

# **Practical Pharmacology**

## **injection issues**

- **needles**
- **bottles**
- **syringes**

## **needles**

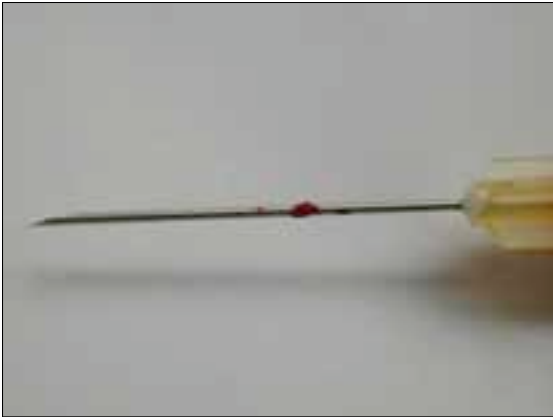
- **use correct size**
  - as small as possible
- **maintain sterility**
  - new needle for each injection



## needles

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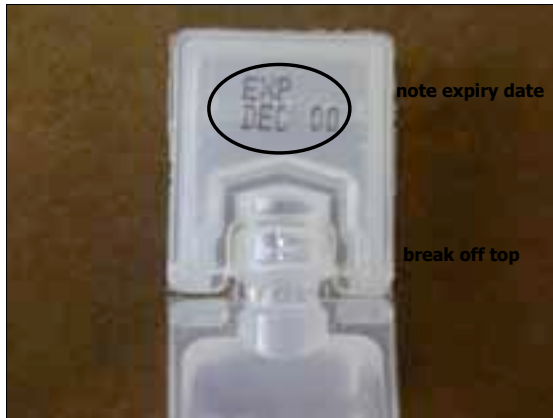
### **injection issues**

- needles
- bottles
- syringes

### **bottles**

- single use vials
- multi use bottles
- multi use flexible plastic packs



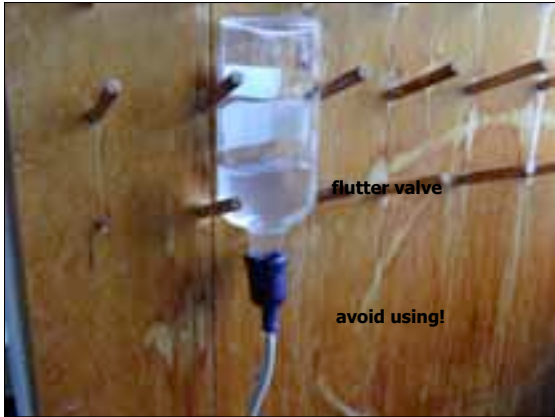




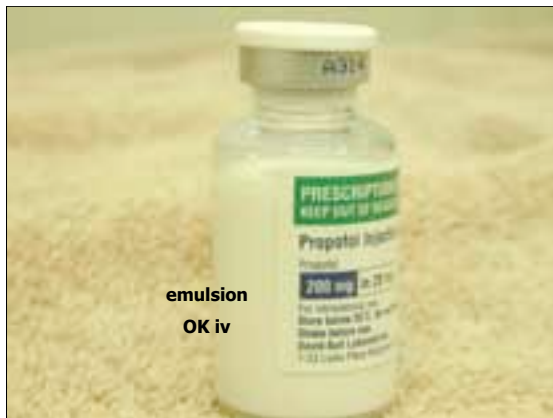
### **air injection?**

- **air injection**
  - contents under pressure
  - contents can spray out
  - air is not sterile
- **no air injection**
  - difficult to get contents out









## diluting injections

- **for very small animals**
- **for aqueous solutions**
  - water for injections
  - normal saline
- **for non-aqueous solutions**
  - must know physical chemistry
  - eg, ivermectin - propylene glycol

## anaesthetic bottles

- modern vaporisers have keyed fillers





## **syringes**

- **offset nozzle for iv use**
- **central nozzle for sc or im use**
- **care with dispensing**
  - iv drug abusers



## **injection technique**

- **site?**
- **swab the injection site?**
- **use a catheter?**

## **oral drugs**

- **tablets**
- **capsules**
- **liquids**

**most tablets are coated**

**cutting exposes active ingredient**





## **oral solutions**

- **for small animals**
  - dilute as necessary
  - only as much as necessary

## **practical pharmacology**

- **mostly common sense**
- **use small needles**
- **keep injections sterile**
- **use oral drugs where possible**