2nd trimester TOP.

Refer to next level of care for further TOP assessment.

Review the patient who had a TOP within the past 14 days

Are there any of: adnexal mass (closed cervix and small uterus), guarding/rebound abdominal tenderness, foul-smelling discharge, temperature ≥ 38°C, SBP < 80, pulse ≥ 100, Hb < 6 or respiratory rate ≥ 30?

No. Is there an enlarged uterus or open cervical os with bleeding/products of conception visible?

No to both

- Reassure patient she is no longer pregnant. Explain that urine pregnancy test can remain positive for up to 2 months after a TOP.
- Advise patient she can become pregnant within 2 weeks following TOP and to avoid intercourse for 7 days after TOP. Offer reliable contraception → 170.
- Assess patient's mental health. If patient been unable to stop worrying in the past 2 weeks, or felt stress/anxiety/low mood → 98.

Yes to either, **incomplete TOP** likely. Refer to next level of care.

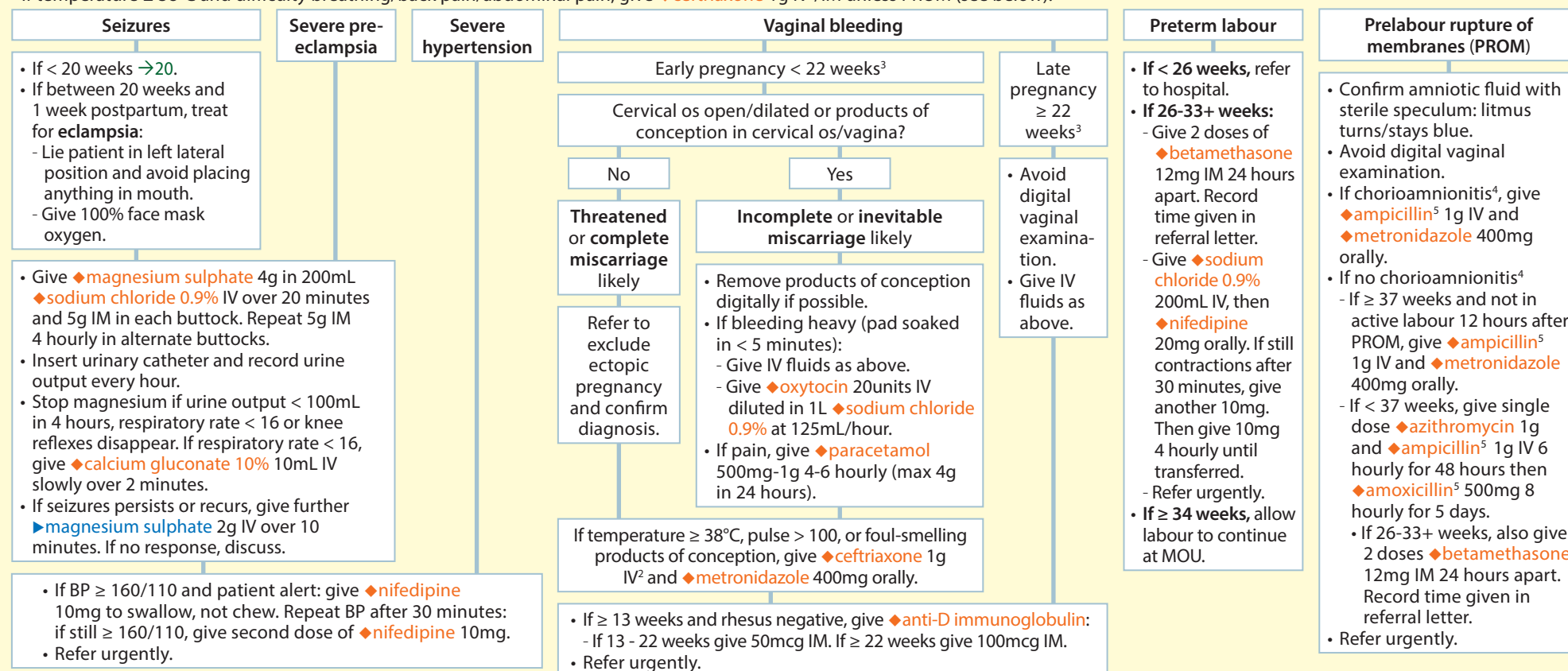
Yes

- Manage urgently → 182.
- If adnexal mass, **ectopic pregnancy** likely. Refer urgently.

¹A clinician may refuse to provide TOP services, provided they refer the patient to a provider who will conduct the TOP. Non-clinical staff may not refuse to provide care to a patient requesting a TOP. ²Avoid ibuprofen if pre-eclampsia, peptic ulcer, asthma, hypertension, heart failure, kidney disease.

- Seizures
- BP $\geq 140/90$ *and* persistent headache/blurred vision/abdominal pain: treat as **severe pre-eclampsia**
- BP $\geq 160/110$ *and* $\geq 1+$ proteinuria: treat as **severe pre-eclampsia**
- BP $\geq 160/110$ *without* proteinuria: treat as **severe hypertension**
- Painful contractions < 37 weeks: **preterm labour** likely
- Sudden gush of clear/pale fluid from vagina with no contractions: **prelabour rupture of membranes (PROM)** likely

- If difficulty breathing, give face mask oxygen.
- If shock/SBP < 80, give **◆sodium chloride 0.9%** 500mL IV over 30 minutes, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If temperature $\geq 38^{\circ}\text{C}$ and difficulty breathing/back pain/abdominal pain, give **◆ceftriaxone** 1g IV²/IM unless PROM (see below).



¹If SBP < 80, pulse ≥ 100, respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²Do not mix Ringer's lactate and IV ceftriaxone. ³If gestation not known, manage as late pregnancy if uterus palpable above umbilicus. ⁴Temperature ≥ 38°C, painful abdomen or foul-smelling amniotic fluid. ⁵If penicillin allergy (history of anaphylaxis, urticaria or angioedema), give instead **azithromycin** 500mg daily.

The booking/first antenatal visit

Assess the pregnant patient at the booking visit, ideally before 14 weeks. If already booked →179. If not done, check patient wants pregnancy and is eligible for Basic Antenatal Care → 175.

Assess	Note
Symptoms	Check if patient needs urgent attention → 177. Manage symptoms as per symptom page.
Estimated Delivery Date (EDD)	- Use first day of the last period and symphysis-fundal height (SFH) to determine EDD and current gestation. - If unsure of dates and SFH < 24cm, refer for ultrasound to confirm EDD.
Fetal movements	If > 20 weeks, ask about fetal movements. If reduced fetal movements → 179.
TB	- If cough, weight loss, night sweats or fever, test for TB → 102. If patient has TB, refer to next level of antenatal care clinic. - If HIV positive, send 1 sputum sample for TB NAAT, even if no TB symptoms.
Mental health	- If patient has suicidal thoughts or plans, previous mental illness, recent bereavement, trauma, sexual abuse/violence, no social/family support, financial difficulty → 159. - If low mood, stress or anxiety → 98.
Substance use	Any alcohol/drug use is risky for baby. In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any, discuss/refer.
MUAC ² and BMI ³	- If MUAC < 23cm or BMI < 18.5 (BMI < 23 if HIV positive), test for TB → 102 and HIV → 124. Refer for nutritional support/dietitian, if available, and arrange advanced midwife/doctor review. - If MUAC ≥ 33cm or BMI ≥ 32, check diabetes risk below.
Abdomen	- Use tape measure to measure size of uterus from symphysis pubis to top point of uterus. This is the symphysis-fundal height (SFH). - Plot SFH according to gestation on SFH growth chart. Assess growth by looking where measurement falls in relation to percentile lines: - If SFH < 24 cm at booking, refer for ultrasound (ideally at 18-20 weeks), if facilities available. - If < 28 weeks and measurement above 90th percentile or multiple pregnancy likely, refer. - If SFH below 10th percentile, check SFH at next visit. If still below 10th percentile, discuss/refer for likely poor fetal growth. - If ≥ 34 weeks: palpate presenting part. If breech or transverse lie suspected, reassess after 38 weeks. If breech or transverse lie still suspected, refer. - If mass other than uterus in abdomen or pelvis, refer for assessment.
Vaginal discharge	If abnormal discharge, treat → 62. If watery discharge with history of a sudden gush of clear/pale fluid from vagina, and no contractions, suspect prelabour rupture of membranes → 177.
BP	- If BP ≥ 160/110, manage and refer urgently → 177. - If ≥ 140/90, lie patient on left side for at least 1 hour, then repeat BP: - If repeat BP ≥ 150/100, refer same day → 177. - If repeat BP < 150/100, check urine dipstick for protein: - If ≥ 1+ proteinuria, refer same day. - If no proteinuria but headache, blurred vision or severe abdominal pain, treat for severe pre-eclampsia → 177. - If no proteinuria, educate about warning signs (persistent headache, blurred vision or abdominal pain), advise to rest/reduce workload and review in 1 week: - If BP at review ≥ 140/90, arrange same day doctor/advanced midwife review. Treat for gestational hypertension → 181 and review weekly. If proteinuria/symptoms develop, refer urgently → 177. - Refer all patients with gestational hypertension at 38 weeks for hospital delivery.
Urine dipstick: test clean, midstream urine	- If leucocytes and nitrites in urine treat for likely complicated urinary tract infection → 69. - If proteinuria: - If trace or 1+ proteinuria with normal BP, reassess at next antenatal visit. If BP raised, manage above. - If ≥ 2+ proteinuria, repeat dipstick on a new urine specimen. If still ≥ 2+ proteinuria, discuss/refer. - If glucose in urine, check diabetes risk below.
Diabetes risk	- Screen for diabetes only if risk factor⁴. - Screen for diabetes: instruct patient to fast from 10pm the previous night. Upon clinic arrival, check fasting glucose, then give oral glucose 75g in 250mL water. Check glucose again after 2 hours. If ≥ 7.8, refer to next level of care/specialist clinic.

Continue to assess the pregnant patient →179

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²Mid Upper Arm Circumference. ³Body Mass Index (BMI) = weight (kg) ÷ height (m) ÷ height (m). ⁴Glucose in urine, BMI ≥ 35, age ≥ 40 years, previous diabetes in pregnancy, first degree relatives (parents, siblings, children) with diabetes, previous congenital abnormalities or unexplained stillbirth, previous baby ≥ 4000g, polyhydramnios, SFH large for gestational age, Indian ethnicity.

Booking/first antenatal visit continued

Assess	Note
Haemoglobin (Hb)	Give iron according to Hb → 181. - If Hb < 6, or Hb 6-7.9 with symptoms (dizzy, pulse > 100, difficulty breathing at rest), refer same day to regional hospital. - If Hb 6-7.9 without symptoms, refer within 1 week to next level of care clinic. - If booking late and Hb < 10 at ≥ 36 weeks: refer to next level of care clinic and arrange delivery at hospital.
Rapid rhesus (Rh)	If rhesus negative, send Coombs test to check for antibodies. If Coombs positive, refer. If Coombs negative, patient will need anti-D immunoglobulin IM after delivery.
Syphilis	- Ideally, use rapid fingerprick test, as result immediately available. If HIV negative or unknown, use a dual HIV syphilis rapid test, if available. If syphilis positive → 67. If HIV positive → 126. - If rapid tests unavailable, send blood for syphilis serology (RPR). On request form, write: "If RPR titre 1:4 or less, do specific syphilis test on same specimen." If syphilis positive → 67.
HIV	- If HIV negative or status unknown, test for HIV → 124. If test negative, assess for PrEP → 119. - If HIV positive, start ART same day if not on ART yet → 126. If on ART, switch to DTG-based regimen if not on already → 132. Offer couple/partner testing.
Viral load (VL) if HIV positive	- If on ART for ≥ 3 months: do VL at this visit, regardless of previous tests. Follow up result at next visit (ideally within 1 week) → 180. - If on ART for < 3 months: do VL at 3 months on ART or at delivery if this is sooner.
Hepatitis B (HBsAg)	Manage according to result → 135.
Cervical screen	- If ≥ 20 weeks: delay cervical smear. Plan to do it at 6-week postnatal visit. - If < 20 weeks: - If HIV negative: start screening at 25 years. Repeat every 10 years if HPV DNA test stays negative. Stop screening at 55 years → 70. - If HIV positive: start screening at 25 years, regardless of when ART was started. Repeat every 5 years if HPV DNA test stays negative. Continue for as long as patient remains in HIV care → 70.

Note: fill 'C#ANTENATAL' on blood request form code field so that VL not rejected.

