Pharmacology: Commonly Used Drugs

The board exam places a big emphasis on Pharmacology. The following PowerPage lists commonly used drugs in veterinary medicine with their classification and important information related to the drugs. Most drugs in a certain class will end in the same or similar suffix which can be helpful on boards if you see a drug with which you are not familiar. (Controlled substances*)

**Antibiotics**

- **Gentamicin-aminoglycoside**, can be renal-toxic
- **Clindamycin**- lincosamide
- **Amoxicillin**- aminopenicillin
- **Enrofloxacin- fluoroquinolone** (oxacin suffix), may cause cartilage defects in young dogs, or blindness in cats
- **Cepalexin**- 1st generation cephalosporin (oral)
- **Cefpodoxime**- 3rd generation cephalosporin (oral)
- **Cefazolin**- 1st generation cephalosporin (injectable)
- **Cefovecin (Convenia)**- 3rd generation cephalosporin (injectable)
- **Trimethoprim**- Sulfa (TMS)- sulfonamide, may cause dry-eye
- **Doxycycline**- tetracycline antibiotic (Doxy doesn't typically cause bone and teeth abnormalities or discoloration in young animals but tetracyclines in general may cause this side effect). Should not be given as a dry pill to cats, as esophageal strictures may occur.
- **Metronidazole**- used commonly to treat diarrhea or colitis, can rarely cause a neurotoxicity which treatment for is diazepam. May be used to treat Giardia.

**Corticosteroids**

- Prednisone
- Prednisolone
- Triamcinolone (Vetalog/Kenalog)- 4-10X more potent than hydrocortisone
- Methylprednisolone

**Analgesics**

**Opioids**: are mu agonists or partial mu agonists , reversed with naloxone

- **Fentanyl**- injectable or comes in a patch
- **Morphine**
- **Hydromorphone**
- **Buprenorphine**- injectable can also be used orally, absorbs through oral mucosa
- **Butorphanol**- injectable or tablets (tablets used as antitussive)
- **Tramadol**- (Ultram)- tablets- synthetic mu-receptor opiate agonist

**Non-Steroidal Anti-Inflammatories**: all NSAIDS cause increased risk of GI ulceration and may have effects on the liver and kidneys, labwork should be monitored
- **Carprofen** (Rimadyl)- COX-2 inhibitor; rarely may cause liver failure, most commonly used post-operatively for analgesia and for arthritis management or acute orthopedic injury
- **Meloxicam** (Metacam)- may enhance risk of nephrotoxicity, mostly COX-2 inhibitor
- **Ketoprofen** (Ketofen)- used most frequently as a fever reducer
- **Firocoxib** (Previcox)- COX-2 inhibitor
- **Deracoxib** (Deramaxx)- COX-2 inhibitor (may have some COX-1 effects at higher doses)
- **Flunixin Meglumine (Banamine)**- used mostly in horses
- **Phenylbutazone** (“Bute”)- used mostly in horses

### Anesthetics/Tranquilizers

#### Injectables:
- **Ketamine***- dissociative anesthetic, causes muscle rigidity (used with diazepam because of this)
- **Tiletamine***- dissociative anesthetic, part of Telazol (along with zolazepam)
- **Valium*** -benzodiazepine (end in the suffix –pam), causes skeletal muscle relaxation and sedation by enhancing GABA
- **Propofol** short acting hypnotic agent/injectable anesthetic, given slowly, may cause apnea and hypotension, white opaque in color
- **Lidocaine/Bupivicaine** (local anesthetics, Lidocaine also given as anti-arrhythmic)
- **Dexmedetomidine (Dexdomitor)**- alpha-2 adrenergic agonist, reversed with atipamezole (Antesedan- an alpha-2 adrenergic antagonist), should not be used in pets with cardiac disease or that are debilitated
- **Xylazine**- alpha-2 adrenergic agonist, reversed with yohimbine-an alpha-2 adrenergic antagonist
- **Acepromazine**- phenothiazine tranquilizer, may lower seizure threshold (this is controversial but could be asked on boards)
- **Apomorphine***- used to cause vomiting (emetic), injectable or comes in a tablet which can be placed in the conjunctival sac in the eye, opioid
- **Thiopental**- short acting thiobarbiturate, not recommended for greyhounds or other sighthounds due to slow metabolism of this drug

