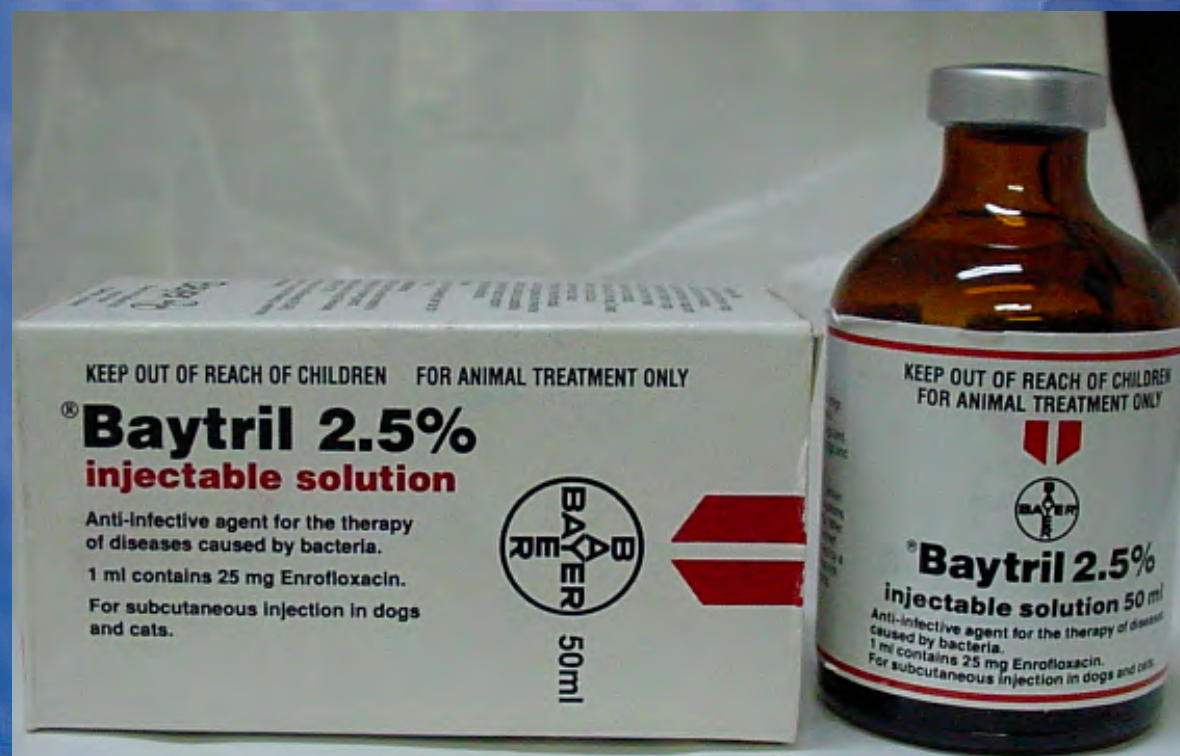


# ANTIMICROBIALS

## FLUOROQUINOLONES

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

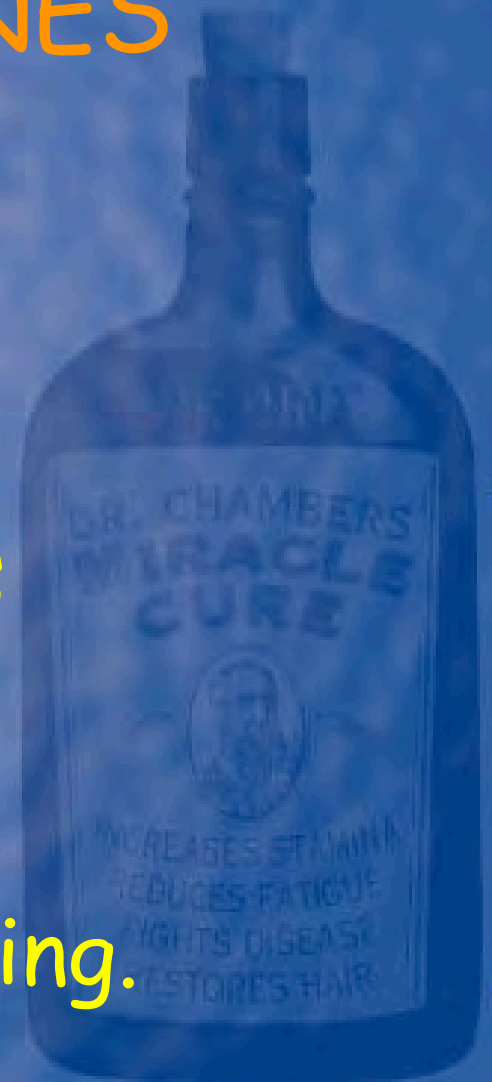


# ANTIMICROBIALS

## 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,**

## Gram Negative Bacteria

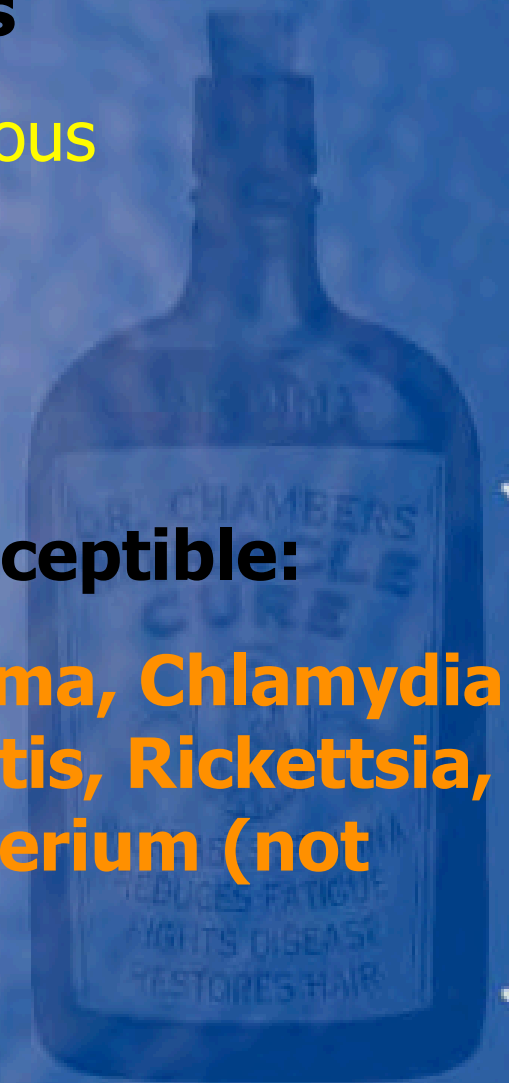
