

Susan L. Clubb DVM  
Pet Farm Inc.  
Miami, FL

### THE USE OF ANTIBIOTICS IN BIRDS

The development of safe and therapeutic drug dosages for birds is in its infancy. New information is becoming available at a rapid rate. Dosages in this chart which have been established by the determination of blood levels are indicated \*. Other dosages have been developed by clinical trial only.

Some basics must be remembered in the treatment of sick birds.

1. Handling should be limited to reduce stress. All medications must be prepared prior to handling.
2. Water medications are useful in the treatment of flocks and mild infections but should not be relied on in the very ill bird due to decreased consumption.
3. Warmth will increase water consumption. Fruits could be limited but not eliminated when using water medication. They are often the only food consumed by a sick bird.
4. Replacement of gram positive bacteria is helpful in preventing the overgrowth of Candida and gram negative bacteria following antibiotic therapy.
5. When using bacteriocidal drugs in the treatment of mild or localized infections the maintenance of constant therapeutic blood levels may not be required. For example, SID dosage of Gentamycin is effective in many clinical cases.

## ANTIBIOTIC DOSAGES FOR BIRDS

Generic Name	Form	Route	Species	Dosage; Frequency & Duration	Notes
Sulfamethazine	Solution 30mg/oz (Marvel Aid-8inl)	Oral	Small pet birds	Full Strength; In place of water	For coccidiosis and mild respiratory and enteric infections.
Ampicillin	Oral Suspension	Oral	Amazon Parrots*	150-200mg/kg BID or TID	Ampicillin is poorly absorbed & rapidly excreted by the kidneys.
	Injectable	IM	Amazon Parrots*	100mg/kg; Ea 4 hours	This dose is required for the maintenance of therapeu- tic blood levels in septicemias & other serious disorders.
				50mg/kg; QID or TID	For more sensitive organ- isms or localized infections.
	Capsule	Water	Chicken*	1.65g/liter	
	Capsule	Water	Most	250mg/8oz; 5-10 days	
Amoxicillin	Suspension-Drops	Oral	Most	5mg/30gm; BID or SID	Most preparations are palatable & well accepted. Many require refrigeration & expire rapidly.
Carbenicillin	Injectable (Geopen-Roerig)	IM	Psittacines	100mg/kg; BID or SID	Retains potency for only 3 days after reconstitution if refrigerated. Synergistic with Gentamycin; however, they must not be mixed.
		Intra- tracheal	Psittacines	100mg/kg; SID	For use with Gentamycin IM, in pneumonias due to <u>Pseudo-</u> <u>monas</u> sp. Short half life, <u>IF</u> used alone may require more frequent dosage.
Lincomycin- Spectinomycin	Soluble powder 16.7gm linco. & 33.3gm spect./ 2.55 oz (LS50-UpJohn)	Water	Most	1/8 to 1/4 level tsp/ pint; 2-4 weeks	Sugar may be added to im- prove acceptance. For use in mild enteric & respiratory diseases.
Spectinomycin	Water soluble Solution	Water	Most	20cc/gallon 5-10 days	For gram negative enteric infections. Good for flock treatment.

Antibiotic Dosages For Birds

Generic Name	Form	Route	Species	Frequency & Duration	Notes
Lincomycin 50mg/ml (Lincocin-Upjohn)	Suspension-drops	Oral	Budgerigar Amazon Parrot	1 drop; BID 7-14 days ½cc/300gm; BID 7-14d; 1cc/300gm; SID 7-14d	May be helpful in bacterial dermatitis or foliculitis.
Erythromycin	Soluble Powder (Gallimycin-Abbott)	Water	Most	500mg/gal; 10 days on 5 days off 10 days on 1ml/10ml saline; 15 min TID	For chronic respiratory disease, airsacculitis, mild sinusitis & mild enteric infections.
	Injectable	Nebulize	Most	1ml/10ml saline; 15 min TID	For airsacculitis & chronic respiratory disease. Injectable solution should not be used IM due to severe tissue irritation.
Chloramphenicol	Propylene glycol base 100mg/ml (Mychel-Vet Injection-Rachelle)	IM	Most*	50mg/kg; BID or TID for 5-10d 50mg/kg; QID	Not satisfactory for use in pigeons due to the extremely rapid excretion.
	Succinate-100mg/ml (Chloromycetin Sodium Succinate-Parke Davis)	IM	Macaws & Conures* Budgerigar* Bald Eagle & Peacock* Most*	50mg/kg; BID 50mg/kg; SID 80mg/kg; BID or TID	Lower dosage for succinate form used IV. Excretion of IV chloro. succinate is very rapid but may be required in the initial treatment of bacterial septicemias.
	Palmitate-oral suspension 30mg/ml (Chloromycetin Palmitate-Parke Davis)	Oral	Turkey*	50mg/kg;	Absorption is erratic, should not be used for initial therapy in life threatening infections.
	Psittacines			• 1ml/30gm; BID or TID 1.0ml/300 gm; BID or TID	Well accepted. Very useful for therapy in handfeeding birds in which food passage has slowed prior to or after the development of crop binding.

