OPPORTUNISTIC INFECTIONS/CLINICAL COMPLICATIONS IN ADULTS

Prevention of Opportunistic Infections

Resources for Opportunistic Infections pages unless otherwise stated:

Standard Treatment Guidelines and Essential Medicines List: Hospital Level Adults. National Department of Health, South Africa. 2012.

Primary Care 101. National Department of Health, South Africa. 2013/14.

Clinical Guidelines for the Management of HIV and AIDS in Adults and Adolescents. National Department of Health, South Africa. 2010.

Cotrimoxazole Preventive Therapy (CPT)

Group: Antibiotic

Formulation:

Tablet: 80/400 and 160/800 mg (forte) trimethoprim/ sulfamethoxazole (TMP/SMX)
Syrup: 1 ml with 8/40 mg
Ampules: 80/400 mg

Clinical Information:

Prophylaxis: 160/800mg (2 single strength tablets) orally once daily.

See PCP Card for PCP treatment dosages.

Renal insufficiency: halve dose with creatinine clearance of 15-50 ml/min. Manufacturer recommends avoiding if creatinine clearance < 10 ml/min.

Dosage and Administration:

PCP prophylaxis: 80/400 mg qd or 160/800 mg TMP/SMX 3 x/week.

PCP therapy: 5mg/kg (based on trimethoprim) po or iv every 8 h for 21 days, therefore usually 4 to 5 ampules a 80/400 mg every 8 h.Toxoplasmosis prophylaxis: 1 tablet (160/800 mg) qd.

Adverse Effects: Allergic response including rash, possible. In case of mild allergy, treatment can be continued. In high doses, anaemia, neutropenia, thrombocytopenia, nausea, vomiting, headache, elevated transaminases.

Drug Interactions: Cotrimoxazole can increase levels of anticoagulants and phenytoin and reduce the efficacy of oral contraceptives.

Comments/Warning: Caution with sulfonamide allergy! Oral suspension for children can be used for desensitization: increase the dose slowly over six days from 12.5, 25, 37.5, 50 and 75 to 100% of the 480mg tablet dose

CPT in Infants, Children and Early Adolescents

Indications for Cotrimoxazole	When to start	When to stop
All HIV-exposed infants	4-6 weeks after birth	PCR negative ≥6 weeks after full weaning **AND** infant is clinically HIV negative
All HIV-exposed exclusive formula feeding children (EFF)	4-6 weeks after birth	PCR negative **AND** infant is clinically HIV negative **AND** EFF is expected to continue
All HIV-exposed breastfeeding children	4-6 weeks after birth	PCR is negative ≥6 weeks after full weaning **AND** infant is clinically HIV negative
HIV-positive infants <12 months old	4-6 weeks after birth or as soon as possible after HIV diagnosis even if on ART	All infants <12 months should remain on prophylaxis
For HIV-positive children 1-5 years with or without ART	All symptomatic children (WHO clinical stage 2, 3 or 4) **OR** CD4 <25% **OR** <500 cells/µl.	Once ART-associated immune reconstitution has occurred for ≥6 months CD4 percentage ≥25% **OR** CD4 count ≥500 cells/µl on ≥2 occasions, 3-6 months apart
HIV-positive children ≥5 years of age with or without ART	If CD4 count <350 cells/µl or WHO clinical stage 3 or 4 disease (including TB)	Once ART-associated immune reconstitution has occurred for ≥6 months, i.e. CD4 ≥350 cells/µl on ≥2 occasions, 3–6 months apart

Continued

CPT in Infants, Children and Early Adolescents

Continued

Indications for Cotrimoxazole	When to start	When to stop
Any HIV-positive child with high risk for bacterial infections or at risk of malaria	Start Cotrimoxazole prophylaxis even with ART immune-reconstitution	Do not stop until risk has been eliminated and all CD4 cell percentage or CD4 cell count criteria listed above have been met
HIV-positive child with previous PCP infection	As soon as first PCP episode has been treated	Age 5 years if CD4 criteria is met

CPT in Adults and Adolescents

Indications for Cotrimoxazole*	When to Stop
• CD4≤200 • WHO stage 3 or 4 • HIV/TB co-infection *Use Dapsone 100mg daily for patients who have a mild reaction to CTX. Dapsone should NOT be used after severe reactions, as there may be cross-reactivity.	• CD4>200 for at least 6 months • Recommence CPT when CD4 drops <200, if ART fails, or a new OI develops • If severe adverse events develop, such as fever, hepatitis, or mucous membrane lesions (e.g. Stevens-Johnson Syndrome)

- Pregnant women should continue on Cotrimoxazole prophylaxis as the benefits outweigh the small risk to the foetus.
- Do not delay ART in favour of Cotrimoxazole initiation. Ideally, initiate cotrimoxazole immediately at first visit, prior to ART.
- Most common side effect is a maculopapular rash. CPT may be continued in the presence of mild rash, or interrupted and reintroduced.