**Brucella, Pasteurella,  
Shigella, E. coli  
Pseudomona aeruginosa,**

## Anaerobes

Not efficacious

## Other susceptible:

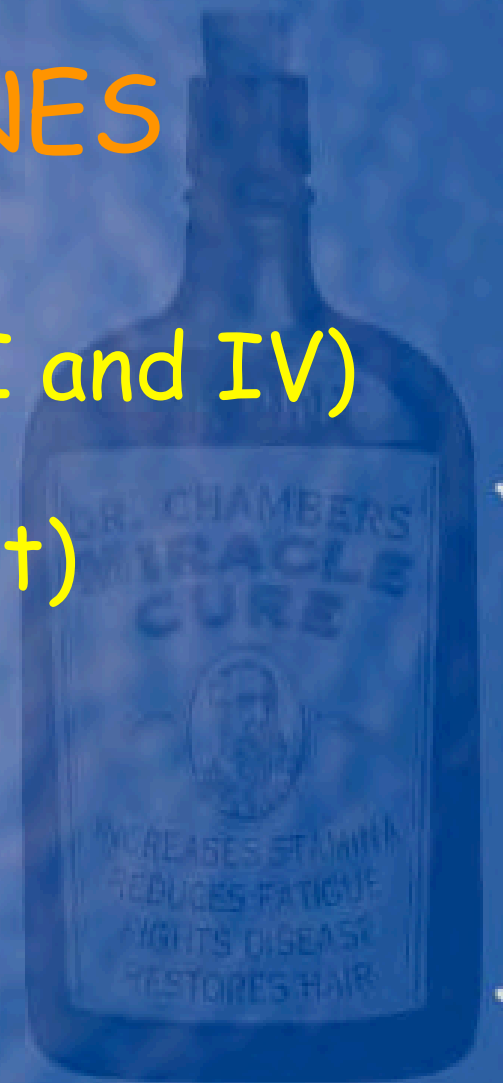
**Mycoplasma, Chlamydia  
trachomatis, Rickettsia,  
Mycobacterium (not  
Johne's)**



