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| DRUG | CONCENTR-ATION | DOSE RATE | CALCULATIONS  (Weight of sheep 25 kg) | WITHDRAWAL | INDICATION FOR USE | CONTRAINDICATIONS |
| Antibiotic  Pencillin/Streptomycin | 200,00 IU/ml | 40,000 IU/kg | V=Dose x Weight/ Conc. Of drug  V=(25kg x20 000 IU/kg) /200,000 IU/ml = 2.5 ml  Giving IM | 30 days | Antibiotics 5mls q3d\*2  used for preventing and treating infections caused by penicillin and dihydrostreptomycin (dhs) susceptible microorganisms | Do not use in animals known to be hypersensitive to the components of the product or if they have renal failure.  Should not be given IV |
| SEDATION |  |  |  |  |  |  |
| Xylazine | 20 mg/ml | 0.05mg/kg | (X) V= (0.05x25)/20  = 0.06 ml  (K) V = (0.5 x 25)/100 = 0.125 ml  There are combined in a 1ml syringe and given IM | 14 days meat | An agonist at the α2 class of adrenergic receptor. Used for sedation, anesthesia, muscle relaxation, and analgesia in animals | Should not be used in animals with known hypersensitivity or allergy to the drug. |
| Ketamine | 100mg/ml | 0.5mg/kg | 48 hrs milk | Ketamine is a rapid acting general anesthetic that has significant analgesic activity and a lack of cardiopulmonary depressant effects.  Combined, 1/10 the equine dose =+/- 45 min anaesthesia | When using ketamine in combination with an alpha-two agonist, one should always let at least 20 minutes pass before reversing the alpha-two drug to ensure that the ketamine has been metabolized and that no ketamine effect is left. |
| Analgesic-  Flunixin | 50mg/ml | 2.2mg/kg | V= (2.2 x 25)/50  =1.1 ml | 4 days meat | Used to treat pain and inflammation  Postoperative period ( 3 days) and used as a preemptive analgesia to reduce pain associated with surgical procedures. | Should not be used in animals with known hypersensitivity or allergy to the drug  Should be avoided in animals with liver, kidney, heart, or blood abnormalities. |
| CRI DRUGS |  |  | Formula =  M= DV/IR  V= M/C |  |  |  |
| Xylazine | 20mg/ml | 0.05mg/kg | M= (0.05\*1000)/5  = 10mg  V=10mg/20mg/ml  =0.5ml | 14 days meat & 48 hrs milk | Aids in continuous analgesia for the 3 1/2 hrs of surgery |  |
| Ketamine | 100mg/ml | 5 mg/kg | M=(5\*1000)/5  =1000mg  V=1000mg/100mg/ml  =10ml | 3 days meat & 24 hrs milk | Aids in continuous analgesia for the 3 1/2 hrs of surgery |  |
| Lidocaine | 20mg/ml | 1.0mg/kg | M=(1\*1000)/5  =200mg  V=200mg/20mg/ml  = 10ml  These drugs were placed in the 0.9% Saline fluid bag | 1 day meat & 24 hrs milk | Use as a local and topical anesthetic agent.  Aids in continuous analgesia for the 3 1/2 hrs of surgery | In animals with a known hypersensitivity to the drug.  Toxic dose 10mg/kg |
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| Hep/Saline  Heparin | Heparin Sodium (2 units/mL) in 0.9% Sodium Chloride | 5 mls of the combined drug was pulled up into a 5ml syringe | |  | Used as a flushing agent in the Intravenous IV catheters in the animal. Heparinised Saline Injection is a sterile solution.  This [medication](https://www.webmd.com/drugs/index-drugs.aspx) is used to keep IV catheters open and flowing freely. [Heparin](https://www.webmd.com/drugs/2/drug-3918/heparin+(porcine)+injection/details) helps to keep [blood](https://www.webmd.com/heart/anatomy-picture-of-blood) flowing smoothly and from clotting in the catheter by making an anticoagulant (anti-clotting protein, natural substance in your body work better. | Known hypersensitivity to heparin. Use for anticoagulant therapy. Severe thrombocytopenia .Heparinized Saline Injection should not be administered to patients in an uncontrollable active bleeding state |