#### Inhalants: most common side effect of inhalants is hypotension
- **Isoflurane**
- **Sevoflurane**
- **Halothane** (not widely used due to side effects, especially cardiac)

### Cardiac/Blood Pressure

- **Furosemide** (Lasix)- Loop diuretic most often used in congestive heart failure
- **Enalapril/Benazapril** - ace-inhibitors (end in suffix –pril), used in treating heart failure and hypertension, sometimes used in chronic renal failure, causes vasodilation
- **Pimobendan** (Vetmedin)- inodilator, used in treating congestive heart failure
- **Spironolactone** (potassium sparing diuretic)
- **Amlodipine** (decreases blood pressure, choice anti-hypertensive for cats)
- **Atropine**- anticholinergic, used to increase heart rate; used in CPR and also during anesthesia to treat bradycardia

### Anti-Parasitics

- **Fenbendazole** (Panacur)- general anthelmentic, also commonly used to treat Giardia
• **Sulfadimethoxine** (Albon) - treats coccidia

• **Pyrantel** - used primarily for ascarids

• **Emodepside and Praziquantel** (Profender) - topical dewormer for felines (Praziquantel is the treatment for tapeworms)

• **Praziquantel, Pyrantel, and Febantel** (Drontal plus) dewormer for canine or feline

• **Selamectin** (Revolution) - topical parasite prevention (ear mite tx, flea control, hooks, rounds, heartworm prevention), treatment for Sarcoptes

• **Ivermectin** (Heartgard or injectable) - heartworm prevention, hooks, rounds, demodex treatment with injectable, contraindicated in Collie type breeds

• **Milbemycin** (Interceptor) - (dogs or cats) heartworm prevention, hooks, rounds, whips

(For more information on anthelmintics or anti-parasitics see PowerPage on Small Animal Parasitology)

### Gastrointestinal

• **Famotidine** (Pepcid AC) - H2 receptor blocker

• **Carafate** (Sucralfate) - gastroprotectant, also known as a “band-aid” for the GI tract, may impair absorption of some oral medications

• **Metoclopramide** (Reglan) - upper GI pro-kinetic agent, may cause excitement or hyperactivity in cats, anti-emetic prevents nausea by blocking dopamine in the chemo-receptor trigger zone (CRTZ)

• **Maropitant** (Cerenia) - anti-nausea/anti-vomiting agent

• **Cisapride** - pro-motility agent for upper and lower GI, used in cats with megacolon (not commercially available, must get compounded)

• **Omeperazole** (Prilosec) - proton pump inhibitor, used for treating and preventing GI ulcers

• **Misoprostol** - prostaglandin E1 analog, used to prevent gastric ulceration

### Other Miscellaneous Drugs

• **Methocarbamol** (Robaxin) - muscle relaxant

• **Fluconazole/ketoconazole/itraconazole** - anti-fungals, potentially hepatotoxic

• **Triostane** (Vetoryl) - adrenal steroid synthesis inhibitor, used in treating hyperadrenocorticism

• **Levothyroxine** - thyroid hormone, treats hypothyroidism

• **Methimazole** (Tapazole) - inhibits synthesis of thyroid hormone, treatment for hyperthyroidism

• **Diphenhydramine** (Benadryl) - anti-histamine, used for allergies and allergic reactions

• **Epinephrine** - alpha and beta-adrenergic agonist, used mostly in anaphylaxis and cardiac resuscitation

• **Guafenisen** - muscle relaxant/ oral expectorant used primarily in large animal anesthesia for the muscle relaxation

• **Pentobarbital** (Beuthanasia, Fatal Plus, others) - barbiturate, mostly used for euthanasia in vet med

• **Phenobarbital** - barbiturate, anti-seizure medication

• **Mirtazapine** - tetracyclic antidepressant/ 5-HT3 antagonist - used as appetite stimulant in dogs and cats

### References