# 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.

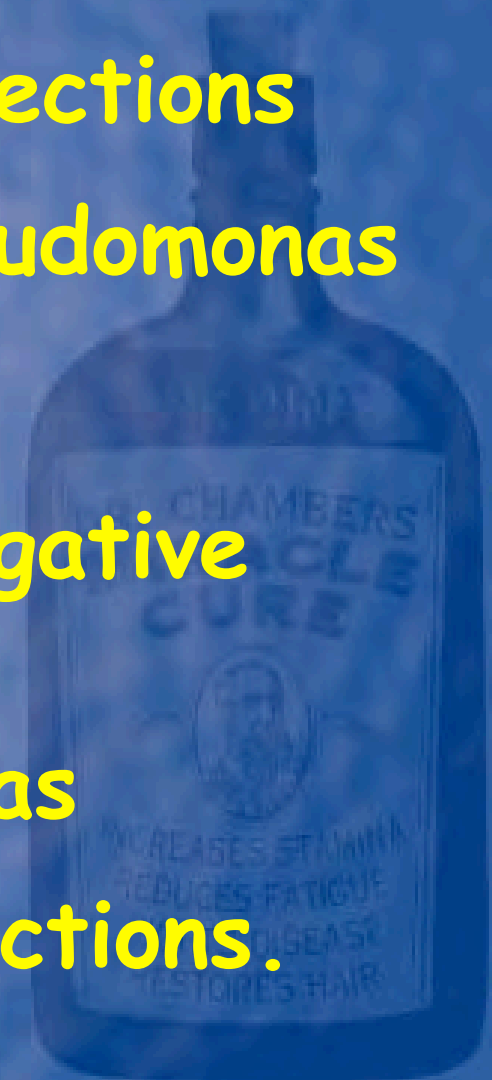




# ANTIMICROBIALS

## FLUOROQUINOLONES - USES

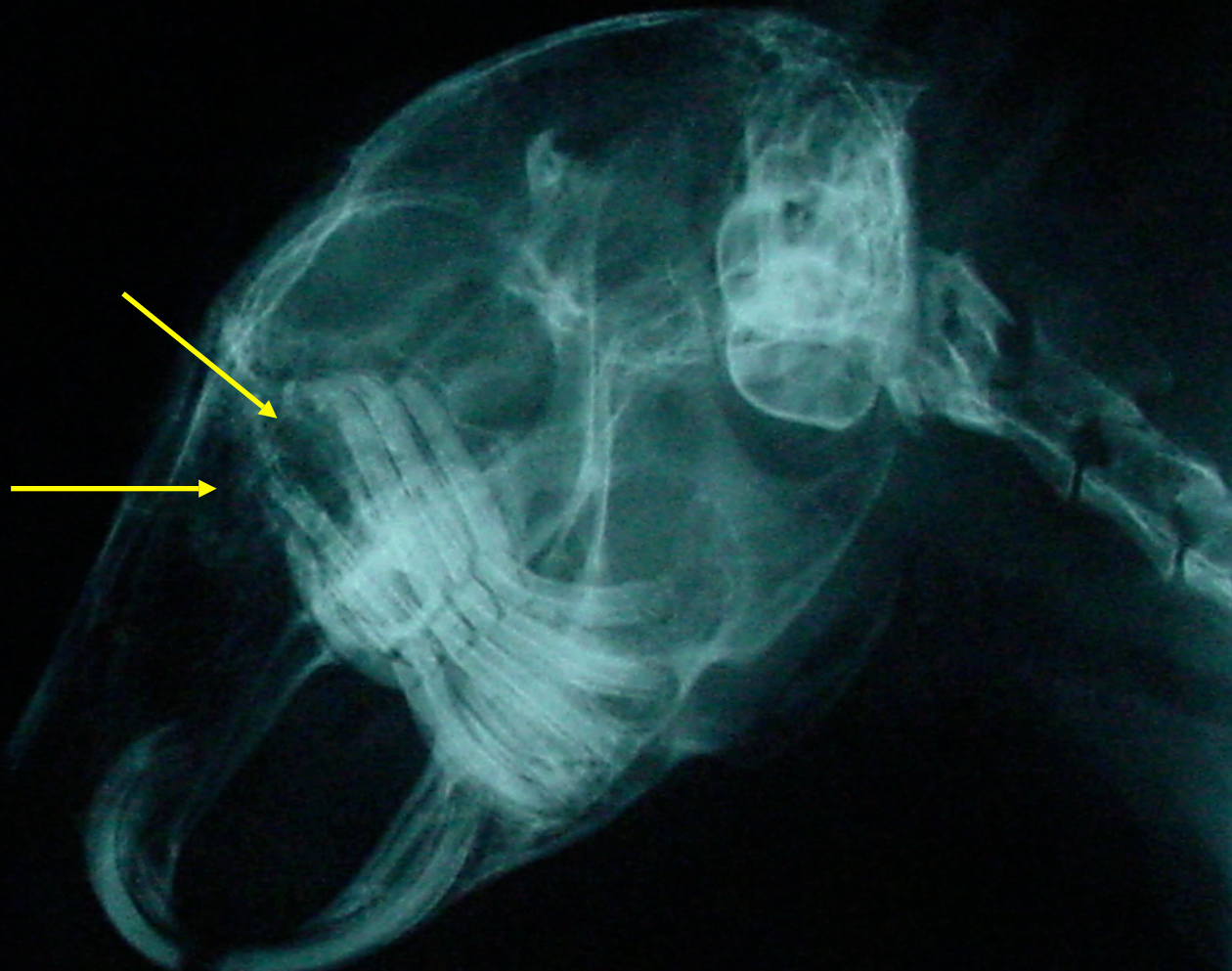
- DO NOT USE for routine infections
- Urinary tract infections - Pseudomonas
- Prostatitis in dogs
- Osteomyelitis due to Gram negative bacteria
- Deep, granulomatous pyodermas
- Serious respiratory tract infections.





