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| **NAME OF DRUG** | **Class of drug** | **ACTIVE INGREDIENT** | **ROUTE OF ADMINISTRATION** | **DOSAGE & CONCENTRATION** | **Calculations** | **INDICATIONS FOR USE** | **KEY POINTS** |
| Xyla | Sedative | Xylazine | Intramuscular administration | 0.05 mg/kg  1 mg/ml | 350 kg X 0.05 mg/kg=  17.5 mg/(1 mg/ml)=  17.5 mL IM | Sedative, analgesic, and muscle relaxing properties. | This drug is contraindicated in pregnant animals, animals with cardiac or respiratory diseases, or animals with pyometra.  Reversal of tolazoline (2-4x of the xylazine intravenous) cannot be used until 10-15 minutes after ketamine administration if used.  Alpha 2 agonist  **Withdrawal time: 0 days** |
| Lidocaine hydrochloride- VEDCO | local anesthetics. | Lidocaine hydrochloride | Intratesticular  Spermatic cord  Skin at the level of the vestigial nipple | 5 mg/kg Intended Max Total for all procedures; (10 mg/kg Toxic Dose)  2% (20 mg/ml) | 350 kg X 2.7 mg/kg=945 mg/(20 mg/mL)=47.25 mLs  *Peterson Block*: 20 mL x 2 sides so 40 mLs total; *Auriculopalpebral Block*: 2 mL at 2 locations each side so 8 mLs total  **Total for both blocks used: 48 mLs which is less than 5 mg/kg procedure total (87.5 mL)** | Local anesthetic which numbs an area of the body to decrease discomfort and pain during invasive medical procedures. | Drug can be toxic if the correct concentration is not used. Epidural anesthesia is prohibited in dogs that are distressed. This drug should not be given intravenously as a local anesthetic.  Toxic dose in goats is 5mg/kg.  Toxic dose in cattle is 10 mg/kg.  **Withdrawal time: 0 days** |
| Penstrep 400 | Natural penicillins  (antibiotic) | Procaine penicillin G  Dihydrostrepomycin sulfate | Intramuscular administration | 20,000 IU/Kg  200,000 IU/ml | 350 kg X 20,000 IU/kg=7,000,000 IU/(200,000 IU/mL)=35 mL IM | Prophylactic, small spectrum antibiotic for the treatment of infections such as arthritis, mastitis and gastrointestinal, respiratory and urinary tract infections caused by penicillin and dihydrostreptomycin sensitive micro-organisms, like Campylobacter, Clostridium, Corynebacterium, E. coli, Erysipelothrix, Haemophilus, Klebsiella, Listeria, Pasteurella, Salmonella, Staphylococcus and Streptococcus spp. in calves, cattle, goats, sheep and swine. | Contradicted in patients with hypersensitivity to penicillins, procaine and/or aminoglycosides. Administration to animals with a seriously impaired renal function. Concurrent administration of tetracyclines, chloramphenicol, macrolides and lincosamides.  **Withdrawal Times**:  -For kidney: 45 days.  - For meat : 21 days.  - **For milk : 3 days** |
| Flunixin (Banamine) | cyclo-oxygenase inhibitory NSAID, long lasting analgesic agent | flunixin meglumine | Intravenous | 1.1 mg/kg  50 mg/ml | 350 kg X 1.1 mg/kg=385 mg/(50 mg/mL)=7.7 mL IV | Horse: Flunixin Injection is recommended for the alleviation of inflammation and pain associated with musculoskeletal disorders in the horse. It is also recommended for the alleviation of visceral pain associated with colic in the horse.  Cattle: Flunixin Injection is indicated for the control of pyrexia associated with bovine respiratory disease, endotoxemia and acute bovine mastitis. Flunixin Injection is also indicated for the control of inflammation in endotoxemia. | no known contraindications to this drug in cattle or horses, do not use in animals showing hypersensitivity to flunixin meglumine.  **Withdrawal time**:  Meat-4 days  **Milk-36 hours** |
| Bactrovet silver AM | Powder spray larvicide (repellent, bactericide, antifungal, haemostatic) | Silver sulfadiazine, aluminium, excipient, dimethyl dichlorovynil phosphate, cypermethrin, excipient. | Topical | nil | N/A | Prevention and curative of maggot wounds and use for antimicrobial, haemostatic properties. | Used as a topical to provide a protective film over the wound to promote healing, prevent fly strikes and stop bleeding. |