Continue to advise and treat the pregnant patient → 181

Follow-up antenatal visits

Assess the pregnant patient at follow-up visits around 20, 26, 30, 34, 36, 38, 40 weeks (7 visits). Also review at 41 weeks if undelivered.

Assess	When to assess	Note
Symptoms	Every visit	Check if patient needs urgent attention → 177. Manage symptoms as per symptom page.
Gestation ¹	Every visit	If ≥ 40 weeks, advanced midwife/doctor to review. If sure of dates, patient to go to hospital at exactly 41 weeks for induction (give referral letter). If unsure of dates, refer.
Fetal movements	Every visit from 20 weeks	- If reduced or absent fetal movements, listen for fetal heartbeat. If fetal heart beat not heard, refer. - If fetal heart beat heard, arrange for cardiotocograph (CTG). If CTG not available at facility, refer. Ideally, advanced midwife to perform and interpret CTG.
TB	Every visit	- Check for TB symptoms at every visit: if cough, weight loss/poor weight gain or fever, test for TB → 102. If patient has TB, refer to next level of antenatal care clinic. - If HIV positive, check TB NAAT result sent at first visit (if not done, do at this visit, even if no symptoms): - If TB NAAT positive, start TB treatment and refer to next level of care antenatal clinic. - If TB NAAT negative (or unable to produce sputum) and: - TB symptoms: if CD4 ≤ 200 or WHO stage 3 or 4 disease, do urine LAM². If LAM positive, start TB treatment and refer. If CD4 > 200 or LAM negative, discuss/refer. - No TB symptoms: start ART, if not already done → 126 and assess for TPT → 100.
Mental health	Every visit	- If patient has suicidal thoughts or plans, previous mental illness, recent bereavement, trauma, sexual abuse/violence, no social/family support, financial difficulty → 159. - If low mood, stress or anxiety → 98.
Substance use	Every visit	- Any alcohol/drug use is risky for the baby. - In past year, has patient drunk ≥ 4 drinks³/session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any, discuss/refer.

Continue to assess the pregnant patient → 180

¹Use obstetric wheel to determine gestation, based on estimated date of delivery (EDD). ²Urine LAM (lipoarabinomannan): urine test used to detect active TB in patients with low CD4s. ³One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

Follow-up antenatal visit continued

Assess	When to assess	Note
Abdomen	Every visit	- Measure and plot symphysis-fundal height (SFH) according to gestation on SFH growth chart. Assess growth over time and percentile lines: - If < 28 weeks and measurement > 90th centile or multiple pregnancy likely, refer. - Discuss/refer for likely poor fetal growth if: - Two <i>consecutive</i> SF measurements below 10th percentile (or <i>three separate</i> SF measurements below 10th percentile). - Three <i>consecutive</i> SF measurements remain the same (or <i>two consecutive</i> SF measurements, taken at least 6 weeks apart, remain the same). - SF measurement less than measurement recorded 2 visits previously. - If ≥ 34 weeks, palpate presenting part. If breech or transverse lie suspected, reassess after 38 weeks. If still suspected, refer.
Vaginal discharge	Every visit	- If abnormal discharge, treat → 62. - If watery discharge with history of a sudden gush of clear/pale fluid from vagina, and no contractions, suspect prelabour rupture of membranes → 177.
BP	Every visit	- If BP ≥ 160/110, manage and refer urgently → 177. - If ≥ 140/90, lie patient on left side for at least 1 hour, then repeat BP: - If repeat BP ≥ 150/100, refer same day → 177. - If repeat BP < 150/100, check urine dipstick for protein: - If ≥ 1+ proteinuria, refer same day. - If no proteinuria but headache, blurred vision or severe abdominal pain, treat for severe pre-eclampsia → 177. - If no proteinuria, educate about warning signs (persistent headache, blurred vision or abdominal pain), advise to rest/reduce workload and review in 1 week: - If BP at review ≥ 140/90, arrange same day doctor/advanced midwife review, treat for gestational hypertension → 181 and review weekly. If proteinuria/symptoms develop, refer urgently → 177. Refer all patients with gestational hypertension at 38 weeks for hospital delivery.
Urine dipstick: test clean, midstream urine	Every visit	- If leucocytes and nitrites in urine treat for likely complicated urinary tract infection → 69. - If proteinuria: - If trace or 1+ proteinuria with normal BP, reassess at next antenatal visit. If BP raised, manage above. - If ≥ 2+ proteinuria, repeat dipstick on a new urine specimen. If still ≥ 2+ proteinuria, discuss/refer. - If glucose in urine, check diabetes risk below.
Diabetes risk	If risk factor ¹ : 26 weeks	Instruct patient to fast from 10pm the previous night. Upon arrival at the clinic, check fasting glucose and give oral ♦glucose 75g in 250mL water. Check glucose again after 2 hours. If ≥ 7.8, refer to next level of care/specialist clinic.
Haemoglobin (Hb)	- Between 28 and 32 weeks - At 36 weeks - If patient pale - If Hb < 10: 1 month after treatment started	- Give iron according to Hb → 181. - If Hb < 6, or Hb 6-7.9 <i>with symptoms</i> (dizzy, pulse > 100, difficulty breathing at rest), refer same day to regional hospital. - If Hb 6-7.9 without symptoms, refer within 1 week to next level of care clinic. - If Hb 8-9.9 and Hb is not improving after 1 month of treatment, refer within 1 week to next level of care clinic. - If Hb < 10 at ≥ 36 weeks, refer to next level of care clinic and arrange delivery at hospital.
If Rh negative: anti-D antibodies	Send Coombs test to check for antibodies at 26, 34 and 38 weeks	- If Coombs positive, refer. - If Coombs negative, give ♦anti-D immunoglobulin 100mcg IM after delivery/miscarriage preferably within 72 hours, up to 7 days later.
Syphilis	At every visit and at delivery	- Use fingerprick test, as result immediately available. If HIV negative/unknown, use dual HIV syphilis rapid test. If HIV positive → 126. If syphilis positive → 67. - If rapid tests unavailable, send syphilis serology (RPR). On request form, write: "If RPR titre 1:4 or less, do specific syphilis test on same specimen." If positive → 67. - Follow positive syphilis results up. Check patient has received all 3 treatment doses → 67.
HIV	At every visit and at delivery	- If HIV negative or status unknown, test for HIV → 124. If patient refuses, offer at each visit, even in early labour. If test negative, consider need for PrEP → 119. - If HIV positive, give routine HIV care → 126 and check that patient on ART. If not on ART, start ART same day → 128.
Viral load (VL) if HIV positive	3 months on ART - At delivery	- If VL < 50, continue ART and repeat VL at delivery. - If VL ≥ 50, manage unsuppressed viral load → 184.

Note: fill 'C#ANTENATAL' or 'C#DELIVERY' on blood request form code field so that VL not rejected.

Continue to advise and treat the pregnant patient → 181

¹Glucose in urine, BMI ≥ 35, age ≥ 40 years, previous diabetes in pregnancy, first degree relatives (parents, siblings, children) with diabetes, previous congenital abnormalities or unexplained stillbirth, previous baby ≥ 4000g, polyhydramnios, SFH large for gestational age, Indian ethnicity.

Advise the pregnant patient

Health for All

↩ 55

- Complete Maternity Case Record and give to patient, remind patient to bring it to every visit and when in labour.
- Encourage patient to register on MomConnect (dial *134*550#) to receive messages to support her and her baby during pregnancy, childbirth and baby's first year.
- Advise patient to only take medication prescribed by nurse/doctor who knows she is pregnant. If unsure, advise her to check with nurse/doctor.
- Alert patient to risks of smoking and drinking alcohol and urge to stop. Support patient to change ↗ 199 and refer patient to available helpline ↗ 200.
- Discuss safe sex. Advise patient to use condoms throughout pregnancy and have only 1 partner at a time.
- Discuss contraception choice for after delivery ↗ 170.
- Educate about signs of early labour and pregnancy emergency: persistent headache, blurred vision, abdominal pain (not discomfort), drainage of liquor, vaginal bleeding, reduced fetal movements.
- From 30 weeks, ensure patient knows where she is going to give birth and check if transport arrangements have been made should she go into labour.
- Discuss infant feeding:
 - Encourage exclusive breastfeeding for 6 months, regardless of HIV status. This means that baby gets only breast milk (no formula/water/cereal) and if HIV-exposed, infant prophylaxis.
 - From 6 months, introduce food while continuing with feeding choice. Continue breastfeeding until 2 years for all, ensuring that HIV positive patient is adherent on ART and virally suppressed.
 - If patient chooses to exclusively formula feed, check that patient will be able to afford it long-term, has access to clean boiled water, and that it will be acceptable (i.e. no disclosure issues).

Treat the pregnant patient

- Give **◆folic acid** 5mg daily up to 13 weeks gestation. If > 13 weeks gestation, folic acid may increase risk of gestational diabetes, large-for-gestational-age baby and neurodevelopmental effects. If on antiepileptic medication, family history or previous baby with neural tube defect, continue folic acid throughout pregnancy.
- Give iron¹ according to Hb:
 - If Hb ≥ 10, give **◆ferrous sulphate compound BPC** 170mg daily or **◆ferrous fumarate** 200mg daily throughout pregnancy.
 - If daily iron not tolerated², give instead **◆ferrous sulphate compound BPC** 340mg once weekly with food or **◆ferrous fumarate** 400mg once weekly with food throughout pregnancy.
 - If Hb < 10, give **◆ferrous sulphate compound BPC** 170mg 12 hourly with food or **◆ferrous fumarate** 200mg 12 hourly with food.
 - Continue for 3 months once Hb ≥ 10, then once daily throughout pregnancy.
- Give **◆elemental calcium** 1g daily (given as 3 tablets of calcium carbonate 420mg tablets, 12 hourly) to reduce the risk of pre-eclampsia.
 - If hypertension, diabetes, systemic lupus erythematosus (SLE), antiphospholipid syndrome or previous pre-eclampsia, give **◆aspirin** 150mg at night from 6 weeks gestation (ideally before 16 weeks) until 36 weeks.
- Give **◆tetanus, reduced-strength diphtheria and acellular pertussis vaccine (Tdap)** 0.5mL IM, ideally between 26 and 34 weeks.
- Give **◆influenza vaccine** 0.5mL IM if at time of annual campaign.
- If **gestational hypertension**:
 - Start **◆methyldopa** 250mg 8 hourly and titrate up to 750mg 8 hourly if needed. Avoid taking iron within 4 hours of taking methyldopa.
 - Review weekly to check for new symptoms, BP, urine, weight, SFH, fetal heart and fetal movements ↗ 179. If proteinuria/new symptoms, refer urgently.
 - Refer at 38 weeks for delivery at hospital.
- If **HIV positive**: start/continue ART and check if prophylaxis (co-trimoxazole preventive therapy or TB preventive treatment) needed ↗ 128. If HIV negative, assess for HIV pre-exposure prophylaxis (PrEP) ↗ 119.

Review the pregnant patient at 20, 26, 30, 34, 36, 38, 40 weeks. If undelivered, also review at 41 weeks.

Treat the HIV positive patient in labour

- If on ART, continue ART throughout delivery. Check viral load, regardless of when last done, and review results at 3-6 day postnatal visit.
- If not on ART, give together single dose **◆NVP** 200mg as early as possible in labour *and* single dose **◆TLD**: **◆TDF**/**◆3TC**/**◆DTG** 300/300/50mg.
- Give ideally during early labour, and urgently if delivery is imminent.
- Start patient on ART next day ↗ 126. Give 2 months ART supply.
- Decide HIV transmission risk of HIV-exposed baby and give infant prophylaxis according to risk ↗ 186.

Note: fill 'C#DELIVERY' on blood request form code field so that VL not rejected.

DTG - dolutegravir; **FTC** - emtricitabine; **NVP** - nevirapine; **TDF** - tenofovir; **3TC** - lamivudine, **TLD** - TDF/3TC/DTG or tenofovir/lamivudine/dolutegravir

Give routine postnatal care to patient and baby ↗ 182

¹Avoid taking iron within 4 hours of taking calcium or methyldopa and within 2 hours of milk and tea. If on dolutegravir and taking at same time as iron, take with food. ²Abdominal pain, nausea, vomiting, constipation. ³If on dolutegravir and taking at same time as calcium, take with food. ⁴Tetanus vaccinations include DTP, DTP-Hib, DTaP-IPV/Hib, TD or TT.

