BRITISH VETERINARY POULTRY ASSOCIATION
Antimicrobials Guidelines

BACKGROUND

Therapeutic antimicrobial products are prescribed and used by veterinary surgeons for the treatment and control of many types of bacterial infections in a wide variety of animal and bird species. If a number of animals in a group have overt signs of disease, both sick and healthy animals may need to be treated with therapeutic levels of an approved antimicrobial product for the recommended period. This is intended to cure clinically affected animals and prevent the progression of disease in the remainder of the group.

Antimicrobial resistance is a natural phenomenon and is a risk inherently associated with any use of antimicrobial medication both in animals and humans. Opinion is divided on the practical effects of any resistance associated with antimicrobial use in animals on human health. There is the potential for spread of resistant organisms from treated humans (directly or via sewage effluent) to animal species, and from treated animals to humans (either by direct contact, environmental contamination, or foodborne contamination). Measures aimed at limiting the development of resistance are important for prolonging the useful life of all antimicrobials in both human and animal medicine.

Use of antimicrobial substances for growth promotion has not been permitted by law in the UK and EU since 2006.

GUIDING PRINCIPLES

1. Antimicrobial medication should not be used as an alternative to good management and husbandry including vaccination, site hygiene and biosecurity and staff training.
2. Antimicrobial products should be used within general principles of responsible use:
   - 2.1. Use only when clinically necessary
   - 2.2. Treatment duration should be limited to that necessary to treat disease
   - 2.3. Treatment should be given only to birds showing clinical signs or those at immediate risk of demonstrated infection
3. **RCVS Code of Conduct**.[1]
   Prescribing of antimicrobials must only be carried out for animals under the care of the prescribing veterinarian as defined in the RCVS Code of Conduct. Prescription-only medicines (POM-V) may only be supplied when prescribed by a veterinary surgeon following a clinical assessment of the animals under their care. The responsibility must be "*real and not nominal*", and the animals should have been seen recently enough to give the prescribing veterinarian "*personal knowledge of the condition of the animal or current health status of the … flock to make a diagnosis and prescribe*". As best practice a copy of the prescription or veterinary written diection should be retained by the prescriber for at least 5 years. All antimicrobials are classified as POM-V medicines.

[1] Code of Professional Conduct for Veterinary Surgeons. https://www.rcvs.org.uk/setting-standards/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/veterinary-medicines/

4. **Justification for treatment.**
   The prescribing veterinarian must be satisfied that treatment is justified, following either examination of the animals in question on a site visit or by post-mortem examination, or following a consultation, all of which should be documented. The person dispensing the prescription shall verify that this medication is justified for the target animals on veterinary grounds.

5. **Evidence-based treatment.**
   In all uses of antimicrobials the best available information should be used to determine treatment regimens and dosages aimed at providing optimal efficacy with minimal risk of collateral resistance development in either the target organisms, potentially zoonotic organisms, or organisms capable of transmitting resistance to pathogens. The marketing authorisation holder will be the normal source of such information.

6. **Comprehensive programme.**
   Detailed preventative medicine programmes should be documented for all companies and/or farms, typically in the form of a Veterinary Health and Welfare Plan. These should include all routine medications (including non-prescription medicines such as some anticoccidials and anthelmintics), competitive exclusion and probiotic treatments and vaccines. Any prescribing of antimicrobial medication should be made taking into account its possible effects on other aspects of the programme (in particular the use/timing of live bacterial vaccines and competitive exclusion products, as well as monitoring of Salmonella and Mycoplasma status).

7. **Antimicrobial sensitivity.**
   In an outbreak of bacterial animal disease, the sensitivity of the causal organism should ideally be ascertained before therapy is started. In disease outbreaks involving high mortality, or where there are signs of rapid spread of disease among in-contact animals, treatment may be started on the basis of clinical diagnosis. Even so, the sensitivity of the suspected causal bacterial organism should, where possible, be determined so that if treatment fails it can be changed in the light of results of sensitivity testing. Antimicrobial sensitivity trends should be monitored over time and such monitoring may be used to guide clinical judgement on antimicrobial usage.

