**Pre-operative drugs and emergency drugs used during Bull castration**

Weight of bull = 150kg

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| Drug | Concentration | Dose rate | Calculations | Indications for use | Contraindications |  | WDT | Adverse Reactions |
| Xylazine 2% | 20mg/ml | 0.025mg/kgBut used0.05mg/kg (for this lab). | V= dose x wt/[ ]= 0.05 x 150/20= 0.375~ 0.4 mls + additional 0.2mls (due to sedation subsiding)**TOTAL=0.6mls** | Sedative | Do not use in animals with oesophageal obstruction, and torsion of the stomach, as the muscle relaxant properties of the drug appear to accentuate the effects of the obstruction and because of possible vomiting.Do not use in animals with renal or hepatic failure, respiratory dysfunction, cardiac abnormalities, hypotension and/or shock. Do not use in diabetic animals.Do not use in animals suffering of an urethral obstruction or a rupture of the bladderDo not use in calves <2wks |  | Meat=48hrs | Soft or diarrheal feces during 24 hours following the administration of strong doses.Hypersalivation, ruminal atony, atony of the tongue, regurgitation, bloating, hypothermia, bradycardia, increased urine production and reversible prolapse of the penis.The adverse effects are generally more pronounced after intramuscular administration compared to intravenous administration |
| Lidocaine 2% | 20mg/ml | Approximately for this lab = 2.666mg/kg\*Toxic dose = 10mg/kg\* | V= dose x wt/[ ]**(Used 20mls for this lab)**Toxic dose calc. = 10 x 150/20= 75mls | Local anaesthetic | Do not administer intravenously. Convulsions and shock may occur in sensitive animals if large doses of the drug are given intravenously (inadvertently) or intrathecally. This may be treated by injecting a short acting barbiturate intravenously to control central nervous system stimulation and immediately administering artificial respiration or oxygen. |  | Meat=1 day | Transient drowsiness may occur in animals receiving large doses of Lidocaine HCl. Signs of toxicity include: loss of consciousness, drop in blood pressure and respiratory collapse. The degree of toxicity depends upon the vascularization of the area. Spasm of certain muscle groups or convulsions may also occur. Treatment for toxicity is as follows: lowered head, artificial respiration, oxygen and I.V. pressor agents. Convulsions and spasm are controlled by means of small amounts of I.V. ultra short-acting barbiturates. |
| Flunixin Meglumine(Banamine) | 50mg/ml | 1.1mg/kg | V= dose x wt/[ ]= 1.1 x 150/50=3.3mls | Analgesic (pre-emptive) and post-op for 3 days | Do not administer intra-arterially. Inadvertent intra-arterial injection may cause adverse reactions. Do not use in cattle showing hypersensitivity to flunixin meglumine. The drug is contraindicated in animals with hepatic disease, renal and cardiovascular impairment, gastro-intestinal ulceration and/or platelet disorders. It is also contraindicated in dehydrated animals. |  | Meat=4days | Do not use in bulls intended for breeding as reproductive effects of Flunixin Injection in this class of cattle have not been investigated.During clinical studies no significant side effects were reported when the drug was injected slowly. In cattle, a temporary head thrashing can occur if the drug is injected too rapidly. |
| Penstrep | 200,000 IU/ml | 20,000 IU/kg | V= dose x wt/[ ]= 20,000 x 150/200,000= 15mls | Antibiotics | Contraindicated in known cases of hypersensitivity to penicillins. |  | 30 Days |  |
| EMERGENCY DRUGS: |  |  |  |  |  |  |  |  |
| Tolazoline | 100mg/ml | 2 times Xylazine dose = 0.1mg/kg | V= dose x wt/[ ]= 0.1 x 150/100=0.15mls | Xylazine reversal |  |  | None for food animals |  |
| Atropine | 0.54mg/ml | 0.04mg/kg | V= dose x wt/[ ]= 0.04 x 150/0.54= 11.11 | Use for severe bradycardia | Do not use in animals with glaucoma. |  | Meat=14 days |  |
| Epinephrine | 1mg/ml | 0.02mg/kg | V= dose x wt/[ ]= 0.02 x 150/1= 3mls | Anaphylactic reactions |  |  | NO WDT |  |