

PART-IV
VETERINARY FORMULARY

1. ANTIMICROBIALS

1. 1 Amikacin

Form

Injectable solution

Therapeutic group

Broad spectrum aminoglycoside antibiotic

Composition

Each mL contains equivalent to 250mg of amikacin sulphate

Indication/use

Local and systemic infections caused by bacteria such as septicemia, trachea-bronchitis, osteoarthritis, UTI, GI infections, wounds and skin infections.

Dose/administration

5 - 7.5mg/kg body weight by IM or SC route every 12 hours

Contra-indications

Potentially toxic causing ototoxicity, neuromuscular blockade and nephrotoxicity.

Counseling

Do not use in food animals. Discard milk for 3days post treatment.

Pharmaceutical precaution

Protect from direct sunlight

1.2 Ampicillin

Form

Injectable solution

Therapeutic group

Bactericidal antibiotic

Composition

Each vial contains 250mg or 500mg ampicillin sodium.

Indication/use

Broad spectrum bactericidal agent effective against *Leptospira*, GI tract infections, respiratory infections, UTI, mastitis, arthritis, wounds, abscesses and septicemia.

Dose/administration

2 - 7mg/kg body weight by IM or IV injection. Repeat twice daily.

Contra-indications

Do not use in small herbivores (e.g. rabbits, guinea pigs and hamster). History of allergic reactions to penicillin.

Pharmaceutical precaution

Store in cool dry place not exceeding 25°C. Protect from moisture.

1.3 Ampicillin & Cloxacillin

Form

Injectable solution.

Therapeutic group

Broad spectrum antibacterial.

Composition

Each vial contains ampicillin sodium equivalent to 1gm of ampicillin and cloxacillin sodium equivalent 1gm of cloxacillin.

Indication/use

Broad spectrum amino-penicillin indicated in mastitis, metritis, septicemia, chronic wounds, systemic and local infections, abscesses, enteritis and pneumonia.

Dose/administration

4 - 10mg/kg body weight IM/IV injection repeated twice daily for a period of three days.

Contra-indications

History of allergic reactions to penicillin.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

1.4 Amoxycillin Trihydrate**Form**

Tablet

Therapeutic group

Antibacterial agent.

Composition

Each tablet contains equivalent to 1.5gm amoxicillin trihydrate.

Indication/use

Respiratory tract infections, mastitis, urinary tract infections, wound infections, calf scours, otitis, hemorrhagic septicemia, metritis, necrotic enteritis, infectious coryza, coli septicaemia, fowl cholera, fowl typhoid, salmonellosis and CRD.

Dose/administration

Dog & cats: 10 - 20mg BID; Cattle, horse, goat and pig: 10mg/kg body weight BID.

Contra-indications

Penicillin-hyper sensitivity reactions may occur.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

1.5 Benzathine - Penicillin**Form**

Injectable solution.

Therapeutic group

Long acting narrow spectrum antibiotic.

Composition

Each vial contains Benzathine penicillin G 600000IU.

Indication/use

Treatment of general systemic bacterial infections that is sensitive to penicillin in domestic animals.

Dose/administration

All species: 11000 - 22000 IU/kg body weight only by deep IM injection. Repeat after 5 to 7 days.

Contra-indications

Hypersensitive to penicillin. Prompt treatment with antihistamines is indicated if such reactions occur.

Counseling

If you know you are sensitive or if you have been advised not to work with such preparation, handle this product with care to avoid exposure.

Pharmaceutical precaution

Store below 25°C and protect from light. Opened vials should be used within 4 weeks.

1.6 Cefotaxime**Form**

Injectable solution.

Therapeutic group

Cephalosporin antibiotic.

Composition

Each vial contains equivalent to 500mg and 1gm of cefotaxime.

Indication/use

Treatment of infections of soft tissues and bones caused by bacteria that are resistant to other commonly used antibiotics such as osteomyelitis, prostatitis and arthritis.

Dose/administration

20 - 25mg/kg body weight by IM or IV route every 6-8 hours.

Contra-indications

IM injections can be painful and repeated IV injections may lead to local phlebitis, nausea, vomiting and diarrhea.

Counseling

Do not inject in animals with history of penicillin allergy.

Pharmaceutical precaution

Store in cool dry and dark place

1.7 Cephalexin**Form**

Tablet and suspension.

Therapeutic group

Antibacterial.

Composition

Tablet contains 1.5gm cephalexin and suspension contains 125mg cephalexin.

Indication/use

Respiratory tract infections, urinary tract infections, localized infections in skin and soft tissues, fowl cholera, gangrenous dermatitis, salmonellosis, coryza and E coli.

Dose/administration

Dogs & cats: 10 - 30mg/kg body weight TID; Poultry: 200gm/5000chicks or 2000 growers/broilers or 1000 layers in water daily for 3days.

Contra-indications

Avoid using in penicillin hypersensitive animals.

Counseling

Do not use simultaneously with penicillin antibiotics.

Pharmaceutical precaution

Store below 25°C and protect from light.

1.8 Enrofloxacin**Form**

Injectable solution.

Therapeutic group

Antibacterial.

Composition

Each mL contains 50mg or 100mg on enrofloxacin.

Indication/use

Diseases of the respiratory and digestive tract of primarily bacterial origin (*Pasteurella*, *Mycoplasma*, *Colibacilli*, *Salmonella*), atrophic rhinitis, enzootic pneumonia, MMA syndrome in pigs, UTI and GI infections, and wounds in dogs and cat.

Dose/administration

By SC or slow IV in cattle, by IM only in pigs, and by SC only in dogs and cats either once daily or divide the total dose into two equal doses and give 12 hourly; Calves, sheep, pigs and cattle: 2.5mg/ kg for 3 days in severe respiratory infections. In salmonellosis the dose should be increase to 5mg /kg in cattle and to 10 mg/kg in calves, sheep and pigs; Dogs & cats: 5mg/kg body weight for 5 days.

Contra-indications

Treatment of horses, dogs under one year age and cats below 8 weeks of age.

Pharmaceutical precaution

Store in cool place. Protect from light. No more than 5 withdrawals should be made once the vial is opened and use the product within 28 days of first withdrawal.

1.9 Erythromycin**Form**

Tablets.

Therapeutic group

Antibacterial agent.

Composition

Each vial contains 500mg erythromycin stearate.

Indication/use

It is indicated in bacterial pharyngitis, bronchitis, pneumonia, amoebic dysentery, sinusitis, abortion, brucellosis, feline pneumonitis, actinomyces, mastitis, UTI, pyometra and BQ. Pink eye and Galsser's disease in horses, swine erysipelas and enzootic pneumonia in pigs and CRD, ornithosis, infectious synovitis and infectious coryza in poultry.

Dose/administration oral

Cattle, sheep, goat and horse: 2.2 - 4.4 mg/kg body weight; Pigs: 2.2 - 6 mg/kg body weight
Dog: 10 - 40 mg/kg body weight; Cat: 10 - 15 mg /kg body weight;

Contra-indications

Large doses may lead to vomiting and diarrhea occasionally.

Pharmaceutical precaution

Store below 25°C and protect from light.

1.10 Gentamycin**Form**

Injectable solution.

Therapeutic group

Narrow spectrum antibacterial agent.

Composition

Each mL contains 40mg gentamycin sulphate.

Indication/use

Bacterial infections due to susceptible organisms including UTI, cystitis and nephritis, respiratory tract infections, pneumonia and tracheobronchitis, pyodermitis, wounds, and peritonitis in dogs and cats.

Dose/administration

By IM or SC route and rarely IV. Also as intra-uterine infusion

Dog & cats: 3 - 5 mg/kg every 12 hours on first day and then once daily thereafter.

Cattle & horse: 1 - 2 mg/kg body weight as parenteral injection, 2 to 4 times daily & 3 - 6mL in 30 - 60mL distilled water or normal saline for 3 - 5 days as intra-uterine infusion (40mL in 200mL of sterile saline in the mare for 3 - 5 days).

Contra-indications

Use in food producing animals or in pregnant animals. Reduce dosage in animals with impaired renal function by half. Should not be used in association with diuretics such as frusemide.

Pharmaceutical precaution

Store below 30°C. Protect from light

1.11 Lincomycin HCL

Form

Injectable solution.

Therapeutic group

Narrow spectrum antibacterial agent.

Composition

Each mL contains 300mg lincomycin hydrochloride.

Indication/use

Staphylococcus, Streptococcus, Clostridium, Actinomyces, Mycoplasma. It is indicated in respiratory tract infections, mastitis, metritis, etc. In dogs it is also indicated in skin, joint and soft tissue infections.

Dose/administration

Bovine: 10mg/kg body weight BID as I/M, I/V & 100 - 200mg intra-mammary or intra-uterine infusion; Dog: 15 – 25mg/kg body weight BID; Pig: 11mg/kg body weight BID.

Contra-indications

Reduced milk production, inappetance, diarrhea, ketosis may be shown in prolonged therapy. Pain irritation and indurations may occur on IM administration

Pharmaceutical precaution

Store below 25°C and protect from light.

1.12 Metronidazole

Form

Injectable solution.

Therapeutic group

Antibacterial, antiprotozoal agent.

Composition

Each mL contains 500mg of metronidazole.

Indication/use

Post-partum metritis, pyometra, endometritis, abortion, repeat breeding, wound infections, hoof infections including abscesses and thrush, sinusitis, balanitis, balanoposthitis, otitis externa, gingivitis and anal sacculitis.

Dose/administration

Cattle & buffaloes: 4mL/kg body weight intravenous daily for 7 days; Intra-uterine: 25 - 50mL every alternate day for 3 days; Topical: quantity will depend upon the nature of lesions treated. Treatment to continue till 7 days.

Pharmaceutical precaution

Store below 25°C and protect from light.

1.13 Oxytetracycline LA**Form**

Injectable solution.

Therapeutic group

Broad spectrum antibacterial agent.

Composition

Each mL contains oxytetracycline dehydrate equivalent to 200mg of anhydrous oxytetracycline.

Indication/use

It is indicated in the treatment and control of a wide range of common systemic, respiratory and local infections caused by or associated with, organisms sensitive to oxytetracycline in cattle, sheep and pigs. Therapy of acute infections caused by wide range of organisms such as *Rickettsiae*, *Chlamydia*, *Actinomycetes*, *Mycoplasma*, protozoa and some larger viruses.

Dose/administration

By deep I/M injection, to cattle, sheep and pigs only; The recommended dosage rate is 20mg/kg body weight, i.e. 1mL/10 kg body weight; Piglets at different age: Day 1- 0.2mL, Day 7-0.3mL, Day 14- 0.4mL, Day 21- 0.5mL and over day 21-1mL/10kg body weight; The maximum volume of injection at any one site is 20mL in cattle, 10mL in pigs and 5mL in sheep.

Contra-indications

Not to be used in dogs, cat and horses. Once a vial has been broached the contents should be used within 4 weeks. Do not dilute (see literature for other details).

Pharmaceutical precaution

Store below 25°C and protect from light.

1.14 Oxytetracycline HCL**Form**

Injectable solution.

Therapeutic group

Broad spectrum antibacterial.

Composition

Each mL contains stable aqueous solution equivalent to oxytetracycline HCl 50mg.

Indication/use

It is indicated in the treatment and control of a wide range of common systemic, respiratory and local infection caused by or associated with organisms sensitive to oxytetracycline in cattle, sheep and pigs. Treatment of infections caused by pathogenic bacteria, certain *Rickettsiae*, *Chlamydia*, *Actinomycetes*, *Mycoplasma*, protozoa and some large viruses.

Dose/administration

Give by IM or slow IV route; Cattle & horse: 2 - 5mg/kg body weight, (1 - 2mL/25kg) daily for 3 - 5 days; Pig, sheep & goat: 4 - 9mg/kg body weight (2 - 2.5mL/25kg) daily for 3 - 5 days; Dog & cat: 1mL/10kg body weight daily for 3- 5 days.

Contra-indications

Not to be used in renal or hepatic damage. Avoid IV route in dogs. Dilution with solutions of calcium salts will cause precipitation and should be avoided.

Pharmaceutical precaution

Store in cool dry place and protect from light. Solution may darken on storage but the potency remains unaffected.

1.15 Strepto-Penicillin**Form**

Injectable solution.

Therapeutic group

Broad Spectrum antibiotic.

Composition

Each vial contains 2,000,000 IU procaine penicillin and 2.5g streptomycin sulphate.

Indication/use

Against a wide variety of organisms including *Pasteurella*, *Klebsiella*, *Corynebacterium*, *Erysipalothrix*, *Listeria*, *Salmonella*, *Streptococci* and *Staphylococci*.

Dose/administration

Add 7.5mL of distill water into the vial to make it 10mL. The recommended daily dose is 8mg procaine penicillin and 10 mg streptomycin sulphate; Large animal: 2mL/50kg body weight, IM route; Small animal: 1mL/5kg body weight, IM route.

Contra-indications

Hypersensitive to penicillin prompt treatment with antihistamines is indicated if such reaction occurs.

Pharmaceutical precaution

Store below 25°C and protect from light. Use contents within 4 weeks. Shake well before use.

1.16 Sulphadimidine**Form**

Injectable solution & bolus.

Therapeutic group

Broad Spectrum antibiotic .

Composition

Each mL contains 333mg sulphadimidine sodium and each bolus contain 5gm sulphadimidine.

Indication/use

In the treatment of infectious diseases of calves and milking cows, sheep, pigs caused by or associated with organisms sensitive to sulphadimidine and also effective in the treatment of coccidiosis and footrot.

Dose/administration

SC injection in calves and IV in milking cows; Initial dose: 200mg/kg or 15 to 30mL/50kg.

Maintenance: 100mg/kg or 7.5 - 15mL/50kg daily by IV or SC route; In Dogs half the initial dose should be given twice daily by IV or SC route; Horse, cattle, sheep, goat & pigs: 200mg/kg body weight i.e. 2 boli per 50kg body weight followed by 1 tablet/50kg daily for two further days only. The tabs can be used as uterine pessaries prophylactically in cattle after parturition and in the treatment of metritis.

Contra-indications

Known sulphonamide sensitivity. Severe liver damage and blood dyscrasiasis. Do not use by IM route. IV should be given slowly. To minimize local tissue reaction following SC injections divide the dose into 2 or 3 parts and inject into several sites. Prolonged treatment may give rise to vitamin K deficiency, agranulocytosis and hemolytic anemia especially in young stock. Local anaesthetics of the procaine group are antagonistic and should not be used during treatment. Not for use in pre-ruminant calves.

Counseling

Bolus can be administered whole or crushed in the form of powder.

Pharmaceutical precaution

Store below 25°C and protect from light.

1.17 Trimethoprim & Sulphadiazine**Form**

Injectable solution, Bolus/pessary.

Therapeutic group

Antibacterial agent.

Composition

Each mL contains 400mg sulphadiazine and 80mg trimethoprim.

Each bolus contains 2g sulphadiazine and 400mg trimethoprim.

Indication/use

Oral: Bacterial scours in calves, sheep and foals; systemic infections, e.g. acute salmonellosis, *E. coli*, bacterial pneumonia, calf diphtheria, etc; Intrauterine: Post parturient bacterial infections and other female genital tract, alimentary infections (e.g. gastroenteritis, peritonitis); upper and lower respiratory tract and urogenital tract infections; skin infections, septicemia, eye, ear and mouth infections, etc.