8. **Preventive medication.**
   The use of therapeutic antimicrobial products in the absence of clinical disease or specific pathogen infections and, in particular, administration to prevent disease should not be practiced without a clear justification with respect to the health and welfare of the treated birds.

   However, it is recognised that preventative medication may be appropriate in certain precisely defined circumstances. Each veterinary practice should develop a written policy or protocol covering the circumstances in which this is considered appropriate.

   However, it should be noted that ‘treatment and prevention’ claims are being removed from the label indications of antibiotics, and where appropriate replaced by ‘treatment and metaphylaxis’.

   The term “metaphylaxis” refers to the administration of a medicinal product to a group of animals after a diagnosis of clinical disease in part of the group has been established, with the aim of treating the clinically sick animals and controlling the spread of the disease to animals in

close contact and at risk and which may already be subclinically infected. The presence of the disease in the group/flock must be established before the product is used. A metaphylaxis claim will always have to be combined with a treatment claim.[2]

9. **Medicated feed.**
   In the case of feed medicated with antibiotics, this may be used only for the animals for which the prescription was intended and only for a diagnosed disease.

10. **Off-label use.[3]**
    Any use of antimicrobials outwith the above guidelines, in particular prescribed use by a vet of antimicrobials outside normal data-sheet recommendations (in accordance with "the Cascade") should be carefully justified, and added to the written prescription.

    Where an antimicrobial is administered under the cascade to a different species but for the same indication as the authorised product, or for the same species but a different indication, where the dose rate and duration are the same or lower than that authorised, then the minimum statutory cascade withdrawal periods apply. Where the dose or duration of dosing exceeds those authorised, these statutory minimum withdrawal periods may not be sufficient, and the prescribing vet should decide whether they need to be longer in order to avoid residues violations and protect consumer safety. Note that advice from the VMD regarding the Cascade now differs in Northern Ireland.[4]

    The wording of the VMD guidance for Cascade prescribing is presented in Appendix 2.

11. **Treatment monitoring.**
    It is acceptable and desirable for QA schemes to monitor antimicrobial usage, medication documentation, and withdrawal period compliance. However, such schemes must not prevent the attending veterinarian from taking steps to alleviate suffering in the animals under his care or encourage under-dosing. Tracking of antimicrobial usage should take into account the concentration of active ingredient and thereby the amount of active ingredient used. Any usage where the mg/kg dosage does not match that described on the product label will need to be justified. The gamebird industry uses gross tonnage of antimicrobial use. The meat sector uses mg of antimicrobial per population correction units (mg/PCU)[5], where PCU represents a standardised weight of the species of poultry at the time of treatment. The laying hen sector records both the weight of birds treated and mg of antimicrobial unit, but monitors use on the basis of defined daily doses as a proportion of the total number of bird/days at risk.

    In 2017 the RUMA Targets Task Force published a report with sector specific targets, for poultry meat (chicken, duck and turkey) and for gamebirds. In November 2021 the Target Task Force 2 (TTF2) reset the targets, which remain unchanged for poultry meat and eggs. Members are

[2] EMA 2014. Answers to the requests for scientific advice on the impact on public health and animal health of the use of antibiotics in animals. http://www.ema.europa.eu/docs/en_GB/document_library/Other/2014/07/WC500170253.pdf
[3] VMD: The Cascade: Prescribing unauthorised medicines. https://www.gov.uk/guidance/the-cascade-prescribing-unauthorised-medicines
[4] VMD 2021. The cascade: prescribing unauthorised medicines - GOV.UK (www.gov.uk) Accessed 25/05/2021
[5] https://www.gov.uk/government/publications/understanding-the-mgpcu-calculation-used-for-antibiotic-monitoring-in-food-producing-animals

urged to familiarise themselves with the report and work with producers to achieve these targets.[6]

