

## PRESCRIBING PRINCIPLES FOR ANTIMICROBIALS

Antimicrobial resistance (AMR) is a global concern in both human and veterinary medicine. Whilst the Pig Veterinary Society believes that the primary responsibility of the prescribing veterinary surgeon is to the animals under their care, it is also vital that measures are implemented to minimise the use of antimicrobials, and where antimicrobial therapy is necessary, that prescribing is done responsibly.

### PVS ANTIMICROBIAL PRESCRIBING GUIDANCE

1. The basis for responsible prescribing is a diagnosis, and the prescribing vet should confirm a clinical diagnosis with diagnostic investigations, including antimicrobial sensitivity testing, as appropriate.
2. The use of antimicrobials should be minimised by:
  - a. Encouraging good farm management
  - b. Optimising the animal's environment
  - c. Implementing appropriate vaccination regimes
  - d. Considering routes of administration in order that any course of treatment can be administered most effectively, and to the minimum number of pigs requiring treatment, and with due regard to possible environmental contamination

The above should be addressed by on-going veterinary advice, including the Veterinary Health Plan, which should be regularly reviewed and updated.

3. Whenever possible, the prescribing vet should adhere to the product's SPC and to the prescribing cascade: <https://www.gov.uk/guidance/the-cascade-prescribing-unauthorised-medicines>
4. Antimicrobial use should be reviewed on every farm at least annually and this review should be recorded in the farm's Veterinary Health Plan.
5. Antimicrobial selection should be considered in accordance with the European Medicine Agency's (EMA) antimicrobial classification guidelines; a summary of this and PVS recommendations can be found in the table overleaf.

### Further Resources

EMA's categorisation of antibiotics in the European Union:

[https://www.ema.europa.eu/en/documents/report/categorisation-antibiotics-european-union-answer-request-european-commission-updating-scientific\\_en.pdf](https://www.ema.europa.eu/en/documents/report/categorisation-antibiotics-european-union-answer-request-european-commission-updating-scientific_en.pdf)

RUMA advice on antimicrobials in pig production:

<https://www.ruma.org.uk/pigs/responsible-use-antimicrobials-pig-production/>

BVA responsible use of antimicrobials policy:

<https://www.bva.co.uk/take-action/our-policies/responsible-use-of-antimicrobials/>

PVS Category	Group	Examples
<p style="text-align: center;"><b>Class One</b> (EMA Category D)</p> <p style="text-align: center;"><b>Use with Prudence</b></p> <ul style="list-style-type: none"> <li>• First line treatment choice whenever possible</li> <li>• Use prudently and only when clinically required</li> </ul>	TETRACYCLINES	TETRACYCLINE OXYTETRACYCLINE CHLORTETRACYCLINE DOXYCYCLINE
	DIAMINOPYRIMIDINES & SULPHONAMIDES	TRIMETHOPRIM/SULPHA
	PENICILLINS	PHENOXYMETHYL PENICILLIN PROCAINE PENICILLIN AMOXYCILLIN AMPICILLIN
	AMINOGLYCOSIDE	SPECTINOMYCIN
<p style="text-align: center;"><b>Class Two</b> (EMA Category C)</p> <p style="text-align: center;"><b>Use with Caution</b></p> <ul style="list-style-type: none"> <li>• Choose only when there are no clinically effective alternatives in Category D</li> <li>• Prescribing should ideally be supported by sensitivity testing</li> <li>• It should be considered that equivalents used within human medicine exist within this category</li> </ul>	BETALACTAMS PLUS BETA LACTAMASE INHIBITORS	AMOXYCILLIN + CLAVULANIC ACID
	AMINOGLYCOSIDES	APRAMYCIN NEOMYCIN PAROMOMYCIN STREPTOMYCIN
	PLEUROMUTILINS	TIAMULIN VALNEMULIN
	PHENICOLS	FLORFENICOL
	LINCOSAMIDES	LINCOMYCIN
	MACROLIDES	TYLOSIN TYLVALOSIN TILMICOSIN TULATHROMYCIN TILDIPIROSIN
<p style="text-align: center;"><b>Class Three</b> (EMA Category B)- HP-CIA's</p> <p style="text-align: center;"><b>Restrict Use</b></p> <ul style="list-style-type: none"> <li>• <u>Last resort products</u></li> <li>• Only consider use when no antibiotics in Category C or D could be clinically effective</li> <li>• Sensitivity testing to support use</li> <li>• Antibiotics in this category are <u>critically important</u> in human medicine and use in animals should be restricted to mitigate the risk to public health</li> </ul>	FLUOROQUINOLONES	ENROFLOXACIN MARBOFLOXACIN
	3 <sup>RD</sup> /4 <sup>TH</sup> GEN CEPHALOSPORINS	CEFTIOFUR CEFQUINOME
	POLYMYXINS	COLISTIN
<b>EMA Category A</b>	These medicines may not be used in food-producing animals	

## GUIDANCE NOTE FOR THE USE OF ANTIMICROBIALS UNDER THE CASCADE

This document outlines examples of the use of products under the Cascade and offers guidance on the implementation thereof.