Dose/administration

Give whole or disperse in water and dose as a suspension. Provide 30mg/kg/day.; Oral: Foals, calves and sheep: 1bolus/80kg body weight orally in 2 divided doses daily for 3 days; Intra-uterine: Mares, cows: 1 to 2 boli; Sows, ewe 0.5 to 1bolus; By IM route: Standard dose for all animals 1mL/30kg body weight daily.

Contra-indications

Known sulphonamide sensitivity, liver parenchymal damage, blood dyscrasias.

Pharmaceutical precaution

Shake well before use. Store below 25° C, protect from light

2. Anthelmintics**2.1 Rafoxanide + Levamisole combination****Form**

Oral suspension of Rafoxanide 1.5% w/v & Levamisole 1.5% w/v oral suspension;1000ml/1 liter jar.

Therapeutic group

Anthelmintics (Flukicide + Nematocide).

Composition

Each 5 ml contains 75mg of Rafoxanide and 75 mg of Levamisole hydrochloride

Indication

It is used in the treatment and control of mixed worms infestations, against mature and immature blood sucking nematodes, lungworms and adult and young liver fluke.

Dose and administration

Orally 1ml/2kg body weight in large animals (Rafoxanide @ 7.5mg/kg body weight and Levamisole @ 7.5 mg/kg body weight).

Contraindication

Care should be taken if given to horses as safety margin is much narrow.

Counseling

Administer as a drench or in feed or with water. Shake properly before use. Avoid contact with eyes. Wash hands thoroughly with water after handling the drug. Animals should not be slaughtered within 14 days and milk should not be drawn within 24 hours for human consumption after cessation of treatment.

Pharmaceutical precautions

Store at room temperature within 10 to 25 degree centigrade. Should not be exposed to light.

2.2 Triclabendazole**Form**

Bolus

Therapeutic group

Anthelmintics -Flukicide

Composition

Each boli contains 250mg or 900mg of Triclabendazole.

Indication

For the treatment and control of early immature and mature liver fluke (*F.gigantica/F.hepatica*) in sheep, goats, cattle and for adult flukes in buffalo.

Dose and administration

Sheep and goat : 10mg/kg b.wt.(1 bolus of 250mg per 25kg b.wt)

Cattle and Buffalo : 12 mg/kg b.wt.(1 bolus of 900 mg per 75kg b.wt)

2.3 Albendazole**Form**

Granules and tablet

Therapeutic group

Anthelmintics-antinemodal against round worms and to some extent to flukes

Composition

Each 30 gram packet of granules contains Albendazole I.P. 5% w/w. Each tablet contains

Indication

Anthelmintic (broad spectrum) covering hemonphus, trichostrongylus, for the treatment and control of early immature and mature liver fluk(*F.gigantica/F.hepatica*) in sheeps, goats,cattle and for adult flukes in buffalo.

Dose and administration

Cattle:for all type of worms infestation:7.5mg/kg body wt;Liverfluke 10 mg /kg body wt

Horse: 5-10 mg/kg body wt.;Sheep,goat and pig: 5mg/kg body wt (&.5mg/kg body wt for liver fluke); Dog: 15mg /kg body wt; Poultry: 5mg/kg body wt adult bird. For dog and poultry the treatment should be repeated for 3 consecutive days.

Counseling

Care should be taken not to exceed dose rate during the first month of pregnancy .

Pharmaceutical precautions

Store in cool, dry and dark place.

2.4 Oxylozanide**Form**

Oral Suspension of 3.4% w/v.

Therapeutic group

Anthelmintics-Flukicide and Nematodal drug

Composition

Suspension strength of 3.4% w/v in 1litre jar. Each ml contains 34mg of Oxylozanide.

Indication

For the treatment and control of Fascioliosis/liver fluke in cattle, sheep and goat. In immature form of liver fluke in sheep 3 times the recommended dose is highly effective. It is used in acute fascioliosis.

Dose and administration

Given as oral drench. (10 mg/kg.wt in cattle or 15 mg/kg.b.wt in sheep orally).

Contraindication

Do not overdose in cattle. Side affect are occasionally enhance in animals suffering from severe Liver damage or dehydration at the time of dosing.

Oxyclozanide does not taint milk or in any way directly affect its quality or suitability for human consumptions. Can be given to young, pregnant and lactating animals with due regards to the physical condition of the animals in advance pregnancy.

Pharmaceutical precautions:

Store at room temperature and shake well before use

2.5 Fenbendazole**Form**

25% granule and 150mg tablet.

Therapeutic group

Anthelmintics-Nematocide

Composition

Fenbendazole B.P (Vet) 25% w/w

Indication

Effective against all type of gastro-intestinal roundworms found in cattle, sheep, goat, horse and pig. Lung worms in cattle, sheep and goat. The normal dose eliminate in sheep. Effective on the immature worms also. For treatment of pregnant bitches to reduce pre-and post-natal transfer of helminthes infestation to puppies. Safe in pregnant animals and stud males.

Dose and administration

For cattle, sheep, goat, horse and pig; 5mg/kgbt.wt. To make a suspension dissolve 120gm in 2 L of water. 1mL of suspension contains 50mg albendazole. Administrate at dose rate of 1mL/3kgbt.wt. For tapeworms in sheep and goat 10ml/15kg bt.wt.

Therapeutic precautions

Store at room temperature and protect from heat and light.

2.6 Piperazine citrate**Form**

Syrup in 450 ml plastic bottle

Therapeutic group

Anthelmintics-Nematocide

Composition

Each ml contains 400mg of Piperazine citrate as anhydrous I.P. 40% w/v

Indication/uses

Used in Ascaridia in horses and cattle, nodular worms in swine and small strongyloides in horses including Ascaridia and capillaria worm infestation in poultry.

Dosage and administration

Cattle, buffalo, calf, horse: 10-20 ml per 30 kg b.wt; *Pig:* 10 ml per 25 kg b.wt; *Dogs and cats:* 0.2 ml per kg b.wt; *Poultry:* 4 -6 weeks age 20 - 25 ml per 100 birds in 3 - 5 ltr drinking water. Birds with 6 weeks and above 40 ml per 100 birds in 5 - 10 ml drinking water

Contra-indications/warnings

Over dosage may cause vomiting, diarrhoea, and ataxia in dogs and cats.

Pharmaceutical precautions

Store below +30°C. Protect from light.

2.7 Niclosamide

Form

Oral tablet

Therapeutic group

Anthelmintics-Intestinal Anthelmintics-Taenicide

Composition

Each tablet contains 500mg of Niclosamide

Indication/uses

Treatment against Tapeworm infestation in all animals and birds and Amphistomiasis in cattle and sheep.

Dosage and administration

50mg per kg body weight orally and repeat the dose after one to two week (1tablet per 10 kg body weight if one tablet is 500mg).

Contraindication

In chronic constipation, a laxative should be given the night before treatment or a purgative should be given after 2 hours after the medication in simple stomach animals and after half a day in ruminants.

2.8 Tetramisole

Form

Oral powder

Therapeutic group

Anthelmintics

Composition

Each jar contains 100g of the powder with the strength of tetramisole HCL B.P. 30% w/w. Each gram powder contains 300mg of Tetramisole.

Indication

Broad spectrum Anthelmintics mainly against round worms (Lungworms, Ascaris, strongyles and strongyloides etc).

Dose and administration

Oral administration @ 15mg/kg body weight for all livestock. In elephant 4.5 to 5mg/kg body weight orally.

Contraindication

It has a narrow safety margin and should be careful while deworming animals.

Counseling

Therapeutic precautions

Store in cool, dry and dark places.

2.9 Closantel**Form**

Oral solution of 15% suspension and 1000mg bolus.

Therapeutic group

Anthelmintics-Broad spectrum Anthelmintics

Composition

Each ml of the liquid contains 150mg closantel. Each bolus contains 1000mg.

Indication

Closantel is a broad spectrum anthelmintics. Salicylanilide anthelmintic which uncouples oxidative phosphorylation in the mitochondria leading to energy depletion and death of the parasites. It is effective against *Haemonchus*, *Bunostomum*, Adult and larval stages of flukes, ticks, mites and fly larvae. Used for treatment of Nematodal infestations, flukes, Cestodal infestations and ectoparasites.

Dose and administration

Given orally in cattle, sheep and goat @ 7.5-10mg/kg body weight.

Contraindication

Over dosing may cause complications.

Pharmaceutical precautions

Store at room temperature and shake well before use.

2.10 Levamisole HCL**Form**

Injectable solution of 7.5%w/v

Therapeutic group

Broad spectrum Anthelmintics against round worms as infectious.

Composition

Each ml contains 75 mg levamisole HCL.

Indication/uses

Broad spectrum anthelmintic used in the treatment and control of nematode infections in cattle and sheep - *Dictyocaulus spp.*, *Trichostrongylus spp.*, *Cooperia*, *Ostertagia*, *Haemonchus spp.*, *Nematodirus spp.*, *Bunostomum spp.*, *Oesophagostomum spp.*, *Chabertia spp.*

Dosage and administration

By SC injection only @ 7.5 mg/kg b.wt; *Cattle*: 1 ml per 10 kg ; *Sheep*: 0.5 ml per 5 kg

Contra-indications/warnings

Do not exceed dosage. Safe in pregnant animals but care is to be taken in heavily pregnant or stressed animals. Milk for human consumption must not be taken during treatment and before 84 hours after treatment. Handle with care; avoid contact with eyes and skin. Levamisole can cause idiosyncratic reactions and serious blood disorders in a very few number of people with symptoms like dizziness, nausea, vomiting, or abdominal discomfort.

Pharmaceutical precautions

Store below +25° C. Protect from light. The time between first and last withdrawal should not exceed 28 days.

2.11 Praziquantel**Form**

Tablet of 50mg per tablet

Therapeutic group

Anthelmintics-Taenicide and against Schistosomiasis

Composition

Each tablet contains 50 mg praziquantel

Indication/uses

Against mature and immature forms of adult tapeworm in dogs and cats, including hydatid tapeworm *Echinococcus granulosus* in dogs.

Dose and administration

Against Tapeworms/ Cestodes(adult, juveniles and larval forms)

Given orally @ 5 mg/kg body wt. (i.e. 1 tablet/10 kg) in general. For Dogs: up to 2.5 kg 1/4 tablet, 2.6 - 5 kg 1/2 tablet, 6-10 kg 1 tablet, 11 - 20 kg 2 tablet, 21- 30 kg 3 tablet, over 30 kg pro rata, Cats: Kittens and young cats 1/4 tablet, Adult cats 1/2 tablet. Repeat at 2-3 weeks and later every six weeks if necessary. Can be given to pregnant animals.

Against Schistosomiasis

In cattle 60mg/kg body weight orally and repeated after one month based on the laboratory results.

Pharmaceutical precautions

Store in cool, dry place and protect from the direct sunlight.

2.12 IVERMECTIN

Form

Injectable liquid as 1% w/v

Therapeutic Group

Anthelmintics –Endoparasiticide and Ectoparasiticide

Composition

Each ml contains 10 mg of Ivermectin in 10ml vial.

Indication/uses

For the treatment and control of gastro-intestinal nematodes/roundworms, lungworm, eye worm, warbles and also external parasites like tick, lice and mites in cattle sheep, and pigs (**ecto and endoparasites except tapeworm and flukes.**)

Dosage and administration

Given subcutaneously in Cattle, sheep, goat, poultry, and camel @200 microgram(0.2mg)/ kg body weight or 1ml/50 kg body wt (if the presentation is 10mg/ml of the liquid). In pig given S/C @ 1 ml/33 kg (300microgram or 0.3mg per kg body weight).

Contra-indications/warning

Do not use in lactating cows or in dairy cows due 28 days prior to calving. Not to be administered IV or IM. Avoid contact with the eyes and skin. May not be used in other species. Should not be used in cattle and other livestock within 21 days of slaughter.

Pharmaceutical precautions

Store below +30° C. Protect from light.

3. ANTICONVULSIVE

3.1 Diazepam

Form

Injectable solution.

Therapeutic group

Anticonvulsive & sedative.

Composition

Each mL contains 5mg diazepam.

Indication/use

Convulsive disorders in foals (including neonatal seizures) and dogs (including status epilepticus) in strychnine poisoning; pre-anesthetic in horses (xylazine/ketamine) and dogs.

Dose/administration

By IM or slow IV route: Dogs; pre-anesthetic: 0.2 - 0.6 mg/kg (0.2 - 0.6mL/5kg). Anticonvulsant; 1 mL/5kg slow IV. In status epilepticus give initial 5mg dose; repeat after 1 - 2minutes if response is inadequate; give pentobarbital sodium 16.5mg/kg by slow IV if clinical signs persist after second diazepam injection. Strychnine poisoning: 1mg/kg (2mL/10kg) by slow IV; repeat dose by IM injection.

Horse; Pre-anesthetic: 12mL/450kg IM, 20minutes prior to xylazine 1.1mg/kg by IV injection. Sedation and ataxia occur in 2 - 3minutes. Finalize induction with ketamine 2.2mg/kg by rapid IV injection. Anticonvulsant: 1 - 4mL/50kg by slow IV in foals. For convulsant seizures in neonatal foals give 5 - 20mg and repeat as necessary; higher doses may be fatal. Lack of response or rapid seizure reappearance following repeated diazepam doses will necessitate slow IV phenobarbital sodium injection.

Contra-indications

Use during gestation or pregnancy. Take particular care to avoid injection into small veins or intra-arterial administration; phlebitis and thrombosis may result. Give IV injection slowly; rapid administration may cause bradycardia and fatal cardiac arrest due to propylene glycol contents.

Pharmaceutical precaution

Store below 25°C.

3.2 Phenobarbitone sodium**Form**

Oral tablets.

Therapeutic group

Anticonvulsive.

Composition

Each tablet contains 30mg phenobarbitone sodium.

Indication/use

Symptomatic or prophylactic control of convulsive seizures, status epilepticus. The only choice of drug in convulsive seizures.

Dose/administration

Dogs & cat: 2.2 – 6.6mg/kg body weight BID orally.

Contra-indications

Polyphagia, polydypsia, polyurea are the effects. In toy breeds, whining is seen

Pharmaceutical precaution

Store below 25°C

4. ANTI-NEOPLASTIC DRUGS**4.1 Vincristine Sulphate****Form**

Injectable solution of 1mg vial in 1ml.

Therapeutic group

Anti-neoplastic/Cytotoxic drug

Composition

Each vial contains 1 mg of Vincristin Sulphate (anhydrous) & 50mg of Lactose.

Indication/uses

Chemotherapy of neoplastic diseases like lymphoreticular neoplasm, carcinomas, and sarcomas and mainly in Canine Transmissible Venereal Tumour (CTVT) in dogs.

Dosage and administration

By IV route only, either directly into the vein or into the tubing of a running IV infusion, injection being accomplished within one minute. Extreme care must be used in calculating and administering the dose of Vincristine sulphate since over dosage have serious or fatal outcome.

In dogs given slowly and carefully intravenously @ **0.5 mg/M²** given weekly or every 14 days if required

Conversion table from body weight to surface area

For. dogs: Weight (kg) to surface area (m²) to mg and ml of the Vincristine Sulphate for use.

