

Practice Policy: Dose and routes of administration of common antimicrobials

This is an example policy. Members are encouraged to develop their own policies and should review the literature and the current marketing authorisation. Note that some marketing authorisations are inconsistent with responsible antimicrobial usage due to the potential to cause sub-therapeutic dosing or administration for a single day. Adapted from : Haggett EF, Wilson WD. Equine Veterinary Education. 2008. 433-448.

Colours represent likely use:

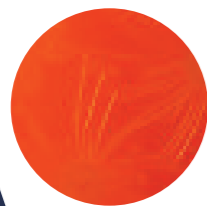
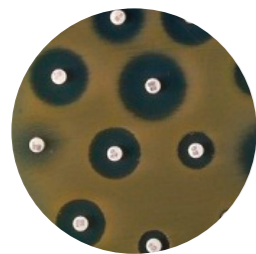
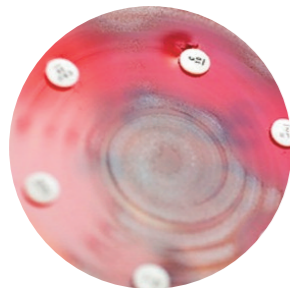
- █ Green – first line antimicrobials
- █ Blue – alternatives
- █ Orange – PROTECTED

Members must establish policies for use in food producing animals

Drug	Dose Per kg	Route	Dosing interval	Spectrum			Notes
				+ve	-ve	AnO2	
Sodium penicillin	20,000 iu	IV	6 hours*	++	+	++	Wide distribution, poor penetration into CNS, abscess, sites or necrosis
Procaine penicillin	20,000 iu	IM	12 hours*	++	+	++	
Benthazine penicillin (LA)	Fails to reach MIC - avoid						
Ceftiofur	2mg	IM IV*	12 hours*	+++	++	++	PROTECTED
Cefquinome	1mg	IM IV	12 hours*	+++	++	++	PROTECTED
Oxytetracycline	5mg	IV	12 hours*	++	++	+	NB also Ehrlichia, richetsia and anaplasma
Doxycycline*	20mg	PO	12 hours	++	++	+	
Trimethoprim / Sulphadiazine	30mg	IV PO	12 hours*	++	++	-	Ineffective in S equi equi. Oral bioavailability reduced in the presence of food
Gentamicin	6.6mg	IV	24 hours	+	+++	-	Note dose in the neonate should be adjusted to reflect high total body water
Streptomycin	20mg	IM	24hours	+	+	-	Resistance common
Neomycin	5mg	IM	24 hours	+	++	-	Combined solution only provides 10,000iu/kg penicillin every 24 hours
Rifampin*	5mg	PO	12 hours	+++	+	++	Always use in combination (not quinolones)
Azithromycin*	10mg	PO	24 hours	+++	+	+	FOALS ONLY
Enrofloxacin	7.5mg 5mg	PO IV	24 hours 24 hours	+	+++	-	PROTECTED
Metronidazole*	25mg 15mg	PO IV	12 hours 12 hours	-	-	+++	Not in food producing animals

- +++ Effective against most important pathogens, including staphylococci for Gram positive and pseudomonas for Gram negative bacteria
- ++ Effective against many important bacteria
- + Some effect, but many clinically significant bacteria may not be susceptible
- Poor effectiveness
- * indicated a drug, dose, route or dosing frequency that is not listed in the marketing authorisation for that product.

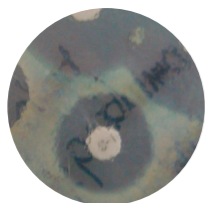
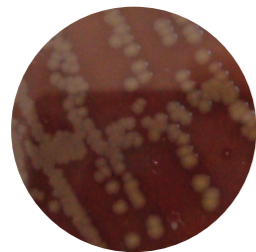
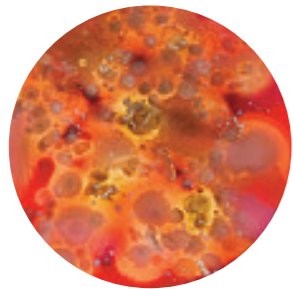
Protect ME - Responsible antimicrobial use policy