ROUTINE POSTNATAL CARE

Give urgent attention to the postnatal patient (within 6 weeks of delivery) with any of:

- Heavy bleeding (soaks pad in < 5 minutes), **postpartum haemorrhage** likely
- Recent seizure, up to 1 week postpartum, treat as **eclampsia** →177
- Unwell and temperature $\geq 38^{\circ}\text{C}$
- Perineal tear extending to anus or rectum
- Shock¹/systolic BP < 80
- Pulse ≥ 100
- Hb < 6
- Pallor with respiratory rate ≥ 30 , dizzy, faint or chest pain

Manage and refer urgently:

- If shock/SBP < 80, give **sodium chloride 0.9%** 1L IV rapidly, repeat until systolic BP > 80. Continue 1L 6 hourly. Stop if breathing worsens.
- If **postpartum haemorrhage** likely, call for help. This is a life-threatening condition and requires immediate management and referral:
 - Massage uterus, remove clots from vagina and empty bladder (with catheter if needed).
 - Give **oxytocin** 10units IM if not already given after baby delivered. Then give **oxytocin** 20units in 1L **sodium chloride 0.9%** at 250mL/hour IV in a 2nd IV line.
 - Give **tranexamic acid** 1g in 200mL **sodium chloride 0.9%** IV over 10 minutes, if available. If no doctor available, nurse to get telephonic prescription from doctor.
 - Ensure placenta is delivered. If controlled cord traction fails, try manual delivery. If uterus still soft after this:
 - Give **ergometrine** 0.5mg IM or **oxytocin/ergometrine** 5units/0.5mg (1mL) IM and continuously massage uterus. Avoid if eclampsia, pre-eclampsia, known hypertension or heart disease unless bleeding is life-threatening. Repeat after 10–15 minutes if no response to 1st dose.
 - Only if oxytocin and oxytocin/ergometrine unavailable, give **misoprostol** 600mcg rectally or sublingually.
 - Repair any bleeding tears. If still bleeding heavily, insert balloon catheter² into uterus, inflate with 400–500mL saline, clamp catheter and pack vagina with swabs to prevent expulsion.
 - Apply bimanual compression³ during transfer.
- If unwell and temperature $\geq 38^{\circ}\text{C}$, give **ceftriaxone** 1g IV⁴/IM. If painful abdomen or foul-smelling vaginal discharge, also give **metronidazole** 400mg orally.

Assess the patient and her baby 6 hours, 6 days, and 6 weeks after delivery

Assess	When to assess	Note
Symptoms	Every visit	Manage patient's symptoms as on symptom page. Manage baby's symptoms with IMCI guide.
TB	Every visit	If TB preventive treatment (TPT) deferred during pregnancy, reassess for TPT after delivery → 100.
Mental health	Every visit	• If patient has suicidal thoughts or plans, previous mental illness, recent bereavement, trauma, sexual abuse/violence, no social/family support, financial difficulty → 159. • If low mood, stress or anxiety → 98.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ⁵ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any → 165.
Family planning	Every visit	Assess patient's contraceptive needs → 170. Ideally, insert IUD within 48 hours of delivery if no contraindications ⁶ or insert subdermal implant/start injectable/POP at any stage after delivery, or offer tubal ligation if appropriate. Avoid COC pill for 6 weeks after delivery and for 6 months if breastfeeding.
Infant feeding	Every visit	If breastfeeding, check for breast problems → 55. Check that baby latches well. If formula feeding, ensure correct mixing of formula and water.
Baby	Every visit	• Assess and manage baby according to IMCI guide. • Ensure baby gets immunisations at birth and 6 weeks. If patient known to have TB, hepatitis B or syphilis, prevent infections in the newborn → 185.
Psychosocial risk	Every visit	Patient at risk of mental health problem if any of: patient not interacting with baby, difficult life event in last year, unplanned pregnancy, unsupportive partner, violence at home, no social/family support, previous depression/anxiety, < 20 years, no money for food, patient is a refugee or has long-term health conditions. Refer to social worker.
Abdomen and perineum	Every visit	• If painful abdomen or foul-smelling vaginal discharge, discuss/refer same day. • If perineal or abdominal wound, check healing. Advise salt baths twice daily in warm water for perineal wounds. If red/warm/painful/swollen/foul-smell/oozing pus, discuss/refer.
BP	Every visit	If BP $\geq 140/90$, allow patient to rest for 1 hour, then recheck BP. If ≤ 1 week postpartum and BP still $\geq 140/90$, discuss same day. If > 1 week postpartum and BP $\geq 140/90$ → 148.
BMI	Every visit	Patient's BMI = weight (kg) $\div$ height (m) $\div$ height (m). If < 18.5, arrange nutritional support.

Continue to assess the postnatal patient and baby →183

¹If SBP < 80, pulse ≥ 100 , respiratory rate > 30, confusion/restlessness, weakness, shock likely. ²If balloon catheter unavailable, make condom catheter: slip open condom over large Foley's catheter and tie with string at the base. ³Bimanual compression: insert clenched fist into vagina, with back of hand posteriorly. Place other hand on abdomen behind uterus and squeeze uterus firmly between two hands. ⁴Do not mix Ringer's lactate and IV ceftriaxone. ⁵One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ⁶Avoid IUD if chorioamnionitis, rupture of membranes for > 18 hours or postpartum haemorrhage.

Assess	When to assess	Note
Syphilis	If not done during labour/delivery	Ideally, use rapid fingerprick test, as result immediately available. If HIV negative or unknown, use a dual HIV syphilis rapid test, if available.
HIV test in patient	- At delivery (if not done/repeated) - If breastfeeding: at 10 weeks, 6 months, then 3 monthly	- Test for HIV → 124. If test negative, consider need for PrEP → 119. - If HIV positive, give routine HIV care and start ART same day → 126. Test baby for HIV same day and if breastfeeding, give infant prophylaxis → 177.
Viral load (VL) if HIV positive	- At delivery 6 months after delivery - If breastfeeding: 6 monthly	- Follow up results of VL done at delivery at the 3-6 day postnatal visit. If VL not done at delivery, do at this visit. - If VL < 50, continue ART and give routine HIV care → 126. - If VL ≥ 50, manage unsuppressed VL → 184.
HIV test in baby	- HIV-exposed: birth, 10 weeks, 6 months, 18 months, 6 weeks after breastfeeding stopped - HIV-unexposed: 18 months - At any time if baby unwell	- If patient diagnosed with HIV while breastfeeding or baby unwell, do HIV test same day. - If baby < 18 months old, use HIV PCR as initial test. If positive, start ART and confirm result with second HIV PCR (or HIV viral load). - If baby 18-24 months old, use rapid HIV test as initial test. If positive, confirm with HIV PCR test before starting ART. - If baby ≥ 24 months old, test as for adults → 124.
Haemoglobin	6 weeks	Give iron according to Hb (see below). If Hb < 10: repeat monthly until Hb reaches 10. If no improvement 1 month after starting treatment, discuss/refer.
Cervical screen	From 6 weeks	- If HIV negative, start screening at 25 years. Repeat every 10 years if HPV DNA test stays negative. Stop screening at 55 years → 70. - If HIV positive, start screening at 25 years, regardless of when ART was started. Repeat every 5 years if HPV DNA test stays negative. Continue for as long as patient remains in HIV care → 70.
Rhesus (Rh)	If patient rhesus negative: 6 hour and 6 day visit	If baby rhesus positive/unknown, give patient single dose ♦anti-D immunoglobulin 100mcg IM, preferably within 72 hours, up to 7 days after delivery.

Note: fill 'C#POSTNATAL' on blood request form code field so that VL not rejected.

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Advise the postnatal patient

- Encourage patient to become active soon after delivery, rest frequently and eat well. Advise to keep perineum clean and to change pads 4-6 hourly.
- Advise to return urgently if heavy bleeding, foul-smelling vaginal discharge, red/oozing wound, fever, dizziness, severe headache or abdominal pain, blurred vision, calf pain or baby unwell.
- Refer to infant feeding support group and give feeding advice:
 - Regardless of HIV status, encourage exclusive breastfeeding for 6 months: baby gets only breast milk (no formula/water/cereal) and if HIV-exposed, infant prophylaxis.
 - Advise to only introduce food from 6 months of age while continuing with feeding choice. Advise the working patient to consider expressing breast milk for baby while away.
 - Regardless of HIV status, continue to breastfeed until 2 years of age. If HIV positive, ensure viral suppression on ART. If HIV negative, advise 3-monthly HIV tests.
 - If patient chooses to formula feed, check that she is able mix it correctly, afford it long-term, has access to clean boiled water, and that it will be acceptable (i.e. no disclosure issues).
- Discuss family planning and importance of spacing children. Advise to use reliable contraception and condoms as soon after delivery as possible.
- Explain that the first 1000 days of a child's life are vital to development. Encourage parents to respond when baby cries and to hold, talk/sing and make eye contact with baby to help with bonding and development. If patient finds this difficult, encourage her to return more frequently and refer to support group, if available.

Treat the postnatal patient

- Give iron¹ according to Hb:
 - If Hb ≥ 10, give ♦ferrous sulphate compound BPC 170mg daily or ♦ferrous fumarate 200mg daily for 6 weeks after delivery.
 - If daily iron not tolerated², give instead ♦ferrous sulphate compound BPC 340mg once weekly with food or ♦ferrous fumarate 400mg once weekly with food for 6 weeks.
 - If Hb < 10, give ♦ferrous sulphate compound BPC 170mg 12 hourly with food or ♦ferrous fumarate 200mg 12 hourly with food. Continue for 3 months after Hb reaches 10.
- If pain after delivery, give ♦paracetamol 500mg-1g 4-6 hourly (up to 4g in 24 hours) and ♦ibuprofen³ 400mg 8 hourly with/after food for up to 5 days.
- If HIV positive patient not on ART, start ART same day → 128, especially if breastfeeding. If HIV negative: assess eligibility for HIV pre-exposure prophylaxis (PrEP) → 119.

- Treat the HIV-exposed baby → 186.
- Routinely review patient and baby 6 hours, 6 days, and 6 weeks after delivery.

¹Avoid taking iron within 4 hours of taking methyl dopa and within 2 hours of milk and tea. If on dolutegravir and taking at same time as iron, take with food. ²Abdominal pain, nausea, vomiting, constipation. ³Avoid ibuprofen if pre-eclampsia, peptic ulcer, asthma, hypertension, heart failure, kidney disease.

MANAGE THE PREGNANT/BREASTFEEDING PATIENT WITH AN UNSUPPRESSED VIRAL LOAD (VL $\geq$ 50)

Assess and manage possible causes of unsuppressed viral load (VL $\geq$ 50)

- Check adherence and give enhanced adherence support [↗ 195](#). Check if pregnant patient has been vomiting up medications. Encourage disclosure.
- Consider medication interactions: ask about TB treatment, antiseizure medication, calcium, iron, zinc, antacids, metformin. If using any of these, manage possible medication interactions [↗ 133](#) or discuss with experienced ART clinician or HIV hotline [↗ 200](#).
- If *not* on DTG-based regimen, check if same day ART switch is appropriate [↗ 132](#). If on DTG-based regimen, continue below:

If breastfeeding, assess and manage baby

- Do HIV test on baby same day.
- If baby not on prophylaxis currently, start/restart [♦AZT](#) 12 hourly for 6 weeks and [♦NVP](#) daily for *at least* 12 weeks [↗ 186](#) (only stop NVP once patient's VL < 50 or 4 weeks after final breastfeed).

Repeat patient's VL after 4 weeks (if VL done at delivery, VL can be repeated at the 6-week postnatal visit):

Review patient's second VL result

Second VL result < 50

Repeat VL as per routine VL monitoring:

- If pregnant, repeat VL at delivery.
- If breastfeeding, repeat VL 6 monthly.

Second VL result $\geq$ 50

- Increase efforts to resolve adherence¹ issues [↗ 195](#) and address possible medication interactions [↗ 133](#).
- Has patient failed any other regimen before?

No. Patient on 1st-line DTG-based regimen (TLD1 or ALD1)

Yes. Patient on 2nd-line or 3rd-line DTG-based regimen

If any of the following:

- CD4 < 200
- WHO Stage 3 or 4 disease
- suspected medication interactions²
- perinatally infected adolescent³

Has patient been on DTG-based regimen for at least 9 months?

No

No

Yes. Discuss need for resistance testing with experienced ART clinician or HIV hotline [↗ 200](#). If resistance testing needed, send 2 blood specimens to laboratory. Send 2 plasma EDTA tubes (purple tops or white tops with gel). Request both VL and drug resistance test.

- Continue to support adherence.
- Repeat VL in 3 months or at delivery if this is sooner. If VL $\geq$ 1000, also monitor CD4 6 monthly. If CD4 $\leq$ 200, restart co-trimoxazole [↗ 128](#).