| INDUCTION DRUG |  |  |  |  |  |  |
| Ketamine | 100mg/ml | 5mg/kg | V=Dose x Weight/ Conc. Of drug    (K) V= (5 \* 25 )/ 100  = 1.25 ml  (L) V=(1 \* 25 )/ 20  = 1.25 ml  Both were combined in a 3ml syringe and given via IV | 3 days meat & 24 hrs milk | Ketamine is a rapid acting general anesthetic that has significant analgesic activity and a lack of cardiopulmonary depressant effects. | When using ketamine in combination with an alpha-two agonist, one should always let at least 20 minutes pass before reversing the alpha-two drug to ensure that the ketamine has been metabolized and that no ketamine effect is left. |
| \*Lidocaine | 20mg/ml | 1.0mg/kg | 1 day meat & 24 hrs milk |  |  |
| EPIDURAL  Bupivacaine + Ketamine | 5mg/ml  100mg/ml | 0.25mg/kg  1.25mg/kg | (B) V=(0.25 \*25)/5  = 1.25ml  (K) V=(1.25\*25)/100  =0.31 ml  Both were combined in a 3ml syringe and given in the epidural space in the lumbosacral region | Bupiv- none  (K)- 3 days meat & 24 hrs milk | To prolonged the postoperative analgesia | Toxic dose 2mg/kg |
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| INTRA OP – DRUGS  0.9% Saline bag with CRI drugs | Rate of fluid delivery = 5ml/kg/ hr  Therefore = 25 kg x 5ml/hr = 125 ml/kg/hr  Fluid rate Per minute will be 125/ 60 = 2.08 ml/kg/min  Drop factor is 20 drops/ml  Therefore the Drip rate in drops per sec= (2.08 ml/kg/ min x 20 ) 60 =1.00 = 1 drop in sec. | | | | Anesthetic drops the blood pressure therefore fluids maintain BP ensuring perfusion to organs. |  |
| Splash block  Saline + Lidocaine | (L) 20mg/ml  (S) 0.9% | 10 ml + 10 ml  Lidocaine and Saline | | 1 day meat & 24 hrs milk | Used as a  Local anesthetic with quick onset and short duration of action – 1-2 hrs during the surgery when the animal exhibited signs of pain |  |
| BREAKTHROUGH DRUGS  Xylazine + ketamine |  |  | ½ the sedation dose. Therefore  (1/2 0.06 of + ½ of 0.125) | (K)- 3 days meat & 24 hrs milk  (X)- 14 days meat & 48 hrs milk | Used as a regional sedation when the animal felt pain and appeared in discomfort during the surgery |  |
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| Tolazoline  (Xylazine reversal drug) | 100mg/ml | 4 x xylazine dose  i.e 0.1 mg/kg | V=(0.1 \* 25 ) /100  = 0.025 ml  To be given IV when needed. | None for food animals | Xylazine reversal | Heart rate may briefly increase immediately after tolazoline injection at the recommended dose with a return to pre-treatment rate within 5-10 minutes. |
| Atropine | 0.54mg/ml | 0.04mg/kg | V= (0.04 \* 25) / 0.54  = 3.7 ml  Can be given IV or IM when needed | 14 days meat & 3 days milk | Use if bradycardia is less than 30 beats per minute | Should be avoided in pregnant animals  Should not be given to animals with heart irregularities |
| Epinephrine | 1mg/ml (1:1000) | 0.02mg/kg | V= (0.02 \* 25) / 1  =1ml  Can be given IM when needed | NO WDT | Anaphylaxic reactions | Should be avoided in pregnant animals  Should not be given to animals with heart irregularities |
| The animal felt pain during the surgery so she was given another dose of Xyl+Ket at half the total volume and the other half when she appeared in discomfort still. The CRI drip rate was increased until she felt no more pain.  A splash block was made of 10 mls of Lidocaine and 10 mls of Saline to splash around the area | | | | | | |

Rate of Fluid delivery = 5ml/kg/ hr

Drop factor = 20 drops/ml