

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**
- **Cephalexin**- 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**
- **Lidocane/Bupivacaine** (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
- **Spirolactone** (**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 anthelmintic, 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

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**
- **Trilostane (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
- **Guafenisin**- **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

- 1) Plumb, Donald C. Plumb's Veterinary Drug Handbook. 6th edition. Blackwell Publishing. 2008.
- 2) Bill, Robert L. Clinical Pharmacology and Therapeutics for the Veterinary Technician. Mosby. 2006.