Kg Body weight	m ²	mg of Vincristine SO4	ml of Vincristine So4	Kg Body weight	m ²	mg of Vincristine SO4	ml of Vincristine So4
0.5	0.06	0.03	0.03	18	0.69	0.345	0.345
1	0.1	0.05	0.05	19	0.71	0.355	0.355
2	0.15	0.075	0.075	20	0.74	0.37	0.37
3	0.2	0.1	0.1	21	0.76	0.38	0.38
4	0.25	0.125	0.125	22	0.78	0.39	0.39
5	0.29	0.145	0.145	23	0.81	0.405	0.405
6	0.33	0.165	0.165	24	0.83	0.415	0.415
7	0.36	0.18	0.18	25	0.85	0.425	0.425
8	0.4	0.2	0.2	26	0.88	0.44	0.44
9	0.43	0.215	0.215	27	0.9	0.45	0.45
10	0.46	0.23	0.23	28	0.92	0.46	0.46
11	0.49	0.245	0.245	29	0.94	0.47	0.47
12	0.52	0.26	0.26	30	0.96	0.48	0.48
13	0.55	0.275	0.275	31	0.99	0.495	0.495
14	0.58	0.29	0.29	32	1.01	0.505	0.505
15	0.6	0.3	0.3	33	1.03	0.515	0.515
16	0.63	0.315	0.315	34	1.05	0.525	0.525
17	0.66	0.33	0.33	35	1.07	0.535	0.535

Note: The actual dosages calculated in this table and based on the body weight look for the corresponding ml of Vincristine sulphate to be given. There is no need to calculate if you use this table for dogs ranging from 0.5kgn to 35 kgs. For dogs over 35 kgs use the above formula to calculate the dose.

Contra-indications/warnings

Patients with significantly reduced liver function should receive reduced initial dose rate which may be increased subsequently depending on tolerance to the initial treatment. For IV use only, intrathecal administration is fatal. Because of the possibility leucopenia, signs of any complicating infection should be closely observed. Appearance of leucopenia during the course of treatment warrants careful consideration before giving the next dose.

Routine use of laxatives and enemas is recommended to ensure regular bowel function. Avoid contact with eyes. Exercise extreme caution in its use in pregnant patients because of its teratogenic effect.

Pharmaceutical precautions

Store the drug between 2 - 8° C. Do not freeze. Protect from light. Do not dilute in solutions that raise or lower the pH outside the range of 3.5 - 5.5. Do not mix with anything other than normal saline or glucose in water.

4.2 Lithium Antimony Thiomalate

Form

Injectable solution.

Therapeutic group

Anti-neoplastic, antifilarial drug.

Composition

Each mL contains 60mg lithium antimony thiomalate.

Indication/use

For the treatment of tropical nasal granuloma (schistosomiasis) in cattle, also useful in treatment of filariasis and Leishmaniasis in dogs and papillomatosis in cattle and horses.

Dose/administration

By deep IM route; Nasal granuloma: cattle: 20mL deep IM on 2 to 3 occasions at intervals of one week; Papillomatosis: cattle: 15mL deep IM on 4 to 6 occasions at intervals of 2 days. As the warts necroses they should be enucleated and the raw surfaces dressed with an antibacterial agent; In horses follow the same course as in cattle; make sure that the injection is given deep IM as SC deposition of the solution might result in an area of lightening around the site of injection; Dogs: 1mL IM raising by increments of 0.5mL to 2.5mL. Injection should be given on alternate days on 4 to 6 occasions.

Pharmaceutical precaution

Store between 2 - 8° C. Do not freeze. Protect from light

5. AYURVEDICS

5.1 Liver tonic

Form

Oral powder of 100 g cachet

Therapeutic group

Ayurvedic/liver tonic

Composition

It contains ayurvedic liver tonic ingredients.

Indications

Anorexia, liver dysfunctions, hepatitis, jaundice, aflatoxicosis, debility and general weakness and during convalescence.

Dosage and administration

Used through oral route with Cattle & Horse: 40-50gm twice daily for at least two days; Foal, Calf & pig: 20-25 gm twice daily, and Sheep/goat:10-15 gm daily

5.2 Rumenotoric/Stomachic

Form

Oral powder of 1kg

Therapeutic group

Ayurvedic/stomachic/Appetizer

Composition

It contains ayurvedic ingredients.

Indication

Indigestion, Anorexia, ruminal statis, dyspepsia, constipation, flatulence, general debility & stress condition.

Dosage and administration

By oral route: in *Cattle, horse, mule*: -40 to 60 g as a bolus or electuary twice daily; *Calf, colt, heifer, adult Pig*: -20 to 30 g as a bolus or electuary twice daily; *Sheep & Goat*: - 10 to 15 g as a bolus or electuary twice daily.

5.3 Antidiarrhoeal/Neblon**Form**

Oral powder of 1kg

Therapeutic group

Ayurvedic/antidiarrhoeal

Composition

It contains ayurvedic ingredients.

Indication

Acute or chronic diarrhoea, dysentery of varying etiology.

Dosage and administration

Given through oral route in Buffaloes/ *Cattle & Horse*: 30 to 50 g orally, once or twice daily; *Calf, Sheep, Colt, Pig*: 6 to 10 g orally, once or twice daily; *Dog & Piglet*: 2 - 3 g. orally, once or twice daily and in poultry 0.5 to 1% mixed with the feed.

Pharmaceutical precaution

Store below 25°C.

5.4 Antibloat**Form**

Oral powder of 1kg

Therapeutic group

Ayurvedic/antibloat

Composition

It contains ayurvedic ingredients

Indication

Given orally gaseous and frothy bloat, tympany, colic and impaction

Dosage and administration

Given orally or directly into rumen in *Cattle, Buffalo, Horse*: 80 gm

Calf, foal, heifer: 40 gm, *Pig, sheep, goat*: 20-25 gm; In Gaseous bloat – the dose to be suspended in 250ml of luke warm water ; In Frothy bloat – the dose to be suspended in 250-500ml edible oil; In Impaction: administered with 150-400 gm of Magnesium sulphate; In emergency directly administered into rumen through canula

5.5 Uterine tonic**Form**

Oral powder of 500g.

Therapeutic group

Ayurvedic drug/Uterine tonic

Composition

It contains ayurvedic ingredients

Indication

Retained placenta, involution of uterus, as an ideal uterine cleansing agent, as supportive treatment to manual removal of placenta. For improved breeding efficiency.

Dosage and administration

Given orally in *Cows & buffaloes*: 50-60 gm ; *Mares*: 30-40 gm; *Sheep/goat*: 8-12 gm. Administer one double dose orally mixed with molasses or feed soon after calving and repeat single dose after every six hours till the placenta is shed completely in 24 hours.

5.6 Spermmatogenic

Form

Oral powder granules of 50g

Therapeutic group

Ayurvedic/spermatogenic

Composition

It contains ayurvedic ingredients.

Indication

Oligozoospermia, sub-optimal sperm motility, low sperm count, low sperm viscosity, and viability, abnormal sperm morphology, poor keeping quality of semen.

Dosage and administration

Given orally in large animals (bull/stallion) 10g twice daily for 10 days and the dose may be repeated after one month if required. In small animals (rams) 2 to 4g twice daily for 3 weeks.

Therapeutic precaution

Store in cool and dry place away from direct light.

5.7 Heat inducer

Form

Oral Capsule

Therapeutic group

Ayurvedic/heat inducer

Composition

It contains ayurvedic ingredients.

Indication

Infertility associated with ovarian dysfunctions like anestrus, silent heat, delayed puberty and infective conditions like metritis, endometritis, cervicitis and vaginitis.

Dose and administration

For mare, buffalo, cow, heifers @ 3 capsules per day for 2 days; in sheep goat, sow and bitch @ 2 capsules per day for 2 days. In case of silent heat or absence of heat after 10 days the course may be repeated on the 11th or 12th day. In retention of placenta @ 2 to 3 capsules after calving. Repeat after 6 to 8 hours if necessary.

5.8 Expectorant/Mucolytic

Form

Oral powder of 1 kg packet

Therapeutic group

Ayurvedic/expectorant/mucolytic

Composition

It contains ayurvedic ingredients.

Indication and uses

Coughs of all causes.

Dose and administration

Orally in cattle and horse @ 30 to 40 g orally once or twice daily; in calf and sheep, colt, pig @ 6 to 12 g orally once or twice daily; dog and piglet @ 2 to 4 g orally once or twice daily.

5.9 Ectosep/Antiseptic ointment

Form

External ointment of 50mg tube

Therapeutic group

Ayurvedic-multi-action ointment having antiseptic/antifungal/fly repellent action

Composition

It contains ayurvedic ingredients.

Indication and uses

See in therapeutic group

Dose and administration

Apply at the affected area once or twice daily.

5.10 Libido Inducer

Form

Oral powder packet of 10grams and tablets of 10g

Therapeutic group

Ayurvedic-libido inducer

Composition

It contains ayurvedic ingredients.

Indication and uses

In depressed libido, poor stud performance, delayed reaction prior to mounting.

For revitalizing depressed libido and improving stud performance in Large animals @3 to 4.5g once daily for 7 to 10 days before resuming collection or natural service; in rams @ 1 to 2 g once daily for 7 to 10 days before resuming collection or natural service. Treatment against temporary impotence or severely depressing libido in large animals @3 to 4.5g once a day for 30 days; in rams 1 to 2 grams daily for 30 days; dogs large @ 1tablet per day for 7 days prior to mating.

5.11 Neblon

Form

Powder

Therapeutic group

Ayurvedic anti-diarrhea agent

Composition

Contains ayurvedic ingredients

Indication/uses

Acute or chronic diarrhea, dysentery of varying etiology

Dosage and administration

By oral route- Cattle & horse: 30 - 50g orally twice daily; Calf, sheep, colt & pig: 6 - 10g orally twice daily; Dog & piglet: 2 - 3g orally twice daily.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

6. Antifungal drugs

6.1 Clotrimazole

Form

External application cream as 1%w/w/.

Therapeutic group

Antifungal drug

Indication

In fungal infections (ringworm). It is active against a variety of pathogenic dermatophytes.

Composition

Each gram contains 10 mg of clotrimazole as 1% w/w in water base ointment..

Dosage and administration

For external application in fungal infections regularly for at least one month. If the reaction to the tissue noted with signs of allergy/anaphylactic reaction discontinue the use.

Contraindications

Avoid contact with eyes and mucous membranes. It will produce mild irritation, erythema, blistering, oedema, pruritis and urticaria.

Counseling

Puncture nozzle seal with the piercing point of cap.

Pharmaceutical precautions

Store in cool and dry place.

6.2 Griseofulvin

Form

Oral tablet

Therapeutic group

Antifungal

Composition

Each tablet contains 125 mg of Griseofulvin

Indication/uses

In systemic infections mainly in dogs and cats with Ringworm (Trichophyton and Mycosporum). Also used to treat Onychomycosis (fungus infection of nails) and ergotism.

Dosage and administration

Given through oral route in Cattle @ 7.5 – 10 mg/kg body weight (1 tablet/15 kg body weight), horse @100mg/kg body (1 tablet per kg body weight) Weight, calf@20-30mg/kg body weight (1 tablet per 5 kg body weight) and dogs and cats @ 7-20mg/kg body weight daily for 20 days. The drug has fungistatic effect and the therapy must be continued till shedding of the infected

layers occur (at least one week after the disappearance of the clinical signs).

Contra-indications/warnings

Allergic and photosensitivity actions may occur, leucopenia, proteinuria and pigmentation of genitalia. Contraindicated in pregnancy as it is teratogenic.

Counseling

High dietary fat intake is recommended in dogs and cats with therapy which will increase the absorption of the drug.

Pharmaceutical precautions

Store in a well closed container.

7. ANTIPOZOAL

7.1 Diminazene aceturate

Form

Injectable Liquid.

Therapeutic group

Antiprozoal drug.

Composition

70mg Diminazene aceturate.

Indication

Treatment of babesiosis and Trypanosomiasis.

Dose and administration

0.8 - 1.6g/100kg body weight.

Contra-indication

Not to be used as IV.

Pharmaceutical precautions

Store in cool place.

7.2 P-toluenesulphonil-beta-methoxyethylurethane sodium

Form

Oral powder.

Therapeutic group

Antiprozoal drugs.

Composition

Tetracycline 0.05g, sodium salt of p-toluenesulphonil-beta-methoxyethylurethane sodium 0.55g, crystalline lactos 0.375g and dried sodium bisulphate 0.025g.

Indication

Treatment of intestinal and caecal coccidiosis of poultry.

Dose and administration

When the first sign of the disease appear, 4g (2 table spoons) added to 1litre of drinking water and administered for 2 - 4days.

Pharmaceutical precautions

Store in cool place.

7.3 Quinapyramine sulfate and chloride

Form

Injectable powder.

Therapeutic group

Antiprozoal drugs.

Composition

A prosalt containing 1.5gms of quinapyramine sulfate and 1gm of quinapyramine chloride.

Indication

Prevention and treatment of trypanosomiasis.

Dose and administration:

By SC only in horses, camel, cattle, sheep, goat, pig, dog at 0.025mL/kg body weight (after adding 15mL distilled water for injection).

Contra-indication

Over dosage in debilitated and young animals can cause trembling, salivation, sweating, increased respiration and heart rate and death.

Pharmaceutical precautions

Avoid moisture and store in dry place.

7.4 Diaveridine and sulfaquinoxaline**Form**

Oral powder

Therapeutic group

Antiprozoal drugs.

Composition

Each 200gms contains 15gms of diaveridine and 18gms of sulfaquinoxaline as powder.

Indication

Treatment of intestinal and caecal coccidiosis, fowl typhoid and fowl cholera.

Dose and administration

Poultry: 10gms in 10litres of water or 100gms in 50kg feed/day for 2-3 days. Repeat after 2 days using 10gms in 20litres of water or 100gms in 100kg of feed/day for next 2-3 days.

Contra-indication

Use as per the dosage and avoid other sources of water during treatment period.

Pharmaceutical precautions

Store in cool dry place. Once opened packet should be properly sealed for next use.

7.5 Halofuginone**Form**

Oral powder 0.6 % W/W.

Therapeutic group

Antiprozoal drugs.

Composition

Each gram contains 6mg halofuginone.

Indication

For prevention of coccidiosis in poultry.

Dose and administration

0.5kg/ton of finished feed mixed thoroughly.

Contra-indication

Do not feed to laying birds and do not mix with other coccidiostats.

Pharmaceutical precautions

Store in cool place.

7.6 Nitrofurazone & Furaltadone

Form

Oral tablets.

Therapeutic group

Antiprozoal drugs.

Composition

Each tab contains 100mg nitrofurazone and 14.5mg of furaltadone.

Indication

Prevention of coccidiosis in poultry.

Dose and administration

Preventive: dissolve 1tab per 4litres of drinking water for as long as necessary

Curative: dissolve 1tab per litre of drinking water for 7days.

Contra-indication

No other water other then fresh water should be provided.

Pharmaceutical precautions

Store in cool place.

7.7 Sulphachlorpyrazine sodium powder

Form

Powder 30% W/W.

Therapeutic group

Antiprozoal drugs.

Composition

Each gram contains 300mg sulphachlorpyrazine sodium.

Indication

Broad spectrum of activity against coccidiosis including fowl typhoid and fowl cholera.

Dose and administration

Chickens & turkeys: 0.03% solution (1g per litre). Treat for 3 days or more. In severe infections increase the concentration to 1.5 - 2gm per litre.

Contra-indication

No other water other then fresh water should be provided.