Condition	FIRST LINE	ALTERNATIVES	Notes
UPPER RESPIRATORY TRACT DISEASE			
Strangles Formed abscess Prophylaxis Airway obstruction	Not indicated Penicillin Penicillin	Penicillin Trimethoprim & Sulphadiazine Oxytetracycline	TMS is contraindicated since inactivated in the presence of pus. ACVIM consensus statement
Primary Sinusitis	Penicillin	Trimethoprim & Sulphadiazine	NB secondary sinusitis see GI disease TMPS inactivated by pus, so must lavage as well
Guttural pouch empyema / chondroids	Penicillin	Oxytetracycline	S equi is most common implicated bacteria
Other URT diseases	Trimethoprim & Sulphadiazine	Oxytetracycline	
LOWER RESPIRATORY TRACT DISEASE			
Primary pneumonia	Penicillin & Gentamicin	Oxytetracycline & Metronidazole	
Secondary pneumonia eg RAO/COPD	Trimethoprim & Sulphadiazine	Oxytetracycline	
Rhodococcus pneumonia	Rifampin & Azithromycin	Rifampin & Doxycycline (10mg/kg BID PO)	ACVIM consensus statement 2011
WOUNDS			
Contaminated wounds with synovial sepsis	Penicillin & Gentamicin	Oxytetracycline & Metronidazole	
Contaminated wound with open fracture	Penicillin & Gentamicin & Metronidazole	Oxytetracycline & Metronidazole	
Contaminated wounds on limbs	Trimethoprim & Sulphadiazine	Oxytetracycline / Doxycycline	
Contaminated wounds (non complicated)	Not indicated	Trimethoprim / Sulphadiazine	
SKIN / HOOF			
Cellulitis	Trimethoprim & Sulphadiazine	Oxytetracycline	
Subsolar abscess	Not indicated	Oxytetracycline	
Subsolar abscess with P3 involvement	Oxytetracycline	Penicillin & Gentamicin & Metronidazole	
Pyoderma	Trimethoprim / Sulphadiazine	Oxytetracycline / Doxycycline	
GASTROINTESTINAL			
Periodontal disease	Trimethoprim & Sulphadiazine	Oxytetracycline	
Periapical abscessation	Oxytetracycline	Penicillin & Neomycin	
Acute diarrhoea	Not indicated	Penicillin & Gentamicin	
Bacterial cholangiohepatitis	Trimethoprim & Sulphadiazine	Penicillin & Gentamicin	
Peritonitis MILD	Trimethoprim & Sulphadiazine	Oxytetracycline / Doxycycline	
Peritonitis SEVERE	Penicillin & Gentamicin	Penicillin Gentamicin & Metronidazole	

NB THIS POLICY DOES NOT APPLY TO ANIMALS DESTINED TO ENTER THE FOOD CHAIN

Protect ME - Responsible antimicrobial use policy



Condition	FIRST LINE	ALTERNATIVES	Notes
UROGENITAL			
Cystitis	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
Pyelonephritis	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
Post foaling endometritis	Penicillin & Neomycin	Penicillin & Gentamicin	Administer Neomycin with penicillin once daily Administer procaine penicillin once daily
Post covering endometritis	Penicillin (IU)	Penicillin & Gentamicin (IU)	
Mastitis	Trimethoprim / Sulphadiazine	Penicillin & Neomycin	Administer Neomycin with penicillin once daily Administer procaine penicillin once daily
OCULAR			
Conjunctivitis	Fucidic acid	Neosporin	
Mild corneal ulceration	Chloramphenicol	Gentamicin	
Severe corneal ulceration	Gentamicin & Chloramphenicol	Ciprofloxacin	
Melting corneal ulceration	Ciprofloxacin	Consider keratomycosis	
MISCELLANEOUS			
Endocarditis	Penicillin & Gentamicin	Trimethoprim & Sulphadiazine & Rifampin	
Neutropenia <2.5x10⁹/l Pyrexia of unknown origin	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
Neutropenia <1x10⁹/l	Penicillin & Gentamicin	Penicillin & Gentamicin & Metronidazole	
NEONATE < 3 weeks			
Neonatal pneumonia	Ceftiofur	Penicillin & Gentamicin	
Septic arthritis	Penicillin & Gentamicin	Oxytetracycline	
Patent urachus	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
Umbilical infection	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
SEPSIS	Ceftiofur	Penicillin & Gentamicin	
SEVERE SEPSIS	Penicillin & Gentamicin	Penicillin & Gentamicin & Metronidazole	
Normal foal post foaling	None indicated	Trimethoprim / Sulphadiazine	
Normal foal with unobserved foaling	Trimethoprim / Sulphadiazine	Oxytetracycline	
Premature/dysmature	Trimethoprim / Sulphadiazine	Penicillin & Gentamicin	
Meningitis	Trimethoprim / Sulphadiazine	Oxytetracycline	
PROPHYLAXIS		Pre-operative	Postoperative
Clean surgery	Penicillin	Penicillin TID	Duration of post operative treatment 24 hours
Contaminated surgery	Penicillin & Gentamicin	Penicillin & Gentamicin	5 days
High risk surgery	Penicillin & Gentamicin	Penicillin & Gentamicin	10 days then reassess. Consider TMP-S if longer treatment required

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