

VETERINARY USE OF ANTIBIOTICS HIGHLY IMPORTANT TO HUMAN HEALTH



The World Health Organization, the Food and Agriculture Organization and the World Organization for Animal Health are working to protect the effectiveness of antimicrobials in the face of rapidly increasing resistance in serious and life-threatening pathogens.

Antimicrobial use in animals contributes to the selection and spread of resistance. Veterinarians must help preserve existing antibiotics and fight the serious public health threat of antimicrobial resistance. Veterinarians need to carefully consider how they prescribe antibiotics, especially those that are critical in human medicine, to help preserve these lifesaving drugs for the future.

The table on the next page outlines in a broad and general sense how veterinarians should use the antibiotics highly important to human medicine identified by the Australian Strategic and Technical Advisory Group on AMR (ASTAG). Responsible use of these antibiotics should have a limited impact on human medicine. In making a therapeutic decision, you will also need to consider other issues, for example,

withholding periods and export slaughter intervals in the case of food-producing animals. Where possible, choices should be based on culture and susceptibility testing and the narrowest spectrum drugs effective against the infection.

Alternatives to antimicrobial use – such as changes in husbandry, management, vaccination and infection prevention and control – should also be explored in each case. The overriding principle of antimicrobial prescribing is to use as little as possible but as much as necessary to address the infection.

Following diagnosis, consider using the **first line antimicrobials** along with alternative treatment approaches.

Second line use should be limited where possible to when susceptibility testing or clinical results have proven that first line antibiotics are not effective.

Third line antimicrobials are for use as a last resort. They should be used only when other options are unavailable and wherever possible only after susceptibility testing has been completed.



Pigs



Poultry



Cattle



Sheep



Aquaculture
(no products
registered)



Horses



Dogs and Cats

First line use

Amoxicillin
Erythromycin
Chlortetracycline
Oxytetracycline
Sulphonamides
Kitasamycin
Tilmicosin
Tylosin
Penicillin
Florfenicol
Neomycin

Amoxicillin (not layers)
Erythromycin (not layers)
Neomycin
Tylosin (not layers)
Chlortetracycline
Oxytetracycline (not layers)
Zinc bacitracin

Ampicillin/
Amoxicillin
Erythromycin
Oxytetracycline
Sulphonamides
Oleandomycin
Tilmicosin
Tylosin
Penicillin
Florfenicol
Framycetin
Neomycin
Streptomycin

Amoxicillin
Erythromycin
Chlortetracycline
Oxytetracycline
Framycetin
Neomycin
Penicillin

Oxytetracycline
Florfenicol

Amoxicillin
Bacitracin
Oxytetracycline
Sulphonamides
Penicillin
Chloramphenicol
Framycetin
Neomycin
Streptomycin

Amoxicillin
Bacitracin
Chlortetracycline
Doxycycline
Penicillin
Chloramphenicol
Framycetin
Neomycin
Streptomycin

Second line use

Amoxicillin-clavulanate
Apramycin
Lincomycin
Trimethoprim-sulphonamides
Tiamulin
Tulathromycin
Spectinomycin

Apramycin (not layers)
Spectinomycin
Lincomycin
Tiamulin (not layers)
Trimethoprim-sulphonamides
(not layers)

Amoxicillin-clavulanate
Cefuroxime
Cloxacillin
Apramycin
Lincomycin
Trimethoprim-sulphonamides
Tulathromycin

Amoxicillin-clavulanate
Cloxacillin
Framycetin
Trimethoprim-sulphonamide

Amoxicillin-clavulanate
Cloxacillin
Gentamicin
Trimethoprim-sulphonamides

Amoxicillin-clavulanate
Cephalexin
Cephalonium
Cloxacillin
Clindamycin
Lincomycin
Gentamicin
Trimethoprim-sulphonamides
Spiramycin/
metronidazole

Third line use

Ceftiofur

Virginiamycin (not layers)

Ceftiofur
Polymyxin B*
Virginiamycin

Virginiamycin
Polymyxin B*

Ceftiofur
Fluoroquinolones (Enrofloxacin)
Virginiamycin
Polymyxin B*
Nitrofurans

Ceftiofur
Cefovecin
Fluoroquinolones (Enrofloxacin)
Marbifloxacin
Orbifloxacin
Ibafloxacin
Pradofloxacin)
Nitrofurazone
Polymyxin B*

Use prohibited

Fluoroquinolones
Gentamicin
Chloramphenicol
Nitrofurans

Fluoroquinolones
Gentamicin
Chloramphenicol
Nitrofurans

Fluoroquinolones
Gentamicin
Chloramphenicol
Nitrofurans

Fluoroquinolones
Gentamicin
Chloramphenicol
Nitrofurans

Amikacin
Rifampicin

Meropenem
Vancomycin
Teicoplanin
Amikacin
Aztreonam
Tigecycline
Ceftaralzone
Ceftriaxone
Cefotaxime
Linezolid
Nitrofurans
Fusidanes
Ticarcillin-clavulanate
Rifampicin

Highly important antimicrobials not registered for use in animals that should not be used off-label except in exceptional circumstances for individual animals

Australian Commission on Safety and Quality in Healthcare. *Importance Ratings and Summary of Antibacterial Uses in Humans in Australia* (Reviewed by ASTAG) Version 1.1 February, 2015.

* Polymixin B - may be first line if used only as individual animal topical treatment (ear/eye ointment)



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