Review patient's drug resistance test result

Resistance test not done⁴

Resistance test done

- Continue to support adherence.
- Repeat VL in 3 months or at delivery if this is sooner.
- If VL $\geq$ 1000, discuss need for resistance testing with experienced ART clinician/HIV hotline [↗ 200](#) and monitor CD4 6 monthly. If CD4 $\leq$ 200, restart co-trimoxazole [↗ 128](#).

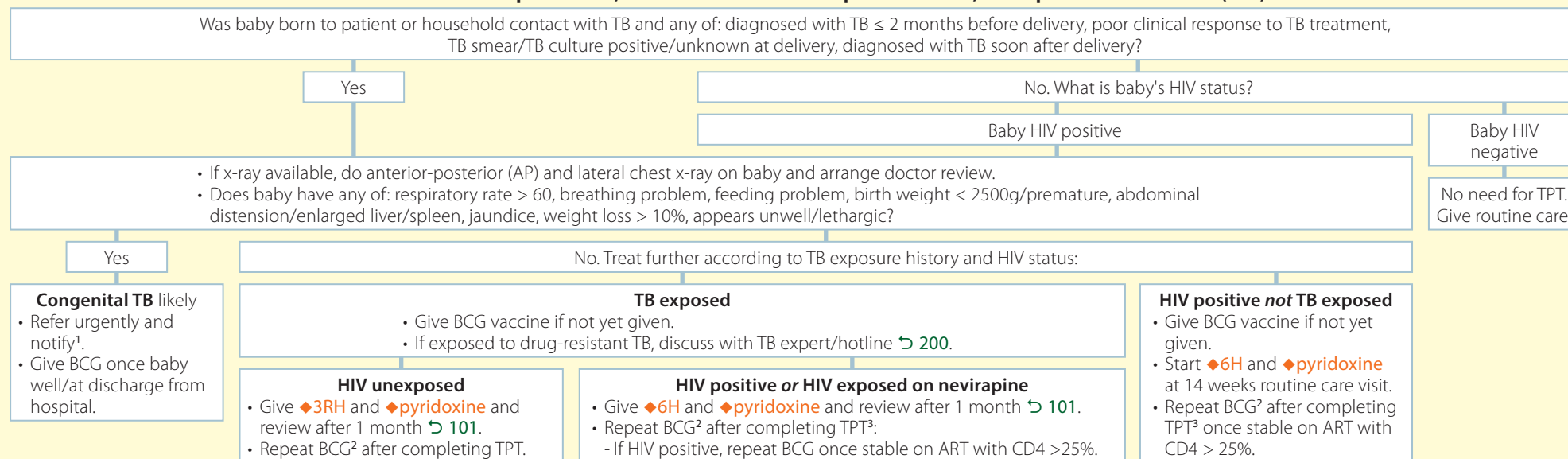
- Discuss individualised regimen with ARV Drug Resistance Committee (previously third line ART Committee). Do not switch without discussing.
- Repeat VL 3 months after starting new regimen. If VL $\geq$ 1000, also monitor CD4 6 monthly. If CD4 $\leq$ 200, restart co-trimoxazole [↗ 128](#).

¹Resistance to a DTG-based regimen is rare. The most probable cause for VL non-suppression is poor adherence. ²Consider medication interactions if using rifampicin, carbamazepine, phenytoin, phenobarbital, calcium, iron, zinc, antacids, metformin. ³Perinatally infected adolescents should be classified as TLD2 due to high likelihood of ART exposure and virological failure in the past. ⁴Dolutegravir drug-level testing is a reflex test done by the laboratory if available, when a drug resistance test is requested. Only if DTG is detected and VL $\geq$ 1000 will the laboratory do HIV drug-resistance test.

PREVENT COMMUNICABLE INFECTIONS IN THE NEWBORN

Assess and manage the newborn exposed to HIV, TB, hepatitis B or syphilis. If exposed to HIV, assess and manage further [↗ 186](#).

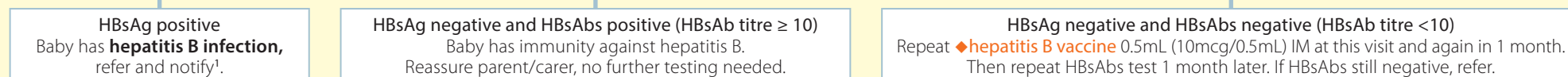
Assess the newborn exposed to TB, or the newborn who tests positive for HIV, for TB preventive treatment (TPT)



Manage the baby born to patient with hepatitis B infection

- Arrange delivery at a facility that stocks immunoglobulin (HBIG) and the monovalent hepatitis B vaccine:
- Give **hepatitis B immunoglobulin (HBIG)** 200IU IM and **hepatitis B vaccine** 0.5mL (10mcg/0.5mL) IM, as soon after delivery as possible, within 24 hours.
- Continue routine hepatitis B immunisations at 6, 10, 14 weeks and 18 months.

Arrange follow up when baby is 9 months old. Take blood from baby for hepatitis B surface antigen (HBsAg) and hepatitis B surface antibodies (HBsAbs):



Manage the baby born to patient with syphilis

- If rash (peeling rash, red/blue spots or bruising especially on soles and palms), jaundice, pallor (pale conjunctiva/palms of hands), distended abdomen, swelling, birth weight $<$ 2500g, runny nose, respiratory distress, hypoglycaemia, **congenital syphilis** likely. Refer urgently and notify¹ within 7 days.
- If none of above and any of the following, **congenital syphilis** still likely. Give baby single dose **benzathine benzylpenicillin** 50 000 units/kg IM into outer thigh, and discuss/refer:
 - 1) Patient received $<$ 3 doses of benzathine benzylpenicillin injections
 - 2) Patient received antibiotic other than benzathine benzylpenicillin to treat syphilis
 - 3) $>$ 14 day delay between maternal doses of benzathine benzylpenicillin
 - 4) Baby delivered within 30 days of patient receiving last dose of benzathine benzylpenicillin

¹Complete notifiable medical conditions (NMC) case notification form and send to NMCsurveillanceReport@nicd.ac.za or notify electronically: www.nicd.ac.za/nmc-overview/notification-process. ²Give BCG vaccination 24 hours after the last TPT dose.

³Continue TPT until infant is eligible to receive BCG.

PREVENT VERTICAL TRANSMISSION OF HIV

Assess and manage the newborn exposed to HIV

- Do HIV positive patient's viral load at delivery and HIV PCR test on her baby as soon after birth as possible, within 48 hours. Place barcodes on discharge form and RtHB.
- If abandoned baby, do rapid HIV test¹ and HIV PCR test on baby. If < 72 hours since delivery, manage as high risk formula feeding baby below.

Start post-exposure prophylaxis (PEP) as soon as possible, ideally within 1 hour of birth

- Give baby **◆zidovudine (AZT)** 12 hourly and **◆nevirapine (NVP)** once daily (see dosing tables below). Give supply for 6 weeks and advise parent/carer to bring all medication to next visit.
- Advise to return for baby's HIV PCR and patient's viral load results in 3-6 days.

At 3-6 day postnatal visit, check results of baby's HIV PCR and patient's viral load and manage according to results

If results not available, continue AZT and NVP and follow-up after 1 week. If no HIV PCR done, do at this visit and follow-up after 1 week

Baby's HIV PCR negative

Baby's HIV PCR positive

Baby's HIV PCR indeterminate

Patient's VL < 50 at delivery

Patient's VL ≥ 50 or unknown at delivery

Low risk

Higher risk

- Stop AZT².
- Give **◆NVP** daily for 6 weeks (see table).
- If breastfeeding, repeat patient's VL 6 monthly.

- Manage patient's unsuppressed VL **↗ 184**.
- If patient's VL ≥ 1000, discuss need for HIV resistance test for patient and baby with HIV expert/hotline **↗ 200**.
- Manage further according to feeding choice:

Breastfeeding³

- Give **◆AZT** 12 hourly for 6 weeks (see dosing table below) *and*
- Give **◆NVP** daily for at least 12 weeks (see dosing table below)
- Stop NVP only once patient's VL < 50 or 4 weeks after final breastfeed.
- If patient on TLD2 or 3rd line ART for ≥ 3 months *and* VL ≥ 1000, alert to risks of breastfeeding, discuss changing to formula feeding and refer to nutritional therapeutic programme (NTP). Discuss with HIV expert/hotline **↗ 200**.

Formula feeding
Give **◆AZT** 12 hourly *and* **◆NVP** daily for 6 weeks (see dosing tables below)

- Send 2nd HIV PCR test and refer to doctor to change to ART and start co-trimoxazole.
- Advise patient to breastfeed for at least 2 years.
- If formula feeding, consider feasibility of re-establishing breastfeeding.

- Continue HIV PEP according to patient's delivery VL result (see adjacent).
- Do HIV PCR test and HIV viral load, review child and check results within 3 days.

- Repeat baby's HIV test at 10 weeks, 6 months, 18 months, 6 weeks after final breastfeed or nevirapine stopped (if given ≥ 12 weeks) or any time if baby unwell.
- If patient's VL ≥ 50 at any time during breastfeeding after NVP and/or AZT stopped or patient tests HIV positive for the first time during breastfeeding, repeat/do baby's HIV test at that visit, restart/start NVP and AZT (see above), and reassess once baby's HIV test result available.

◆Nevirapine syrup (10mg/mL)

Age	Current Weight	Once daily dose
Birth to 6 weeks	2-2.49kg ⁴	1mL (10mg) daily
	≥ 2.5kg	1.5mL (15mg) daily
6 weeks to 6 months		2mL (20mg) daily
6 to 9 months		3mL (30mg) daily
≥ 9 months		4mL (40mg) daily

◆Zidovudine syrup (10mg/mL)

Age	Current Weight	12 hourly dose
Birth to 6 weeks	2-2.49kg ⁴	1mL (10mg) 12 hourly
	≥ 2.5kg	1.5mL (15mg) 12 hourly
6 weeks to 6 months		6mL (60mg) 12 hourly
≥ 6 months		Dose 12 hourly according to weight.

¹An HIV rapid test shows whether baby was exposed to HIV, but cannot determine whether baby is infected with HIV. An HIV PCR test determines if baby is infected with HIV. ²Return unused AZT to pharmacy to be discarded. ³A breastfed baby has breastfed in the past 7 days or is mixed feeding. ⁴If weight < 2kg, discuss medication options with HIV expert/hotline **↗ 200**.

MENOPAUSE

- Exclude pregnancy before diagnosing menopause ↗ 174.
- Menopause is no menstruation for at least 12 months in a row. Most women have menopausal symptoms and irregular periods leading up to menopause.
- If menopausal and < 40 years, discuss with specialist.

Assess the menopausal patient

Assess	When to assess	Note
Symptoms	Every visit	• Ask about menopausal symptoms: hot flushes, night sweats, vaginal dryness, mood changes, difficulty sleeping ↗ 99 and sexual problems ↗ 74. • If night sweats, ask about other TB symptoms. If also cough, weight loss or fever, test for TB ↗ 102. • Manage other symptoms as on symptom pages.
Vaginal bleeding	Every visit	If bleeding between periods, after sex or after being period-free for 1 year, refer within 2 weeks.
Mental health	Every visit	If stress, anxiety or low mood ↗ 98.
Osteoporosis risk	At diagnosis	Refer for possible treatment if high osteoporosis risk: < 60 years with loss of > 3cm in height or fractures of hip/wrist/spine, previous non-traumatic fractures, oral steroid treatment for > 3 months, onset of menopause < 45 years, BMI < 18.5, heavy alcohol user, heavy smoker.
Family planning	At diagnosis	If < 50 years, give contraception for 2 years after last period. If ≥ 50 years, change to progestogen-only or non-hormonal contraceptive until 1 year after last period ↗ 170.
BP	Every visit	If known hypertension ↗ 149. If not, check BP. If BP ≥ 140/90 ↗ 148.
Weight/BMI	At diagnosis	BMI = weight (kg) ÷ height (m) ÷ height (m). Aim for BMI 18 to < 25. If BMI ≥ 25 ↗ 156.
CVD risk	At diagnosis	Assess CVD risk ↗ 142.
Breast check	At diagnosis and if indicated/needed	If lump/s found in breasts or axillae ↗ 55.
Cancer risk	At diagnosis	Check for symptoms/signs suggestive of cancer or if eligible for cancer screening ↗ 194.
Thyroid	At diagnosis	If weight change, pulse ≥ 100, tremor, weakness/tiredness, dry skin, constipation or intolerance to cold or heat, check TSH. If abnormal, refer to doctor.

Advise the menopausal patient

- To cope with hot flushes, advise patient to dress in layers and to decrease alcohol, avoid spicy foods, hot drinks and warm environments.
- If mood changes or not coping as well as in the past, refer to counsellor, support group or helpline ↗ 200.
- Educate that long term use of hormone therapy can increase risk of breast cancer, deep vein thrombosis and cardiovascular disease. HT can be used to treat menopausal symptoms for up to 5 years.

