	Drug	Concentration	Dosage-1100lb/ 500kg cattle	Contraindications	Withdrawal time
Local Anesthetic	Lidocaine HCl	20mg/ml	For field blocking: maximum 200ml of lidocaine 2% Nerve block, lidocaine -dosage -1mg/kg, conc-2%(20mg/ml), weight 500kg Volume = WT X Dosage/ conc = 25 ml TOXIC DOSE-250ml 400 x 1/2 -It is suitable for performing surgery on standing animals, accordingly injuries associating casting and prolonged recumbency can be avoided	Lidocaine HCl is contraindicated in patients with a known history of hypersensitivity to local anesthetics of the amide type.	Meat: 28 days
Sedative	Xylazine	20 mg/ml	xylazine(IM)- Dosage- 0.05mg|Kg, conc-20mg/ml Weight-500kg Volume= Dose WT * Dosage/conc = 1.25 ml	Should not be used in ● Renal or hepatic failure	Withdrawal period: Meat: 5 days For milk: 4 days
Analgesic/ NSAIDs	Banamine (Flunixin meglumine)	50mg/ml	Flunixin(IV) - Dosge - 1.1mg/kg ,conc- 50mg/ml , Weight-500kg Volume = WT X Dosage/conc= 11ml	Should not be used ● in animals that have shown prior hypersensitivity reactions. ● the IM route; should only be used when the IV route is not feasible ● Do not use in horses	Withdrawal times: - For meat: Cattle: 14 days Swine: 24 days For milk- Cattle: 2 days

Antibiotic (Narrow spectrum) long acting antipsychotic	Penstrep 400 (Procaine penicillin & Dihydrostreptomycin)	200,000 IU/ml	penstrep(IM)-dosage-20,000mm/kg, conc -200,000mm,weight 500kg Volume = WT X Dosage/conc= 50 ml NB: more than 5ml should not be administered at a singular site in calves. 20ml was given per site in gluteal muscle.	Should not be used in ● Animals hypersensitive to penicillins, procaine and/or aminoglycosides ● Animals with impaired renal function ● Concurrent administration of tetracyclines chloramphenicol, macrolides and lincosamides.	Withdrawal times: -For kidneys: 45 days. - For meat-21-30days - For milk 5 days.
General anesthetic	Ketamine	100mg/ml	ketamine(IM)- dose=1.0mg/kg Weight=500kg Conc=100mg/ml (1.0mg/kg)(500kg)/100mg/ml =5ml	Should not be administered with lungworm medication. For parenteral administration in dogs, cats, horses, cattle, goals and swine	withdrawal period: Meat: 16 days Otherwise: 0days
Intra-op fluids (can be administered if fluid loss is extreme/emergent)	0.9%Saline (use 1L bag)	0.9% at 250ml	Calculated of Drip Rate in drops per sec - (ml/min x drip factor)/60 = drops/sec 250 × 20 = 83 / 60 = 1.4 = 3 drops/2sec 60	crystalloid that is normal saline which is used in the management and treatment of dehydration (e.g., hypovolemia, shock), metabolic alkalosis in the presence of fluid loss, and mild sodium depletion through bodily fluid such as blood	Withdrawal period: 0days
Tolazoline(xylazine reversal)(for emergency use)	100mg/ml	4 X xvlazine dose IV Eg. 0.1mg/kg	V = (0.1×500)/100 = 0.5mls	xylazine reversal	Withdrawal period Meat:8 days Milk: 48 hours
Atropine(emergency use)	0.54 mg/ml	0.04 mg/kg	V = (0.04 mg/kg)(500kg) / 0.54 mg/ml V = 37.03 ml (= 2mg/500kg)	Use if bradycardia <30bmp	withdrawal period: Meat: 14 days Milk:3 days

Epinephrine (emergency use)	1mg/kg (1:1000)	0.02mg/kg	V = (0.02 mg/kg)(500 kg) / 1 mg/ml V= 10 ml	anaphylactic rxns Do not use on extremities it'll block blood supply and cause sloughing	No withdrawal period

Ketamine + Xylazine for breakthrough = half sedation dose (0.13ml xylazine + ketamine 0.25ml)
PRN /2
Rate of Fluid delivery = 5
Drop factor = 20 drops/ml
Atipamazole or yohimbine are more commonly used than tolazoline as a xylazine antagonist and can be used as xylazine reversal in cases of emergencies.

Drug (mg) = [Infusion rate of the drug (mg/kg/hour) ÷Fluid infusion rate (ml/kg/hour)] x diluent volume (ml)

$M = \frac{DV}{IR}$ & $V = \frac{M}{C}$