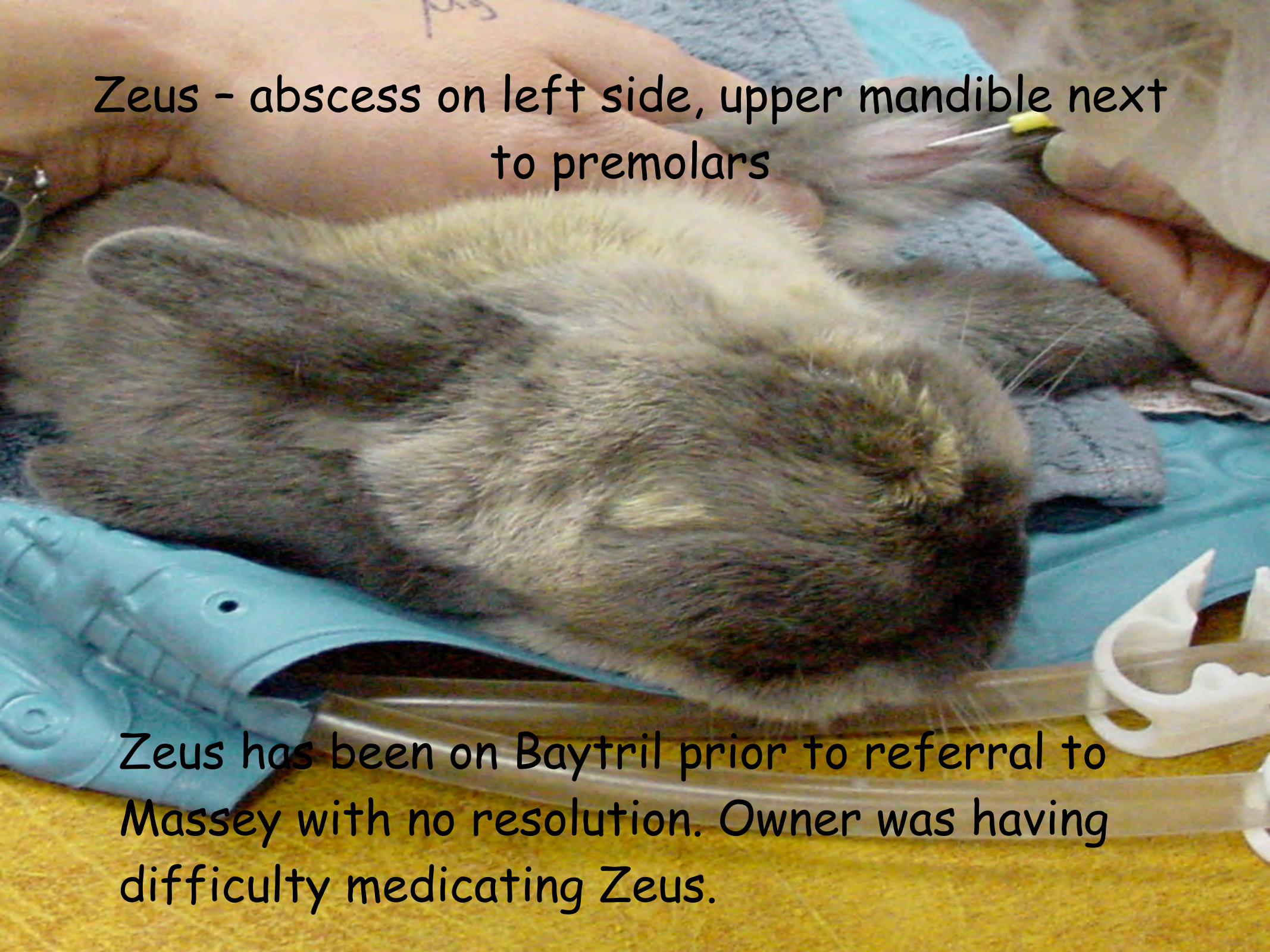
**Zeus - radiograph of lesion on left side**

