Drug vol. = 𝑤𝑒𝑖𝑔ℎ𝑡 (𝑘𝑔) 𝑥 𝑑𝑜𝑠𝑒 (𝑚𝑔/𝑘𝑔) = ml

𝑐𝑜𝑛𝑐𝑒𝑛𝑡𝑟𝑎𝑡𝑖𝑜𝑛 (𝑚𝑔/𝑚𝑙)

Calf Weight = 180kg

|  |  |  |  |  |  |  |  |
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| **Drugs** | **Concentration** | **Dose Rate** | **Calculation** | **Volume** | **ROA** | **Withdrawal Period** | **Complications** |
| **Xylazine 2%** | 20mg/ml | 0.05mg/kg | 180𝑘𝑔 𝑥 0.05𝑚𝑔/𝑘𝑔20𝑚𝑔/𝑚𝑙 | 0.45ml | IV, IM | Meat: 4 days Milk: 72hrs | hypersalivation-vomiting-decreased heart rate-decreased respiration rate |
| **Ketamine 10%** | 100mg/ml | 0.5mg/kg | 180𝑘𝑔 𝑥 0.5𝑚𝑔/𝑘𝑔100𝑚𝑔/𝑚𝑙 | 0.9ml | IV | Milk - 2 days Meat - 3 days | if given too fast, depression can occur  |
| **Penstep-400 LA** | 200, 000IU/ml | 20,000IU/kg | 180𝑘𝑔 𝑥 20,000𝐼𝑈/𝑘𝑔200,000𝐼𝑈/𝑚𝑙 | 18ml | IV, SQ | Meat: 23 days Milk: 60hrs | Hypersensitivity reactions  |
| **Lidocaine 2%** | 20mg/ml | 0.2mg/kg | **Nerve block****Spermatic Cord**180𝑘𝑔 𝑥 1𝑚𝑔/𝑘𝑔 20𝑚𝑔/𝑚𝑙**Epidural**180𝑘𝑔 𝑥 0.2𝑚𝑔/𝑘𝑔20𝑚𝑔/𝑚𝑙 | 9ml | Spermatic cord, Testicle | Meat & Milk: 1 day | hypersensitivity reactions-respiratory arrest |
|  |  |  | 20ml  | Intercoccygeal intervertebral space (Co1-Co2) |  |  |
|  |  |  | **Toxic Dose**180𝑘𝑔 𝑥 10𝑚𝑔/𝑘𝑔20𝑚𝑔/𝑚𝑙 | 90ml |  |  |  |

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| **Flunixin Meglumine 5%** | 50mg/ml | 1.1mg/kg | 180𝑘𝑔 𝑥 1.1𝑚𝑔/𝑚𝑙50𝑚𝑔/𝑚𝑙 | 3.96ml | IV, IM | Meat: 4 days Milk: 36hrs | -GI irritation, ulceration, haematology, in dehydrated ,hypovolemic, hypotensiveanimalsanaphylactoid reactions (rare) |
| **Ivermectin 1%** | 10mg/ml | 0.2mg/kg | 180𝑘𝑔 𝑥 0.2𝑚𝑔/𝑘𝑔10𝑚𝑔/𝑚𝑙 | 3.6ml | SQ, IM | Meat: 21 days of slaughter | Antiparasitic resistance  |