**Calculations for Exploratory Laboratory - LAB 6** (calculation uses an animal of 27.5 kg)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Drug** | **Concentration** | **Dose Rate** | **CALCULATIONS** | **Withdrawal** | **Indication for use** |
| Penstrep(antibiotic) | 200,000 IU/ml | 20,000 IU/kg | V= 27.5kg x 20,000 IU/kg)/200,000 IU/ml = 2.75 mls IM | 30 DAYS | Antibiotics5mls q3d x 2 |
| Xylazine(Sedative/Anaesthetic)Induction | 20 mg/ml | 0.025 mg/kg | V = (0.025 x50)/20 = 0.034 mls IVMake up to 2 mls with saline | 14 days meat48 hrs milk  | 1/10 the equine dose+/- 45 min of anaesthesia |
| Xylazine(Anaesthetic)CRI | 20 mg/ml | 0.4 mg/kg/hr OR0.66 mcg/kg/min | *M = DWV**16.67R*0.66 x 27.5x 1000 16.67 x 500= 2.18mg …… 2.18/20 = 0.1 ml | 14 days meat48 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| Ketamine(Anaesthetic - Induction) | 100mg/ml | 4mg/kg | V = (4 x 27.5)/100 = 1.1 mls IV | 3 days meat24 hrs milk | *Balanced anaesthesia* with xylazine |
| Ketamine(CRI) | 100mg/ml | 4mg/kg/hrOR66mcg/kg/min | *M = DWV**16.67R*66 x 27.5 x 100016.67 x 500= 217.8mg ….217.8/100 = 2.18ml | 3 days meat24 hrs milk | Continuous analgesia for the 2 hrs of surgery |
| Flunixin(analgesic) | 50mg/ml | 2mg/kg | V = (2 x 27.5)/50 = 1.1 mls IV - Slow Iv admin - 1 ml/second | Meat 4 days | preemptive analgesia & post-op for three days. |
| Lidocaine(local anaesthetic)Proximal parav block | 20mg/ml | 5mg/kg = half toxic dose | V = (5 x 27.5)/20 =6.88ml(4ml lidocaine + 6 ml saline) X 3 | 1 day meat24 hrs milk | .Toxic dose 10 mg/kg |
| Lidocaine(Anaesthetic - Induction) | 20mg/ml | 0.5 mg/kg | V = (0.5 x 27.5)/20 = 0.69 mls IV | 1 day meat24 hrs milk | .Toxic dose 10 mg/kg |
| Lidocaine(CRI) | 20mg/ml | 10 mcg/kg/min | *M = DWV**16.67R*10 x 27.5 x 100016.67 x 500= 32.99 mg ….32.99/20 = 1.6ml | 1 day meat24 hrs milk | .Toxic dose 10 mg/kg |
| Intra-op Fluids0.9%Saline  | Calculated of Drip Rate in drops per sec - (ml/min x drip factor)/60 = drops/sec500 x 20 = 167 / 60 = 2.7 = 3 drops/sec 60 |
| Tolazoline(xylaxine reversal) | 100mg/ml | 2 x xylazine dose i.e.0.1 mg/kg | V = (0.1x27.5)/100 = 0.0275mls | None for food animals | Xylaxine reversal |
| Atropine | 0.54 mg/ml | 0.04 mg/kg | V = (0.04 mg/kg)(27.5 kg) / 0.54 mg/mlV = 2.03 ml | 14 days meat3 days milk | Use if bradycardia < 30 bpm |
| Epinephrine | 1mg/ml(1:1000) | 0.02mg/kg | V = (0.02 mg/kg)(27.5 kg) / 1 mg/mlV = 0.55 ml | No WDT | Anaphylaxic reactions |



Rate of Fluid dilevery 10ml/kg/hr

Drop factor = 20 drops/ml