

ANTIMICROBIALS FLUOROQUINOLONES

enrofloxacin (Baytril)
orbifloxacin (Orbax)
marbofloxacin (Marbocyl)



ANTIMICROBIALS FLUOROQUINOLONES

(4-Quinolones)

- Good gram negative efficacy
- Some gram positive e.g. staphs
- NOT anaerobes
- Risk of bacterial mutation arising.

Fluoroquinolones

Gram Positive Bacteria

Some activity e.g.
Staphylococcus,

Anaerobes

Not efficacious

Gram Negative Bacteria

**Brucella, Pasteurella,
Shigella, E. coli
Pseudomona aeruginosa,**

Other susceptible:

**Mycoplasma, Chlamydia
trachomatis, Rickettsia,
Mycobacterium (not
Johne's)**

ANTIMICROBIALS

FLUOROQUINOLONES

- DNA gyrase (topoisomerase II and IV)
- Bacteriocidal (paradoxical effect)
- Concentration dependent
- Post antibiotic effect.

ANTIMICROBIALS

FLUOROQUINOLONES

enrofloxacin (Baytril)

Toxicity

- Normal & high doses - blindness in cats
- Growing animals - cartilage damage
- Adverse effects in people
- Avoid in animals with a history of seizures.

ANTIMICROBIALS

FLUOROQUINOLONES

- Highly Lipophilic
- Good distribution to most tissues
- Oral absorption - variable, food.

ANTIMICROBIALS FLUOROQUINOLONES

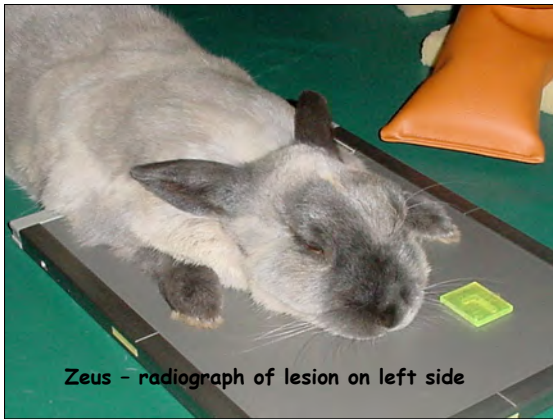
- Antacids & sucralfate interfere
- Partial metabolism in the liver
- Excreted in urine (↓ dose if renal disease)
- Long half-life
- Interference - chloramphenicol, rifampicin.

ANTIMICROBIALS FLUOROQUINOLONES

- Used in small mammals due to safety and efficacy in gram negative infections e.g. Pasteurella
- **May cause dermal necrosis by SC injection.**

ANTIMICROBIALS FLUOROQUINOLONES - USES

- **DO NOT USE** for routine infections
- Urinary tract infections - Pseudomonas
- Prostatitis in dogs
- Osteomyelitis due to Gram negative bacteria
- Deep, granulomatous pyodermas
- Serious respiratory tract infections.



Zeus - radiograph of lesion on left side



Zeus - abscess on left side, upper mandible next to premolars

Zeus has been on Baytril prior to referral to Massey with no resolution. Owner was having difficulty medicating Zeus.

Pasteurella multocida - most common infection in rabbits but was not cultured from the abscess.

ANTIMICROBIALS NITROIMIDAZOLES

metronidazole

- Anaerobes
- Protozoa - e.g. *Giardia*
- Bactericidal
- Swine dysentery -
 - dimetridazole



ANTIMICROBIALS NITROIMIDAZOLES

metronidazole

Mechanism of Action:

- DNA damage and repair mechanisms
 - Mammalian and bacteria.

ANTIMICROBIALS
NITROIMIDAZOLES

metronidazole

Pharmacokinetics:

- bioavailability ~ 100%
- distribution to most tissues
- extensive hepatic metabolism
- excreted in urine.

ANTIMICROBIALS
NITROIMIDAZOLES

metronidazole

- Nausea in people (pets?)
- Neurotoxicity - ataxia, seizures,
and head tilt reported in dogs

ANTIMICROBIALS
NITROIMIDAZOLES

metronidazole

- Giardia



ANTIMICROBIALS NITROIMIDAZOLES

metronidazole

Uses:

- Anaerobic infections
- Gingivitis in dogs and cats
- Dimetridazole - swine dysentery
- Bacteroides, Clostridia, Helicobacter

