



## Aminoglycoside antibiotics; Still essential in equine practice?

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### Background

Legislate restriction on the use of aminoglycoside antibiotics and cascade use of antimicrobials has been proposed, either of which may impact on equine clinical practice.

### Objectives

To describe aminoglycoside use in clinical practice.

### Study Design

Prospective survey of veterinary surgeons.

### Methods

An electronic survey was developed, trialled, and distributed through email distribution lists, consent was implied through active participation. Data are presented as median scores. Differences between responses were compared using Chi-Squared analysis.

### Results

166 respondents completed the survey. Majority of respondents (66.9%) use gentamicin, with specialists using more frequently than non-specialists ( $p < 0.0001$ ). Amikacin was used by 59.6% of respondents with frequency of use was less than for gentamicin ( $p < 0.0001$ ).

Gentamicin was used intravenously, by inhalation and IVRA (65.1%, 18.6% and 28.3% respectively) more frequently than amikacin by these routes (30.1%, 3.4% and 19.3%). Amikacin was used more than gentamicin intra-articularly (51.8% vs 24.1%). Bacterial sensitivity was used prior to use of gentamicin for 35.9% of responses to 20 clinical scenarios across the respondents. First line empirical use was selected for 74.2% of responses that did not include lower airway infection. Majority of respondents used gentamicin at a dose of 6.6mg/kg, with higher doses being described by 13.7% of respondents for use in the otherwise healthy adult, 18.5% when treating the adult with sepsis, 65% when treated the otherwise healthy foal and 48.5% when treating the foal with sepsis.

### Main limitation

Survey responses may not accurately reflect behaviour in clinical practice.

### Conclusions

Aminoglycosides remain widely used, especially in specialist clinical practice. They are commonly used for indications outside the UK marketing authorisation without the use of culture and sensitivity. Restrictions on aminoglycoside use would have significant impact on clinical practice. Opportunities exist to enhance stewardship relating to aminoglycoside antibiotic use including development of a guideline on prudent use.