

Therapeutic management of infectious Diseases in canines

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In this paper some of the commonly encountered infectious disease conditions in dogs, their clinical symptoms and treatment are outlined

Stomatitis/Gingivitis:

The clinical manifestations are salivation, anorexia, pyrexia, dullness, foul smell from the mouth, sloughing of tissue, ulcers etc., With these symptoms the differential diagnosis should include following conditions:

1. Uraemia: This can be confirmed by urine analysis and estimation of Blood urea nitrogen (BUN) and Creatinine in blood.
2. Corrosive Stomatitis: Thorough examination of oral cavity can help in proper diagnosis.
3. Niacin deficiency or Black tongue: Disease can be confirmed by estimation of Nicotinamide in blood.
4. Bacterial infections: Can be diagnosed based on oral swab culturing.

Treatment:

Primary stomatitis treatment includes the following:

1. Washing of oral cavity with weak (1:1000) potassium permanganate solution and application of boroglycerine and honey.
2. Administration of chemotherapeutic agents. The different drugs for this are:

3. In Niacin deficiency 1% solution of Nicotinamide orally at the rate of 1ml/10 Kg for 3-5 days.
4. Supportive therapy should include B-complex vitamins and intravenous fluids.

Leptospirosis:

Clinical manifestations of this disease are weakness, anorexia, pyrexia, vomition, conjunctivitis, epistaxis, laboured breathing, increased thirst, icterus, reluctance to rise, pain in lumbar region, petechiae in oral mucosa, salivation, tremors etc., While making the diagnosis, the following diseases has to be differentiated.

1. Infectious canine hepatitis: This disease is characterized by pyrexia, petechial haemorrhages, corneal oedema, icterus, epistaxis, abdominal pain etc.,
2. Ehrlichiosis: This is also called as "Tick fever" and the clinical manifestation are high fever, epistaxis, petechial haemorrhages over the body, anaemia, weight loss, tenderness of abdomen, oedema of limbs etc.,

These three diseases can be differentiated based on haematology. In Leptospirosis there is marked leukocytosis. Total leukocyte counts are often more than 25000/cu mm of blood. In ICH there is leukopenia and increased clotting time. In Ehrlichiosis



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Drug	Dose	Route	Interval of dosing	Duration of treatment
Metronidazole	10-15 mg/Kg	oral	12 hours	10-28 days
Tetracycline	5-10 mg/Kg	oral	12 hours	7-14 days
Ampicillin	20 mg/Kg	oral	12 hours	7-10 days
Prednisolone	0.5 mg/Kg	oral	12 hours	7-10 days
Methyl prednisolone	0.5-1.0 mg	locally	24 hours	14-28 days
Triamcinolone	0.1-0.2 mg	locally	24 hours	14-28 days

the characteristic finding is decrease in platelets (thrombocytopenia) and leukocytes.

Treatment:

For leptospirosis the antibiotics of choice are Procaine penicillin 25000-40000 units/Kg intramuscularly twice daily, Ampicillin 20 mg/Kg twice-daily i/m, and Tetracycline 20 mg/Kg i/m twice daily. Terramycin and Aureomycin are also satisfactory at 11mg/Kg. Some prefer Streptomycin at the rate of 22mg/Kg thrice daily as this can eliminate the carrier state unlike other antibiotics. Other drugs, which can be used, are Erythromycin, Amoxycillin, Quinolones (Ofloxacin, Ciprofloxacin, Tosufloxacin etc.) The duration of treatment should be 7-10 days.

Supportive therapy should include:

1. Blood transfusion
2. Polyionic i.v. fluid administration
3. Diuretics
4. B-Complex vitamins
5. Sodium bicarbonate (1.3% solution) infusion as and when necessary to correct acidosis

6. Systemic coagulants

Infectious canine hepatitis

Regimen of Treatment -

1. Administration of 50% glucose i.v. at the rate of 0.5 ml/Kg
2. Supportive therapy with Ringers lactate solution i.v., 5% glucose and 5% protein hydrolysate is quite beneficial.
3. Reduction of ammonia levels in blood by administration of potassium. Nialamide, a monoamine inhibitor has been used orally at a dose of 5mg/Kg thrice daily orally. This helps in lowering blood ammonia.
4. Administration of B-complex, Vitamin C and coagulants.
5. Administration of polyinosinic polycytidilic acid an interferon inducer
6. Hepatitis antiserum is of value if used early (2.2 ml / Kg body weight i.v.) and repeated after 48 hours in bad cases.