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Treat the menopausal patient

- If menopausal symptoms interfere with daily function, treat with hormone therapy (HT) if no contraindications¹. If dose range given, start with lowest dose and increase until symptoms improve.
 - If patient has had uterus removed (hysterectomy), give ●**estradiol valerate** 1-2mg daily or ●**conjugated estrogens** 0.3mg-1.25mg daily.
 - If patient still has a uterus (no hysterectomy), choose HT according to menstruation pattern:

If ≥ 1 year since last period, give one of

- ●**Conjugated estrogens** 0.3-0.625mg and ●**medroxyprogesterone** 2.5-5mg daily or
- ●**Estradiol/norethisterone** 1mg/0.5mg daily or
- ●**Estradiol/norethisterone** 2mg/1mg daily.

If still menstruating or < 1 year since last period, give one of

- ●**Estradiol valerate** 2mg for 11 days, then ●**estradiol valerate/cyproterone acetate** 2mg/1mg for 10 days, then placebo tablet for 7 days or
- ●**Estradiol valerate** 1-2mg daily for 21 days and ●**medroxyprogesterone** 5-10mg daily from day 12-21, then no therapy from day 22-28 or
- ●**Conjugated estrogens** 0.3-0.625mg daily for 21 days and ●**medroxyprogesterone** 5-10mg daily from day 12-21, then no therapy from day 22-28.

- Treat vaginal dryness/pain with sex with lubricants (avoid petroleum jelly with condoms). If no better with HT or if HT contraindicated¹, refer.
- Review 6 monthly once on HT. Decrease/stop if symptoms are controlled. If ≥ 5 years of HT or patient ≥ 60 years, stop treatment. If still symptomatic, refer to specialist.

¹Avoid if ≥ 60 years, abnormal vaginal bleeding, cancer of uterus or breast, previous deep vein thrombosis or pulmonary embolism, recent heart attack, liver disease, porphyria (rare hereditary disorder).

CHRONIC ARTHRITIS

- If patient has discrete episodes of joint pain and swelling that completely resolve in between, consider gout → 189.
- Suspect osteoarthritis or rheumatoid arthritis (RA) if continuous joint pain for at least 6 weeks. Distinguish osteoarthritis from RA as RA requires specialist diagnosis and management:

Osteoarthritis (mechanical) likely if:

- Weight-bearing joints (knees, hips, spine), and distal finger joints mainly involved.
- Joints may be swollen but not warm, with bony enlargement and crepitus.
- Stiffness on waking lasts less than 30 minutes.
- Pain is worse with activity and gets better with rest.
- Affects joints only.

Rheumatoid (inflammatory) arthritis likely if:

- Symmetrical involvement of small joints of hands and feet, sparing distal finger joints.
- Joints are swollen and warm.
- Stiffness on waking lasts more than 30 minutes.
- Pain and stiffness get better with activity.
- May also have fatigue or general body/muscle pain.

Assess the patient with chronic arthritis

Assess	When to assess	Note
Symptoms	Every visit	Assess and advise on chronic pain → 76. If difficulty sleeping → 99. Manage other symptoms as on symptom pages.
Activities of daily living	Every visit	Ask if patient can walk as well as before, can cope with buttons and use knife and fork properly.
Mental Health	Every visit	If stress, anxiety or low mood, assess and manage further → 98.
Joints	Every visit	Feel for warmth, perform squeeze test ¹ on hands and feet to check for tenderness. Look for deformities and limited range of movement of joints.
BMI	At diagnosis	BMI = weight (kg) ÷ height (m) ÷ height (m). BMI ≥ 25 puts stress on weight-bearing joints. If BMI ≥ 25 → 156.
HIV	At diagnosis	Test for HIV → 124.

Advise the patient with chronic arthritis

- Aim for at least 30 minutes brisk exercise 5 days/week. Increase activities of daily living like gardening, housework, walking instead of taking transport, using stairs instead of lifts. Exercise with arms if unable to use legs.
- If patient using disease modifying medication, ensure regular blood monitoring according to specialist advice.

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Treat the patient with chronic arthritis

- Give ♦methyl salicylate ointment to apply to affected joints.
- If difficulty performing activities of daily living, refer to physiotherapist or occupational therapist. Patient may need a walking aid.

Osteoarthritis

- Give ♦paracetamol 500mg to 1g 4-6 hourly (up to 4g in 24 hours) as needed. If better, reduce dose to 500mg 6-8 hourly as needed.
- If no response to paracetamol and inflammation present, add ♦ibuprofen² 400mg 8 hourly with/after food as needed for 7 days. If > 65 years, previous peptic ulcer, on aspirin, warfarin/corticosteroids also give ♦omeprazole 20mg daily to take while on ibuprofen.
- If diagnosis uncertain, uncontrollable pain, recurring pain and inflammation, and/or suspect infection, refer.
- Review monthly until pain is controlled, then 3-6 monthly.

Rheumatoid arthritis

- Refer early for confirmation of diagnosis and to start disease modifying anti-rheumatic drugs (DMARDs). While awaiting appointment, give ♦ibuprofen² 400mg 8 hourly with food for up to 3 months. If > 65 years, previous peptic ulcer, on aspirin/warfarin/prednisone, also give ♦omeprazole 20mg daily to take while on ibuprofen.
- If ulcerative skin changes, change in vision, difficulty breathing/chronic cough, refer urgently.
- If acute flare (severe joint pain/swelling), refer to specialist within 1 month. While awaiting appointment, give ►ibuprofen³ 400mg 8 hourly with food for up to 2 weeks. Avoid ibuprofen if current peptic ulcer, asthma, hypertension, heart failure, kidney disease, on warfarin. Give instead ►prednisone 7.5mg daily for up to 2 weeks.

¹Squeeze test is positive if there is tenderness on squeezing across all 4 metacarpo-phalangeal joints of the hands or on squeezing across all 4 metatarso-phalangeal joints of the feet. ²Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant or breastfeeding, discuss instead. If patient also taking aspirin, advise to wait at least 30 minutes after taking aspirin before taking ibuprofen. ³If > 65 years, previous peptic ulcer, on aspirin or prednisone, also give ♦omeprazole 20mg daily to take while on ibuprofen.

GOUT

- An acute gout attack tends to affect a single joint, most commonly the big toe or knee. There is a sudden onset of severe pain, redness and swelling. It resolves completely, usually within days.
- Chronic tophaceous gout tends to asymmetrally affect > 1 joint and may not be very painful. Deposits can be seen or felt at the joints and there is incomplete recovery.

Assess the patient with gout

Assess	When to assess	Note
Symptoms	Every visit	Manage symptoms as per symptom pages.
Substance use	Every visit	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ↪ 165.
Medication	Every visit	Hydrochlorothiazide, furosemide, ethambutol, pyrazinamide and aspirin may induce a gout attack. Discuss with doctor. Avoid stopping aspirin given for CVD risk.
Joints	Every visit	• Recognise the acute gout attack: Sudden onset of 1-3 hot, extremely painful, swollen joints with red, shiny overlying skin (often big toe, knee or ankle). • Recognise chronic tophaceous gout: deposits appear as painless yellow hard irregular lumps around the joints (picture).
CVD risk	At diagnosis, then depending on risk	Assess CVD risk ↪ 142.
Creatinine (eGFR)	At diagnosis, then 6 monthly	If eGFR < 60, refer.
Urate	• At diagnosis • If on allopurinol: monthly	• Wait at least 3 weeks after an acute gout attack before checking urate level. If urate > 0.5, start allopurinol (see below). • If starting/on allopurinol: repeat urate monthly and increase allopurinol dose if needed until urate < 0.35, then repeat urate yearly.

Advise the patient with gout

- Help the patient to manage CVD risk ↪ 144.
 - If BMI² ≥ 25 advise to reduce weight ↪ 156.
 - Reduce alcohol (especially beer), sweetened fizzy drinks, seafood, offal and meat intake. Increase low-fat dairy intake.
 - Avoid fasting and dehydration as this may increase risk of acute gout attack.
- Advise patient to avoid medication above that may induce an acute gout attack. Discuss with doctor before starting any new medication.



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Treat the patient with gout

Treat the patient with an acute gout attack

- Immobilise the affected joint.
- Give **ibuprofen**³ 400mg with/after food 8 hourly until pain and swelling improved.
- If peptic ulcer, asthma, hypertension, heart failure, kidney disease, or on warfarin, avoid ibuprofen and give instead **prednisone** 40mg daily for 5 days.
- If patient already using allopurinol, avoid stopping it during an acute attack.

Treat the patient with chronic gout

- Give allopurinol if any of: ≥ 2 acute gout attacks per year, chronic tophaceous gout (see picture), renal stones, chronic kidney disease, serum urate > 0.5.
- Wait at least 3 weeks after an acute gout attack before starting allopurinol.
- Start **allopurinol** 100mg (50mg if ≥ 65 years/renal impairment) daily. Use lowest dose needed to keep urate < 0.35. Increase by 100mg monthly, up to usual maintenance dose 300mg daily. If > 300mg needed, give in divided doses.

- If no response to treatment, diagnosis uncertain, non-resolving tophaceous gout, renal impairment, or known chronic kidney disease: discuss/refer to specialist.
- If patient < 40 years, BMI² < 18.5, or other features suggesting secondary cause of gout (e.g. haematological cancer), refer within 1 month.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²BMI = weight (kg) ÷ height (m) ÷ height (m). ³If also taking aspirin, advise to wait at least 30 minutes after taking aspirin before taking ibuprofen.

FIBROMYALGIA

- Consider fibromyalgia if patient has widespread body pain (affecting left and right side, above and below waist) for > 3 months with fatigue, poor sleep, poor memory, difficulty thinking, depression.
- Fibromyalgia diagnosis more likely if any of: woman, family history, headaches, irritable bowel symptoms, or pain triggered by physical or emotional trauma.
- Check for other causes of general body pain:
 - If weight loss → 37.
 - Screen for joint problem: patient to place hands behind head; then behind back. Bury nails in palm and open hand. Press palms together with elbows lifted. Walk. Sit and stand up with arms folded. If unable to do screen comfortably → 77.
 - Check CRP, Hb, TSH and test for HIV → 124.
- A doctor must make or confirm the diagnosis of fibromyalgia.**
- If joint symptoms, consider chronic arthritis → 188.
- If HIV positive, blood results abnormal or uncertain, consider another diagnosis and discuss/refer.

Assess the patient with fibromyalgia

Assess	When to assess	Note
Symptoms	Every visit	- Manage symptoms as on symptom pages. Ask patient to identify the 3 symptoms that bother her/him most and focus on these. - Do not dismiss all symptoms as fibromyalgia: exclude treatable and serious illness. If unsure, discuss/refer.
Chronic pain	At diagnosis	Further assess and advise on chronic pain → 76.
Sleep	Every visit	If patient has difficulty sleeping → 99.
Stressors	Every visit	Help identify psychosocial stressors that may exacerbate symptoms. If stress or anxiety → 98.
Mental Health	Every visit	If stress, anxiety or low mood → 98.
Chronic arthritis	Every visit	If patient also has chronic arthritis, give routine care → 188.

Advise the patient with fibromyalgia

- The cause is unknown but may be a result of generalised hypersensitivity of the nervous system, so patient feels more pain than others, despite normal muscles and joints.
- The patient may also have irritable bowel syndrome, tension-headache, chronic fatigue syndrome, interstitial cystitis, sleep disturbances or depression.
- Explain that s/he will have good days and bad days, but that fibromyalgia does not get worse over time. It is not life-threatening, but there is no cure.
 - Advise against chronic/overuse of analgesia to avoid unwanted side effects.
 - Advise that aerobic exercise is the most effective treatment for fibromyalgia. Encourage to keep as active as possible. Start with 5 minutes of gentle walking every day and build up by 1 minute/day until able to walk/run for 30 minutes at least 3 times per week.
 - Encourage good sleep habits → 99.
 - Refer to available support group and helpline → 200.
 - If no better with a combination of education, exercise and medication, refer for cognitive behavioural therapy if available.

Treat the patient with fibromyalgia

- Give ♦paracetamol 1g 4-6 hourly (up to 4g in 24 hours) as needed. Add ♦ibuprofen¹ 400mg 8 hourly with or after food as needed for up to 5 days.
- If no better with above, stop paracetamol and ibuprofen and give instead ●amitriptyline² 10mg at bedtime. Increase by 5mg every 2 weeks until improvement (maximum 75mg at night).
- If still symptomatic after 3 months on maximum dose of amitriptyline, discuss/refer. Add ►tramadol 50mg 6 hourly for 5 days before referral if pain is the predominant symptom.