| Atropine Sulfate (Ophthalmic drops) | Anticholinergic | Atropine 1% | Topical-ocular | 1 drop of atropine in affected eye(s) q 6–24 hr; then as needed; 10 mg/mL | N/A | Mydriasis and Cycloplegia: to maintain pupillary dilation | Contraindicated in presence of increased intraocular pressure from acute angle glaucoma because mydriasis will further stop drainage of anterior chamber. Some urge caution with use in equines, although recent evidence suggests that topical application of ophthalmic atropine does not induce ileus in healthy horses; **Withdrawal time**: In the U.S. and U.K., no established withholding times; not approved for use in food-producing animals. |
| Triple Antibiotic (Ophthalmic ointment) | Antibiotics | Bacitracin zinc-Neomycin sulfate-Polymyxin B sulfate ophthalmic ointment | Topical Ointment | Apply a thin film over cornea or into conjunctival sac q 6–12 hr; 3.5 mg/g neomycin (as neomycin sulfate), 10,000 IU/g polymyxin B sulfate, 400 IU/g bacitracin zinc ophthalmic ointment | N/A | Treatment of acute or chronic conjunctivitis caused by susceptible bacteria | Carefully remove foreign bodies, crusts, exudates, and debris prior to administration; Serious, potentially life-threatening anaphylactic events have been reported in cats within 4 hr of ophthalmic administration of antibiotic-containing ophthalmic preparations; polymyxin B was present in the drugs used in all cases; **Withdrawal time**: In the U.S. and U.K., no established withholding times; not approved for use in food-producing animals. |
| Proparacaine HCl (Ophthalmic drops) | Local Analgesic | Proparacaine 0.5% | Topical ophthalmic analgesic drops | 3–5 drops to eye; 5 mg/mL | N/A |  | Proparacaine can decrease intraocular pressure within 10 min of administration; this effect should be taken into consideration when evaluating diagnostic intraocular pressure measurements; Topical ophthalmic anesthetics decrease tear production so will interfere with Schirmer tear testing should be performed prior to application of proparacaine; Prolonged use may delay wound healing; Unknown if proparacaine is excreted in milk  **Withdrawal time**: In U.K., no established withholding times; not approved for use in food-producing animals; In U.S. no information found per VIN. |
| Tetanus antitoxins | Antitoxin | Enzyme refined equine globulin | Subcutaneous | 1500 IU/ml | N/A | Prophylaxis and treatment of tetanus | Vaccination is recommended for healthy animals that are not infected. Hypersensitivity tests should be done before administration. Anaphylactoid reaction may occur after administration hence giving adrenalin. |

**Reversal agents**

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| **Drugs** | **Route of administration** | **Dose/concentration** | **Calculations** | **Indication of use and key points** |
| Atropine | Intravenous/Intramuscular | 0.04mg/kg  0.54mg/ml | 350 kg X 0.04 mg/kg=14 mg/(0.54 mg/mL)=25.9 mLs ***(If Needed-was not)*** | Used for Bradycardia and sinoatrial arrest Contraindicated in conditions where anticholinergic effects would be  Detrimental (e.g glaucoma) |
| Epinephrine Injection USP | Intramuscular | 0.02 mg/kg  1 mg/ml | 350 kg X 0.02 mg/kg=7 mg/(1mg/mL)=7 mLs  ***(If Needed-was not)*** | Quick acting Alpha- & beta-adrenergic agonist agent used systemically for treating anaphylaxis & cardiac resuscitation. Contraindications: Narrow-angle glaucoma, hypersensitivity to  Epinephrine. |
| Tolazoline | Slow Intravenous | 2 times the dosage of xylazine (0.05 mg/kg) used. | 2x Xylazine so (17.5 mL X 2)= 35.0 mL slow IV  ***(If Needed-was not)*** | Used to reverse the effects of xylazine such as bradycardia and hypotension. Must be given via slow IV. |