Canine distemper:

The clinical manifestations of this

Ehrlichiosis

Treatment

Drug	dose	route	interval	duration
Tetracycline	22mg/Kg	oral, i.v.	8 hours	14-21 days
Oxytetracycline	66mg/Kg	i.v	12 hours	14 days
Doxycycline or Minocycline	5-10 mg/Kg	oral, i.v.	12-24 hours	7-10 days
Chloramphenicol	15-20 mg/Kg	oral, i.v, s.c	8 hours	14 days.

Quinolones, are also quite effective in the treatment of Ehrlichiosis. Decadurabolin, an anabolic steroid is recommended once in a week as a bone marrow stimulant. Glucocorticoids are recommended for 2-7 days whenever there is severe thrombocytopenia.

disease are high temperature for long duration, conjunctival and nasal discharge, tremors, chorea, muscular twitching, epilepsy, paraplegia or paralysis, when secondary complication occurs there can be pneumonia or diarrhoea.

The treatment regimen includes administration of:

- Ampicillin at the rate of 20 mg/Kg i.v. once in 8 hours for 7 days.
- Tetracycline at the rate of 22 mg/Kg once in 8 hours for 7 days.
- Chloramphenicol 15 - 25 mg/Kg orally or s.c. once 12 hours for 7 days.
- Amoxycillin 20 - 40 mg/Kg/day in 2 or 3 divided doses.
- Vitamin-C : Administration of Vit C at the rate of 2000mg i.v. daily for 3 days has been claimed to be beneficial.
- Ether inhalation (1 sauce in a closed room for 1 hour) repeated in 24 hours has been found to be of significant value in treatment of canine distemper.
- Administration of MLV vaccine i.v. has been claimed to have therapeutic value .
- Canine distemper and Hepatitis antiserum.
- Cough mixtures: (Ammonium carbonate 300 mg, Potassium citrate 300 mg, Tinc opii camp 2 ml and chloroform 8 ml) 2 tsp thrice daily orally.

To treat epilepsy Phenobarbital is recommended at the rate of 1-2 mg/Kg every 12 hours till necessary. Mysoline also has been claimed to be very effective in treatment of epilepsy in canine distemper.

Cerebral oedema can be prevented by administering dexamethasone at the rate of 1-2 mg i.v. once in 24 hours.

To treat optic neuritis dexamethasone can be used at the rate of 0.1-0.2 mg/Kg once in 24 hours for 33-5 days.

Canine Infectious Tracheobronchitis:

This disease has complex etiology and includes Parainfluenza virus, Bordetella bronchiseptica, CAVI, CAV2 and Reo virus. Disease is characterised by chronic cough, expectoration, vomiting syndrome, anorexia, weakness, pyrexia etc.,

Treatment: Antimicrobials like Tetracyclines, Trimethoprim & Sulphamethoxazole, Cephalexin and Erythromycin are quite effective in their regular dosage regimen. Duration of treatment recommended is 7 days. Glucocorticoid usage is very beneficial. Prednisolone is recommended at the dose rate of 0.25 to 0.5 mg/Kg orally every 12 hours for 7 days. Cough preventers, bronchodilators and mucolytic agents are quite beneficial.

Canine Parvo and Corona viral gastroenteritis

These two diseases are characterised by persistent vomiting and diarrhoea, anorexia, dullness, dehydration, weakness, watery stools mixed with blood etc., Clinically it is quite difficult to differentiate between the two. However the line of treatment is same for both.

Treatment:

1. With hold food and water till vomiting and diarrhoea is controlled.
2. Administer polyionic fluids i.v. till recovery is seen.
3. Administer antibiotics (Ampicillin, Gentamycin, Cloxacillin, Neomycin,

Lincomycin, Tylosin etc.) to prevent secondary complications.

