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** |
| **Xylazine 2%** | 20mg/ml | 0.05mg/kg | 180𝑘𝑔 𝑥 0.05𝑚𝑔/𝑘𝑔  20𝑚𝑔/𝑚𝑙 |  | IV, IM | Meat: 4 days Milk: 72hrs |
| **Ketamine 10%** | 100mg/ml | 0.5mg/kg | 180𝑘𝑔 𝑥 0.5𝑚𝑔/𝑘𝑔  100𝑚𝑔/𝑚𝑙 |  | IV | Milk - 2 days Meat - 3 days |
| **Penstep-400 LA** | 200, 000IU/ml | 20,000IU/kg | 180𝑘𝑔 𝑥 20,000𝐼𝑈/𝑘𝑔  200,000𝐼𝑈/𝑚𝑙 |  | IV, SQ | Meat: 23 days Milk: 60hrs |
| **Lidocaine 2%** | 20mg/ml | 0.2mg/kg | **Nerve block**  20 cc total; 5ml per testicle, 5ml per spermatic cord  **Epidural**  180𝑘𝑔 𝑥 0.2𝑚𝑔/𝑘𝑔  20𝑚𝑔/𝑚𝑙 | 20ml | Spermatic cord, Testicle | Meat & Milk: 1 day |
|  |  |  |  | Intercoccygeal intervertebral space (Co1-Co2) |  |
|  |  |  | **Toxic Dose**  180𝑘𝑔 𝑥 5𝑚𝑔/𝑘𝑔  20𝑚𝑔/𝑚𝑙 |  |  |  |

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| **Flunixin Meglumine 5%** | 50mg/ml | 1.1mg/kg | 180𝑘𝑔 𝑥 1.1𝑚𝑔/𝑚𝑙  50𝑚𝑔/𝑚𝑙 |  | IV, IM | Meat: 4 days Milk: 36hrs |
| **Ivermectin 1%** | 10mg/ml | 0.2mg/kg | 180𝑘𝑔 𝑥 0.2𝑚𝑔/𝑘𝑔  10𝑚𝑔/𝑚𝑙 |  | SQ, IM | Meat: 21 days of slaughter |