**Calculation - Uses a sheep of 28.4 kg**

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| **Drug** | **Concentration** | **Dose Rate** | **CALCULATIONS** | **Withdrawal** | **Indication for use** |
| 1. Penstrep  (antibiotic) | 200,000 IU/ml | 30,000 IU/kg | V= 28.4kg x 30,000 IU/kg)/200,000 IU/ml =  **4.26 mls Intramuscular** | 30 DAYS | Antibiotics  5mls  q3d x 2 |
| **2. Sedation**  Xylazine  Ketamine  (mixed) | 20 mg/ml  100mg/kg | 0.05mg/kg  0.5mg/kg | (X)V=(0.05x28.4)/20 =  **0.07 mls**  (K)V=(0.5x28.4)/100= **0.142mls**  **Intramuscular** | 14 days meat  48 hrs milk | 1/10 the equine dose  +/- 45 min of anaesthesia |
| **6.Xylazine**  **(Anaesthetic)**  **CRI** | 20 mg/ml | 0.05mg/kg/hr | ***M = DV& V = M***  ***IR C***  0.05 x 1000  5  = 10mg …10/20 = **0.5mls Fluid bag Intravenous** | 14 days meat  48 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| 5. Ketamine  **(Induction)** | 100mg/ml | 5mg/kg | V = (5 x 28.4)/100 =  **1.42mls Intravenous** | 3 days meat  24 hrs milk | *Balanced anaesthesia* |
| 5. Ketamine | 100mg/ml | 5mg/kg/hr | ***M = DV & V = M***  ***IR C***  5 x 1000  5  = 1000mg ….1000/100 = **10mls Fluid bag Intravenous** | 3 days meat  24 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| 3. Flunixin  Tetanus antitoxin | 50mg/ml  300IU/ml | 2.2mg/kg | V = (2.2 x 28.4)/50 =  **1.24mls IV - Slow Iv admin - 1 ml/second**  **600IU (2mls) Subcutaneous** | Meat 4 days | preemptive analgesia & post-op for three days.  Used to prevent tetanus |
| 5. Lidocaine  **(Anaesthetic - Induction)** | 20mg/ml | 1.0 mg/kg | V = (1.0 x 28.4)/20 =  **1.42mls Intravenous** | 1 day meat  24 hrs milk | Toxic dose 10 mg/kg |
| 6. Lidocaine  **CRI** | 20mg/ml | 1.0 mg/kg | ***M = DV & V = M***  ***IR C***  1x 1000  5  = 200mg .200/20 = **10mls Fluid bag Intravenous** | 1 day meat  24 hrs milk | Toxic dose 10 mg/kg  =25mls |
| **4. EPIDURAL**  Bupivicaine  Ketamine | 5mg/ml    100mg/ml | 0.25mg/ kg  1.25mg/  kg | V = (0.25x28.4)/5 = **1.42 ml**  V = (1.25x28.4)/100 = **0.355ml** | Bupivicaine– none | Toxic dose 2 mg/kg  =20mls |
| 7. Intra-op Fluids  0.9%Saline (use 1L bag) | Calculated of Drip Rate in drops per sec - (ml/min x drip factor)/60 = drops/sec  250 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 = (0.1x28.4)/100 = **0.0284mls** | None for food animals | Xylaxine reversal |
| Atropine | 0.54 mg/ml | 0.04 mg/kg | V = (0.04 mg/kg)(28.4 kg) / 0.54 mg/ml = **2.1ml** | 14 days meat  3 days milk | Use if bradycardia < 30 bpm |
| Epinephrine | 1mg/ml  (1:1000) | 0.02  mg/kg | V = (0.02 mg/kg)(28.4 kg) / 1 mg/ml  V = **0.568 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

Splash Block: 10 mls Saline + 10 mls Lidocaine

LRS- Used to moisten intestines & peritoneal contents intra op.