Pharmaceutical precautions

Store in cool place.

8. ANALGESICS

8.1 Phenylbutazone & Sodium salicylate

Form

Injectable liquid.

Composition

Each mL contains 200mg phenylbutazone and 20mg sodium salicylate.

Indication/uses

Pyrexia, symptomatic treatment of inflammatory and painful conditions of muscle, bone and joints. Indicated in all cases of fever associated with painful syndromes, especially in ephemeral fever. Also used in inflammatory complications of various traumatic and microbial affections.

Dosage and administration

By slow IV or IM route: Cattle and horses: 20 - 30mL/day for first two days. Half the dose on the following days; Sheep, goat, calf, foal and pigs: 10mL for first two days. Half the dose on following days; Treatment should be continued till the symptoms subside.

Contra-indications/warnings

Do not use in cats. Accidental injection into the carotid artery results excitement, prostration and sometimes death

Pharmaceutical precautions

Store in cool place.

9. ANTACID**9.1 Silica in dimethicone****Form**

Liquid oral.

Composition

Each 100mL contains Silica in Dimethicone 1% Arachis Oil 10%.

Indications/uses

For the treatment of frothy bloat and tympany in cattle , sheep, and goats.

Dosage and administration

Oral route or intra-ruminally: Large Animal: 100 - 200mL dilute with equal quantity of water; Small Animal: 20 - 30mL dilute with equal quantity of water

Pharmaceutical precautions

Store in a cool dry place

9.2 Aluminum hydroxide & dimethyl polysiloxane**Form**

Liquid oral.

Composition

Each 5mL contains dried aluminum hydroxide 250mg, dimethyl polysiloxane 40mg, magnesium hydroxide 250mg.

Indications/use

Ruminal stasis due to grain over load, gastritis, reflux oesophagitis, peptic ulcers, gastric hyper acidity, dyspepsia.

Dosage and administration

Oral route: Cattle, buffalo: 30gm (in ruminal lactic acidosis 1gm/kg BW); Dogs: 100 - 200mg and Cats: 50 - 100mg.

Contra-indications/warnings

As the duration of action is short, quick liberation of carbon dioxide may cause gastric distention and rebound acidity. Avoid use of other drugs along with antacids, as it impairs their absorption. Chronic ingestion of Aluminum hydroxide may lead to hypophosphataemia, increased resorption of calcium and other bone salts.

Pharmaceutical precautions

Store in a cool place

10. ANTISEPTICS AND DISINFECTANTS

10.1 Cetrimide & chlorhexidine

Form

Liquid antiseptic

Composition

Contains cetrimide 15% and chlorhexidin gluconate 7.5%

Indication/uses

For general antiseptic purpose, to disinfect wounds, hospital equipment, animal stalls, milking sheds, poultry houses, & farm equipment at a strength of 1 in 200 dilution.

Dosage and administration

For general antiseptic purposes to disinfect wards, hospital equipment, animal stalls, milking sheds, poultry houses and farm equipment at 1 in 200 dilutions. For preliminary cleaning of wounds, burns, and abscesses & rinsing of hands at 1 in 100 dilutions. For pre-operative preparation of skin and scrub up of surgeon's hands at 1 in 30 dilutions. For washing udder of cows & buffalo and milkers hands prior to and after milking, & sterilizing dairy utensils at 1 in 150 dilutions. As shampoo for dogs at 1 in 5 dilutions.

Contra-indications/warnings

Because cetridine is a cationic disinfectant it is incompatible with soap

Pharmaceutical precautions

Store below 30°C. Protect from light. Use prepared solutions within one month

10.2 Povidone iodine

Form

Liquid antiseptic

Composition

Contains 5% povidone iodine

Indication/uses

Surface and equipment disinfection, control of mastitis as a "teat dip" after milking, disinfection of skin, as pre and post operative therapy in wounds and burns, ringworm, cut teats and udder wounds, control of dermal and mucosal infections, treatment of metritis and mastitis.

Dosage and administration

For topical application use full strength. For vaginal douche dilute 1 in 4 parts of water.

Contra-indications/warnings
Pharmaceutical precautions

Store below 30°C

10.3 Glutaraldehyde derivatives

Form

Liquid antiseptic

Composition

Each 100mL provides:

Glutaraldehyde	7gm
1-6 dyhydroxy 2-5 Diohexane	9.5gm
Polymethyl Urea derivatives	16.3gm

Indication/uses

For economical and effective disinfection of poultry farms, cattle sheds, horse stables, hatcheries, incubators, equipment, etc.

Dosage and administration

The prepared solution should be sprayed by low pressure sprayers. 10mL of concentrate solution is sufficient to cover 4M³ area or shed of 10 cattle by spray or wash.

Contra-indications/warnings
Pharmaceutical precautions

Store in cool place.

10.4 Kohrsolin-TH (DISINFECTANT)

Form

Liquid disinfectant

Therapeutic group**Disinfectant****Composition**

Each 100gm contains glutaraldehyde 10gm; 1,6-dihydroxy 2,5-dioxahexanas 10.3gm & polymethylol urea derivatives 4.6gm.

Indications

Disinfection against various bacterial and viral diseases.

Dosage and administration

For preventive disinfection, take 500mL in 50litres of water (1%) wet surfaces with mob or low pressure sprayers.
For specific disinfection

- a. Bacterial and fungal infection - use 3% dilution in water.
- b. RD – 1% dilution
- c. IBD – 3% dilution
- d. In house spray 0.5 dilution.

Contra-indications/warnings**Pharmaceutical precautions**

Store in cool place.

**11. ANESTHETICS/SEDATIVE/TRANQUILIZER
SEDATIVE/TRANQUILIZER**
11.1 Triflupromazine

Form

Injectable liquid.

Therapeutic group

Tranquilizer.

Composition

20mg triflupromazine Hcl.

Indication

Pre-anesthetic.

Dose and administration

By IV or IM route: Dog: 1 - 2mg/kg (0.5 - 0.1mL/kg) IV or 2 - 4mg/kg (0.1-0.2mL/kg) IM; Cattle: 10mg/100kg (0.5mL/100kg) IV or a max. Of 100mg (5mL) IM; Pigs: 80mg/100kg IV or 120mg/100kg IM; Sheep: 1mg/10kg IV or a max of 40mg IM.

Pharmaceutical precautions

Store in cool place.

11.2 Xylazine

Form

Injectable liquid.

Therapeutic group

Sedative.

Composition

20 mg Xylazine Hcl.

Indication

Sedation of a wide variety of domestic, wild or exotic species such as cattle, dogs, cats, horses, laboratory animals, zoo animals and deer.

Dose and administration

By IV or IM route: Cattle: 0.25 - 1.5mL (5 - 30mg)/100kg IM, 0.15 - 0.27mL/100kg body wt by slow IV; Horse: 3 - 5mL/100kg slow IV; Cat: 0.15/kg IM; Dog: 0.05 - 0.15mL/kg IM; Sheep: 0.05 - 0.1mg/kg; Pigs: 2 - 3mg/kg; Birds: 5 - 10mg/kg.

Contra-indication

Cardiovascular disease, Shock, acute or chronic cardiac insufficiency, severe respiratory depression, late pregnancy. Condition in dogs & cats where emesis is undesirable, E.g. obstruction of esophagus, torsion of stomach, hernia. Take normal precaution in managing any unconscious or semi conscious ruminants to prevent inhalation pneumonia and bloat. Don't leave the animals under the influence of xylazine in the sun. In ruminants lower dose should be used if sedation without recumbency is desired.

Pharmaceutical precautions

Store in cool place.

11.3 Ketamine

Form

Injectable Liquid.

Therapeutic group

Sedatives & anesthetic.

Composition

10mg or 50mg ketamine HCL.

Indication

For sedation, tranquilization, and as general anesthetic agent for minor surgical procedures that do not require skeletal muscles relaxation in cats. Ketamine maybe used in conjunction with xylazine in dogs, cats, horse and donkey.

Dose and administration

Cats: for minor surgery, suturing restraint: 11 - 22 mg/kg body weight IM; Castration, catheterization: 22 - 33mg/kg IM. General, abdominal, orthopaedic surgery and major density: 33 - 44mg/kg IM.

Ketamine & Xylazine combination.

Cat: xylazine (1.1mg/kg) and atropine (0.3mg/kg) by IM injection maybe used 20mins prior to ketamine at 22mg/kg. Horse and Donkey: xylazine is administered by slow IV at 1.1mg/kg. The horse should appear sedated by 2mins post injection and then ketamine at 2.2mg/kg IV is administered (don't delay ketamine injection longer than 5mins after xylazine administration). Anesthesia will last for 10 - 30mins.

Dogs: xylazine at 1mg/kg IM, immediately follow by ketamine at 15mg/kg IM. Anesthesia will last for about 25mins.

Swine: 10 - 15mg/kg IM with xylazine at 0.5 - 1mg/kg IM.

Contra-indication

Do not use ketamine as a sole agent in horse and donkey and in renal and hepatic failure.

Hypertension, congestive cardiac failure, stroke.

Pharmaceutical precautions

Store in cool dark place. Following withdrawal of the 1st dose, use the product within 3 months.

General Anesthesia

11.4 Thiopentone sodium

Form

Liquid injection - 0.5g vial.

Therapeutic group

General anesthetic.

Composition

A vial contains 500mg thiopentone sodium.

Indication/uses

General anesthetics.

Dosage and administration

Administered by IV after dissolving the powder in distilled water for injection.

Dogs and cats: The use of a 1.25 % solution allows maximum control over dosages for cats and very small dogs; whilst in larger animals a 2.5 % or 5 % solution can be used, the lower concentration providing greater general safety. Dosage in the young healthy animals is at 25 - 30mg/kg. Horse, cattle, sheep and pigs: The standard dose is 1g/100kg (10mg/Kg) as a 5 % - 10 % solution. Ponies and calves: 1.25g/100kg in ponies to 1.5g/100kg in calves. (*For more detail of its use in large animals refer the literature.*)

Contra-indications/warnings

The solution of thiopentone is highly alkaline & accidental injection into the peri-venous tissues will cause severe pain, tissue reaction & sloughing of tissues. Do not use in calves and foals below 3 months of age. Take precaution to avoid the inhalation of rumenal contents during unconsciousness in ruminants; Recovery is often associated with violent excitement in horses.

Pharmaceutical precautions

Store below 25° C. Protect from light. Prepared solution should be stored between 2 - 8°C and be used within 24 hours.

LOCAL ANAESTHETICS
11.5 Lignocaine HCl

Form

Injectable Liquid.

Therapeutic group

Local anesthetic.

Composition

20 mg/mL lignocaine HCl.

Indication

Infiltration anesthesia, peripheral nerve block, spinal and epidural anesthesia.

Dose and administration

Large animals: Obstetrical use: 5 - 10mL, Laprotomy use: 10 - 15mL, S/C or epidural

Small animals: Obstetrical correction: 1 - 2mL epidural, Laprotomy: 2.5 - 5mL S/C.

Contra-indication:

Not to be used as intravenous injection during infiltration. To be used with care in animals with cardiac problems.

Pharmaceutical precautions

Store below 30° C. Protect from light.

12. ANTI-EMETICS

12.1 Metoclopramide

Form

Injectable solution.

Therapeutic group

Anti-emetics.

Composition

Each mL contains 5mg metoclopramide.

Indication/use

Vomiting due to gastritis, esophageal reflux, impaction.

Dose/administration

I/M, I/V, S/C; dog & cat: 0.01 - 0.2mg/kg body weight.

Contra-indications

Restlessness, excitement, extra pyramidal symptoms in young ones.

Pharmaceutical precaution

Store below 25°C.

11.2 Promethazine**Form**

Oral tablets.

Therapeutic group

Anti-emetics.

Composition

Each tablet contains 10mg promethazine.

Indication/use

Vomiting and allergic disorders.

Dose/administration

Oral: Large animals: 1.5mg – 2mg body weight; Dogs: 1.5 – 2.5mg/kg body weight; Sheep and goat: 2mg/kg body weight.

Contra-indications

Sedation or CNS excitements, GI disturbances and teratogenic effects are the side effects. Higher doses may cause irritability, convulsions, hyperpyrexia, intestinal disorders, nausea, vomiting, constipation or diarrhea. Also potentiates the effect of CNS depressants. Administration along with epinephrine is contraindicated.

Pharmaceutical precaution

Store below 25°C.

13. ECTENDOPARASITICIDE**13.1 Ivermectin****Form**

Injectable solution

Composition

Each ml contains 10mg ivermectin

Therapeutic group

Ectendoparaciticides

Indication/uses

For treatment and control of gastro-intestinal nematodes, lungworm, eye-worm, warbles and also external parasites like tick, lice and mites in cattle sheep, and pigs.

Dosage and administration

By SC route only

Cattle & sheep: 1mL/50kg body weight (i.e. 200mcg/kg)

Pig: 1mL/25-33kg body weight

Contra-indications

Do not use in lactating cows or in dairy cows due 28 days prior to calving. Not to be administered IV or IM. Avoid contact with the eyes and skin. May not be used in other species.

Pharmaceutical precautions

Store below 30°C. Protect from light.

13.2 Deltamethrin

Form

External application liquid of 1.25% EC

Therapeutic group

Ectoparasiticides

Composition

Each mL contains 12.5mg Deltamethrin.

Indication/uses

Effective against ticks, lice, mites, flies, etc.

Dosage and administration

To be used as dip or spray. Against ticks: 2mL/litre of water. Mites: 4mL/litre of water. Lice: 1mL/litre of water. Flies: 2mL/litre of water. For curative purposes, 2 treatments at 12 to 15 days interval are necessary.

Contra-indications

Severely stressed or ill animals should be avoided, dangerous to fish. Avoid contact with eyes and skin.

This product is poisonous if absorbed through skin, inhaled, or swallowed.

Pharmaceutical precautions

Store below 30°C. Protect from light.

14. ECTOPARASITICIDE

14.1 Cypermethrin

Form:

Liquid 10% w/v

Therapeutic group:

Ectoparasiticides

Composition

Each ml contains 100mg cypermethrin. Cypermethrin is a contact poison producing muscular excitations and convulsions by its effect on nerve cell membrane, delays depolarisation leading to rapid paralytic action.

Indication/uses

Against ectoparasites like flies, lice, & ticks in cattle, sheep, goat. Lice & sarcoptic mites in pigs. Fleas & ear mites in dogs.

Dosage and administration

Cattle, sheep, goat, pigs & horse: 15 - 20mL in 20litre of water. Spray the animals thoroughly. The walls & bedding should also be sprayed for better results. Repeat after 15days if necessary. Avoid contamination of feed & water. Action may last for at least 14days.

Contra-indications

Avoid direct contact with eyes and skin. Prevent licking.

Counseling

Keep out of reach of children, avoid direct contact with eyes and skin. Prevent licking.

Pharmaceutical precautions

Store in a cool place not exceeding 25°C

14.2 Amitraz**Form**

Liquid 12.5%

Therapeutic group

Ectoparasiticide

Composition

Each mL contains 125mg Amitraz

Indication/uses

For prevention and control of ectoparasitic infestations like ticks, mites, lice and keds in cattle, sheep, goat and pig.
Found to be effective against hump sore, ear sore, tail sore in cattle, buffalo, sheep and goat.

