**Imagine the Udder Section given in lab is attached to a 350kg Cow named “Daisy”**

Drugs Table for all Pre-Operative and Post-Operative Drugs

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| Drugs | Dose +Concentration | Uses | Contraindications | WithdrawalPeriod | Calculations (dose x weight)/concentration of drug |
| Ketamine (IM) | Dose= 0.25mg/kgConc. = 10% | Used to achieve general anesthesia during surgery | Used in patients with significant hypertension, heart failure, and arterial aneurysms could be dangerous. Should not be used alone because it doesn’t cause muscle relaxation. Don’t use in animals with seizures | Meat: Dairy:  | (350kg×0.05mg/kg)/10 mg/ml= 1.75 mls |
| Xylazine (IM) | Dose = 0.05mg/kgConc. = 2% | Alpha-2 adrenoceptor stimulant resulting in sedation, muscle relaxation and analgesia.Short term sedation.Used for restraint prior to ketamine for general anesthesia. | Do not use in: Animals with cardiac or respiratory disease Animals with renal or hepatic failure. Animals with hypotension/hypovolemia.Last trimester of pregnancy (except at parturition.  | Meat: Dairy:  | (350 kg×0.05mg/kg)/1 mg/ml= 17.5 mls |
| Flunixin Meglumine - Banamine (IV)  | Dose = Conc =  | NSAIDThe total daily dose should not exceed 2.2 mg/kg (1.0 mg/kg) of body weight.Avoid rapid intravenous administration of the drug.This is also given in teat surgery to decrease post-operative swelling | Do not use it in cows with hypersensitivity reactions. The IM route is extra-label in cattle and should only be used when the IV route is not feasible for use. Flunixin should not be used in an attempt to ambulate cattle to be shipped for slaughter. | Meat: 5-14 DAYSDairy: 12-48 HOURS | (350 kg×1.1mg/kg)/50 mg/ml=7.7 mls |
| 2% Lidocaine (IM) | Ensure to use half toxic dose in calculations Dose = 10mg/kgConc. = 2% (2mg/ml) | Local Anesthetic  Provides short-term pain control (1-2 hours). | Use should be restricted to calm animals. Use with extreme care in animals with severe shock, heart block, neurological diseases, spinal deformities, septicemia and severe hypotension or hypertension. Avoid injection at the actual surgery site since it may delay healing Toxic Dose: 10mg/kg | Meat: 1 dayDairy: 24 hrs | (350 kg×10mg/kg)/20 mg/ml= 175 mls (toxic dose)=15 ml actual dosage |
| Combikel 40 LA – Penstrep (IM) | Dose = 20,000 IU/kg Conc. = 200,000 IU/ml  | Antibiotic spectrum antibiotic for the treatment of infections such as arthritis, mastitis and gastrointestinal, respiratory and urinary tract | Do not use in animals with hypersensitivity to penicillin, procaine and/or aminoglycosides.Do not administer to animals with impaired renal function. | Meat:21 days Dairy: 3 days | (350 kg×20,000 IU/Kg)/200,000 IU/ml= 35 ml |
| Drycloxakel | Dose = 9g | Anitbiotic Intramammary medication/ointment. For use in DRY COWS | Don’t use in animals hypersensitive to penicillin or lactating animals. If mastitis suspected appropriate therapy should be given before administering dry cow medication  | 30 Days | 1 entire tube injector per quarter |
| MastikelN.P | Dose = 10g Neomysin sulphate: 500,000 I.UProcaine benzylpenicillin: 300,000 I.U | Antibiotic Intramammary medication/ointment It is an antimicrobial used for intramammary structures. It is used to treat acute mastitis during lactation | Do not use it in animals that are hypersensitive to any of the components of the drug. | Meat: 4daysDairy: 3days | Cows: 1 injector per infected quarter.Sheep: ½ injector per infected quarter |

**Emergency Reversal Drugs**

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| Drugs | Dose + Concentration | Usage | Calculation |
| Atropine (IV) | Dose = 0.04mg/kg Conc = 0.54mg/ml | Anticholinergic to treat bradycardia | (350kg×0.04mg/kg)/0.54mg/ml=26 mls |
| Tolazoline (Slow IV) | In general = 2x the xylazine dosage Dose = (0.05mg/kg) | To reverse xylazine  | 0.05 mg/kg\*2= 0.1 mg/kg= (350 kg0×.1mg/kg)/100 mg/ml= 0.35 mls |
| Epinephrine (IM) | Dose = 0.02mg/kgConc = 1 mg/ml | To treat anaphylaxis | (350 kg×0.02mg/kg)/10 mg/ml=0.7 mls |