The Cascade permits veterinary surgeons the clinical freedom, on a case-by-case basis, to prescribe the most appropriate product for the animals under their care.

**In departing from the clinical particulars (section 4) of the SPC, the veterinary surgeon must balance the benefits against the risks of doing so, and thus take responsibility for their clinical decision.**

(\*)Risk could relate to the animal, the owner or person administering the product, consumers (where veterinary medicine residues in food might be affected), AMR, the environment and even wider public health.

Considerations for the proposed use of a product must include full understanding of the SPC, (\*)risk factors, advice from the MAH and pharmacological properties (section 5 of the SPC). Additional considerations and guidance are shown in the table below.

Contraindications, special warnings and precautions (SPC sections 4.4 – 4.8 and 4.10) should be adhered to.

This whole document is intended as a practical guide to support members in their prescribing decisions and is not intended as a complete summary of the legislative or other framework surrounding these issues, nor as a legal guide.

Examples of use of products under the Cascade are given overleaf together with guidance to consider.

### **Further Resources:**

The Veterinary Medicines Regulations (2013) and Amendment Regulations (2014):

<http://www.legislation.gov.uk/ukxi/2013/2033/contents/made>

<https://www.legislation.gov.uk/ukxi/2014/599/regulation/3>

Pig Veterinary Society: Guidance for members in relation to medicated feed and MFSp completion:

<https://www.pigvetsoc.org.uk/resources/pvs-documents>

Responsible use of antibiotics under the 'Cascade':

<https://www.gov.uk/guidance/responsible-antibiotic-use-under-the-prescribing-cascade>

### **Glossary:**

MAH	Marketing Authorisation Holder
WDP	Withdrawal Period
SPC	Summary of Product Characteristics
SIC	Special Import Certificate
STC	Special Treatment Certificate

Clinical Particulars	Details	Examples	WDP and other Advice
<b>Indication</b>	The indication is outwith that specified in section 4.2 of the SPC, but the species, dose rate and length of treatment are consistent with the SPC	Use of Amoxicillin to treat <i>Streptococcal meningitis</i>	The specified withdrawal period on the SPC may be applied
<b>Administration route</b>	The route of administration of the proposed product falls outwith section 4.9 of the SPC	Administration of a product via liquid feed <hr/> Administration via top dressing, when not specified on the SPC <hr/> A molecule or brand is licensed in feed but not via water medication (or <i>vice versa</i> )	Consider increasing WDP above that on SPC and consult MAH for further advice <hr/> Not supported for use in the herd. Consult the MAH <hr/> Consider increasing WDP above that on SPC and consult MAH for further advice
<b>Species</b>	The product is licensed for use in another livestock species but not pigs	Use of Neomycin/ Streptomycin oral solution	Apply the statutory WDP of the Cascade (28 days), or longer if appropriate.
<b>Dose Rate</b>	The proposed dose rate is below that of the SPC <hr/> The proposed dose rate is above that of the SPC	PVS would only consider acceptable to use any POM-V at dose rates below those indicated on the SPC where there is sound clinical and/or research evidence <hr/> Elimination programmes	Based on sound clinical evidence, the specified WDP on the SPC may be applied <hr/> Consider increasing WDP above that on SPC and consult MAH for further advice
<b>Duration of Treatment</b>	The proposed duration of treatment is shorter than the SPC <hr/> The proposed duration of treatment is longer than the SPC	PVS would only consider acceptable to use any POM-V for shorter periods than those indicated on the SPC where there is sound clinical and/or research evidence <hr/> Elimination programmes	Based on sound clinical evidence, the specified WDP on the SPC may be applied <hr/> Apply the statutory WDP of the Cascade (28 days) or longer, if appropriate
<b>Concurrent Use of Products</b>	Use of two licensed products	Tiamulin + Chlortetracycline to treat enzootic pneumonia	Apply the longer of two WDPs, if the two products are used within the terms of the SPC
<b>No VM Number Exists</b>	The product is licensed in another EU country and imported under SIC	No national (UK) licence exists e.g. there is supply chain disruption	Apply WDP as per SPC in other EU country