Dosage and administration

For external application as spray or wash

Prepare spray/wash on the day of treatment using clean water

Animals	For ticks	For mites, lice and keds
Cattle	2mL/litre of water	2mL/litre of water
Sheep/goat	2mL/litre of water	4mL/litre of water
Pigs	4mL/litre of water	4mL/litre of water

In severe cases of mange or lice a second treatment is recommended 7 - 10days after the first treatment

Contra-indications

Not recommended in horse, cats and pups.

Counseling:

Harmful if swallowed, irritating to eyes, avoid working in spray mist. Wash hands and exposed skin thoroughly before eating, drinking or smoking after work.

Pharmaceutical precautions

Store in a cool place not exceeding 25°C

14.3 Coumaphos**Form**

Powder 50% w/w

Therapeutic group

Ectoparasiticides

Composition

Contains 50% coumaphos

Indication/uses

Ectoparasitic infestations

Dosage and administration

For external application in tick/ked infestation: In Cattle: 1 - 1.4gm/litre of water; Sheep: 1gm/litre of water; Dog/horse: 0.5gm/litre of water; For mite infestations; Cattle: 2 - 3gm/litre of water; Sheep: 0.5gm/litre of water; Pig: 2 - 3gm/litre of water; Dog/horse: 2 - 3gm/litre of water; For Lice infestation; All species: 0.5gm/litre of water

Contra-indications

Organophosphorus compounds are toxic to man and animals. The handler must adopt enough protective measures. Care should be taken to avoid ingestion of chemical by animal due to licking. Avoid use in cats.

Counseling

Antidote is atropine sulphate

Pharmaceutical precautions

Store in a cool place not exceeding 25°C

15. EMETICS

15.1 Apomorphine hydrochloride

Form

Capsule

Composition

Apomorphine is a synthetic derivative of morphine and a centrally acting emetic. Each tablet contains 6.5mg apomorphine

Indication/uses

It is a centrally acting emetic and primary effect is to stimulate dopamine receptors in the chemoreceptor trigger zone. Emesis occurs 3 - 10 minutes after administration. It is also used as an expectorant.

Dosage and administration

Dog: 0.1mg/kg body weight

Pharmaceutical precautions

Store in cool place.

16. CARDIAC STIMULANTS

16.1 Atropine sulphate

Form

Liquid injection

Composition

Each mL contains 1mg atropine sulphate

Indication/uses

As an antispasmodic in treating diarrhea & colic, as an antidote in organo-phosphate poisoning cases, as a pre-anesthetic in dogs, cat, & pig to decrease salivation & bronchial secretion. Also used in sinus bradycardia, A-V block and sick sinus syndrome.

Dosage and administration

By slow IV or IM or SC

Cattle & Horse, pigs, sheep, dogs, cats: As an antidote in OP poisoning: 0.2 - 2mL/kg. Use to produce pupil dilatation and dry mouth, repeat as necessary. As a pre-anesthetic: Cattle & horse: 3 - 6mL/100kg dog & Cat: 0.3 - 1mL/10kg body weight, pig: 0.2 - 0.4mL/10kg body weight. In sinus bradycardia, A-V block, sick sinus syndrome, dog & cats: 1mL/50kg by IV or 1mL/22kg by IM or SC injection 3 - 4 times daily

Contra-indications/warnings

Use with care in older animals; tachycardia, gastro-intestinal obstruction; closed angle glaucoma. Precaution to be observed in CHF, chronic obstructive pulmonary disease (COPD), renal disease and hyperthyroidism.

Pharmaceutical precautions

Store below 30°C. Protect from light.

16.2 Adrenaline

Form

Liquid injectable - 1mg/mL

Composition

Each mL contains adrenaline tartrate 1.819mg (1:1000 solutions)

Indication/uses

For treatment of cardiac collapse, allergic and anaphylactic reactions, hemostasis, in cases of epistaxis in horses

Dosage and administration

By slow IV or SC for cardiac collapse during anesthesia

Cattle & horse: 2 - 4mL IV or 2 - 8mL SC (8 - 17mcg/kg SC or: 4 - 8mcg/kg IV)

Dogs: 0.1 - 0.3mL IV or 1 - 0.5mL SC (10 - 30mcg/kg)

For allergic and anaphylactic reactions

Cattle & horse: 4 - 8mL IV or SC

Dogs: 0.1 - 0.3mL IV or SC

Local application in capillary hemorrhage

Contra-indications/warnings

Over dosage may cause cardiac dysrhythmias. Contraindicated in hyperthyroid patients, in thyroid and digitalis therapy and also with thiobarbiturate anesthesia

Pharmaceutical precautions

Store below 30°C. protect from light.

16.3 Digoxin

Form: - Bolus/inj- 0.25 mg tablet, 0.5mg/mL

Composition:- Each tablet contains 0.25 mg digoxin
Each mL contains 0.5mg digoxin

Indication/uses:- Atrial fibrillation, Congestive heart failure, atrial flutter and paroxysmal tachycardia

Dosage and administration

By oral route

Species	Total dose	Administration schedule	Daily maintenance dose
Dog	0.11-0.22 mg /kg	0.022 – 0.044mg/kg 12 hourly for 48 hours	0.011mg/kg 12 hourly

Parenteral

Dog	0.022 - 0.044mg/kg	3 divide doses over 24 hours	Oral digoxin 0.011 mg/kg q 12 h
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Contra-indications/warnings:- Digitalis toxicity in over dosage. May produce cardiac arrhythmias, anorexia, nausea, vomiting and diarrhoea. Blurred vision, neuralgic pain also noticed

Pharmaceutical precautions

Store in cool place.

17. EXTERNAL OINTMENTS/SPRAY**17.1 Gamma Benzene Hexachloride proflavin****Form**

External Antiseptic cream and spray

Therapeutic Group

Antiseptic

Composition

Each tube contains gamma benzene hexachloride 0.1%, proflavine hemisulfate-0.1 %, and cetrimide- 0.45% in a tube of 100g.

Each spray of Gamma benzene contains 0.1% w/w of Gamma benzene Hexachloride IP, proflavin hemisulphate 0.1% w/w and Cetrimide solution BP 0.45% w/w and contains natural fly repellent oils.

Indication/uses**External application of the cream**

To treat traumatic wounds, maggot wounds and as fly repellent in operated sites. In maggot wounds apply the cream only after the removal of maggots.

External spray

Clean the wounds properly and apply the spray on affected parts thoroughly 2-3 times daily, until complete healing of the wound occurs. It is a powerful fly repellent, maggoticide and curative

Dosage and administration

Apply the ointment twice daily after clipping the hairs till the wound heals.

Counseling

Shake bottle before spray. Spray from one feet distance. Press knob completely while spraying.

Pharmaceutical precautions

Store in cool place and do not freeze. Protect from direct light.

17.2 Silver Sulphadiazine**Form**

External cream as 1% w/w

Therapeutic group

External antiseptic/anti-infective drug

Composition

Each gram contains 10 mg silver sulphadiazine in a tube of 60gm tube.

Indication/uses

Skin infections, burns and sores.

Dosage and administration

External application twice daily till the wound heals.

Contraindication

Sensitivity to sulphonamides and not recommended in pregnant animals if used for long duration and extensively.

17.3 Nitrofurazone**Form**

External cream as 0.2%w/w

Therapeutic group

External antiseptic/anti-infective

Composition

Each tube contains nitrofurazone 0.2.% w/w in a jar of 500g.

Indication/uses

Treatment of bacterial infection of surgical or traumatic origin. Active in presence of blood, serum and pus. In superficial wounds, burns, ulcers, etc.

Dosage and administration

Apply to cleansed affected part once or twice daily until healed.

Contraindication

Known hypersensitivity

17.4 Himax**Forms**

External antiseptic cream

Therapeutic group

Antiseptic cream/antifungal/antipruritic/anti-inflammatory/fly repellent/miticide

Composition

Each 100 gm contains (Indradaru- 25g, Surbhidaru-10g, Somvalka- 35g,Tarun- 05g)

Indication

Mange, Ringworm, Eczema, Degnalla, and other fungul infections. Can be used in foot rot in sheep and foot lesions in FMD diseases. All types of wounds including surgical wounds and burns.

Dose and administration

Clean the affected part and apply daily till the condition gets cured.

18. Haemostatic drugs

18.1 Adrenochrome monosemicarbazone

Form

Injectable liquid of 5mg/ml.

Therapeutic group

Haemostatic drugs

Composition

Each ml contains adrenochrome monosemicarbazone 5 mg in a vial of 10ml.

Indication/uses

Pre-operative and post operative management, haemagalactiaany conditions of bleeding, epistaxis and as styptic in local bleeding.

Dosage and administration

The drug is given through I/M or I/V route for Cattle & buffalo @20-25 mg (total dose) and for dogs @ 5-10 mg (total dose).

Contra-indications/warnings

Hypersensitivity reactions may be seen

18.2 Etamsylate

Form

Injectable solution of 125mg/ml

Therapeutic group

Haemostatic drugs

Composition

Each ml contains 125 mg of Etamsylate B.P.

Indication

Pre-operative and post operative management, haemagalactiaany conditions of bleeding, epistaxis and as styptic in local bleeding.

Dose and administration

The drug is given through only I/M or I/V route in

Therapeutic precautions

Store in cool places and discard the ampoules if the solution is cloured.

19. HORMONES**19.1 Prostaglandin****Form**

Injection

Therapeutic group

Hormones

Composition

Each ml contains 5 mg Prostaglandin F₂α

Indication and uses

For synchronisation of heat, embryo transfer, for therapy of cystic corpus luteum, chronic metritis, pyometra, & for induction of parturition & abortion

Dose and administration

Cow and buffalo: For synchronization of heat : 25 mg. Two injections 11 days apart between 5th and 18th day of oestrus cycle.

For induction of heat: 25 mg between 5th and 18th day and a second dose may be administered in non responders after 11 days. For treatment of chronic metritis, pyometra, induction of abortion after 2nd month of pregnancy, and cystic corpus luteum : 25 mg.

Sheep: For synchronization of heat: 5 to 20 mg. Non responders may be again treated on the 6th day. Induction of lambing: 20 mg after 140th day of pregnancy.

Mares: To induce heat: 3 to 5 mg.

Pigs: Induction of farrowing after 113th. day of pregnancy: 25 mg I/M or 5 to 10 mg IM on two days & labour starts approximately 27 hours from last treatment.

Dog: For abortion: 20 mcg/kg from day 33 - 53 of gestation every 8 hours or 30 mcg/kg every 12 hours for 72 hours (total dose 180 mcg/kg) results in abortion within 56 - 80 hours after the treatment begins, the bitches should be hospitalised and food withheld 24 hours before starting the treatment. In pseudopregnancy: 0.5 mg/kg

Cats: For abortion: 0.5 mg/kg during 3rd trimester of pregnancy results in abortion after 24 hours of treatment.

Contra-indications/warnings

Pregnant woman and persons with asthma or other respiratory disease must not handle the drug. Milk from treated animals is not suitable for human consumption for 7 days following injection. Do not use in pregnant animals unless indication is for abortion. Non steroid anti-inflammatory agents like indomethacin should not be used simultaneously. Must not be administered IV

Pharmaceutical precautions

Store in a cool and dark place below +15° C .

19.2 BUSERELIN ACETATE**Form**

Injection

Therapeutic group

Hormones

Composition

Each ml contains 0.004 mg or 4 mcg buserelin acetate

Indication and uses

It causes simultaneous release of LH and FSH from pituitary. Indicated in reduced fertility as a result of ovarian dysfunction, induction of ovulation and improvement of conception rate in cows, sheep, mares and rabbits.

Dose and administration

By IM route or if required by IV or SC route.

Cows and she buffaloes: Acyclia (true anoestrus): 5 ml

Oestrus should occur within 8 - 22 days after treatment. If no heat is observed or there are no palpable follicle on the ovary after this date then the dose may be repeated. If however a corpus luteum is palpated, then prostaglandin F₂α or one of its analogue should be administered, thus allowing the animal to return to heat 2- 3 days later.

Improvement of conception rate after AI, synchronisation of heat: 2 ml

Receiptal should be administered at the time of insemination or service, or up to 6 - 8 hours before. Ovulation is induced within 24 hours of treatment. Pregnancy rate in cows may also be improved by giving a single injection on day 12 after insemination by helping to prevent leutolysis and consequent embryo mortality.

Follicle atresia (anovulation) and delayed ovulation: 2 ml

Administered at the time of insemination, or 6 - 8 hours before insemination. Ovulation usually follows within 24 hours.

Follicular cysts with or without symptoms of nymphomania: 5 ml

A CL will usually be clearly detectable on either the affected or normal ovary within 8 days after injection. The response to treatment should be checked after 10 - 14 days. If no CL is present, or if newly formed cysts are detected, treatment should be repeated. The animal usually comes into heat after 20 days of treatment.

Prophylaxis of fertility disorders by induction of oestrus cycle - 5 ml IM

Receiptal administered prophylactically after 10-14 days post partum induces ovarian function(ovulation) and accelerates uterine involution.

Note: The induction of ovulation is not possible in the presence of a functional CL.

Mare:

Anovulation associated with prolonged oestrus and a well developed follicle: 10 ml

Should be given on the first day when the follicle has reached its maximum size, this being determined by previous clinical history and rectal examinations. The injection is given best 6 hours prior to service. The mare should be served again the next morning if she is still in oestrus. If ovulation does not occur within 24 hours of treatment, then the injection should be repeated.

Improvement of conception rate: 10 ml.

The injection is given at service or optimally 6 hours before.

Anoestrus: 5 ml.

Injection is administered twice at an interval of 24 hours. If no oestrus occurs within 10 days, repeat on the 11th and 12th after the first treatment.

Cystic ovarian changes with or without prolonged or permanent oestrus: 10 ml

One treatment is usually sufficient but may be repeated if there is no evidence of response (ie. regression of cysts or remission of the prolonged or permanent oestrus) within 10-14 days of first injection.

Warnings

To be used for animal treatment only.

Pharmaceutical precautions

Store in a cool and dark place below +25° C . Use before the expiry date printed on the container.

19.3 PG 600 injection – 400IU

Form

Injection

Therapeutic group

Hormones

Composition

Each 5 ml glass vials contains Serum Gonadotrophin 400 IU and Chorionic Gonadotrophin 200 IU

Indication and uses

For promotion of fertile oestrus cycle in gilts and sows

Dose and administration

By sub cut route in pigs @5 ml at the base of the ear.

Gilts: Should come in oestrus within 5 days of administration;

Sows post weaning: to promote early post partum oestrus the injection to be given within 48 hours of weaning;

Barren sows: Cases of suboestrus or anoestrus due to hormonal imbalance may respond favorably within 5 days of administration.

Note: Oestrus induced with oestrogens may or may not be associated with ovulation, but frequently re-establishes the oestrus cycle. Service or AI should be postponed until oestrus occurs naturally 3 weeks after stilboestrol induced heat.

Contra-indications/warnings

In case of any anaphylactic reaction give adrenaline 1-3 ml of 1: 10,000 solution I/M.

Pharmaceutical precautions

Store at +2 to +8°C in a dark place. To be used at once after re-constitution

19.4 Medroxy Progesterone

Form

Tablets of 10mg

Therapeutic group

Hormones

Composition

Each tab contains 10 mg medroxy progesterone

Indication

Postpone or suppress oestrus, pseudo-pregnancy, mammary tumours and habitual abortions

Dosage and administration

Postpone or suppress oestrus:

In dog: (up to 25 kg body weight) @ 5 mg daily and above 25 kg body weight @ 10 mg daily; 50 mg S/C at anoestral stage. Repeat every 6 months.