A supportive relationship with the same health practitioner can contain frequent visits for multiple problems. Review patient 6 monthly once stable.

¹Avoid if peptic ulcer, asthma, hypertension, heart failure, kidney disease, pregnant or breastfeeding. ²Avoid if on RR-TB treatment.

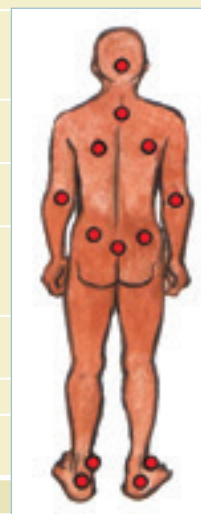
ROUTINE PALLIATIVE CARE

A doctor should confirm whether the patient needs palliative care. A patient with a life-limiting¹ illness may need palliative care if:

- Any of the following advanced conditions: HIV, TB, cancer, kidney disease/failure, liver disease/failure, heart disease/failure, COPD/respiratory failure, stroke, progressive neurological disease², dementia, other diabetes-related complications³, severe frailty or multimorbidity *and*
- Any of: in bed or chair for 50% or more of the day, dependent on others for most care, has had 2 or more unplanned hospital admissions in past 6 months, unintentional weight loss over the past 3-6 months or the patient/family requests palliative care; chooses to reduce, stop or not have treatment and wishes to focus on quality of life.

Assess the patient needing palliative care

Assess	Note
Symptoms	- If constipation, diarrhoea, nausea/vomiting, abdominal cramps, itchiness, acute anxiety or cough/difficulty breathing, manage ↪ 192. Manage other symptoms as on symptom pages. - If patient has difficulty sleeping ↪ 99.
Pain	- If new or sudden pain, temperature $\geq 38^{\circ}\text{C}$, tender swelling, redness or pus, also treat on symptom page. If no better or uncertain of cause, discuss. - If chronic non-cancer/cancer pain, assess severity of pain and advise ↪ 76. Grading the pain will help decide if patient needs to start or increase pain medication. - Give medication to treat pain ↪ 192.
Side effects	- Ask about side effects from pain medication ↪ 192. - If on morphine, advise that nausea, confusion and sleepiness usually resolve after a few days. Check that patient is using regular laxative.
Mental health	- Ask if patient has persistent feelings of hopelessness or worthlessness. If yes ↪ 159. If patient has suicidal thoughts or plans ↪ 34. - If low mood, stress or anxiety ↪ 98.
Long-term care	- Assess how much patient and family understand about the condition and ask what further information the patient and carer need. - Assess ongoing need for long-term care in discussion with patient and health care team. Consider which medication could be discontinued. - If known kidney failure with eGFR < 15, discuss with palliative care specialist.
Psychosocial	- Ask how patient is coping and what support is needed. Ask how carer/family are coping and what support they need. - Ask about distressing social issues: problems with family relationships, finances, home care. If needed, refer patient/family/carers to social worker.
Spiritual/cultural	Ask if there are any spiritual/cultural practices that patient/family would like to be integrated into care.
Dying	If known with incurable, life-limiting illness and has irreversible deterioration in function with increased sleep, loss of appetite, confusion, loss of bladder/bowel control, reduced urine output or noisy/slow breathing, address the dying patient's needs ↪ 193.
Mouth	Check oral hygiene and look for dry mouth, ulcers and thrush ↪ 52. If gum or tooth problem ↪ 54. If difficulty swallowing and no thrush, discuss/refer.
Pressure sores	If patient is bedridden or in a wheelchair, check common areas for damaged skin (change of colour) and pressure sores (see picture). If patient has pressure ulcer/sore ↪ 90.



Advise the patient needing palliative care and his/her carer

- In a caring manner, educate about the condition and prognosis. Explaining what is happening relieves fear and anxiety. Support the patient to give as much self care as able.
- Emphasise the importance of taking pain medication regularly (not as needed) and if using tramadol/morphine to use a laxative daily to prevent constipation.
- Refer patient and carer to available community health worker, social worker, physiotherapist, counsellor, spiritual counsellor, support group ↪ 200. Deal with bereavement issues ↪ 98.
- Prevent mouth disease: brush teeth and tongue regularly using toothpaste or dilute bicarbonate of soda. Rinse mouth with ½ teaspoon of salt in 1 cup of water after eating and at night.
- If bedridden or in wheelchair, advise carer:
 - Prevent pressure ulcers: wash and dry skin daily. Keep linen dry. Reposition and turn (lift, avoid dragging) patient every 2-4 hours. Look for skin colour changes daily (see picture).
 - Prevent contractures: at least twice a day, gently bend and straighten joints as far as they go. Avoid causing pain. Massage muscles.
- The patient's appetite will get less as s/he gets sicker. Offer small frequent meals and allow patient to choose what s/he wants to eat from what is available. Encourage fluid intake.
- Discuss the plan for caring for the patient. Advise whom to contact when pain or other symptoms get severe. Discuss advance-care plans and preferences. Document decisions.
- Educate the carer to recognise signs of deterioration and impending death: will lose interest in eating, may be less responsive, become cold, sleep a lot and have irregular breathing.

¹Use the SPICT™-SA generic tool (www.palprac.org/wp-content/uploads/2021/04/Version-2-SPICT-SA.pdf), to help identify adults with advanced life-limiting illnesses when the best available and appropriate treatment has been given and their condition continues to deteriorate. ²Progressive neurological diseases: motor neurone disease, multiple sclerosis, Parkinson's disease. ³Non-healing diabetic foot disease, recurrent severe metabolic emergencies, or refractory symptoms.

Treat the patient needing palliative care

If pain, aim to have patient pain free at rest, able to sleep and manage daily tasks. If not already done, assess severity of pain using pain scale ➤ 76. Start pain medication based on pain type and severity:

Non-cancer pain

- If **mild** (1-3) pain, start at step 1.
- If **moderate** (4-7) or **severe** (8-10) pain, start at step 2.
- Also consider adding amitriptyline at any step.

Cancer pain

- If **mild** (1-3) pain, start at step 1.
- If **moderate** (4-7) pain, start at step 2. If **severe** (8-10) pain, start at step 3.
- Also consider adding amitriptyline at any step.

If unsure, start at lower step and increase pain medication if needed.

- If pain controlled, continue same dose. Once controlled for 1 month, consider reducing dose or stepping down. If pain worsens, increase dose or step up again.
- If pain persists > 2 days or worsens, increase dose to maximum. If still no better after 2 days, move to next step.
- If pain not responding well, assess and provide additional social, spiritual and emotional support.
- If non-cancer pain uncontrolled on step 2, refer. If cancer pain uncontrolled on step 3, discuss.

Step	Pain medication	Start dose	Maximum dose	Note
Step 1 Start one or both of	◆ Paracetamol	500mg-1g 4-6 hourly	4g in 24 hours	If starting, give ◆ paracetamol 1g in clinic and reassess pain after 4 hours. If no better, add ◆ ibuprofen 400mg.
	◆ Ibuprofen	400mg 8 hourly	1.2g daily	
Step 2 Add to step 1	▶ Tramadol	50-100mg 6 hourly	400mg daily	• If constipation or nausea/vomiting, manage as below. • Use with caution if patient on amitriptyline, as may cause over-sedation.
Step 3 (only if cancer pain) Stop tramadol, continue paracetamol/ibuprofen and add	▶ Morphine hydrochloride (short-acting, solution) or	• 5-10mg 4 hourly • If ≥ 65 years/liver impairment: start 2.5-5mg	• No maximum dose, titrate against pain. • If sedated/confused or respiratory rate < 12, skip 1 dose, then halve usual doses	• Start with morphine hydrochloride. Once dose stable, consider changing to long-acting morphine sulphate. • Also give ◆lactulose 10-30mL daily to prevent constipation. Avoid if diarrhoea. • If constipation, nausea/vomiting or itchiness, manage as below. • If on morphine hydrochloride and breakthrough pain (pain that occurs before next scheduled dose): - Give one extra dose morphine, then continue regular dose at scheduled times for the rest of that day. - Increase morphine doses the next day. Calculate new dose: add up total amount of extra morphine given in last 24 hours. Divide this amount by 6 and add this to each regular 4 hourly dose¹.
	▶ Morphine sulphate (long-acting, tablet)	10-20mg 12 hourly		
Add adjuvant therapy to any step	● Amitriptyline	10mg at night	75mg at night	• Advise it may cause dizziness, drowsiness. Avoid driving and using heavy machinery. • If on bedaquiline: avoid amitriptyline, discuss/refer if pain uncontrolled on above medication.

Treat side effects from pain medication or other symptoms

Constipation	Diarrhoea	Nausea/vomiting	Abdominal cramps	Generalised itchiness	Acute anxiety	Cough or difficulty breathing
• Check for impaction (solid bulk of stool in rectum). If impacted, refer to doctor. • Give ◆sennosides A and B 13.5mg at night and/or ◆lactulose 10-30mL orally daily. If needed, increase ◆sennosides A and B to 27mg at night and/or increase ◆lactulose to 12 hourly. If no response, refer.	Give ◆ loperamide 4mg initially, then 2mg after each loose stool up to 6 hourly, up to maximum dose ² . Avoid if overflow diarrhoea or side effect of antibiotics.	• Give ◆metoclopramide³ 10mg 8 hourly (5mg 8 hourly if eGFR < 50⁴) as needed. • Allow patient to choose what to eat. Encourage frequent small meals.	Give ◆ hyoscine butylbromide 10mg 6 hourly as needed for up to 3 days.	Give ◆ chlorphenamine 4mg 6-8 hourly as needed.	Give ▶ diazepam 2.5-5mg ⁵ as a single dose or 12 hourly as needed for up to 10 days.	• If thick sputum, give steam inhalations. If more than 30mL/day, try deep breathing with postural drainage. Refer to physiotherapist. • Give ▶morphine hydrochloride solution 2.5-5mg 4 hourly (1-2mg if known kidney failure) as needed. Increase dose slowly, as needed. • If low oxygen saturation, refer for home-based oxygen.
Encourage frequent small sips of fluids (water/tea/ginger drinks).						

Review 2 days after starting or changing medication. If pain/symptoms persist despite treatment or side effects intolerable, discuss/refer.

¹Example: patient on morphine 10mg 4 hourly has 3 episodes of breakthrough pain: 10mg x 3 = 30mg (total extra morphine); 30mg ÷ 6 = 5mg. Add 5mg to each 10mg regular dose. Increase morphine to 15mg 4 hourly. ²Maximum dose: 10mg (34-39kg), 12mg (40-46kg), 14mg (47-53kg), 16mg (≥ 54kg). ³Avoid if abdominal pain/distension and no stools/flatulence/wind. ⁴If no response, increase ◆**metoclopramide** to 5mg and 10mg on alternate days. ⁵If patient ≥ 65 years, give lower dose.

ADDRESS THE DYING PATIENT'S NEEDS

The patient with an incurable, life-limiting illness is dying if s/he has irreversible deterioration in function with increased sleep, loss of appetite, confusion, loss of bladder/bowel control, reduced urine output, or noisy/slow breathing. A doctor should confirm this.

Assess the dying patient's needs every 4 hours

Assess	Note
Symptoms	Assess for noisy/slow/difficulty breathing, agitation, pain, constipation, diarrhoea, nausea/vomiting and abdominal cramps. If present, manage below.
Current care	- Assess current medication and discontinue non-essential medication. - Assess patient's ongoing need for tests in discussion with patient/carer and health care team. - Consider switching medication route if unable to swallow. Discuss with palliative care specialist.
Intake	Check with carer/family what patient's fluids/food intake is and assess whether fluids/food is needed or necessary.
Psychological well-being	Ask how patient and carer are coping and what support and spiritual care is needed. If carer unable to cope at home, refer patient to hospital/hospice.
Mouth	Check oral hygiene. Ensure patient's mouth is moist and clean. Consider using glycerine to keep lips and mouth moist.
Personal hygiene	Check skin care and clean eyes. Change clothing according to patient's needs.

Advise the dying patient and carer

- Ensure patient/carer is aware that patient is dying and that carer/family have been referred to social worker and community health worker.
- Educate carer/family that food and fluids are for comfort only, will not prolong life and a reduced need for food and fluids is part of the normal dying process.
- Advise that investigations and curative treatments like antibiotics may no longer be indicated and will be kept to a minimum according to patient's care plan.
- Discuss with patient and carer: preferred place of death (home, hospice or hospital), how family are to be informed of impending death, what to do in the event of death.
- Discuss patient's wishes, feelings, faith, beliefs and values. Discuss patient's needs now, at death and after death. Listen and respond to patient/carer's worries and fears.
- Ensure patient and/or carer/family receive full explanation and express understanding of current plan of care. Identify and address any concerns about current plan of care.

