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| **NAME OF DRUG** | **Class of drug** | **ACTIVE INGREDIENT** | **ROUTE OF ADMINISTRATION** | **DOSAGE & CONCENTRATION** | **CALCULATIONS** | **INDICATIONS FOR USE** | **KEY POINTS** |
| Ketamin | Sedative | Ketamine HCl | Intramuscular administration | 0.05 mg/kg  10 mg/ml | goat  (50 kg\*0.05mg/kg)/10 mg/ml  = 0.25 mls  Cattle  (70 kg\*0.05mg/kg)/10 mg/ml  = 0.35 mls | Dissociative agent used for induction of Anaesthesia | Typically combined with benzodiazepines, alpha 2 agonists, neuroleptics; can use in many species; Withdrawal time: 0 days |
| Xyla | Sedative | Xylazine | Intramuscular administration | 0.05 mg/kg  1 mg/ml | goat  (50 kg\*0.05mg/kg)/1 mg/ml  = 2.5 mls  cattle  (70 kg\*0.05mg/kg)/1 mg/ml  = 3.5 mls | 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  2% (20 mg/ml) | Goat  (50 kg\*5 mg/kg)/20 mg/ml  = 12.5 mls is toxic dose (TD)  =6.25 mls half TD  =12 ml solution with saline  **Volume for each testicle:**  3 ml- intratesticular  2 ml- spermatic cord  1 ml- Skin at the level of the vestigial nipple.  cattle  (70 kg\*10mg/kg)/20 mg/ml  = 35 mls is the TD  =16 mls half TD  **Volume for each testicle:**  4 ml- intratesticular  2 ml- spermatic cord  2 ml- Skin at the level of the vestigial nipple. | 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 | goat  (50 kg\*20,000 IU/Kg  )/200,000 IU/ml  = 5 mls  cattle  (70 kg\*20,000 IU/Kg  )/200,000 IU/ml  = 7 mls | 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.  -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 | Goat  (50 kg\*1.1mg/kg)/50 mg/ml  =1.1 mls  Cattle  (70 kg\*1.1mg/kg)/50 mg/ml  =1.6 mls | 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 | nil | Prevention and curative of maggot wounds and use for antimicrobial, haemostatic properties. | Used a a topical to provide a protective film over the wound to promote healing, prevent fly strikes and stop bleeding. |
| Tetanus antitoxins | Antitoxin | Enzyme refined equine globulin | Subcutaneous | 1500 IU/ml | Goat  Single dose- 5 mls | 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 | Goat  (50kg\*0.04mg/kg)/0.54mg/ml  = 3.8 mls  Cattle  (70kg\*0.04mg/kg)/0.54mg/ml  =5.1 mls | 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 | Goat  (50 kg\*0.02mg/kg)/10 mg/ml  = 0.1 mls  Cattle  (70 kg\* 0.02mg/kg)/10 mg/ml  =0.14 mls | 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. | Goat  =0.05 mg/kg\*2  = 0.1 mg/kg  = (50kg\*0.1 mg/kg)/100mg/ml  = 0.05 mls  Cattle  =0.05 mg/kg\*2  = 0.1 mg/kg  = (70 kg\*0.1mg/kg)/100 mg/ml  = 0.07 mls | Used to reverse the effects of xylazine such as bradycardia and hypotension. Must be given via slow IV. |