4. Parvo anti serum at the rate of 1 ml/Kg i.v.

Supportive therapy: This should include coagulants, glucocorticoids, B-complex, antiemetics, antispasmodics, intestinal sedatives, lactobacillus culture etc.,

Urinary tract infection:

The characteristic signs are weakness, going down in condition, anorexia, dullness, vomiting, increased thirst, polyuria etc., The disease can be confirmed by urine analysis, blood examination and estimation of BUN and Creatinine.

The specific chemotherapeutic agents for this are Ampicillin, Cloxacillin, Trimethoprim & Sulphamethoxazole, Gentamicin, Nitrofurantoin, Quinolones (Norfloxacin, Ciprofloxacin, Pefloxacin, Lomefloxacin, Enrofloxacin etc.) etc.,

Supportive therapy should include fluids i.v., diuretics, B-complex, alkalinisers or acidifiers etc.,

Endotoxaemia:

This status is characterised by

recumbency, general malaise, weakness, dehydration, congestion of mm, laboured breathing etc., The treatment to be followed for the same are:

1. Fluids i.v. The quantity of fluid to be infused depends upon the condition.
2. Glucocorticoids, Methylprednisolone 30 mg once or Prednisolone 10 mg/Kg every 2 hours or Dexamethasone 3 mg/Kg once.
3. Antimicrobials of choice are Gentamycin (2-4 mg/Kg), Chloramphenicol (50 mg/Kg), Cephalothin (20-30 mg/Kg), Ampicillin (20 mg/Kg).
4. Chlorpromazine 0.5 to 2.0 mg/Kg

Tetanus:

Disease is characterised by recumbency, hyperaesthesia, Stiffness of body, legs, neck etc., Treatment can be initiated with tetanus anti toxin. Dose of antitoxin is 100 to 1000 units per Kg and can be given either i.v, i.m or s.c I.V. total dose should not be more than 20000 units. Test dose can be given either id or sc. (0.1 to 0.2 ml). Antibiotic (Penicillin 20000 to 100000 units per Kg every 12 hours for 7 to 10 days) also

Babesiosis:

The selected chemotherapeutic agents utilised for treatment of canine Babesiosis are:

Sl.	Compound name	Side effects	Dosage
1	Diminazene aceturate (Berenil)	Polyneuritis, CNS haemorrhage with over dosage	3.5 mg/Kg. i.m. as a 10% solution
2.	Phenamidine isethionate (Phenamidine)	Nausea, vomiting, abscess at injection site, CNS haemorrhage with over dosage	15 mg/Kg. s.c. as a 5% solution for 2 consecutive days
3.	Trypan blue	Perivascular sloughing Stains tissue blue	4 mg/Kg. i.v. as a 1 to 2% solution
4.	Imidocarb dipropionate (Imizol)	Transient salivation, serous nasal discharge, diarrhoea, dyspnoea	5 mg/Kg. i.m.

has to be administered. Phenobarbital (1 to 4 mg/Kg) administration is quite beneficial.

Treatment of respiratory infections:

The principles involved in treatment of respiratory infections are:

1. **Antibacterial/Antibiotic therapy:**

The chemotherapeutic agents of choice for bacterial infections are Penicillin, Ampicillin, Cloxacillin, Amoxycillin, Gentamicin, Erythromycin, Tetracyclines and Quinolones and for fungal infections, Nystatin, Amphotericin B sulphate, Ketoconazole etc.

2. **Expectorants:** Ammonium chloride (50 mg/Kg twice daily), Potassium iodide (50 mg/Kg/day), Bromhexine hydrochloride (1 mg/Kg twice daily)

3. **Cough suppressants:** The commonly used drugs are morphine and methadone (0.1 mg/Kg) and codeine 9-12 mg/Kg twice daily). Yet another alternative drug is dextromethorphan (2 mg/Kg 4 times a day).

4. **Bronchodilators:** Theophylline is quite beneficial and it is recommended at the dose rate of 11 mg/Kg. Other useful compounds are Aminophylline (10 mg/Kg twice daily), ephedrine (5-15 mg orally) etc.

