

Categorisation of antimicrobials for animal health..... as easy as ABCD

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**PREVENTING ANTIMICROBIAL
RESISTANCE TOGETHER**

Current categorisation systems

- WHO
 - Antibiotics of importance
 - AWaRe categorisation
- WOAH (OIE)
 - Antibiotics of veterinary importance
 - No equivalent of AWaRe in global animal health
- National systems, species-specific



EMA

Categorisation of antibiotics for use in animals
for prudent and responsible use



Considerations in EMA system



- Registered as a veterinary medicine
- Importance to human medicine – WHO; EU situation
- Likelihood and possible consequences of AMR transfer
- Availability of alternative antibiotics in veterinary medicine

A

AVOID

B

RESTRICT

C

CAUTION

D

PRUDENCE

A

AVOID

B

RESTRICT

C

CAUTION

D

PRUDENCE

- Should be used as first-line treatments, whenever possible
- As always should be use prudently, only when medically needed

D

Aminopenicillins, without beta-lactamase inhibitors

amoxicillin
ampicillin
metampicillin

Tetracyclines

chlortetracycline
doxycycline
oxytetracycline
tetracycline

Natural, narrow-spectrum penicillins (beta lactamase-sensitive penicillins)

benzathine benzylpenicillin
benzathine phenoxymethylpenicillin
benzylpenicillin
penethamate hydriodide

Aminoglycosides: spectinomycin only

spectinomycin

Anti-staphylococcal penicillins (beta-lactamase-resistant penicillins)

cloxacillin
dicloxacillin
nafcillin
oxacillin

pheneticillin
phenoxymethylpenicillin
procaine benzylpenicillin

Sulfonamides, dihydrofolate reductase inhibitors and combinations

formosulfathiazole
phthalylsulfathiazole
sulfacetamide
sulfachlorpyridazine
sulfaclozine
sulfadiazine
sulfadimethoxine
sulfadimidine
sulfadoxine
sulfafurazole
sulfaguanidine

sulfalene
sulfamerazine
sulfamethizole
sulfamethoxazole
sulfamethoxyipyridazine
sulfamonmethoxine
sulfanilamide
sulfapyridine
sulfaquinoxaline
sulfathiazole
trimethoprim

Cyclic polypeptides

bacitracin

Steroid antibacterials

fusidic acid

Nitroimidazoles

metronidazole

Nitrofuran derivatives

furaltadone
furazolidone

A

AVOID

B

RESTRICT

C

CAUTION

- Alternatives in human medicine
- For some veterinary indications, there are no alternatives belonging to Category D
- Considered only when there are no antibiotics in Category D that could be clinically effective

D

PRUDENCE

- Should be used as first-line treatments, whenever possible
- As always should be use prudently, only when medically needed

C

Aminoglycosides (except spectinomycin)

amikacin
apramycin
dihydrostreptomycin
framycetin
gentamicin
kanamycin
neomycin
paromomycin
streptomycin
tobramycin

Aminopenicillins, in combination with beta lactamase inhibitors

amoxicillin + clavulanic acid
ampicillin + sulbactam

Cephalosporins, 1st- and 2nd-generation, and cephamycins

cefacetrile
cefadroxil
cefalexin
cefalonium
cefalotin
cefapirin
cefazolin

Amphenicols

chloramphenicol
florfenicol
thiamphenicol

Lincosamides

clindamycin
lincomycin
pirlimycin

Pleuromutilins

tiamulin
valnemulin

Macrolides

erythromycin
gamithromycin
oleandomycin
spiramycin
tildipirosin
tilmicosin
tulathromycin
tylosin
tylvalosin

Rifamycins: rifaximin only

rifaximin

CAUTION

A
AVOID

B
RESTRICT

C
CAUTION

D
PRUDENCE

- Critically important in human medicine and use in animals should be restricted to mitigate the risk to public health
- Considered only when there are no antibiotics in Categories C or D that could be clinically effective
- Use should be based on antimicrobial susceptibility testing

- Alternatives in human medicine
- For some veterinary indications, there are no alternatives belonging to Category D
- Considered only when there are no antibiotics in Category D that could be clinically effective

- Should be used as first-line treatments, whenever possible
- As always should be use prudently, only when medically needed

B

Cephalosporins, 3rd- and 4th-generation, with the exception of combinations with β -lactamase inhibitors

cefoperazone
cefovecin
cefquinome
ceftiofur

Polymyxins

colistin
polymyxin B

Quinolones: fluoroquinolones and other quinolones

cinoxacin
danofloxacin
difloxacin
enrofloxacin
flumequine
ibafloxacin

marbofloxacin
norfloxacin
orbifloxacin
oxolinic acid
pradofloxacin

RESTRICT

A
AVOID

- Classes/products without veterinary registration
- Not for use in food animals
- For use in companion animals in exceptional circumstances