R



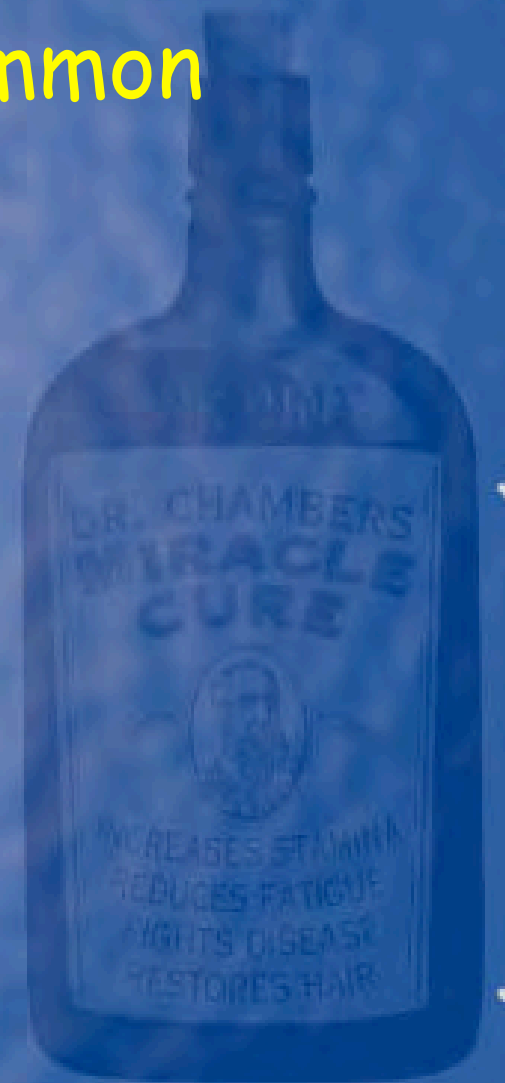
Radiograph of Zeus showing lytic area of bone and premolar roots

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.