5. **Decongestants:** Corticosteroids (Dexamethasone 0.25 to 1.0 mg/Kg i.v or 0.25 to 1.25 mg/Kg orally once, Prednisolone 2 mg/Kg twice daily) and alpha adrenergics (ephedrine) are commonly used as decongestants.

6. **Respiratory stimulants:** Earlier preparations like Nikethamide, Picrotoxin, Caffeine and Amphetamine are now regarded obsolete as they frequently induce convulsions and they are also ineffective in stimulating a hypoxic respiratory

centre. Doxapram (5-10 mg/Kg i.v.) is relatively safe and it acts reflexly by stimulating peripheral chemoreceptors than the brain.

7. **Oxygen therapy**

8. **Antihistamines:** Promethazine, diphenhydramine, cetirizine etc have been proved to be beneficial in the treatment of respiratory infections.

Treatment of congestive heart failure

Objective: Relieve volume overload, reduce peripheral resistance and myocardial tension

1. **Arterial vasodilators** - Relieve afterload - Prazosin 0.02-0.05 mg/kg orally b.i.d. - Hydralazine 0.5-2 mg/kg orally b.i.d.

Increased cardiac output

Increased tissue perfusion

Reduce A-V incompetence and atrial

overload - Improve tissue pre-fused

Reduce mitral regurgitation

2. **Vasodilators** - Reduce volume overload (preload) and tissue edema (Prazosin / Nitroglycerin / Isorbide dinitrate / ACE inhibitors)

3. **Beta-adrenergic blockage + Cardiac glycosides** (e.g.) Propranolol β_1 β_2 blocker 0.2-1mg/kg, tid orally

Metoprolol β_1 blocker 5-4 mg, 3 times a day

Atenolol β_1 blocker .5 mg/kg oraliv

Digoxin 0.02 mg/kg

4. **Diuretics** - Furosemide / Thiazides / Amiloride/

5. **Bronchodilators** - Aminophylline 5-10 mg/kg tid

Theophylline 2-5 mg/kg tid

6. **Cough sedatives** - Codeine 3 ml tid
Piphenhydramine Hcl + Codeine syrup 2.5 - 5 mg qid

7. **Miscellaneous** - Potassium 600 mg tablet $\frac{1}{2}$ - 3 tab/day/dog

Aspirin 25 mg/kg orally every 3rd day

Diazepam 0.2 -1 mg/kg/iv

Treatment strategies for acute renal failure

Managing ARF involves :

- Conservative therapy
- Dialysis

Conservative therapy involves the following

- Correcting disturbances in ECF volume
- Correcting disturbances in hyperkalemia
- Correcting acid base imbalances
- Correcting disturbances in retention of uraemic toxins

First weight the patient : Useful in monitoring fluid therapy

Goal of treatment : To replace fluid loss and provide daily fluid requirement.

Estimate volume of fluid loss through vomiting and diarrhoea and add to daily fluid replacement.

Correct hypovolemia with lactated Ringers

i.e. hyperkalemia administer NS

Calcium fluid deficit:

Dehydration x Body wt.(kg) = fluid deficit (clinical assessment)

Initial fluid administration rate – 5-15 ml/kg/hr till dehydration reverses

After rehydration adjust fluid rate to 20 ml/kg/day.

Adjust volume replacement depending on urine output, GI loss and insensible loss.

To counteract mild hyperkalemia (5.5-8.0 mEq/ltr) administer 1-2 mEq/kg sodium bicarb. Slow i/v @ 0.5-1 mEq/kg over 15 min.

Alternatively

0.25 IU insulin / kg and dextrose @ 1gm/unit insulin

To correct life threatening arrhythmias : 10% Ca. Gluconate slow i/v bolus @ 0.5-1.0 ml/kg b.wt.

Bicarbonate replacement = B.wt x 0.3 x Bicarb. Deficit serum CO₂ – 1.0 = Serum bicarb level

25mEq – Serum Bicarb level – Bicarb deficit

Diuretic use : Furosemide @ 2-4 mg/kg i/v

Manitol 0.25-0.5 gm/kg i/v

As therapy progresses, progressively increase the rate of fluid administration.

Normal caloric requirement of ARF patients = 132 Kcal/kg/day.

Use i/v hyperalimentation solutions if needed.