In cat: 2.5 mg daily

Prevent abortion

In cat: @1-2 mg once weekly and stop 7-10 days before parturition.

Pharmaceutical precautions

Cystic endometrial hypoplasia may occur

19.5 Hydroxy Progesterone caproate

Form

Injection of 250mg/ml

Therapeutic group

Hormones

Composition

Each ml contains 250 mg of hydroxyprogesterone caproate

Indication

Threatened abortion and habitual abortion, repeat breeding caused due to failure of implantation (nidation) of zygote in uterus associated with progesterone deficiency.

Induction of estrus- Continuous administration of progesterone followed by sudden withdrawal gives a negative feedback to hypothalamus resulting in ovulatory heat. Prolapse of uterus due to higher level of estrogen causes excessive contraction of uterus.

Dosage and administration

Habitual abortion in early pregnancy in cows and Buffaloes- 2ml intra- muscular after 1^{1/2} month of pregnancy. To be repeated 4-5 times at every 10days and interval.

Habitual abortions in mid or late pregnancy in cows and Buffaloes – 2ml for 3days intra- muscular. To be repeated every week for 3 weeks

Induction of oestrus in post partum anoestrus condition in cattle and Buffaloes – 1ml intramuscular. To be repeated after 10 days if female does not come in heat or oestrus.

Repeat breeders with weak corpus luteum – 1ml intra- muscular after insemination followed at weekly interval for 3weeks

Prolapse of uterus due to pronounced heat in cattle and Buffaloes – 2ml intra- muscular. To be repeated on the 3rd day if necessary. In habitual pronounced estrus 2ml to be given intra- muscular at the beginning of oestrus.

Post-partum prolapse of uterus – 2ml intramuscular on alternate days for three times followed by weekly for three weeks.

Antepartum prolapse of uterus – 2ml intramuscular every two days for three times.

19.6 Cidirol Oestradiol Benzoate

Form

Tablet of 0.5mg and 10mg

Therapeutic group

Hormones

Composition

Natural steroidial oestrogen and it has low oral activity. It is used in the therapeutics as it releases parent molecule on hydrolysis.

Indication

Used in synchronization, prostatic hypertrophy, excessive libido and anal oedema in dogs.

In dogs @ 1- 3 mg/kg daily orally

Contra-indications/warnings

Polydipsia, polyuria, GI upsets, suppression of redcell production. Chronic use may lead to feminization in males

19.7 CIDR-B intravaginal Progesterone

Form

Insert/tablet of 1.38g of progesterone releasing insert

Therapeutic group

Hormones

Composition

Each insert contains 1.38 gm of progesterone.

Cidirol (Oestradiol benzoate) 10 mg capsules

Composition

Each capsule contains 10 mg oestradiol benzoate.

Cidirol -(Oestradiol benzoate) inj.

Composition

Each ml contains 0.5 mg Oestradiol benzoate

Indication/uses

Synchronization of oestrus and treatment of anoestrus

Dosage and administration

Synchronization and treatment of Anoestrus:

PROGRAMME A:

CIDR-B + estradiol capsule:

Day 0 Insert CIDR-B + estradiol capsule

Day 12 Remove CIDR-B

Day 14-15 Inseminate on observed heat

PROGRAMME B:

CIDR-B + oestradiol injection

Day 0 insert CIDR-B

Day 7 removal of CIDR-B

Injection of 1 mg estradiol 24 to 48 hrs after removal of insert
Most animals will come to heat over the next 2-5 days after injection

19.8 Testosterone Depot

Form

Injection

Therapeutic group

Hormone

Composition

Each ml contains testosterone propionate 25mg, testosterone inanthate 110 mg (total equivalent of 100mg testosterone)

Indication

Hypogonadism, infertility due to oligospERMIA, cryptorchidism, delayed puberty, premature senility alopecia, (in dog) due to androgen deficiency.

Dosage and administration

Given as I/M or S/C

Bull, stallion: @100-300 mg;

Ram, buck @ 25 mg and

Dog: @ 5 – 20 mg.

Contra-indications/warnings

Contraindicated in prostatic hyperplasia

Pharmaceutical precautions

Higher dose of testosterone can cause 'rebound phenomenon affecting GnRH and pituitary gonadotropin output declining the testosterone production and ceasing spermatogenesis.

19.9 Valethamate

Form

Injection of 10mg/ml

Therapeutic group

Uterine tonic/hormone

Composition

Each ml contains valethamine bromide 10mg and water for injection 1ml.

Indications/uses

Normal labour to help easy expulsion of the foetus, dystocia, hard cervix, to prevent cervical and vaginal tear.

Dosage and administration

Horse, cattle: 40 – 50mg IM;

Sheep, Goat and Pig: 10 – 20mg IM;

Dogs: 5 – 10mg I/M

Pharmaceutical precautions

Storage as directed

19.10 Ergometrine maleate

Form

Injection of 0.5mg/ml

Therapeutic group

Uterine tonic/hormones

Composition

Each ml contains 0.5mg ergometrine as maleate and tartrate

Indications/uses

Ergometrine is an alkaloid of ergot and is a powerful uterine stimulant having some vasoconstrictor activity. Produces contraction of uterus and increase the tone of the os uterus. Used for expulsion of foetus and foetal membranes. Also employed for the prophylaxis and treatment of postpartum haemorrhages.

Dosage and administration

Horse and Cattle: 10-20mg orally or parentrally;

Sheep and Goat: 0.5-1mg orally or parentrally;

Dog: 0.2-1mg orally or parentrally;

Cat: Upto 0.125mg orally or parentrally.

Contra-indications/warnings

Don't give in pregnant animals unless abortion is intended.

Pharmaceutical precautions

Storage as directed

20. INTRA-MAMMARY

20.1 Strepto-penicillin-SH

Form

Intra-mammary infusion ointment

Composition

Each tube contains procaine penicillin 100,000IU, streptomycin sulphate 100mg, sulphamerazine 500mg, hydrocortisone acetate 29mg.

Indication/uses

Acute and chronic mastitis due to susceptible organisms, non-specific mastitis in dairy cows.

Dosage and administration

By instillation

In acute mastitis: Milk out the infected quarter, thoroughly clean the teat with surgical spirit and infuse one tube every 12hours per affected quarter or after each regular milking for 1 to 6instillation. Chronic mastitis: one tube every 12hours per affected quarter or after each regular milking for 1 to 3 instillation. Dry cows: one tube into each infected quarter, do not milk treated quarter until the animal freshens.

Contra-indications/warnings

Always wear gloves when administering the preparation. Persons sensitive to penicillin or streptomycin must be careful to avoid contact with the product. Milk from treated cows should be discarded until all the color residues have disappeared.

Pharmaceutical precautions

Store below 25°C

20.2 Cloxacillin & ampicillin

Form

Intra-mammary infusion ointment

Composition

Each tube contains cloxacillin sodium 200mg and ampicillin 75mg

Indication/uses

Mastitis in lactating cattle and buffaloes (early treatment) caused by penicillin resistant Staphylococci, E. coli, Streptococci and other sensitive organisms

Dosage and administration

By instillation

Milk out the infected quarter, thoroughly clean the teat with surgical spirit and infuse one tube every 12hours per affected quarter or after each regular milking for 1 to 6 instillation.

Contra-indications/warnings

Always wear gloves when administering the preparation. Persons sensitive to penicillin must be careful to avoid contact with the product. Milk from treated cows should be discarded until all the colour residues have disappeared.

Pharmaceutical precautions

Store below 25°C

20.3 Rifamycin

Form

Intra-mammary infusion ointment

Composition

Each tube contains 50mg of Rifamycin as an active ingredient.

Indications/uses

Antibiotic active against variety of Gram's positive organisms and is bactericidal in action. It has specific bactericidal against Mycobacterium spp. Used in treatment of mastitis in specific cases

Dosage and administration

By instillation

Milk out the infected quarter, thoroughly clean the teat with surgical spirit and infuse one tube per every affected quarter.

Contra-indications/warnings

Always wear gloves when administering the preparation. Milk from treated cows should be discarded until all the colour residues have disappeared.

Pharmaceutical precautions

Store below 25°C

20.4 Pendistrin – SH Ointment

Form

Ointment

Composition

Procaine penicillin G: 1000000IU, Streptomycin Sulphate: 100mg, Sulphamerazine 500mg, Hydrocortisone: 20mg, plasto-base to make 6mL.

Indications/uses

Acute mastitis

Dosage and administration

One tube every 12 hrs/affected quarter or after each regular milking for 1-3 instillations.

Pharmaceutical precautions

Store in cool place.

21. MINERALS AND VITAMINS

21.1 Inorganic phosphorus

Form

Injectable liquid.

Composition

Each mL contains equivalent to 79.4mg sodium acid phosphate

Indications/uses

Acute and chronic phosphorus deficient conditions like anorexia, pica, debility and exhaustion, rickets and osteomalacia, tetany and paresis, lameness, impaired weight gain, post-partum haemoglobinuria, downer cow syndrome, infertility and as general tonic.

Dosage and administration

By IV or SC route. Can be administered with other IV calcium preparations in hypocalcaemia animals

Large Animal: 5mL

Small Animal: 1mL

Contra-indications/warnings

Infusions of high concentrations of phosphate reduce serum calcium levels and produce symptoms of hypocalcaemia tetany. Use with caution in those patients with renal impairment, cirrhosis, cardiac failure, hyper natremia, and other edematous and sodium retaining states

Pharmaceutical precautions

Store in a cool dry place protected from direct sunlight

20.2 MINERAL MIXTURE

Form

Powder oral.

Composition

Contains calcium, phosphorus, manganese, sodium chloride, magnesium, iodine, zinc, copper, cobalt, etc

Indication/uses

Mineral deficiency disorders like impaired digestion and assimilation, retarded growth and muscular dysfunction. For faster growth, improved fertility, higher productivity

Dosage and administration

At the rate of 1kg per 100kg concentrate mixture.

Adult cattle: 28g per animal daily

Calf: 5 to 15g per calf daily.

Contra-indications/warnings**Pharmaceutical precautions**

Store below 30°C.

20.3 Copper, ferrous, cobalt**Form**

Bolus oral

Composition

Each tablet contains copper sulphate 500mg, cobalt sulphate 40mg, ferrous sulphate 100 mg

Indication/uses

Mineral deficiency, haematinic for iron deficiency anemia, general health, production and reproductive efficiency

Dosage and administration

Adult animal: 1tablet daily for 20days

Contra-indications/warnings**Pharmaceutical precautions**

Store below 30°C.

20.4 Calcium gluconate**Form**

Liquid injection

Composition

Each mL contains 89mg calcium gluconate

Indication/uses

Hypocalcaemia, chronic calcium deficiency, rickets, osteomalacia, osteoporosis. In the treatment of lead poisoning (acute colic) and fluoride poisoning. Also given in gastro-intestinal disorders such as tympany and acid indigestion

Dosage and administration

Dog: (75 - 500mg) 5 to 7mL slow IV daily

Cattle: (3 - 12g) 20 to 30mL IV or SC

Contra-indications/warnings

SC injection of calcium salts in dogs and cats may cause necrosis at the site and in cattle swelling may persist for several days.

Pharmaceutical precautions

Store in cool place.

20.5 Yeast extract + feso4 + cuso4 + vitamin b + lactic acid base bolus**Form**

Bolus oral

Composition

Each bolus contains ferrous sulphate 1g, copper sulphate 50mg, vit B₁₂ 20 mcg, yeast 300mg

Indication/uses

Anorexia, disturbed rumen motility and microfloral imbalance, simple indigestion, ruminal acidosis, ruminal stasis

Dosage and administration

2boli BID

Contra-indications/warnings

Avoid use in non ruminants and emaciated animals. Provide enough drinking water.

Pharmaceutical precautions

Store in cool place.

20.6 Minerals & Vitamins

Form

Oral powder.

Therapeutic group

Minerals and vitamins.

Composition

Contains calcium, phosphorus, manganese, sodium chloride, magnesium, iodine, zinc, copper, cobalt, vitamin A, E, etc.

Indication/use

Mineral deficiency disorders like impaired digestion and assimilation, retarded growth and muscular dysfunction. For faster growth, improved fertility, higher productivity.

Dose/administration

1kg per 100kg concentrates mixture; Adult cattle: 28g per animal daily; Calf: 5 - 15g per calf daily.

Pharmaceutical precaution

Store below 30°C.

20.7 B-Complex & Liver extract

Form

Injectable solution.

Therapeutic group

Vitamins.

Composition

Containing vitamin B₁ (thiamin), B₂ (riboflavin), niacinamide, pyridoxine, vitamin B₁₂ (cyanocobalamin), crude liver extract, etc.

Indication/use

Hepatitis, jaundice, loss of appetite, emaciation, general weakness, parasitic anemia, neurological disorder and in debility.

Dose/administration

By deep IM route only; Cattle, buffalo, horse: 4-5mL twice weekly; Dog: 0.25 - 0.5mL twice weekly.

Pharmaceutical precaution

Store below 25°C. Protect from light.

20.8 Vitamin A

Form

Injectable solution.

Therapeutic group

Vitamins.

Composition

Each mL contains 300,000IU vitamin A.

Indication/use

Infertility associated with vitamin A deficiency, night blindness, xerophthalmia and keratomalacia, hyperkeratinization of skin, stunted growth, debility, as a supportive treatment in respiratory, GI and UTI.

Dose/administration

By deep IM route-Non specific infertility: Cows & bulls: 6mL on first and third day; Other

conditions: cattle & horse: 12mL at weekly intervals. Calf, sheep, goat: 4 - 8mL weekly; Dogs & cat: 2- 6mL weekly in divided doses

Pharmaceutical precaution

Store below 25°C. Protect from light.

20.9 Vitamin K

Form

Injectable solution.

Therapeutic group

Vitamins.

Composition

Each mL contains 10mg vitamin K (phytomenadione).

Indication/use

Coagulopathies associated with coumarin, warfarin poisoning in dogs and cats; sweet clover (dicoumarol) poisoning in cattle and horses, vitamin K deficiencies. Aid in prevention of excessive hemorrhage associated with reduced synthesis of clotting factors, e.g. hepatic failure.

Dose/administration

By IM or SC route:Horse & cattle: 0.5 - 2.5 mg/kg body weight twice daily; Dog & cats: 0.25 – 2.5mg/kg body weight IM, SC or slow IV in 5 % dextrose at maximum 1 mg/min.

Contra-indications

Use in pregnancy. Not effective in heparin over dosage

Counseling

Blood transfusion may be indicated in severe cases.

Pharmaceutical precaution

Store below 25°C. Do not freeze.

20.10 Vitamin B-Complex

Form

Injectable solution.

Therapeutic group

Vitamins.

Composition

Each 5mL contains Vitamin B₁ - 5mg, B6 - 2mg, B₁₂ - 4mcg, B₂ - 2mg, Nicotinamide 20mg & pantothenyl alcohol 3mg.

Indication/use

Vitamin B deficiency conditions.

Dose/administration

I/M or I/V-Small animals: 1 - 2mL OD/BID; Large animals: 5 - 10mL OD/BID

Pharmaceutical precaution

Store below 25°C. Do not freeze.

20.11 Vitamins with amino-acids

Form

Oral powder.

