

# Responsible use of antimicrobials in veterinary practice

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## **Correct antimicrobial: as little as possible, as much as necessary**

This document provides more information to accompany our responsible use of antimicrobials poster; a 7-point plan on the responsible use of antimicrobials in veterinary practice to optimise the therapeutic effects of antimicrobials while minimising the development of antimicrobial resistance.

## 7-point plan on the responsible use of antimicrobials

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### **1. Work with clients to avoid the need for antimicrobials**

Avoiding the need for antimicrobials is the most obvious way to stop resistance development.

The use of antimicrobials is not a substitute for efficient management or good husbandry and a holistic approach to disease control is preferable. Vets should work closely with their clients in practice and on the farm to reduce the incidence of infections by:

- Informing owners about the benefits of regular pet health checks
- Using symptomatic relief or topical preparations where appropriate
- Encouraging use of integrated disease control programmes
- Animal health and welfare planning
- Isolating infected animals wherever possible
- Encouraging participation in farm quality assurance programmes

Such programmes are likely to encourage vaccination to prevent disease in the first place and involve hygiene and disinfection procedures, biosecurity measures, management alterations, and changes in stocking rates amongst other measures. They require open

communication between animal owners and the vet to optimise animal health and not just when a problem occurs.

## **2. Avoid inappropriate use**

Antimicrobials should only be used when it is known or suspected that an infectious agent is present that is susceptible to such treatment. Wherever possible, vets should avoid their use in cases such as uncomplicated viral infection.

Limit antimicrobial treatment to ill or at-risk animals.

Successful treatment relies on the correct administration of medicinal products. Provide clear advice to clients on administration and follow manufacturers' instructions on the route of administration, dose, dose frequency, duration of treatment, handling, storage, withdrawal periods and labelling. Above all, emphasise the importance of avoiding underdosing and of completing the course of treatment.

## **3. Choose the right drug for the right bug**

Wherever possible, antimicrobial usage should be based on exact (preferably microbial) diagnosis. Treatment may be started on the basis of a clinical diagnosis before microbial sensitivity results can be obtained. However sensitivity of suspected causal organisms should, where possible, be determined so that if treatment fails it can be changed subsequent to results of susceptibility testing.

Choice of antimicrobial should be based on veterinary experience, clinical judgement and up-to-date research, including:

- Assessing the likely target organisms
- Predicting of the antimicrobial drug susceptibility of target organisms (microbial resistance trends, epidemiological history, etc.)
- Knowing how common antimicrobials work (pharmacokinetic properties of the antimicrobial: bioavailability, plasma concentrations, protein binding, tissue distribution, elimination half-life, etc.)
- Knowing the pharmacodynamic properties of the antimicrobial – bactericidal or bacteriostatic, susceptibility (MICs)
- Using antimicrobials with a spectrum as narrow as possible and a margin of safety as high as possible

- Using rational antimicrobial combinations
- Taking into account host immunocompetence and owner compliance

Create practice-based antimicrobial protocols for common infections. Ensure that they are flexible and reviewed regularly.

#### **4. Monitor antimicrobial sensitivity**

While clinical diagnosis is often the initial basis for treatment, bacterial culture and sensitivity must be determined whenever possible so that a change of treatment can be implemented if necessary.

Encourage clients to report any unexpected delay in recovery. The efficacy of treatment should be monitored and should there be recurrence or recrudescence of the infection it may need to be investigated thoroughly to ascertain the reason and the most suitable therapy to use.

#### **5. Minimise use**

The use of antimicrobials for the prevention of disease can only be justified where it can be shown that a particular disease is present on the premises and spread to other animals on the unit is likely, or where other disease or treatment modalities may result in immunocompetence. The prophylactic use of antimicrobials is never a substitute for good management.

Use only when animals are at risk and there is evidence that usage reduces morbidity and/or mortality. Regularly assess prophylactic use; develop and review written protocols for when prophylactic medication is considered appropriate.

Monitor the antimicrobial sensitivity trends of antimicrobials used for prophylactic purposes.

Only use antimicrobials perioperatively when necessary and ensure strict aseptic techniques are always applied.

Develop practice-based guidelines on perioperative use of antimicrobials.

## 6. Record and justify deviations from protocols

When prescribing antimicrobials, veterinarians should be able to justify their use and the choice of antimicrobial. When deviating from protocols it is particularly important to record the reasons why.

Veterinarians are subject to legal obligations for record keeping. Accurate records of treatment and the outcome of treatment are also however essential to evaluate the effectiveness of therapeutic regimens. Historical information, including laboratory sensitivity data, is also valuable in deciding on future treatments.

## 7. Report suspected treatment failures to the Veterinary Medicines Directorate (VMD)

Pharmacovigilance is the process whereby concerns in relation to the safety or effectiveness of medicines are reported to the national authorities.

Treatment failure may be the first indication of resistance to an antimicrobial. It is essential therefore that each and every suspected failure is reported to the VMD through its Suspected Adverse Reaction Surveillance Scheme (SARSS).

## Fluoroquinolones, third/fourth generation cephalosporins and colistin

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The need for use of fluoroquinolones, third and fourth generation cephalosporins and colistin should always be carefully considered. We strongly discourage their use in groups or flocks of animals except in very specific situations, and special attention should be given to the risk of antimicrobial resistance to these products as part of the benefit/risk assessment.

Use of these antimicrobials should be reserved for the treatment of clinical conditions that have responded poorly, or are expected to respond poorly, to other classes of antimicrobials.

Off label use should be strongly discouraged.

## Other sources of advice

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The [Responsible Use of Medicines in Agriculture Alliance \(RUMA\)](#) has issued separate detailed advice on the use of antimicrobials for poultry, pigs, dairy and beef cattle, sheep and fish production. It is aimed at veterinarians, farmers and everyone involved in the production of these animals.

British Small Animal Veterinary Association (BSAVA) has issued advice on the prudent use of antimicrobial agents in its [Guide on the use of veterinary medicines](#).

Guidance can also be found through the [National Office of Animal Health \(NOAH\)](#) and the [Veterinary Medicines Directorate](#).