12. **Use of antimicrobials in humans.**
    The BVPA acknowledges the putative role of veterinary use of antimicrobials in the development of resistance in the human field. Certain antimicrobials are defined as critically important for treatment of human disease, and their veterinary use should therefore take human usage into account. The WHO provides a list of critically important antimicrobials (CIAs) to be used as a reference to help formulate and prioritise risk assessment and management strategies for limiting resistance in humans associated with veterinary use on a global basis.[7] The European Medicines Agency Antimicrobial Expert Group (EMA-AMEG) have further assessed CIAs based on their risk to human health in the geographical context of Europe.[8]

13. **Categories of antibiotics for veterinary use**
    The VMD uses the AMEG assessment when reporting on veterinary use of antimicrobials in the UK.[9] The BVPA accepts the current AMEG categorisation of antibiotics and the stewardship advice attached to the use of active ingredients in each category: Category A ("Avoid"), Category B ("Restrict"), Category C ("Caution"), Category D ("Prudence"). See excellent EMA infographic[10].

    These categories are summarised in **Table 1** below.

    A list of antibiotics approved for use in our poultry species can be found in **Appendix 1** *(note that the list will change from time to time with VMD approvals)*.

[6] RUMA Targets Task Force Report 2017 http://www.ruma.org.uk/wp-content/uploads/2017/10/RUMA-Targets-Task-Force-Report-2017-FINAL.pdf
[7] WHO 2017. Critically Important Antimicrobials for Human Medicine http://www.who.int/foodsafety/areas_work/antimicrobial-resistance/cia/en/
[8] EMA 2014. Answers to the requests for scientific advice on the impact on public health and animal health of the use of antibiotics in animals. http://www.ema.europa.eu/docs/en_GB/document_library/Other/2014/07/WC500170253.pdf
[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950126/UK-VARSS_2019_Report__2020-TPaccessible.pdf
[10] Categorisation of antibiotics for use in animals (europa.eu)

Table 1. AMEG categories of antibiotics for use in animals, as adopted by the VMD

AMEG Category	AMEG Advice
Category A: • these antibiotics are **NOT** authorised in veterinary medicine • they do not have an MRL	Avoid: • should not be used in food-producing animals • may be given to companion animals under exceptional circumstances under the cascade
Category B: • 3rd and 4th generation cephalosporin • Polymyxins e.g. **colistin** • Quinolones e.g. **fluoroquinolones**	Restrict: • antibiotics in this category are critically important in human medicine and use in animals should be restricted to mitigate the risk to public health • should be 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 wherever possible
Category C: • **Aminoglycosides** (except spectinomycin) • Aminopenicillins in combination with beta-lactamase inhibitors • 1st and 2nd generation cephalosporins • Amphenicols • **Lincosamides** • **Pleuromutilins** • **Macrolides** • Rifamycins	Caution: • for antibiotics in this category there are alternatives in human medicine • for some veterinary indications, there are no alternatives belonging to Category D • should be considered only when there are no antibiotics in Category D that could be clinically effective
Category D: • **Aminopenicillins** without beta-lactamase inhibitors • **Tetracyclines** • **Natural, narrow spectrum penicillins** • **Spectinomycin** • Anti-staphylococcal penicillins • **Sulfonamides** and combinations with **trimethoprim** • Cyclic polypeptides • Nitroimidazoles • Steroid antibacterials • Nitrofuran derivatives	Prudence: • should be used as first line treatments, whenever possible as always, should be used prudently, only when medically needed

The BVPA recommends that members take into account all of the above issues before prescribing any antimicrobials that are of importance in human medicine. Consideration should be given to the principles of 'One Health' approach to protecting human health which includes collaboration between human, animal and/or environmental health entities on disease surveillance, outbreak response and prevention in order to achieve optimal outcomes.

It is recommended that each veterinary practice should develop a written policy or protocol dealing with all aspects of antimicrobial use dealt with in this guideline.

Ultimately, the continued use of antimicrobials depends on responsible prescribing by the veterinary surgeon.