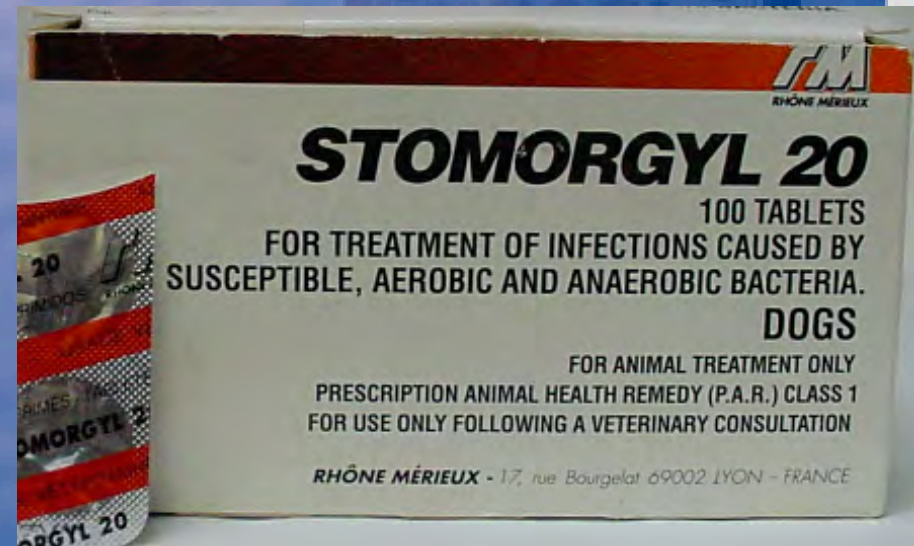


# ANTIMICROBIALS

## 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.



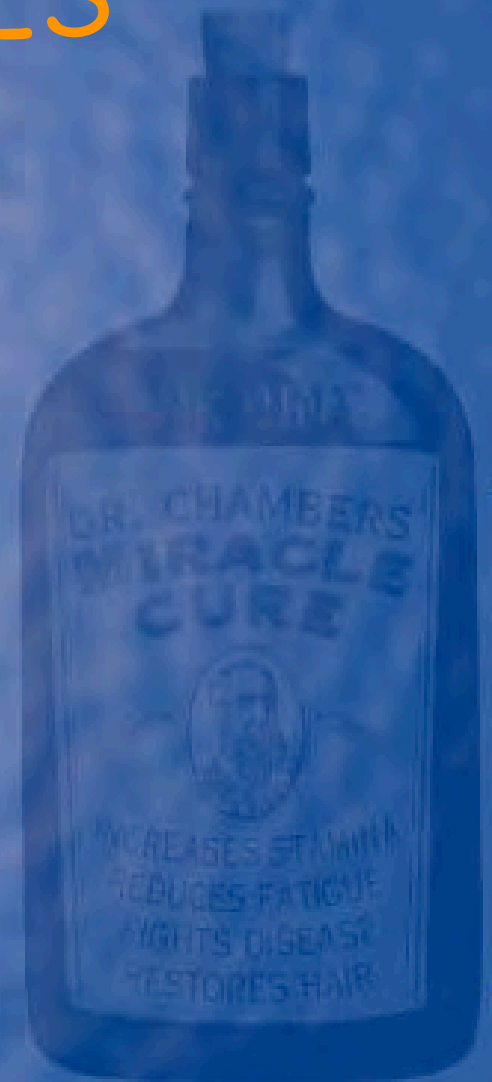
# ANTIMICROBIALS

## 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

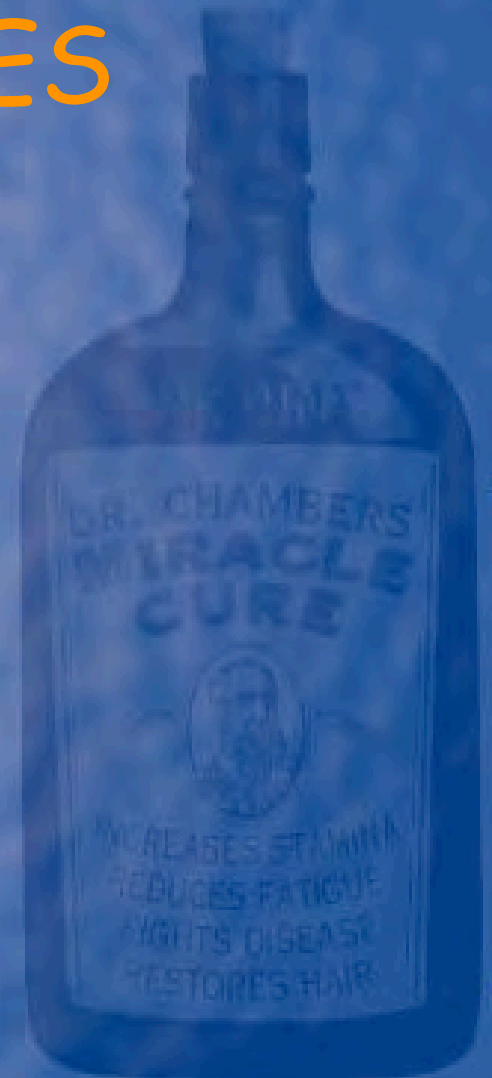