C.R.F.

Minimize production and accumulation of uremic toxins

Diet modification

Mild-moderate CRF feed 2-2.2 gm high biologic value prot. Per kg b.wt.

Restricted protein diet

Restrict phosphorus to control secondary hyperparathyroidism

Cimetidine : To suppress increased PTH levels and to reduce hypergastric acidity.

Alternatively : Chlorpromazine @ 0.5 mg/kg i/v. 1-4 times a day

Sodium restriction to control hypertension

TREATMENT OF HEPATIC DISEASES IN DOGS

Protein should be of high quality and

THE DRUGS USED IN THE TREATMENT OF GASTRIC ULCERS

Drug	Dose	Route	Interval of dosing	Duration of treatment
Metronidazole	10-15 mg/Kg	oral	12 hours	10-28 days
Tetracycline	5-10 mg/Kg	oral	12 hours	7-14 days
Ampicillin	20 mg/Kg	oral	12 hours	7-10 days
Prednisolone	0.5 mg/Kg	oral	12 hours	7-10 days
Methyl prednisolone	0.5-1.0mg	locally	24 hours	14-28 days
Triamcinolone	0.1-0.2 mg	locally	24 hours	14-28 days

digestability. Restriction of dietary fat. Inclusion of moderate amount of dietary fibre. Zinc supplementation is recommended (Zinc sulfate – 2 mg/kg/day or Zinc gluconate – 3mg/kg/day. Supportive and symptomatic therapy. Fluid therapy with H2 blockers and / or sucralfate. Antibiotics are specifically indicated for the treatment of bacterial hepatitis, cholangiohepatitis and/or cholecystitis and hepatic abscesses. Corticosteroids are used to modulate the inflammatory and fibrotic response in chronic hepatitis.

TREATMENT FOR CNS DISORDERS

1. Antimicrobial Therapy :
 - Chloramphenicol 25-50 mg/kg
 - Sulfonamide-trimethoprim 15 mg/kg
 - Metranidazole 10-15 mg/kg
 - Cefotraxime 6-40 mg/kg
2. Anti-inflammatory drugs, diuretics and others
 - Dexamethasone 1 mg/kg

Prednisolone	1-2 mg kg
Mannitol	1 gm. kg
Furosemide	0.7 – 1 mg kg
Thiamine	1-25 mg kg
3. Anticonvulsant therapy	
Diazepam	0.2-1mg kg
Primidone	25 mg/kg
Phenobarbitone	5 mg/kg

USUAL ANTIMICROBIAL DRUG DOSAGES FOR CANINE PYODERMA

Antibiotic	Oral Dosage Rate
Amoxicillin Clavulanate	14mg/kg B.I.D
Amikacin	5mg/kg T.I.D
Cephadroxil	10-20 mg/kg B.I.D
Cephalexin	30 mg/kg B.I.D
Chloramphenicol	50mg/kg T.I.D
Erythromycin	10-20 mg/kg T.I.D
Enrofloxacin	2.5-5 mg/kg B.I.D
Gentamicin	2mg/kg T.I.D
Lincomycin	20mg/kg B.I.D
Nafcillin	20mg/kg T.I.D
Oxacillin	15mg/kg T.I.D
Clindamycin	5.0mg/kg B.I.D
Trimethoprim-	
Sulfadiazine	15mg/kg B.I.D
Doxycycline	10 mg/kg Daily

Suggested Antimicrobial Dosages Small Animals

Drug	Dose (mg/kg)	Frequency
Amikacin	5-10	8-12
Amoxicillin	12	12-24
Amoxicillin/Clavulanate	20	12
Ampicillin Sodium	7	8-12
Ampicillin trihydrate	10-20	8-12
	7-11	12
Carbencillin indanyl	20-30	8
Cephadroxil	11-22	12-24
Cephazolin	33	8-12
Cephalothin	10-20	5
Cephalexin	10-30	12
Chloramphenicol	50	12
Clindamycin	5.5	12
		24
		12
		24
Dihydrostreptomycin	10-20	12
Doxycycline	10	24
Enrofloxacin	2.5-5	12
Erythromycin	10-20	8
Gentamycin	1-3	8-12
Kanamycin	5.5	12
Lincomycin	11-22	12
Metronidazole	7.5	8-12
Norfloxacin	22	12
Oxytetracycline	10-25	8
Sulphadiazine/trimethoprim	30	12
		12
Sulphamethaxazole/trimethoprim	30	12
Tetracycline	10-25	8-12