Therapeutic group

Vitamins and amino-acids.

Composition

Contains vitamin A, D, E, B², B₆, B₁₂, K, niacinamide, calcium pantothenate, folic acid, choline chloride, L-lysine, L-methionine, L-tryptophane.

Indication/use

In livestock: Improves growth rate and weight gain, increases resistance to infection, checks abnormal estrus periods, stimulates milk production and enhances milk fat content. In poultry: Increases resistance to infection, prevents chick mortality, improves egg production, hatchability and egg quality, increases body weight and carcass yield in broilers.

Dose/administration

As feed supplement: Cattle, buffalo, horse: 10 - 25g per animal per day; Sheep, goat, pig: 5 - 10g per animal per day; Poultry: 1g per litre of water, 4 days a week; Dog: 1 - 2.5g per animal per day.

Pharmaceutical precaution

Store below 25°C. Do not freeze.

20.12 Vitamins AB2D3K**Form**

Oral powder.

Therapeutic group

Vitamins and amino-acids.

Composition

Vitamin A - 82500IU, Vitamin D₃ - 12000IU, Vitamin B₂ - 52 mg and Vitamin K - 10mg.

Indication/use

For increased productivity and growth in animals, to stimulate milk production and increase fat content of the milk, to prevent muscular dystrophy, to improve fertility. Helps to maintain growth and production when feed consumption is subnormal. To build resistance to fight against infections. To prevent curled toe paralysis and to prevent rickets. To insure proper coagulation of blood.

Dose/administration

Mix 100gram per ton of feed.

Pharmaceutical precaution

Store below 25°C.

22. NARCOTICS**22.1 Methadone HCL****Form**

Injectable solution.

Therapeutic group

Narcotics.

Composition

Each mL contains 10mg methadone hydrochloride.

Indication/use

Used as an **anti-tussive** and pre-anesthetic medicament in barbiturate anesthesia.

Dose/administration

Preanesthetic use –Horse: 0.12mg/kg body weight IM or SC.

Analgesic use –Horse: 0.25mg/kg body weight IM or SC; Dog: 1.1mg/kg body weight SC or orally

Contra-indications

Action is more or less similar to that of morphine. Narcotic action is antagonized by Naloxone

Pharmaceutical precaution

Store below 25°C.

23. PSYCOTROPICS SUBSTANCE

23.1 Chlorpromazine

Form: - Liquid injection.

Theapeutic group:- Psychotherapeutic drug.

Composition:- 25mg chlorpromazine hcl/mL

Indication/uses: - psychosis, agitation, violent, sedation, for pre medication in anaesthesia, colic in horses.

Dosage and administration:-

All species: 1-2mg per kg IM, 0.5-1mg/kg IV
Colic in horses (antispasmodic) :- 1.5mg/kgIV

Contra-indications/warnings:- Renal or hepatic impairment. Operators should avoid direct contact.

Pharmaceutical precautions

Store in cool place.

24. RESPIRATORY STIMULANT

24.1 Doxapram**Form**

Injectable solution.

Therapeutic group

Respiratory stimulant.

Composition

Each mL contains 20mg doxapram.

Indication/use

Respiratory stimulant used in depression from barbiturates and inhalant anesthetics. In neonates administered into umbilical veins to stimulate respiration (SC or sublingually).

Dose/administration

I/V, S/C or sublingual: Dog & cat: 5 - 10mg/kg body weight; Horse: 0.5mg/kg body weight.

Contra-indications

Repeated administration may cause seizures.

Pharmaceutical precaution

Store below 25°C.

25. STEROIDS

25.1 Dexamethasone**Form**

Injectable solution.

Therapeutic group

Steroids.

Composition

Each mL contains 4mg dexamethasone sodium phosphate.

Indication/use

Intravenous therapy in cases where emergency treatment is indicated, particularly shock and circulatory collapse, hog fever, acute mastitis and burns; acetonaemia (ketosis) in cattle; inflammatory conditions in all species, as in arthritis, laminitis, dermatitis, etc.

Dose/administration

By IV or IM route: Cattle & horse: 2.5 - 10mL (10 to 40mg); Calf, foals, sheep, goat, & pigs: 0.5 – 2.5mL (2 to 10mg); Dog: 0.13 - 1mL ; Cat: 0.13 - 0.25mL

Contra-indications

Should not be used in the presence of infection without antibiotic cover. Should be used with care in congestive heart disease, renal insufficiency, diabetes, and degenerative eye disease. Administration during the latter stages of pregnancy in cattle and sheep may induce early abortion. Wound healing may be delayed.

Counseling

Gradual withdrawal is advised after prolonged treatment of animals.

Pharmaceutical precaution

Store in cool dark place. Do not freeze

26. UTERINE TONICS

26.1 Ergometrine Maleate

Form

Injectable solution.

Therapeutic group

Uterine stimulant.

Composition

Each mL contains 0.5mg ergometrine as maleate and tartrate.

Indication/use

Ergometrine is an ergot alkaloid and is a powerful uterine stimulant having some vasoconstrictor activity. Produces contraction of uterus and increase the tone of the *os uteri*. Used for expulsion of foetus and foetal membranes. Also employed for the prophylaxis and treatment of postpartum hemorrhages.

Dose/administration

Horse and Cattle: 10 - 20mg orally or parentrally; Sheep and goat: 0.5 - 1mg orally or parentrally
Dog: 0.2 - 1mg orally or parentrally; Cat : Up to 0.125mg orally or parentrally.

Contra-indications

Do not give in pregnant animals unless abortion is intended.

Pharmaceutical precaution

Store below 25°C, protect from light

26.2 Utrocene

Form

Oral powder.

Therapeutic group

Ayurvedic drug.

Composition

Contains ayurvedic ingredients.

Indication/use

Retained placenta, involution of uterus, as an ideal uterine cleansing agent, given as supportive treatment to manual removal of placenta. For improved breeding efficiency.

Dose/administration

Cows & buffaloes: 50 - 60gm orally; Mares: 30 - 40gm orally; Sheep/goat: 8 - 12gm orally
Administer one double dose orally mixed with molasses or feed soon after calving and repeat single dose after every six hours till the placenta is shed completely in 24 hours.

Pharmaceutical precaution

Store below 25° C, protect from light

26.3 Valethamate**Form**

Injectable solution.

Therapeutic group

Uterine tonic.

Composition

Each mL contains valethamine bromide 10mg and water for injection 1mL.

Indication/use

Normal labour to help easy expulsion of the foetus, dystocia, hard cervix, to prevent cervical and vaginal tear.

Dose/administration

Horse, cattle: 40 – 50mg IM; Sheep, goat and pig: 10 – 20mg IM; Dogs: 5 – 10mg IM.

Pharmaceutical precaution

Store below 25° C, protect from light.

26.4 Nimesulide & Paracetamol**Form**

Oral tablet.

Therapeutic group

Antipyretics and analgesics.

Composition

Each bolus contain Nimesulide 400mg and Paracetamol 1500mg.

Indication/use

Indicated in all the diseases which are manifested by inflammation, pain and fever. Osteoarthritis, myositis, bursitis, fibrositis, tenosynovitis, tendonitis, gynaecological disorders like metritis and prolapse. Upper respiratory inflammation, post-operative therapy, Pyrexia, Pyrexia of unknown origin, and as a supportive therapy with antibiotics.

Dose/administration

Large animals: 2 - 4 boluses; Small animals: 0.5 - 1 bolus.

Pharmaceutical precaution

Store between 2 - 8° C.

27. NON-PATENT POWDERS AND LIQUIDS

27.1 Liquid paraffin

Form

Oral liquid

Therapeutic group

External and internal lubricant/ laxatives

Composition

Mixture of liquid hydrocarbons, obtained from petroleum. It is a transparent, almost odourless, colourless, oily liquid, free from fluorescence by daylight. It is insoluble in water and in 95% alcohol, is soluble in solvent ether and in chloroform.

Indication/use

Externally used on the skin, for its softening & protecting effect, as a lubricant for diagnostic instruments such as probang & stomach tube. Internally as a laxative at the following doses

Dose/administration

Dog: 4 - 30mL orally for 3 to 5 days; Pig: 60 - 300mL orally for 3 to 5 days; Horse & cattle: 750mL orally for 3 to 5 days.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.2 Formaldehyde

Form

Liquid 450ml bottle

Therapeutic groups

Preservative

Indication/uses

Caustic action-pure formalin may be applied on warts. 1-2% formalin can be used to sterilize the instruments.

Doses and administration

Antizymotic in cases of bloat in cattle. Used in tympany in cattle at a dose rate of 15mL orally, after mixing with water. Formalin used to preserve specimens, dead bodies, and is a hardening agent for histological work. 10% formalin is used as preservatives for HP samples and fecal samples. Antiseptic and footbath in FMD. Used as an antiseptic media and as a foot bath in lesions of the foot as in Foot and Mouth Disease.

Contra-indications

Toxic

Pharmaceutical precaution

Store in a cool place and leak proof containers

27.3 Turpentine oil

Form

Liquid/oily

Therapeutic group

Carminative

Composition

Turpentine is the oil distilled from the oleoresin obtained from various species of Pinus and rectified. It is clear, bright, colourless liquid with a characteristic odour.

Indication/use

As surfactant, counter-irritant and carminative at dose rate of 15 to 60mL as single dose in horses and cattle, and 3 to 15mL as single dose in sheep; As fly repellent; As maggoticide; As an antiseptic such as in foot rot; As massaging oil in case of sprains.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.4 Glycerine**Form**

Liquid 350mL bottle

Therapeutic group

Preservative/exipient

Composition

It is clear, colourless, odourless, hygroscopic, syrupy liquid. It is miscible with water and with alcohol (95%), and practically insoluble in solvent ether, in chloroform and in fixed and volatile oils.

Indication/use

Indicated in treatment of bovine ketosis and pregnancy toxæmia in sheep at dose rate of 350mL to 500mL in cattle and 100 to 150mL in sheep; 50% glycerol saline is used as a preservative for FMD samples; Used as a lubricant in probes and probangs, tracheal tubes etc; Also used as an exipient for electuaries, sweetening agent for mixtures, and electuaries and laxative by giving as an enema.

Dosage/administration

Horse: 300mL, dog: 15mL. Administer with one third volume of water.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.5 Boric acid**Form**

Powder 450gm

Therapeutic group

Dusting powder

Composition

Boric acid powder

Indication/use

As dusting powder or ointment in superficial wounds, eyewashes and lotion; As an ingredient in urinary antiseptic.

Dose/administration

Boric Acid ointment as - 10%; Boric Acid Eye Lotion as 2 - 3 %; Boric acid - 15g orally 4hrs prior to hexamine as acidifier of urine in bovines.

Pharmaceutical precaution

Store in a cool dry place

27.6 Copper sulphate**Form**

Crystal 450gm

Therapeutic group

Caustic agent/antiseptic/haematinic

Composition

It is Blue, triclinic prisms or a blue crystalline powder; odourless or almost odourless. Slowly efflorescent in air, when it may have a whitish appearance.

Indication/use

As caustic agent in form of powder or 20% aqueous solution to destroy the exuberant granulation & the walls of fistulae & sinuses; As an antiseptic 1% to 3% solution in vaginitis, urethritis, and fungal skin diseases; As

haematinics for assimilation of iron; Antidote to phosphorous poisoning; Closes the oesophageal groove in ruminants so that medicines go directly to the abomasum. First administer 10mL of copper sulphate solution, then after five seconds administer fluid medicine such as anthelmintic; Copper sulphate 5parts per million parts of water kills water snails which act as intermediate host for liver fluke.

Pharmaceutical precaution

Store in a cool dry place

27.7 Potassium permanganate

Form

Crystal 450gm

Therapeutic group

Antiseptic/disinfectant

Indication/uses

As an antiseptic at 1:1000 - 1:5000 used as wound and mouth lotions; As a caustic agent - powdered potassium permanganate can be applied as a caustic upon ulcers; As an oxidizing agent - used as an antidote in poisoning with strychnine and all alkaloid poisons; Dilute solution as gastric-lavage. Is used as an aqueous solution to wash out the stomach contents; As a teeth cleansing agent.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.8 Magnesium Sulphate

Form

Crystal 450gm

Therapeutic group

Purgative

Composition

Magnesium sulphate consists of brilliant colourless crystals or a white crystalline powder; odourless. It is soluble in 1.5 parts of water, but soluble in less than 0.2 parts of boiling water. It is practically insoluble in 95% alcohol.

Indication/use

As an antiseptic at a concentration of 2 - 4%; At saturation as euthanizing agent; As purgative - used in constipation at dose rate of 150 - 200g with water in cattle; As laxative at 0.5 – 1gm/kg body weight; As a general aesthetic agent with chloral hydrate. magnesium sulphate - 6% and chloral hydrate - 12%, when administered by IV route produces basal narcosis in large animals; Hot saturated solution for hot fomentation in inflammation; A saturated solution of magnesium sulphate may be applied and bandaged over infected wound.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.9 Alum pure

Form

Crystal 450gm

Therapeutic group

Antiseptic

Indication

5% solution as an antiseptic externally on wound on FMD; Used in eye lotion (ZAB) Composition of ZAB eye lotion: (Zinc sulphate : Alum : Boric Acid at the ratio of 1:2:3).

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.10 Sodium bicarbonate**Form**

Powder 450gm

Therapeutic group

Antacid

Composition

Sodium bicarbonate consists of a white crystalline powder or white opaque small monoclinic crystals; odourless. When heated it decomposes and at 250°C to 300°C is converted to anhydrous sodium carbonate.

Indication/use

Used as a sedative application for minor burns, insect bites and stings. Antacid, in gastric and intestinal indigestion due to hyperacidity stomachic and anorexia.

Dose/administration

1% solution for sedative application for minor burns, insect bites and stings; Antacid dose - gastric and intestinal indigestion at 2g daily in divided doses in dogs; Stomachic & anorexia in cattle and horses at 15 to 30g orally for 3 to 5 days.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.11 Light magnesium oxide**Form**

Powder 450gm

Therapeutic group

Antacid/Laxative

Composition

A white powder, very slightly soluble in water; insoluble in 95% alcohol, soluble in dilute mineral acids.

Indication/use

Antacids in hyperacidity, gastritis, and intestinal indigestion; Laxatives in constipation; Used in mixture of “universal antidote”; Dose/administration; Large Animals: 150 - 200g orally; Dog: 1 - 2g.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.12 Activated charcoal**Form**

Powder – 450gm

Therapeutic group

Universal antidote

Indication/use

As an adsorbent, and universal antidote mixture mainly in poisoning cases.

Dose/administration

Used in universal antidote mixture in the following rate-Activated Charcoal-50g, Magnesium Oxide Levis-25g, Kaolin-25g, Tannic Acid -25g; Divide into 5 parts & given in a day by stomach tube in large animals.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.13 Sulphanilamide powder**Form**

Powder– 450gm

Therapeutic group

Antiseptic, antimicrobial dusting powder

Indication/use

Used as dressing powder

Dose/administration

Dusting powder sprinkled over the surface of the wounds, cuts etc.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.14 Ferrous sulphate**Form**

Crystal- 450gm

Therapeutic group

Mineral supplement

Composition

It consists of odorless bluish-green crystals or pale green crystalline powder. Efflorescent in air. Ferrous sulphate oxidizes in moist air becoming brown. It is completely or almost completely soluble in 1.5 parts of water; insoluble in 95% alcohol.