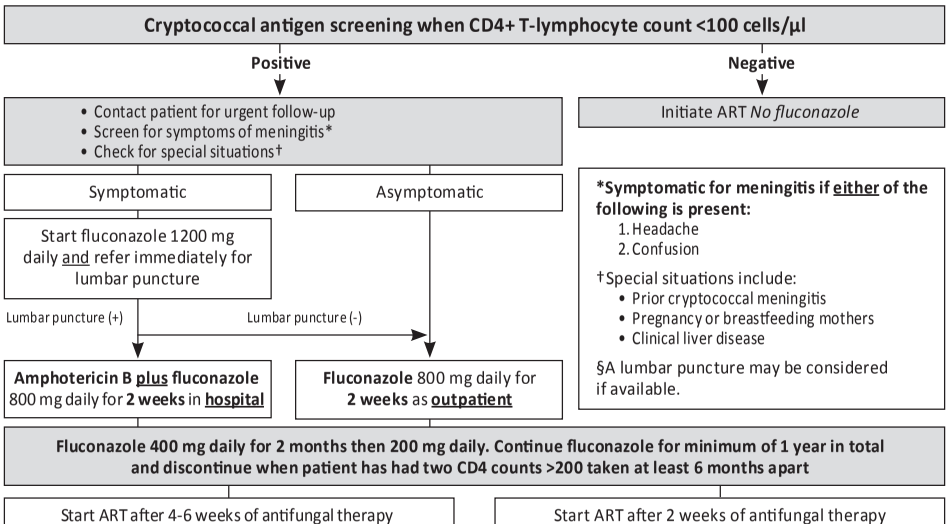
Cotrimoxazole Paediatric Dosing

Age or Weight of Child	Dose	Suspension (200 mg SMX/40mg TMP/5mL)	Single tablet strength (400 mg SMX/80 mg TMP)	Double strength tablet (800 mg SMX/160 mg TMP)
<6 months or <5kg	100 mg SMX/ 20 mg TMP	2.5 mL	¼ tablet	–
6 months-5 years or 5-15 kg	200 mg SMX/ 40 mg TMP	5 mL	½ tablet	–
6-14 years or 15-30 kg	400 mg SMX/ 80 mg TMP	10 mL	1 tablet	½ tablet
>14 years or >30 kg	800 mg SMX/ 160 mg TMP	–	2 tablets	1 tablet

Note: Dapsone should be used in CTX-intolerant patients. The recommended dose is 2mg/kg/day or 4mg/kg/week. The maximum dose is 100mg (1 tablet).

Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

Cryptococcal Antigen Screening and Prophylaxis



Reference: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults.. December 2014.

Isoniazid Preventive Therapy in Adults

- HIV-positive adults and adolescents (including pregnant women) with NO symptoms of TB disease are eligible for IPT screening.
- Exclude TB with sputum Xpert in patients with ANY of the TB symptoms in the TB screening tool, prior to considering IPT.
- Tuberculin Skin Test (TST) is required in all adults and adolescents. If TST is not available, IPT should be continued for 6 months for pre-ART patients and 12 months for patients on ART. All efforts should be made to perform TST within a month of starting IPT
- Any patient who becomes eligible for ART who has never had IPT before should be assessed for IPT eligibility once stable on ART.
- If patient is TST negative, re-screen annually until TST positive at which point 36 months of IPT should be given. IPT is currently not recommended beyond 36 months.
- Standard dose:
  - Isoniazid (INH): 5 mg/kg/day (maximum 300 mg per day)
  - Vitamin B6 (pyridoxine): 25 mg per day to be given with INH to all adults/adolescents on IPT

Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

Continued

Isoniazid Preventive Therapy in Adults

Continued

Reading the Tuberculin Skin Test		
Immune Status	**HIV positive, malnourished, severe illness**	**Others (including previous BCG)**
Diameter of induration in positive test	≥ 5 mm	≥ 10 mm