Further reading

1. The O'Neill Report (2016) Tackling drug-resistant infections globally: final report and recommendations (The Review on Antimicrobial Resistance) –http://amr-review.org/sites/default/files/160525_Final%20paper_with%20cover.pdf
2. RUMA Guideline "Responsible use of antimicrobials in poultry production" 2014 http://www.ruma.org.uk/wp-content/uploads/2014/09/poultryandgameApr20141.pdf
3. BVA: Responsible use of antimicrobials in veterinary practice. http://www.bva.co.uk/uploadedFiles/Content/News,_campaigns_and_policies/Policies/Medicines/responsible-use-of-antimicrobials-in-veterinary-practice.pdf
4. BPC Antibiotic Stewardship Report 2017 http://www.britishpoultry.org.uk/download/bpc-antibiotic-stewardship-report-2017/

APPENDIX 1

List of antibiotics approved for use in chickens, turkeys, ducks and pheasants, at April 2021

Antibiotic	Class	AMEG category	AMEG advice	Species
colistin	polymyxin	B	**RESTRICT**	C T
enrofloxacin	fluoroquinolone	B	**RESTRICT**	C T
apramycin	aminoglycoside	C	CAUTION	C
erythromycin	macrolide	C	CAUTION	C T
lincomycin	lincosamide	C	CAUTION	C
neomycin	aminoglycoside	C	CAUTION	C T D
tiamulin	pleuromutilin	C	CAUTION	C T
tilmicosin	macrolide	C	CAUTION	C T
tylosin	macrolide	C	CAUTION	C T
tylvalosin	macrolide	C	CAUTION	C T P
amoxicillin	aminopenicillin	D	PRUDENCE	C T D
chlortetracycline	tetracycline	D	PRUDENCE	C T D
doxyxycline	tetracycline	D	PRUDENCE	C T
oxytetracycline	tetracycline	D	PRUDENCE	C
penicillin G	natural penicillin	D	PRUDENCE	C
spectinomycin	aminoglycoside/spect	D	PRUDENCE	C
sulfadiazine	sulfonamide	D	PRUDENCE	C T
sulfamethoxazole	sulfonamide	D	PRUDENCE	C
trimethoprim	sulfonamide	D	PRUDENCE	C T

C=chickens, T=turkeys, D=ducks, P=pheasants

APPENDIX 2

From "Guidance. The cascade: prescribing unauthorised medicines", VMD, January 2021

The steps, in descending order of suitability, are:

For vets in Great Britain:

Step	Permitted source
Step 1	Veterinary medicine with a Marketing Authorisation valid in GB or UK wide for indicated species and condition
Step 2	Veterinary medicine with a Marketing Authorisation valid in NI for indicated species and condition. For products not authorised in GB or UK wide a Special Import Certificate fron the VMD is required
Step 3	Veterinary medicine with a Marketing Authorisation valid in GB, NI or UK wide for a different species or condition. For products not authorised in GB or UK wide a Special Import Certificate from the VMD is required
Step 4	Human medicine with a Marketing Authorisation valid in GB, NI or UK wide OR an authorised veterinary medicine from outside of the UK. For products not authorised in GE or UK wide a Special Import Certificate from the VMD is required; in the case of a food-producing animal the medicine must be authorised in a food-producing species
Step 5	Extemporaneous preparation prepared by a vet, pharmacist or person holding an appropriate Manufacturer's Authorisation, located in the UK
Exception	In exceptional circumstances, a human medicine may be imported from outside of the UK. For products not authorised in GB or UK wide a Special Import Certificate from the VMD required

For vets in Northern Ireland:

Step	Permitted source
Step 1	Veterinary medicine with a Marketing Authorisation valid in NI or UK wide for indicated species and condition
Step 2	Veterinary medicine with a Marketing Authorisation valid in NI or UK wide for a different species or condition
Step 3	Human medicine with a Marketing Authorisation valid in NI or UK wide OR a veterinary medicine with a Marketing Authorisation valid in an EU member State. For products not authorised in NI or UK wide a Special Import Certificate from the VMD is required; in the case of a food-producing animal the medicine must be authorised in a food-producing species
Step 4	Extemporaneous preparation prepared by a vet, pharmacist or person holding an appropriate Manufacturer's Authorisation, located in UK