Indication/use

Used in the preparation of haematinic mixtures for anaemia and intestinal astringents in diarrhoea

Dose/administration**Haematinic for adult cattle as follows:**

Ferric sulphate	-	80g
Cupric sulphate	-	20g
Cobalt sulphate	-	2g
Mix and give 1/10th of above daily as electuary		

As intestinal astringent in adult cattle:

Ferric sulphate	-	4g
Cupric sulphate	-	0.3g
Acid sulphuric dilute	-	4mL
Tincture ginger	-	15mL
Rice gruel	-	600mL
Mix and give orally		

Haematinic for calf:

Ferric sulphate	-	25g
Cupric sulphate	-	5g
Pulvis Columba	-	10g
Sulphur sublimate	-	10g
Mix and give 1/10th of above twice daily as electuary		

Pharmaceutical precaution

Store in a cool dry place

27.15 Hexamine**Form**

Crystal- 450gm

Therapeutic group

Urinary Antiseptic

Indication/use

Urinary antiseptic in infection of the urinary tract such as nephritis and cystitis.

Dose/administration

(Composition of urinary antiseptic)

Hexamine - 4 - 8g

Sodium Acid Phosphate - 30g

Sodium acid phosphate is to be given 4 hours before the administration of hexamine.

Counseling

Hexamine has no action in alkaline urine, so Sodium acid phosphate is added to acidify the urine of Herbivores.

Pharmaceutical precaution

Store in a cool dry place

27.16 Sodium acid phosphate**Form**

Crystal- 450gm

Therapeutic group

Ingredient for antiseptic/acidifier

Composition

Sodium acid phosphate consists of colourless crystals or a white crystalline powder and is odourless. It is soluble in part of water.

Indication/use

Used as an ingredient in urinary antiseptics, to make the urine acidic in herbivores species.

Dose/administration

The composition and dosage is given under Hexamine.

Pharmaceutical precaution

Store in a cool dry place

27.17 Kaolin**Form**

Powder- 450gm

Therapeutic group

Absorbent

Composition

It is a light white odorless powder free from gritty particles and is oily to touch. It is soluble in water and mineral acids.

Indication/use

As adsorbent in the treatment of diarrhoea and is an ingredient of the universal antidote.

Dose/administration

All species - 100 - 500mg/kg body weight for treatment of diarrhea.

Pharmaceutical precaution

Store in a cool dry place

27.18 Potassium iodide**Form**

Crystal – 450gm

Therapeutic group

Anti-fibrotic agent

Composition

Potassium iodide consists of colourless crystals or a white powder; odourless. It is soluble in 0.7 parts of water, in 2 parts of glycerol, and in 23 parts of 95% alcohol.

Indication/use

Used in preparation of Tincture iodine, Lugol's iodine and iodine ointments. The compound is also used as an anti-fibrotic agent.

Dose/administration**Tincture Iodine:**

Iodine	-	2.5%
Potassium iodide -	2.5%	
Alcohol	-	95%

Lugol's Iodine:

Iodine	-	2.5%
Potassium Iodide -	5%	
Distilled water	-	92.5%

Antifibrotic agent: used in treatment of lumpy jaw at a dose rate of 3 - 8g daily for about 10 to 14 days orally. Also used in treatment of udder fibrosis at dose rate of 10g daily for 3 days. Effective for treatment of sporotrichosis.

Pharmaceutical precaution

Store in a cool dry place

27.19 Benzoic acid**Form**

Crystal 450g

Therapeutic group

Antifungal agent

Composition

Clear white powder

Indication

Treatment of dermatomycosis (ringworm infestation) it has both fungistatic and karatolytic activity.

Dose/administration

It is used with salicylic acid for external application as white field ointment.

Benzoic acid	-	6g
Salicylic acid	-	3g
Paraffin	-	91g

Contra-indications

Repeated application may cause irritation

Pharmaceutical precaution

Store in a cool dry place not exceeding 25°C

27.20 Salicylic Acid**Form**

Powder 450g

Therapeutic group

Dusting powder

Indication/use

Used as dusting powder & ointment for wound & as an antifungal agent with benzoic acid.

Dose/administration

Composition of Salicylic Acid Ointment - 2%
 Salicylic Acid - 2g
 Paraffin - 98g

Pharmaceutical precaution

Store in a cool dry place not exceeding 25°C

27.21 Zinc oxide**Form**

Powder 450gm

Therapeutic group

Dusting powder

Indication/use

Used as dusting powder or ointment in case of eczema, superficial wound and burns
 Composition of Zinc Oxide ointment – 15%

Zinc Oxide	-	15g
Paraffin	-	85g

Dose/administration

Topical application BID till recovery.

Pharmaceutical precaution

Store in a cool place not exceeding 25°C

27.22 Zinc Sulphate**Form**

Crystal - 450gm

Therapeutic group

Astringent, emetic.

Indication/use

Astringent, emetic agent. As a collyrium 0.5% solution used in conjunctivitis and used as local emetic in narcotic poisoning.

Dose/administration

Cattle & horse:	2-4g orally
Dog:	60-200mg
Composition for dog as emetic	
Zinc SO ₄ :	0.6g
Warm water	60mL administer at once.

27.23 Rectified Spirit**Form**

Liquid 450mL

Therapeutic group

Disinfectant & Antiseptic

Indication/use

Used as an antiseptic and in the cleaning of suture wounds, teats etc.

Dose/administration

At the discretion of the clinician.

Contra-indications

Hypersensitivity especially on the skin, causes erythema, acne form eruptions, urticaria and rashes may be seen in skin.

Pharmaceutical precaution

Inflammable. Keep the lid tightly closed during storage

27.24 Tincture Benzoin**Form**

Liquid 450mL

Therapeutic group

Antiseptic and Styptic

Indication/use

Used as an antiseptic and styptic (to control external bleeding), Inhalation in Human and Small Animal in case of nasal obstruction, viral respiratory conditions.

Dose/administration

5 mL in 500 mL hot water.

Pharmaceutical precaution

Store in dark bottle away from sunlight

28. ADDENDUM: NON-PATENT DRUG FORMULATIONS**28.1 Antiseptics**

- | | |
|---------------------------|-----------------------|
| 1. Acriflavin | 1 : 1000 to 1: 10,000 |
| 2. Boric acid | 1-2% |
| 3. Iodine | 2.5% |
| 4. Hydrogen peroxide | 1:5 to 1:10 |
| 5. Potassium permanganate | 1:1000 to 1: 5000 |

28.2 Mouth Washes

- | | |
|----------------------------|--------|
| 1. Alum | 1% |
| 2. Boric acid | 2-3% |
| 3. Copper sulphate | 0.5% |
| 4. Potassium permanganate | 1:2000 |
| 5. Sulphanilamide | 1% |
| 6. Collutoria (mouth wash) | |
| -Tannic acid | 30g |
| -Glycerine | 150mL |
- Mix well and smear in buccal mucosa.

28.3 Skin antiseptics (antipruritic)

- | | |
|-----------------------|------|
| 1. Magnesium sulphate | 2-4% |
| 2. Sodium carbonate | 2-5% |

28.4 Fungicide

- | | |
|------------------------|------|
| 1. Sodium thiosulphate | 10% |
| 2. Gentian violet | 1-2% |

28.5 Disinfectants

- | | |
|----------------------|-------|
| 1. Alcohol | 70% |
| 2. Calcium hydroxide | 0.14% |
| 3. Formalin | 5% |
| 4. Phenol | 0.5% |
| 5. Sodium carbonate | 4% |

6. Tincture iodine 5-7%

28.6 Antiseptic Ointments

a. Whitfield ointment

Benzoic acid	6 parts
Salicylic acid	3 parts
Paraffin jelly	100 parts

For external application for fungal infections. Apply topically to the affected area daily.

b. Weak Iodine ointment

Iodine	1 part
Potassium iodide	1 part
Glycerine	10ml
Paraffin jelly	40 parts

c. Strong Iodine ointment

Iodine	2 parts
Potassium iodide	3 parts
Glycerine	10ml
Paraffin jelly	40 parts

The iodine ointments are used as antiseptic agents for topical application in treatment of septic wounds.

d. Boric acid ointment:

Boric acid	10gm
Paraffin	90gm

e. Zinc oxide ointment

Zinc	15g
Paraffin	85g

f. Sulphur ointment

Sulpha sublimate	10g
Paraffin	90g

For treatment of mange. Apply topically to the affected area daily

g. Salicylic ointment

Salicylic acid	20g
Paraffin jelly	980g

Used in treatment of wounds.

28.7 Lotion

a. Tincture iodine

	<u>Weak</u>	<u>Strong</u>
Iodine	20gm	100gm
Potassium iodide	25gm	100gm
Water	25ml	100ml
Alcohol (50%) to	1000ml	to 1000ml

b. Lugol's iodine

Iodine	5gm
Potassium iodide	10gm
Distilled water	100ml.

c. Boric acid eye lotion

Boric acid	2gm
Distil water	98ml

d. ZAB eye lotion

Zinc sulphate	1 part
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Alum	2 parts
Boric acid	3 parts

e. Salicylic lotion

Salicylic acid	2g
Tannic acid	2g
Spirit	30ml

Used in moist eczema.

28.8 Urinary antiseptics

Hexamine	4-8gm
Sodium acid Phosphate	30g

28.9 Universal Antidote

Activated charcoal	50gm
Magnesium oxide Levis	25g
Kaolin	25g
Tannic acid	25g

Divide into 5 parts and given in a day by stomach tubes.

28.10 Haematinics**Haematinic:** Drugs or agents which increases the number of red blood cellular haemoglobin content in the blood.

General

Cattle

Ferri Sulph	- 50g
Copper Sulph	- 20g
Cobalt sulph/chloride	- 2g
Calcium Lactate	- 150g

Mft pulv Sig 1/10 daily orally (indicate divide the above drug into 10 equal parts and give each part daily).

a. Formula I

Ferric Sulphate	5g
Cupric Sulphate	500g
Cobalt sulphate	100g

Mix and make 20 such packets, administer 1 dose orally twice for 10 days (use water to drench).

b. Formula II

Ferric Sulphate	40g
Cupric Sulphate	10g
Calcium Lactate	100g
Cobalt Sulphate	200g

Mix and make 10 equal parts administer 1 dose daily for 10 days as drench.

28.11 Stomachic**Stomachic:** Drugs which increases the secretion of gastric juice.

Cattle

Sodium Bicarbonate	15g
Sodium Chloride	15g

Prepare 12 packets of such powder and give one packet twice daily orally. Note: indicate you have to make 12 such powder each containing above ingredients in the quantity as given above.

Magnesium Sulphate	200g
Sodium Chloride	125g
Sodium Bicarbonate	30g
Aqua (water)	560mL

Mft mist Sig ½ Bid orally

Note: indicate that the above drug is to be made into mixture and divided into two equal parts and be given each half two times in a day. You can also give equivalent amount of drug for another day or two if the condition of animal warrants it.

28.12 Carminative

Carminative: Drugs which prevent the formation and help in expulsion of gases from gastro-intestinal tract.

Cattle

Formalin	5mL
Sodium Chloride	150g
Water	500mL

Mft mist Sig ½ bid orally. Note: indicate that the above drug is to be made into mixture and divided into two equal parts and be given each half two times in a day. You can also give equivalent amount of drug for another day or two if the condition of animal warrants it.

28.13 Antizymotic

Antizymotic: drugs or agents which arrest/control fermentation.

Cattle

Formalin	-	15ml
Aqua ad	-	1000ml

Mft haust Sig ½ bid orally.

28.14 Purgative for Cattle

Purgative: Drugs or agents which will cause watery evacuation of bowels

Cattle

Magnesium Sulphate	-	250g
Sodium Chloride	-	150g
Aqua ad	-	1000ml

Mft haust Sig now orally

28.15 Laxative for Dog

Laxative: Drugs or agents which will cause watery evacuation of bowels

Dog

Magnesium Carbonate	-	1g
Magnesium Sulphate	-	2g
Aqua	-	30mL

Dose 10-30ml depending on the size of dog.

28.16 Astringent

Astringent: Drugs or agents that cause contraction of mucous surfaces, blood vessels and tissues, stop secretion and check discharges.

Cattle

Creta	-	60g
Pulv Catechu	-	50g
Kaolin	-	60ml

Mft pulv Sig ½ bid orally (Equivalent amount of drugs can be prescribed for another day or two depending on the condition).

Dog

Kaolin	-	1g
Magnesium Carbonate	-	1.5g
Sodium Bicarbonate	-	1g
Aqua ad	-	30mL

Mft haust Sig now

28.17 Gastric Sedatives

Gastric Sedatives: Drugs or agents which will alleys the irritability of stomach

Dog

Bismuth Carbonate	-	2g
Sodium Bicarbonate	-	2g

Magnesium Carbonate - 2g

Mft pulv Sig 1/6 every 4 hrs. (Divided it into 6 equal parts and give each part every 4 hrs).

28.18 Antacid

Antacid: Drugs or agents which will neutralize the acidity, especially of the stomach
Cattle

Sod Bicarb - 30g

Mag Carb - 30g

Mft pulv Sig 1/2 bid orally.

28.19 Alterative:

Alterative: Drugs which modify tissue changes and improve nutrition to various organs (to be given in condition of debility and weakness)

Cattle

Mag Sulph - 30g

Sod. Bicarb - 8g

Ferri Sulph - 15g

Mft pulv 1, such 16 Sig 1 powder twice daily in feed.

Mag Sulph - 60g

Sulphur - 8g

Mft pulv 1, such 16 Sig 1 powder twice daily in feed.

28.20 Diuretics

Diuretics: Drugs or agents, which increases the secretion of urine.

Pot Nitrate - 8g

Sod. Salicylate - 30g

Spiritus Aesthoris nitrosi - 60g

Mft mist Sig orally.

28.21 Febrifuge

Febrifuge : Drugs which reduce the temperature in fever

Sod Salicylate - 60g

Sod Bicarb - 60g

Mft pulv Sig 1/2 bid orally.

Pot Nitrate - 8g

Ammo. Chloride - 15g

Mag Sulp - 60g

Mft pulv 1, mitte talis 6 Sig 1 powder twice daily in feed or drinking water.

Mag sulph - 60g

Pot. Nitrate - 8g

Mft pulv 1, mitte talis 4 Sig 1 powder thrice daily in drinking water.

28.22 Refrigerant

Refrigerant: Drugs or agents which produce a feeling of coolness when applied externally or given internally

Pot Nitrate - 30g

Ammo. Chloride - 30g

Aqua - 600ml

Mft lotio Sig for external application

Sod. Chloride 4g

Ammo. Chloride 4g

Pot. Nitrate 4g

Aqua 1000ml

Mft lotion Sig for external application

28.23 Antiseptic and Absorbent**Antiseptic and Absorbent**

Mag sulph - 20gms

Glycerine - equal parts

Mft paste, Sig pack the infected wound or apply on region of edema.

28.24 Dressing Powder

Dressing Powder

Iodoform - 2g

Boric acid - 30g

Zinc oxide - 120g

Ft dressing powder.

28.25 Foot Dressing in FMD**Foot Dressing in FMD**

Cupric Sulph - 4.5g

Phenol liq - 4.5ml

Boric acid/Sulphanilamide - 120g

OI. Terebinthine - 30ml

OI. Picis/ Teak wood oil - 450ml

Mft paste Sig for external application