**The weight of this animal was estimated to be around 450kg**

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| Drug | Active  Ingredient | Uses | Contraindications | Adverse  Effects | WDT | Concentration and Dose | Calculations |
| Xylazine | Xylazine | It is an Alpha-2-Adrenoceptor stimulant that results in sedation, muscle relaxation and analgesia | This drug should not be used in:  - animals with cardiac and respiratory distress.  -animals with renal or hepatic  -animals suffering from hypotension  - cows in the last trimester of pregnancy  -cows receiving ovum implants  - ruminants that are debilitated, dehydrated, or have a urinary tract infection.  When given the animal should remain in sternal recumbency to avoid bloating. | Sweating  Piloerection  Tremors  Ruminal Tympany  Hypersalivation  Diuresis  Penile Prolapse  Hypothermia  Regurgitation  Ataxia  Premature Parturition | Meat:  1 days  Milk:  0 days | Dose: 0.05mg/kg  Conc- 20mg/ml | V = (WD)/C  = (450kg x 0.05/kg)/ 20mg/ml  =1.125 mls |
| Ketamine | 2-(2-chlorophenyl)-2-(methylaminocyclohexan-1 | This drug is used for general anesthesia during surgery.  It is an induction agent. | Should not be used in patients with significant hypertension, heart failure and/or arterial aneurysms as it can be dangerous. This drug should not be used alone as it does not cause muscle relaxation. | Inability to move rigid muscles, increase in body temperature, rapid heart rate, convulsions, and coma. | Meat: 3 days  Milk - 48 hours | Conc- 100mg/ml  Dose: 2mg/kg | V = (WD)/C  = (450 kgx2mg/kg)/  100mg/ml  =2.25 mls |
| Lidocaine | Lidocaine  Hydrochloride | This drug :  -Can block the conduction of nerve fibres resulting in muscle paralysis and loss of sensation  - it can also block the conduction pathways in the myocardial cells  - used for topical, infiltration, intravenous, regional and conduction anesthesia.  - used in extradural and spinal injections | If it is being used in conjunction with Epinephrine,  Do not use in:  -Intra-articular administration  -Epidural administration  - Intradigital administration  -Intravenous administration  -Treatment of ventricular arrhythmias  - Cardiac and Hepatic insufficiency | .Overdose  -Convulsions followed by CNS depression | Meat - 28days  Milk - 15days | Concentration - 20mg/ml  Dose-  1 mg/kg | V = (WD)/C  = (450kg x 1.0mg/kg) / 20mg/ml  = 22.5 mls |
| Tolazoline | Tolazoline Hydrochloride | This drug is a sedative antagonist, it is an Alpha-adrenoceptor blocking drug, it reverses the effects of xylazine.  How does it do this?  Xylazine is a Alpha-2-adrenoceptor, since Tolazoline blocks these alpha adrenoceptors it will displace xylazine | Do not use in animals showing signs of stress, Debilitation, cardiac disease, hypovolemia or shock. | Causes gastrointestinal disturbances, tachycardia and mild hypertension | Meat - 96 hours  Milk - 48 hours | Conc - 20mg/ml  Dose- 0.1mg/kg | V = (WD)/C  = (450 kgx0.1mg/kg)/ 20mg/ml  = 2.25 mls |
| Combikel 40 LA | Pen-strep (procaine benzylpenicillin, dihydrostreptomycin sulphate) | An antibiotic that combats gram positive and gram negative bacteria | In animals with shock, septicemia, the absorption of the antibiotic can be diminished therefore it should not be used on these animals. | Hypersensitivity and CNS effects | Meat: 30 days  Milk:10 days | Dosage: 40,000IU/kg  Concentration: 200,000 IU/ml | V = (D x W)/C  = (40,000 x 450) / 200,000  = 90 ml  Administered 2x every 3 days |
| Banamine | Flunixin Meglumine | This is an NSAID that for is used for the treatment of fever and inflammation associated with bovine respiratory disease and acute mastitis | Should not used in cows with hypersensitivity reactions. IM route should only be used when IV route is not available since using IM can cause tissue reactions/ irritations. | Can cause anaphylactic reaction, gastrointestinal irritation, ulceration, vomiting. | 12-48 hours for milk cows and 5-14 days for beef | Dosage: 2.2 mg/kg  Concentration: 50 mg/ml | V = (D x W)/C  = (2.2 x 450) / 50  = 19.8 ml |
| Tetanus | Tetanus antitoxin | Recommended for use in immunocompromised animals (eg goats) or those who have suffered wounds that may or may not been contaminated with soil | Do not use in animals with history of hypersensitivity reactions | Can cause anaphylactic shock | Meat: 21 days  Milk: 24 hours | Dose rate: 1-2 mg/kg  1500 units SC/IM for prevention | Prevention dosage:  1500 units SC/IM |
| Atropine | Atropine Sulfate | This drug can act as a pre-anaesthetic to either reduce or prevent secretions from the respiratory tract. (Treat the effects of Xylazine)  Also treats sinus bradycardia. | DO NOT USE: in patients with glaucoma, myocardia ischemia, has a hypersensitivity to anticholinergic drugs, severe ulcerative colitis, obstructive uropathy. | Adverse effects include:  -dry mouth  -dysphagia  -constipation  -urinary retention  -drowsiness  -ataxia  -respiratory depression  -seizures | Meat - 14 days  Milk - None | Concentration - 0.54mg/ml  Dose: 0.04mg/kg | V = (WD)/C  = (450kg x 0.04mg/kg)/0.54mg/ml  = 33.33mls |
| Epinephrine |  | Treat anaphylactic reactions | Hypersensitivity to epinephrine, narrow closed glaucoma, during general anesthesia with halothane | Anxiety, tremor, excitability, arrythmias, vomiting | None | Dose: 0.02mg/kg  Concentration: 1 mg/ml | V = (DxW)/ C  =( 0.02x450)/ 1  = 9 ml |
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