Treat the dying patient

- If noisy breathing, excessive secretions likely: try changing position.
- If difficulty breathing, use fan or open window/s. Give ►**morphine hydrochloride** solution 2.5-5mg 4 hourly as needed (if known kidney failure, start at 1-2mg instead). Increase slowly as needed.
- If urinary retention, insert urinary catheter.
- If pain, constipation, diarrhoea, nausea/vomiting or abdominal cramps, manage ➤ 192. If unable to swallow, discuss IM route of administration with palliative care specialist.
- If agitated:
 - First assess for and manage pain, urinary retention, constipation and dehydration.
 - If none of above, consider changing position and give ►**diazepam** 2.5-5mg¹ orally/IV or give ►**midazolam**² 1-5mg IM. If no better, repeat dose of diazepam or midazolam.

Review the dying patient

- Doctor to review every 3 days or sooner if carer/family concerned about current plan of care or if patient's level of consciousness, functional ability, oral intake or mobility improves.
- If carer/family unable to cope at home or difficulty breathing relieved by oxygen, refer to hospital or hospice if available.
- If unsure, discuss with palliative care specialist.

Diagnose death if

No carotid pulse (neck) for 2 minutes *and* no heart sounds for 2 minutes *and* no breath sounds or chest movement for 2 minutes *and* pupils are fixed, dilated and do not respond to light.

¹If patient ≥ 65 years, give lower dose. For IV route, avoid giving faster than 5mg/minute. ²If known liver disease/failure, give lower dose.

CANCER SCREENING AND EARLY DETECTION

	Ask about risk factors	Advise screening	Assess for early signs	Assist with early referral
 Breast cancer	- Age > 40 years - Family history of breast cancer especially if sister/mother or carrier of genetic mutations - Previous breast cancer - Obesity, inactivity, poor nutrition - Smoking - Excessive alcohol use - On hormonal replacement therapy > 5 years	- Advise to do monthly Breast Self-Examination (BSE), check for changes in size/shape/feel of breast, or skin changes - Offer Provider-initiated Screening Clinical Breast Exams (PISCBE) twice a year for women 40-70 years old	Do Clinical Breast Exam to check for: - New lump or thickening in breast or armpit - Nipple inversion or discharge (other than milk) - Dimpling, redness, or puckering of breast skin	Refer to Specialist Breast Clinic (SBU) if: - Woman > 20 years old with new lump - Nipple changes (inversion or discharge) or skin change (dimpling, redness or puckering, regardless of age) - Family history of breast cancer in sister or mother, or known familial genetic mutation for screening mammogram
 Cervical cancer	- HPV positive/previous abnormal cervical screening results - HIV positive especially if not yet on ART - Early sexual activity - Early sexual debut/multiple previous sexual partners - Smoking	- If HIV negative start screening at 25 years. Repeat every 10 years if HPV DNA test negative - If HIV positive start screening at 25 years, regardless of when ART was started. Repeat every 5 years if HPV DNA test negative	- Abnormal vaginal bleeding (between periods or after sex) - Persistent, foul-smelling vaginal discharge - Pelvic pain or discomfort during intercourse	- If a cervical lesion is visible on speculum examination, avoid HPV DNA screening. Instead, perform a punch biopsy of the lesion (if trained provider available) or discuss/refer same day - If eligible, do HPV screening and manage according to results ➔ 70
 Colorectal cancer	- Personal history of colorectal cancer, polyps, ulcerative colitis, Crohn's disease - Family history of colorectal cancer, multiple polyps or Lynch syndrome - Age > 50 years - Obesity, inactivity, poor nutrition - Excessive alcohol use or smoking	Screening not routinely done	- Change in bowel habits (diarrhoea/constipation lasting weeks) - Visible blood in the stool or rectal bleeding - Unexplained weight loss and persistent abdominal discomfort	If early signs, discuss/refer
 Prostate cancer	- Age > 50 years - Smoking - African descent - Family history of prostate or breast cancer	Screening not routinely done	- Difficulty starting urination, weak urine flow, increased frequency of urine (especially at night), blood in urine/semen - Enlarged, hard or nodular prostate on digital rectal exam	If urinary symptoms, blood in urinesemen or enlarged prostate, discuss/refer
 Lung cancer	- Tobacco use, second-hand smoke - Occupational exposure (radiation, pesticide use, steel manufacturing, mining) - Environmental exposure (smoke, mining waste, pesticides) - HIV or autoimmune disease - Chronic lung disease: COPD, bronchiectasis, post-TB lung disease - Family history of lung cancer	- Screening is not routinely recommended - Advise patient to stop smoking.	- Persistent, worsening cough - Coughing up blood (haemoptysis) - Unexplained shortness of breath and chest pain - Recurrent chest infections - Difficulty swallowing, hoarse voice - Loss of appetite - Persistent tiredness or lack of energy - Unexplained weight loss	- Test for TB and review with chest X-ray - If solitary nodule/mass, one-sided hilar/mediastinal lymphadenopathy/effusion, lesions in rib bones, refer same day

SUPPORT THE PATIENT TAKING LONG-TERM MEDICATION

Assess the patient taking long-term medication

Assess	Note
Adherence	- Ask patient open ended questions like "What makes it difficult for you to take your medication? Do you sometimes find it difficult to remember to take your medication? How many doses have you missed this week?" Encourage patient to open up with statements like "We all miss doses now and then". - Ask about factors that may influence adherence: - Is the cost and time of clinic visits a problem (like missing work, transport problem, loss of income for the day, paying another person to take on responsibilities at home)? - Are medications causing any side effects? If patient stopped taking ART because of a side effect, discuss with doctor to check if ART can be switched ➔ 132. - Is there difficulty taking the medications (like horrible taste, difficult to swallow, lack of food so meds are taken on empty stomach). - Is disclosure an issue? Is patient trying to keep treatment a secret at home? - Is patient feeling well enough to take medications (is there nausea, diarrhoea, constipation or heartburn. Manage on symptom pages. - Is there a problem with understanding: check patient knows his/her diagnosis, understands his/her condition and what it means to be well controlled.
Recent illness	Ask about and document recent infection/s or illness. Manage other symptoms as on symptoms pages. Test for TB if cough, weight loss, night sweats or fever ➔ 102.
Correct doses	- Ask patient to show you his/her medication, tell you the dose and how often s/he should take it. Check patient knows how the medication works and why it is important to take it as advised. - Check that dose is correct for weight.
Drug interactions	- Review other medications and check for known interactions: especially ART, TB treatment or TPT, epilepsy treatment, contraceptives and other common medication (calcium, iron, zinc, antacids, metformin). Ask if patient is taking herbal/traditional medications. - Consult the South African Medicines Formulary (SAMF), use web-based drug interaction checker² (see QR code) or MIC helpline if unsure ➔ 200.
Resistance to treatment	If on TB or HIV treatment, consider drug resistance if other causes have been excluded and patient is adherent. Discuss with TB/HIV expert ➔ 200.
Daily routine	Ask about patient's daily routine and if it causes difficulty with adherence. Identify opportunities that can be used as reminders to take medication.
Support	Ask if patient receives support from family, friends or others in the community.
Mental health	If stress, anxiety or low mood, assess and manage further ➔ 98.
Substance use	In the past year, has patient drunk ≥ 4 drinks ¹ /session, used illegal drugs or misused prescription or over-the-counter medications? If yes to any ➔ 165.



Check for HIV
medication
interactions

Advise the patient taking long-term medication

- Be supportive and non-judgemental. Communicate effectively ➔ 198.
- If newly diagnosed or poor understanding, spend extra time educating and counselling the patient. Explain the condition and the benefits of medication.
- If difficulty with adherence, avoid blaming patient. Rather explore reasons for poor adherence and come up with ideas together to improve.
- Discuss ways to help patient to remember to take medication with reminders that form part of daily routine like diaries, alarms or pill boxes.
- Explain that good adherence is taking medication at the correct dose and time every day, and will improve control and reduce risk of long-term complications.
- Encourage patient to involve partner or family member in his/her treatment.

Treat the patient taking long-term medication

- If challenges taking medication, refer to counsellor for enhanced adherence counselling (EAC). Consider linking with a support group, treatment buddy, or community health worker.
- If available, provide information leaflets explaining condition, medication and importance of adherence.
- Try to keep medication regimen simple with as few tablets and doses as possible. Use fixed dose combination tablets if available. Avoid changing medications or doses without good reason.
- Involve patient in his/her treatment plan and adapt treatment schedule to daily routine as much as possible. Schedule appointments on days and times that suit the patient.
- If difficulty with adherence, see the patient more frequently (e.g. weekly instead of monthly).

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer. ²www.hiv-druginteractions.org/checker

PROTECT YOURSELF FROM OCCUPATIONAL INFECTION

Give urgent attention to the health worker with a sharps injury or splash to eye/mouth/nose/broken skin with exposure to any of:

- Blood
- Blood-stained fluid/tissue
- Wound secretions
- Pleural/pericardial/peritoneal/amniotic/synovial/cerebrospinal fluid
- Vaginal secretions
- Semen
- Breast milk

Management:

- If broken skin, clean area immediately with soap and water.
- If splash to eye/mouth/nose: immediately rinse mouth/nose with water or irrigate eye thoroughly with ♦sodium chloride 0.9% or sterile water.
- Assess need for HIV and hepatitis B post-exposure prophylaxis ↪ 135.

Adopt measures to diminish your risk of occupational infection

Protect yourself

Adopt standard precautions with every patient:

- Wash hands with soap/water or use alcohol-based cleaner after contact with patient/body fluids.
- Dispose of sharps correctly in sharps bins.

Wear protective gear:

- Wear gloves when handling blood, body fluids, secretions or non-intact skin.
- Wear N95 mask if performing aerosol-generating procedure, if in contact with patient suspected of having respiratory virus or possible/confirmed TB.
- Wear surgical mask with a visor or glasses if at risk of splashes.

Get vaccinated:

- Get vaccinated against hepatitis B (if not yet done) and yearly against influenza.

Know your HIV status:

- Test for HIV ↪ 124. ART and TPT can decrease the risk of TB.
- If HIV, you are entitled to work in an area of the facility where exposure to TB is limited.

Protect your facility

Clean the facility:

- Clean frequently touched surfaces (door handles, telephones, keyboards) daily with soap and water.
- Disinfect surfaces contaminated with blood/secretions with 70% alcohol or chlorine-based disinfectant.

Ensure adequate ventilation:

- Leave windows and doors open when possible and use fans to increase air exchange.

Organise waiting areas:

- Prevent overcrowding in waiting areas.
- Fast track patients with suspected respiratory infections, TB or acute gastroenteritis.

Manage sharps safely:

- Ensure sharps bins are easily accessible and regularly replaced.

Manage infection control in the facility:

- Appoint infection control officer to coordinate and monitor infection control policies.

Manage possible occupational exposure promptly

Reduce TB risk

Identify patients with possible TB promptly:

- The patient has TB symptoms¹.
- Separate patients with possible TB from others in the facility.
- Educate about cough hygiene and give face mask/tissues to cover mouth/nose to protect others.

Diagnose TB rapidly:

- Fast track TB workup and start treatment as soon as diagnosed.

Screen and test yourself for TB every 6 months:

- Screen and test for TB according to your facility policy. If TB test negative, discuss TB preventive treatment (TPT) with your occupational health practitioner.

Reduce risk of respiratory infections

- Before managing a patient with possible/confirmed respiratory infection, wear appropriate PPE.
- Wash hands with soap and water.
- Encourage patient to cover mouth/nose with a tissue when coughing/sneezing, to dispose of used tissues correctly and to wash hands regularly with soap and water.
- Advise patient to avoid close contact with others while sick.

¹TB symptoms: cough, fever ≥ 2 weeks, unexplained weight loss or drenching night sweats.

PROTECT YOURSELF FROM OCCUPATIONAL STRESS

Experiencing pressure and demands at work is normal. However if these demands exceed knowledge and skills and challenge your ability to cope, occupational stress can occur.

Arrange urgent assessment for the health worker with occupational stress and any of:

- Alcohol or drug intoxication at work
- Aggressive or violent behaviour at work
- Inappropriate behaviour at work
- Suicidal thoughts or plans

Adopt measures to reduce your risk of occupational stress

Protect yourself

Look after your health:

- Get enough sleep.
- Exercise, eat sensibly, minimise alcohol and avoid smoking.
- Address your general health and get screened for long-term conditions.