Drug index

GENERIC NAME (TRADE NAME)	DOSAGE	ROUTE	FREQUENCY	DESCRIPTION/COMMENTS
Acepromazine	Dog, Cat : 0.02 mg/lb	IV, SQ	q8-24h	Tranquilizer: dosage modified to effect
Albuteral	Dog: 22mg/lb	PQ	q8h	Bronchodilator*
Amikacin (Amiglyde)	Dog, cat: 2.5-4mg/lb	IV, IM, SQ	q8h	Antibiotic
Aminophylline	Dog: 5 mg/lb Cat: 2-4 mg/lb	PO, slowly IV PO, slowly IV	q6-8h q8-12h	Bronchodilator
Amoxicillin/ clavulanate (Clavamox)	Dog, cat: 5-10mg/lb	PO	q8h	Antibiotic
Ampicillin	Dog, cat: 10mg/lb	PO, IV, SQ	q8h	Antibiotic
Butorphanol (Torbutrol)	Dog: 0.25 MG/LB Dog, cat: 0.025 mg/lb	PO SQ	q6-12h q6-12h	Cough suppressant
Cephalexin (Keflex)	Dog, cat: 10-15 mg/lb	PO	q8h	Antibiotic
Cephalothin (Keflin)	Dog, cat: 10-15mg/lb	IV, SQ	q8h	Antibiotic
Chloramphenicol	Dog: 23mg/lb Cat: 50mg/cat	PO, IV, SQ POM iV, SQ	q8h q12h	Antibiotic
Cyclophosphamide (Cytoxan)	Dog, cat: 50mg/M	PO	q-8h	Cytotoxic agent
Dextromethorphan	Dog: 1mg/lb	PO	q6-8h	Cough suppressant
Diethylcarbamazine	Dog: 35mg/lb	PO	q12h for 3d	For Crenosoma infections
Enrofloxacin	Dog, cat: 2.3mg/lb	PO	q12h	Antibiotic
Epinephrine	Cat: 0.1 mg/cat	IV, IM, SQ	Once	Bronchodilator: emergency use only
Fenbendazole (Panacur)	Dog, cat: 11-23 mg/lb	PO	q12 for 10-14d	For sum lungworm infections*
Furosemide (Lasix)	Dog, cat: 0.5-1mg/lb	IV, SQ	q8-12h	Diuretic
Gentamicin (Gentocin)	Dog: 1mg/lb Cat: 1 mg/lb	IV, IM, SQ IV, IM, SQ	q8h q12h	Antibiotic
Heparin	Dog, cat: 90-135 U/lb	SQ	q8h	Anticoagulant: dosage adjusted based on PTT*
Hydrocodone bitartrate (Hycodan)	Dog: 0.125 mg/lb	PO	q8-12h	Cough suppressant
Ivermectin (Ivomec)	Dog, cat: 135-180ug/lb	PO, SQ	Once	For some lungworm infections*
Methylprednisolone acetate (Depomedrol)	Cat: 1-2 mg/lb	IM	q10-30d	Repositol corticosteroid
Morphine sulfate	Dog: 0.05 mg/lb	IV	To effect	Narcotic analgesic
Oxtriphylline (Cholecyl)	Dog: 6 mg/lb	PO	q6-8h	Bronchodilator
Praziquantel (Droncit)	Dog, cat: 10 mg/lb	PO	q8h for 3d	For Paragonimus infection*
Prednisone or- prednisolon	Dog, cat: 0.25-0.5 mg/lb	PO	q12h	Corticosteroid: initial anti-inflammatory dosage, should be rapidly tapered to 1/4 least effective dosage
	Dog, cat: 0.5-10 mg/lb	PO	q12h	Immunosuppression
Brednisolone sodium succinate (Sololu-Delta-Cortef)	Dog, cat: 10 mg/lb	IV	Once	Rapid action corticosteroid, shock dosage
Terbutaline	Dog: 1.25-5.0 mg/dog Cat: 0.3-0.6 mg/cat	PO PO	q8-12h q12h	Bronchodilator
	Dog, cat: 10 mg/lb	PO	q8h	Tetracycline
Theophylline	Dog: 4 mg/lb Cat: 2 mg/lb	PO PO	q6-8h q8-12h	Antibiotic
Theophylline, slow-release (Theo-Dur)	Dog: 9 mg/lb Cat: 11 mg/lb	PO PO	q12h q 24h (pm)	Bronchodilator
Theophylline, slow-release (Slo-Bid)	Dog: 11mg/lb Cat: 11MG/LB	PO PO	q 12h q 24h(pm)	Bronchodilator
Trimethoprim-sulfadiazine (Tribrissen)	Dog, cat: 7mg/lb	PO, IM	q12h	Antibiotic
Warfarin (Coumadin)	Dog, cat: 0.05-0.1 mg/lb	PO	q24h	Anticoagulant: dosage adjusted based on PT*