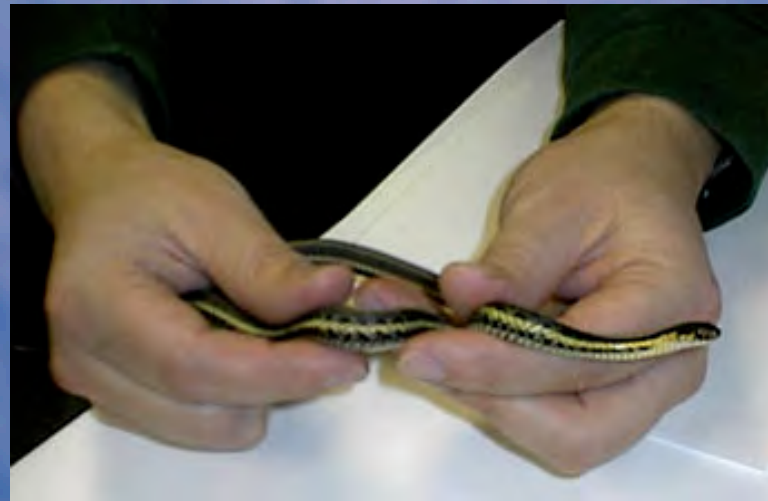


# ANTIMICROBIALS

## NITROIMIDAZOLES

metronidazole

- *Giardia*



# ANTIMICROBIALS

## NITROIMIDAZOLES

metronidazole

### Uses:

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