B
RESTRICT

- Critically important in human medicine and use in animals should be restricted to mitigate the risk to public health
- Considered only when there are no antibiotics in Categories C or D that could be clinically effective
- Use should be based on antimicrobial susceptibility testing

C
CAUTION

- Alternatives in human medicine
- For some veterinary indications, there are no alternatives belonging to Category D
- Considered only when there are no antibiotics in Category D that could be clinically effective

D
PRUDENCE

- Should be used as first-line treatments, whenever possible
- As always should be use prudently, only when medically needed

A

Aminopenicillins

mecillinam
pivmecillinam

Ketolides

telithromycin

Monobactams

aztreonam

Rifamycins (except rifaximin)

rifampicin

Carboxypenicillin and ureidopenicillin, including combinations with beta lactamase inhibitors

piperacillin-tazobactam

Carbapenems

meropenem
doripenem

Lipopeptides

daptomycin

Oxazolidinones

linezolid

Riminofenazines

clofazimine

Sulfones

dapsone

Streptogramins

pristinamycin
virginiamycin

Drugs used solely to treat tuberculosis or other mycobacterial diseases

isoniazid
ethambutol
pyrazinamide
ethionamide

Other cephalosporins and penems (ATC code J01DI), including combinations of 3rd-generation cephalosporins with beta lactamase inhibitors

ceftobiprole
ceftaroline
ceftolozane-tazobactam
faropenem

Glycopeptides

vancomycin

Glycylcyclines

tigecycline

Phosphonic acid derivatives

fosfomicin

Pseudomonic acids

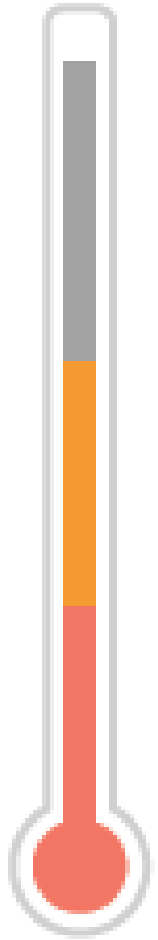
mupirocin

Substances newly authorised in human medicine following publication of the AMEG categorisation

to be determined

AVOID

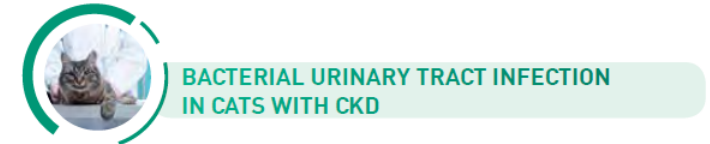
Route of administration



- Local individual treatment (e.g. udder injector, eye or ear drops)
- Parenteral individual treatment (intravenously, intramuscularly, subcutaneously)
- Oral individual treatment (i.e. tablets, oral bolus)
- Injectable group medication
- Oral group medication via drinking water
- Oral group medication via feed or premixes

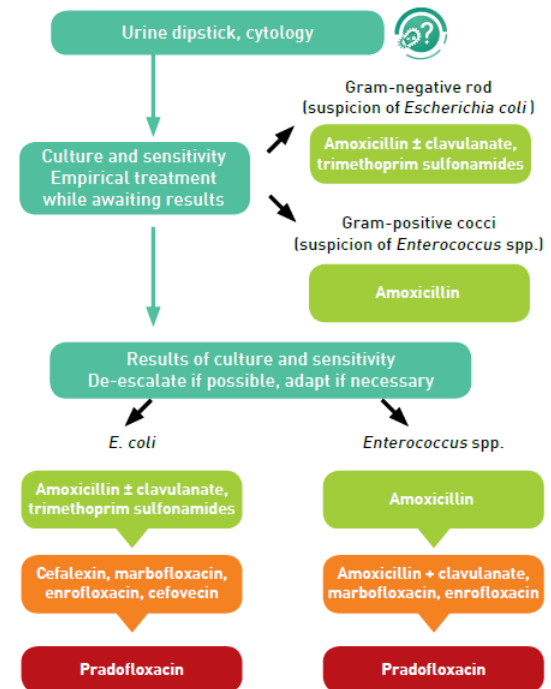
Categorisation Treatment Guidelines

- Tool to prepare guidelines
- Support prescription decision-making



Therapeutic approach

DISEASE FACT SHEETS



GRAM

Guidance for the Rational Use of Antimicrobials

The future...

- Regular review
- Categorisation vs legislation



https://www.ema.europa.eu/documents/report/categorisation-antibiotics-use-animals-prudent-responsible-use_en.pdf

Full report: <https://bit.ly/30ZEuRi>

Thank you for listening.

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