

## BEVA and responsible antimicrobial use

BEVA are opposed to overly restrictive legislation but believe that the membership has an important role to play in maintaining our freedom to prescribe under the 'cascade'. It is clear that certain drugs should be used only with certain controls and protocols

- Sub-optimal use, in particular under-dosing, enhances the development of antimicrobial resistance. Members are urged to review the evidence as it relates to therapeutic dosing.
- Treatment guidelines should be established at practice level, within the framework established at national and international level. *As little as possible, as much as needed.*
- Antimicrobial protocols are often thought to remove clinical freedom and 'formularise' practice. This does not need to be the case with well-designed policies and the principle is widespread in the NHS. In order to maintain our ability to dispense such a wide range of drugs using 'the cascade' BEVA believes that responsible use is essential for all members of the profession.

### The Responsible use of antimicrobials

is essential in order to prevent widespread resistance and to ensure continued availability of antimicrobials both in terms of effectiveness and legislation.

The PROTECT ME philosophy should limit the development of resistance and demonstrate to regulatory authorities that veterinary surgeons play an important role in preventing multi-drug resistance.

PROTECT ME does not dictate practice policy, it is a toolkit that helps practices to develop their own policies. These should be not be overly restrictive or limit clinical freedom

Practice policies are never a substitute for clinical discretion.

## Monitoring antimicrobial resistance

An effective policy on antimicrobial use needs to adapt to emerging resistance patterns within your practice. Monitoring of antimicrobial resistance can be done quickly, easily and effectively in any practice environment.

- Tally each time important bacteria are cultured
- Tally each time an unexpected resistance pattern is seen
- Monitor the frequency of resistance to key bacteria
- Modify antimicrobial use policy as predicted susceptibility changes

BEVA does not endorse any particular policy and the example templates available on the website ([www.beva.org.uk/useful-info/Vets/Guidance/AMR](http://www.beva.org.uk/useful-info/Vets/Guidance/AMR)) are to assist in the process. You are encouraged to develop your own protocol or modify those provided.

### Resources available to members online

- Example policy for the selection of antimicrobials
- Example policy for antimicrobial dosing
- Example policy for antimicrobial resistance monitoring
- Example policy for the use of PROTECTED antimicrobials
- References and other online resources

## Produced by The British Equine Veterinary Association

### Acknowledgements:

The PROTECT acronym was developed by The Small Animal Medicine Society for The BSAVA. Modified for BEVA by M Bowen and J Slater 2012. Further details can be found at [www.bsava.com](http://www.bsava.com)



# Protect ME



Image © Evgeni Dinev, used under the Creative Commons agreement

The responsible  
antimicrobial toolkit  
for equine practitioners

# Protect ME

The use of antimicrobials in animals is often cited as reasons for the emergence of antimicrobial resistance in humans. The profession needs to respond to these criticisms by demonstrating a willing and proactive policy

## BACKGROUND

The **World Health Organization** have proposed several mechanisms to reduce the emergence of antimicrobial resistance including

1. Develop standard treatment guidelines and surveillance of antimicrobial resistance
2. Enforce the prescription only use of antimicrobials
3. Reduce antimicrobial use in food producing animals (especially the fluoroquinolones)
4. Reduce the financial incentives that encourage use of antimicrobials.

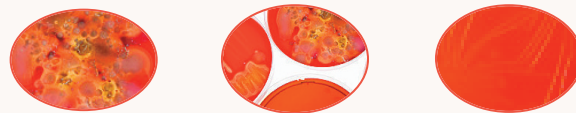
Many of these concepts have been repeated by the **European Parliament** resulting in the following potential risks to the availability of antimicrobials in the veterinary sector:

1. Prevent the veterinary use of antimicrobials essential to human health. Especially the 3rd and 4th generation cephalosporins
2. Restrict the use of certain antimicrobials in the veterinary sector
3. Monitor the emergence and development of antimicrobial resistance
4. Prevent the prophylactic or preoperative use of antimicrobials in animals

## Establishing your antimicrobial policy

1. Identify a list of common conditions
2. For each condition, consider the likely pathogens
3. Identify suitable **FIRST LINE** antimicrobials for treatment in these clinical scenarios. Based on an understanding of the likely pathogens, the spectrum of activity of the available drugs and the pharmacokinetics /pharmacodynamics of these agents as well as the 'cascade'.

4. Identify suitable **ALTERNATIVE** antimicrobials and protocols for their use. For example: There is a specific contraindication for the **FIRST LINE** antimicrobial in an individual, the disease has an unusual presentation and clinical experience suggests that **FIRST LINE** antimicrobials will be ineffective OR following initial treatment failure pending results of bacterial culture and sensitivity.
5. Identify drugs categorised as **PROTECTED** by the practice. As a minimum these should include the 3rd & 4th generation cephalosporins and fluoroquinolones. Develop protocols to be followed prior to the use of these drugs.
6. Identify drugs categorised as **AVOIDED** by the practice. As a minimum these should include novel drugs developed for the treatment of difficult infections in human patients such as
  - i. Chloramphenicol (other than ophthalmic use)
  - ii. Imipenem
  - iii. Vancomycin
7. Develop protocols for use of prophylactic antimicrobials eg
  - a. Clean surgery (eg Periosteal strip)
  - b. Contaminated surgery (eg colic surgery)
  - c. High risk surgery (eg synovial sepsis)
  - d. Standing procedures (eg articular medication)
  - e. Disease prevention (Strangles, High risk foaling)
8. Develop protocols for **DOSE RATE, INTERVAL, and ROUTE** for antimicrobials used by the practice. Note the inconsistencies between current marketing authorisations and the research literature.



Monitor compliance and the emergence of resistance

**Practice policy:** Develop protocols for antimicrobial usage

- Identify common clinical scenarios
- Formulate protocols for **FIRST LINE** and **ALTERNATIVE** antimicrobial therapy for these conditions
- Consider appropriate antimicrobial dosing using an evidence based approach
- Develop protocols for the use of **PROTECTED ANTIMICROBIALS** and **AVOIDED ANTIMICROBIALS**

**Reduce Prophylaxis:** Develop rational protocols for prophylaxis

- Define surgical procedures as **CLEAN, CONTAMINATED** or **HIGH RISK**
- Rationalise disease control (eg the neonate, *Streptococcus equi* var *equi*)

**Other options:** Reduce or replace antimicrobials

- Wound debridement
- Topical preparations

**Types of drug and bacteria:** Select appropriate drugs

- Use cytology where possible
- Consider the dose and pharmacokinetics of the drugs selected

**Employ narrow spectrum drugs:**

- e.g. penicillin, rather than drug combinations. Use bacterial culture and sensitivity promptly
- Culture when clinical response is less than expected
- Culture when long term therapy is suspected

**Culture and sensitivity:** Use bacterial culture promptly,

- Especially when clinical response is less than expected
- Or when long term therapy is suspected

**Treat effectively:** Enough drug for long enough then stop

- Ensure dosing protocols provide therapeutic dosing
- Consider that marketing authorisation are sometimes at odds with research evidence

**Monitor:** Monitor the emergence of bacterial resistance

- Record use of **PROTECTED** antimicrobials
- Record when a cultured bacteria is ineffective with your protocol
- Respond to emerging resistance and modify protocols
- Use this information as part of your clinical audit log

**Educate:** Inform your team and your clients

- Ensure that protocols and changes to protocols cascaded through the entire team
- Educate your clients to reduce pressure