**Calculation - uses a sheep of 50 kg and would need to be modified for actual weights**

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| --- | --- | --- | --- | --- | --- |
| **Drug** | **Concentration** | **Dose Rate** | **CALCULATIONS** | **Withdrawal** | **Indication for use** |
| 1. Penstrep(antibiotic) | 200,000 IU/ml | 40,000 IU/kg | V= 50kg x 20,000 IU/kg) /200,000 IU/ml = 10 mls IM | 30 DAYS | Antibiotics5mls q3d x 2 |
| **2. Sedation**Xylazine Ketamine | 20 mg/ml100mg/kg | 0.05mg/kg 0.5mg/kg | (X)V=(0.05x50)/20 = 0.13mls(K)V=(0.5x50)/100= 0.25mls | 14 days meat48 hrs milk  | 1/10 the equine dose+/- 45 min of anaesthesia |
| **6.** **Xylazine****(Anaesthetic)****CRI** | 20 mg/ml | 0.05 mg/kg/hr  | ***M = DV & V = M*** ***IR C***0.05 x 1000  5= 10mg …10/20 = **0.5 mls** | 14 days meat48 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| 5. Ketamine**Induction** | 100mg/ml | 5mg/kg | V = (5 x 50)/100 = 2.5 mls IV  | 3 days meat24 hrs milk | *Balanced anaesthesia*  |
| 5. Ketamine**CRI** | 100mg/ml | 5mg/kg/hr | ***M = DV & V = M*** ***IR C***5 x 1000 5= 1000mg ….1000/100 = **10mls** | 3 days meat24 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| 3. FlunixinTetanus antitoxin | 50mg/ml300IU/ml | 2.2mg/kg | V = (2.2 x 50)/50 = 2.2 mls IV - Slow Iv admin - 1 ml/second600IU (2mls) | Meat 4 days | preemptive analgesia & post-op for three days. |
| 5. Lidocaine**(Anaesthetic - Induction)** | 20mg/ml | 1.0 mg/kg | V = (1.0 x 50)/20 = 2.5 mls IV | 1 day meat24 hrs milk | Toxic dose 10 mg/kg |
| 6. Lidocaine**CRI** | 20mg/ml | 1.0 mg/kg | ***M = DV & V = M*** ***IR C***1 x 1000 5= 200mg .200/20 = **10mls** | 1 day meat24 hrs milk | Toxic dose 10 mg/kg=25mls |
| **4. EPIDURAL**Bupiv/Ket | (B) 5mg/ml(K) 100mg/ml | (B) 0.25mg/kg(K) 1.25mg/kg | ***(B)V = (0.25x50)/5 = 2.5ml******(K)V = (1.25x50)/100 = 0.625ml*** | Bupiv– none | Toxic dose 2 mg/kg=20mls |
| 7. Intra-op Fluids0.9%Saline (use 1L bag) | Calculated of Drip Rate in drops per sec - (ml/min x drip factor)/60 = drops/sec250 x 20 = 83 / 60 = 1.4 = 3 drops/2sec 60 |
| Tolazoline(xylaxine reversal) | 100mg/ml | 4 x xylazine dose i.e.0.1 mg/kg | V = (0.1x50)/100 = 0.5mls | None for food animals | Xylaxine reversal |
| Atropine | 0.54 mg/ml | 0.04 mg/kg | V = (0.04 mg/kg)(50 kg) / 0.54 mg/mlV = 3.7 ml (= 2mg/50kg) | 14 days meat3 days milk | Use if bradycardia < 30 bpm |
| Epinephrine | 1mg/ml(1:1000) | 0.02mg/kg | V = (0.02 mg/kg)(50 kg) / 1 mg/mlV = 1 ml | No WDT | Anaphylaxic reactions |

**Ketamine + Xylazine for breakthrough = half sedation dose (0.13ml xylazine + ketamine 0.25ml) PRN**

 **2**

**Drug (mg) = [Infusion rate of the drug (mg/kg/hour) ÷Fluid infusion rate (ml/kg/hour)] x diluent volume (ml)**

***M = DV & V = M***

 ***IR C***

Rate of Fluid delivery = 5 ml/kg/hr

Drop factor = 20 drops/ml