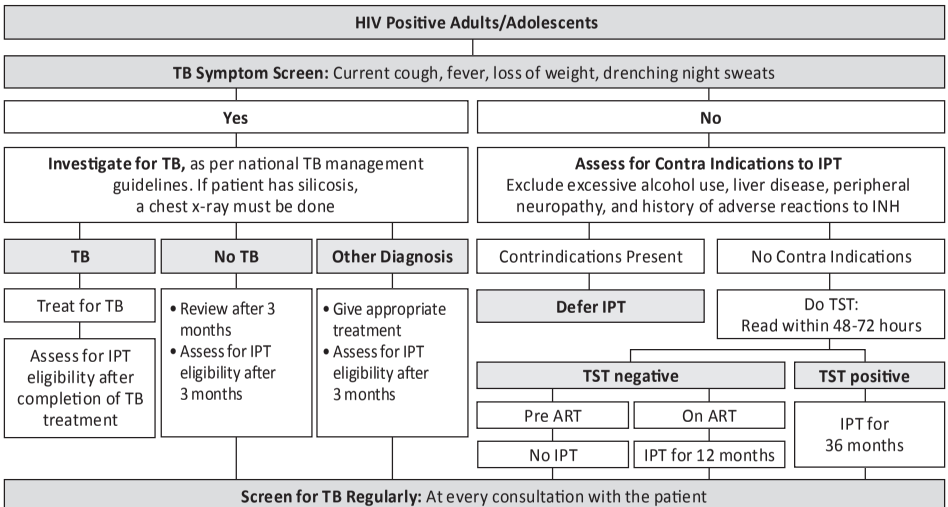
Provision of IPT for HIV Positive Patients		
TST negative	**Pre-ART**	**On ART**
TST negative	No IPT	IPT for 12 months
TST positive	IPT for 36 months	IPT for 36 months
*Pregnant women on ART for PMTCT are considered "On ART"		

Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

Continued

Isoniazid Preventive Therapy in Adults

Continued



Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

Isoniazid Preventive Therapy In Children

Where a possible or confirmed TB contact has been identified and once active TB disease has been excluded, the following children should receive 6 months of INH preventive therapy:

- All children under 5 years of age
- All HIV-infected children up to 15 years of age

Children who are re-exposed to a case of active TB disease following completion of 6 months of IPT must receive a repeat course of IPT (for 6 months), once active TB disease is excluded

- Pre-exposure IPT is not recommended for any child irrespective of HIV status

Weight band (kg)	Daily INH 100mg 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 tablets
15 – 19.9	2 tablets
≥ 20	3 tablets

- Crush INH tablet(s) and dissolve in water or multi-vitamin syrup
- Add Pyridoxine (B6) daily for HIV-positive or malnourished children:
  <5years: 12.5mg daily
  ≥5 years: 25mg daily

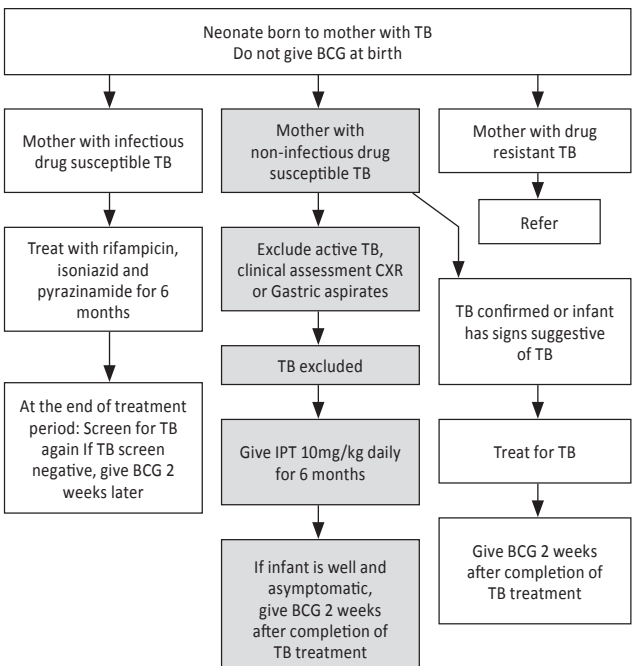
Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

INH Side Effects and Management

Side-effect	Management
Peripheral neuropathy	• Increase vitamin B6 (pyridoxine) to 100 mg daily; keep patient on that dose • until the symptoms disappear • If peripheral neuropathy is severe, discontinue INH immediately and refer patient to hospital • If patient needs to take d4T for medical indication, discontinue INH
Hepatotoxicity	• Stop INH immediately and refer patient to hospital
GI effects	• Rule out other causes of nausea and vomiting • Consider LFTs • Treat symptomatically (if no other cause is found)
Flushing reaction	• Reassure patients and advise that they avoid tyramine and histamine containing foods while on INH • Flushing is usually mild and resolves without therapy
Hypersensitivity	• Discontinue until the reaction resolves • Re-challenge after resolution of reaction • Begin with INH 50mg on day 1 • If the original reaction was severe, begin with INH 5mg on day 1 • If a reaction does not occur after day 1 dose, increase to 300mg on day 2 • If a reaction does not occur after the day 2 dose, continue INH 300mg daily • If a reaction occurs during drug re-challenge, stop INH • Treat with antihistamines and follow-up

Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.

Management of Infants Born to Mothers with TB



Source: National consolidated guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults, December 2014.