Look after your long-term health condition if you have one:

- Adhere to your treatment and your appointments.
- Avoid diagnosing and treating yourself.
- If you can, confide in a trusted colleague/manager.

Manage stress:

- Delegate tasks as appropriate and develop coping strategies.
- Talk to someone (friend, psychologist, mentor), or access helpline ↗ 200.
- Take time to do a relaxing breathing exercise each day.
- Find a fun or creative activity to do.
- Spend time with supportive family or friends.

Have healthy work habits:

- Manage your time sensibly and take scheduled breaks.
- Remind yourself of your purpose as a clinician.
- Be sure you are clear about your role and responsibilities.

Protect your team

Decide on an approved way of behaving at work:

- Communicate effectively with your patients and colleagues ↗ 198.
- Treat colleagues and patients with respect.
- Support each other. Consider setting up a staff support group.
- Instead of complaining, rather focus on finding solutions to problems.

Cope with stressful events:

- Develop or access policies/procedures to deal with complaints, harassment/bullying, accidents/mistakes, violence or death of patient or staff member.

Look at how to make the job less stressful:

- Examine the team's workload to see if it can be better streamlined.
- Identify what needs to be changed to make the job easier and frustrations fewer: equipment, drug supply, training, space, décor in work environment
- Discuss each team member's role.
- Support each other to develop skills to better perform your role.

Celebrate:

- Acknowledge the achievements of individuals and the team.
- Organise or participate in staff social events.



Identify occupational stress in yourself and your colleagues

Possible alcohol or drug problem

- In the past year, have you/colleague: drunk ≥ 4 drinks¹/session, used illegal drugs or misused prescription or over-the-counter medications?
- Smells of alcohol

Change in mood

- Indifferent, tense, irritable or angry
- In the past month, have you/colleague: felt down/depressed/hopeless or little interest/pleasure in doing things?

Recent distressing event

- Diagnosis of long-term condition
- Bereavement
- Needlestick injury
- Traumatic event

Poor attendance at work

- Frequent absenteeism
- Frequent lateness
- Often takes sick leave

Marked decline in work performance

- Reduced concentration
- Fatigue

The health worker with any of the above may have substance misuse, stress, depression/anxiety or burnout and would benefit from referral for assessment and follow-up.

¹One drink is 1 tot of spirits, or 1 small glass (125mL) of wine or 1 can/bottle (330mL) of beer.

COMMUNICATING EFFECTIVELY

Communicating effectively with your patient during a consultation need not take much time or specialised skills. Try to use straightforward language and take into account your patient's culture and belief system.

Integrate these four communication principles into every consultation:

Listen

Listening effectively helps to build an open and trusting relationship with the patient.

Do

- Give all your attention
- Recognise non-verbal behaviour
- Be honest, open and warm
- Avoid distractions e.g. phones

The patient might feel:

- 'I can trust this person'
- 'I feel respected and valued'
- 'I feel hopeful'
- 'I feel heard'

Don't

- Talk too much
- Rush the consultation
- Give personal advice
- Interrupt

The patient might feel:

- 'I am not being listened to'
- 'I feel disempowered'
- 'I am not valued'
- 'I cannot trust this person'

Discuss

Discussing a problem and its solution can help the overwhelmed patient to develop a manageable plan.

Do

- Use open ended questions
- Offer information
- Encourage patient to find solutions
- Respect the patient's right to choose

The patient might feel:

- 'I choose what I want to deal with'
- 'I can help myself'
- 'I feel supported in my choice'
- 'I can cope with my problems'

Don't

- Force your ideas onto the patient
- Be a 'fix-it' specialist
- Let the patient take on too many problems at once

The patient might feel:

- 'I am not respected'
- 'I am unable to make my own decisions'
- 'I am expected to change too fast'

Empathise

Empathy is the ability to imagine and share the patient's situation and feelings.

Do

- Listen for, and identify his/her feelings e.g. 'you sound very upset'
- Allow the patient to express emotion
- Be supportive

The patient might feel:

- 'I can get through this'
- 'I can deal with my situation'
- 'My health worker understands me'
- 'I feel supported'

Don't

- Judge, criticise or blame the patient
- Disagree or argue
- Be uncomfortable with high levels of emotions

The patient might feel:

- 'I am being judged'
- 'I am too much to deal with'
- 'I can't cope'
- 'My health worker is unsympathetic/unkind'

Summarise

Summarising what has been discussed helps to check the patient's understanding and to agree on a plan for a solution.

Do

- Get the patient to summarise
- Agree on a plan
- Offer to write a list of his/her options
- Offer a follow-up appointment

The patient might feel:

- 'I can make changes in my life'
- 'I have something to work on'
- 'I feel supported'
- 'I can come back when I need to'

Don't

- Direct the decisions
- Be abrupt
- Force a decision

The patient might feel:

- 'My health worker disapproves of my decisions'
- 'I feel resentful'
- 'I feel misunderstood'

SUPPORT THE PATIENT TO MAKE A CHANGE

Use the five-A's approach to help the patient make a change in behaviour to help avoid or lessen a health risk:

Ask the patient about the risks

- Identify with the patient the risk/s to his/her health.
- Ask what the patient already knows about these risks and how they will affect the patient's health.

Alert the patient to the facts

- Request permission to share more information on this risk.
- Use a neutral, non-judgemental manner. Avoid prescribing what the patient must do.
- Build on what the patient already knows or wants to know.
- Discuss results of tests or examination that indicate a risk.
- Link the risk to the patient's health problem.

Assess the patient's readiness to change

- Assess the patient's response about the information on his/her risk. 'What do you think/feel about what we have discussed?'
- Use the scale to help patient assess the importance of this issue for him/her. Also rate how confident s/he feels about making a change.

Not at all important/not at all confident	1	2	3	4	5	6	7	8	9	10	Very important/very confident
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- Ask the patient why s/he rated importance/confidence at this number. Ask what might help improve this rating.
- Summarise the patient's view. Ask how ready s/he feels to make a change at this time.

Assist the patient with change

If the patient is ready to change:

- Assist the patient to set a realistic goal.
- Explore factors that may help the patient to change or may make it difficult.
- Help patient plan how s/he will fit the change into his/her daily routine.
- Encourage patient to use strategies s/he used successfully in the past.

If the patient is not ready to change:

- Respect the patient's decision.
- Invite patient to identify the pros and cons of change.
- Acknowledge patient's concerns about change.
- Explore ways of overcoming the difficulties preventing change.
- Offer more information or support if the patient would like to consider the issue further.

Arrange support and follow up

- Offer referral to counsellor and available support services (social worker, health promoter, community care worker, helpline ☎ 200).
- Identify a friend, partner, or relative to support the patient and if possible attend clinic visits.
- Document decision and goals set by the patient.
- Schedule follow-up contact (clinic visit, email, phone) to review readiness and goals.

HELPLINE NUMBERS

Helpline	Services provided	Contact number/s
General counselling		
Lifeline National Counselling Line	Counselling for any life crisis and referral to relevant services	• Call 0861 322 322 or 011 422 4242 (24 hours) • Whatsapp 060 715 4415
Childline SA (ages 0 - 16 years)	For children and adolescents who are in crisis or at risk of abuse and violence	• Call 116 (24 hour toll-free) • Online counselling chatroom: chat.childlinesa.org.za/chat (11:00-13:00 & 14:00-18:00 Monday to Friday)
National Council Against Smoking	Support for a patient to quit smoking	• Call 011 720 3145 (08:00-17:00 Monday to Friday) • Whatsapp 072 766 4812
MomConnect	Support for mothers through integrated cellphone-based technologies for maternal and child health services	Dial *134*550#
TB HealthCheck	TB self-screening tool via ContactNDOH	WhatsApp "TB" to 0600 123 456
Abuse		
Stop Gender Violence	Support for children, women and men experiencing domestic violence	• Call 0800 150 150 (24 hour toll-free) • Whatsapp 0800 150 150 (24 hour toll-free)
The Warrior Project	Information and access to help for survivors of domestic violence	• Call 0800 832 277 • Dial *134*7355#
Gender-based violence command centre	Gender-based violence assistance	• Call 0800 428 428 • Dial *120*7867#
Rape Crisis	Counselling and court support for rape survivors	• Call 021 447 9762 (24 hours) • Whatsapp 083 222 5164
Human Trafficking Helpline	To report suspected human trafficking	Call 0800 222 777
Long-term health condition		
Arthritis Foundation	Education and monthly support groups for patient with arthritis and/or fibromyalgia	• Call 0861 30 30 30 (24 hours) • Whatsapp 068 204 8394
Epilepsy South Africa	Education, counselling and support groups for patient with epilepsy and his/her family	Call 0860 374 537 (08:00-16:30 Monday to Thursday; 08:00-14:00 Friday)
Diabetes South Africa	Education, dietary plans, support groups and workshops for patient with diabetes	• Whatsapp 081 578 6636 (08:00-17:00 Monday to Friday) • Email support@diabetessa.org.za
Heart & Stroke Foundation	Education and support groups for patient with stroke, any heart condition or CVD risk	Call 021 422 1586 (08:00-16:00 Monday to Friday)
National AIDS helpline	Counselling and information for patient living with HIV or thinking of testing	• Call 0800 012 322 (24 hour toll-free) • Whatsapp 084 922 8808
CANSA Care Centre	Support for patients with cancer and their families	• Call 0800 22 6622 (08:00-16:30 Monday-Friday) • Whatsapp 072 197 9305 (English & Afrikaans) • Whatsapp 071 867 3530 (isiXhosa, isiZulu, Sesotho, Setswana, Sepedi)

HELPLINE NUMBERS

Helpline	Services provided	Contact number/s
Mental health		
Suicide crisis line	For any suicide related support	• Call 0800 567 567 (24 hours) • SMS 31393 and a counsellor will call back
Mental health & substance misuse helpline	Counselling and support for patient with mental illness or substance misuse	• Call 0800 12 13 14 (24 hours) • SMS 32312
Alzheimer's South Africa	Information, training and support groups for carers of patients with Alzheimer's	Call 0860 102 681 (08:00-16:00 Monday to Thursday; 08:00-15:00 Friday)
Alcoholics Anonymous	Counselling, education and support groups for patient with alcohol misuse	• Call 0861 435 722 (24 hours) • Whatsapp 073 021 2523
Sexual health		
Marie Stopes South Africa	Provides safe termination of pregnancy (TOP) and other women's health services	• Call 0800 117 785 • Whatsapp 060 094 9173
Bwise Health	Provides sexual and reproductive counselling to patients 10-24 years	• Whatsapp 0600 179 672 • bwisehealth.com for online counselling
Health worker		
Poisons Information Helpline	Advice on the management of exposure/ingestion of poisonous substances	Call 0861 555 777 (24 hours)
National HIV & TB Health Care Worker Hotline	For HIV and TB related clinical queries	• Call 0800 212 506 • SMS 0800 212 506 (08:30-16:30 Monday to Friday) • Whatsapp 071 840 1572
Right to Care HIV Helpline	For HIV related clinical queries	• Call 082 957 6698 (adult helpline) • Call 082 352 6642 (paediatric and adolescent helpline)
Medicines Information Centre (MIC)	Advice on medicine-related queries (drug interactions, side effects, dosage, treatment failure)	Call 021 406 6829 (08:30-16:30 Monday to Friday)
Notifiable Medical Conditions	Notify and send NMC Case Notification Forms to the NICD	• Call 072 621 3805 • Whatsapp 072 621 3805 • SMS 072 621 3805 • Email NMCsurveillanceReport@nicd.ac.za
National Institute for Communicable Diseases (NICD) hotline	Guidance on communicable diseases and outbreaks, including rabies	Call 080 021 2552 (24 hours)
National clinical advisory committee (NCAC)	For TB-related queries (RR-TB treatment failure, RR-TB meningitis/brain tuberculoma, pregnant on RR-TB treatment to notify NCAC)	Email ncac@witshealth.co.za
SASSA Information Line	Assessment and arranging of grants	• Call 0800 60 10 11 (7:30am-4pm) • www.sassa.gov.za
Administration		
Legal Aid	Information and guidance on any legal matter	Call 0800 110 110 (07:00-19:00 Monday to Friday)
Women's Legal Centre	Provides free legal advice to women who do not have access to legal services	• Call 021 424 5660 • Email info@wlce.co.za • www.wlce.co.za
MedicAlert® South Africa	Assistance with application for MedicAlert® disc or bracelet	Call 086 111 2979 (09:00-16:00 Monday to Friday)

APC Training

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Contact Us

For information about the APC programme:
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For feedback or queries email:
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