*Dosage, efficacy or toxicity not well established in dogs and cats. Please review text prior to use.

SUGGESTED ANTIBIOTICS FOR CANINE BACTERIAL INFECTIONS

Site Of Infection	Casual Organisms	First Choice Antibiotic	Second choice Antibiotic
Respiratory Tract	Streptococci, Staphylococci, Bordetella,	Amoxycillin Benzyl Penicillin Cephalexin Doxycycline	Antibiotic Lincomycin, Tylosin, Chloramphenicol Erythromycin Gentamicin Nitrofurantoin
Urinary Tract	E. Coli/Klebsiella Mixed Infection with Coliforms, Pure Coliform Infection Proteus/ Pseudomonas, B-Haemolytic	Streptomycin/Enrofloxacin Potentiated Sulphon Cephalexin Amoxycillin (Penicillin)	Streptomycin Gentamicin
Bone	Streptococci Staph. Aureus, Mixed Infections	Nalidixic Acid Lincomycin Sod. Fusidate Clindamycin	Ampicillin Amoxycillin Gentamicin
CNS	Mixed infections	Chloramphenicol Doxycycline	Potentiated Sulphon. Oxytetracycline Ampicillin Penicillin Cephalosporin
GIT	Coliforms	Ampicillin Neomycin Doxycycline	Streptomycin
Eye	Salmonella	Potentiated Sulphon Chloramphenicol Framycetin Penicillin Topical Tetracycline Doxycycline Chloramphenicol (Penetration)	
Staph. Pyogenes	Neomycin Staph-B Haemolytic Strep Mixed Infection with Coliforms		
Skin	Staph. Pyogenes, Staph-B Haemolytic Strep, Mixed-including Gram-positive Pure B-haemolytic Strep	Potentiated Sulphonamides Amoxycillin Clavulanate Lincomycin Enrofloxacin	Tetracyclines (Doxycycline) Clindamycin
Vagina	B-haemolytic Strep. Sulphonamide Coliforms	Potentiated Sulfonamides	Pure B-haemolytic Cephalosporin Ampicillin
Uterus	Mixed Infection Gram-negative with Coliforms	Tetracyclines Doxycycline	Amoxycillin Tetracycline Nitrofurazone Potentiated Sulphonamide
Circulatory System	Streptococci Mixed Infections Leptospira S. Pyogenes B-haemolytic Strep	Penicillin Cephalosporin	Tetracycline Streptomycin Amikacin Otitis Framycetin Nystatin
External	Gram- negative Pseudomonas Yeasts/Fungi	Neomycin Polymyxin Gentamicin	Cloxacillin Erythromycin Sod. Fusidate Tetracycline Tetracycline Tetracycline
Deep-Seated Dermatoses	Staph. Pyogenes B-Haemolytic	Penicillin Lincomycin/ Clindamycin	
Erythromycin			
Oral Cavity	Mixed (incl. Gram-ve) Bacteroides Mixed infections Bacteroides	Penicillin OTC Doxycycline Enrofloxacin Penicillin Metronidazole/(Clindamycin).	Doxycycline