## Antibiotic Dosages For Birds

Generic Name	Form	Route	Species	Frequency & Duration	Dosage; Notes
Tylosin (Tylian 50-Elanco)	Injectable 50mg/ml	IM	Most*	10-25mg/kg; BID or TID	Good in the initial therapy of upper respiratory infections & airsaculitis.
Soluble powder with vitamins, 250gm/8.81 oz (Tylian with vitamins- Elanco)	Water	Most		2 tsp/gal.; 10 days on 5 days off 10 days on	May be poorly accepted due to bitter taste. Dosage may be divided between food & water. For treatment of chronic respiratory disease & airsaculitis.
			Cockatiels & others	Mix with water 1:10; SID, BID or TID	For the flock or individual treatment of conjunctivitis. Allows frequent treatment without handling. May be used in conjunction with tylosin in the water.
Cephalothin	Injectable	IM	Most*	100mg/kg; QID	Not absorbed from the GI tract.
Cephalexin (Keflex-Dista)	Oral Suspension	Oral	Most*	35-50mg/kg; QID	Most preparations are palatable & well accepted.
Trimethoprin & Sulfa-methoxazole (Septra-Burroughs Welcome)	Oral suspension 40mg trim. & 200 mg sulfa/5 ml	Oral	Most	1ml/lb; BID initially & SID thereafter for 5-10 days	For enteric bacterial infections, mild respiratory infections & coccidiosis.
			Mynahs, toucans & lorays	1ml/lb; 5 days	Place on top of moist food for treatment of coccidiosis. Well accepted.
Nitrofurazone	Soluble powder 9.3% (NFZ Soluble-Pfizer)	Water	Most	1tsp/gal.; 7-10 days $\frac{1}{2}$ tsp/gal.; 7-10 days	Excellent for the treatment of gram negative enteric infections. Will slow the flock spread of salmonellosis. Effective for many strains of coccidia in psittacines but not very effective in Mynahs & toucans. Toxic in overdose.
Neomycin	Solution with methscopolamine bromide (Biosol)	Water	Most	1-8 drops/oz; 1-3 days	Contains anticholinergic; care must be taken not to overdose. May produce mi-

### Antibiotic Dosages For Birds

Generic Name	Form	Route	Species	Dosage; Frequency & Duration	Notes
Kanamycin	Injectable 50mg/ml (Kantrim-Bristol)	IM	Most	10mg/kg; BID	For infections confined to the gut, no absorption.
		Water	Most, especially finches	1-5cc/gal; 3 days	Good for use immediately prior to or after known stressful conditions (such as shipping); this reduces the number of potential pathogens which could proliferate in the stressed bird.
Amikacin	Injectable, 100mg, 250mg or 500mg/ml (Amikin-Bristol)	IM	Psittacines	40mg/kg; SID or BID	For <u>pseudomonas</u> infections which are <u>resistant</u> to gentamycin.
Gentamycin	Injectable aqueous solution 50mg/ml	IM	Pheasants & Cranes*	5mg/kg; TID 5-10 days	These dosages maintain therapeutic blood levels as required for septicemias & other serious infections.
			Quail*	10mg/kg; QID	In less serious infections dosage SID or BID is clinically very effective due to the bacteriocidal effect of gentamycin. May produce a transient polyuria which will return to normal with the cessation of therapy.
			African Grey Parrots*	10mg/kg; TID	The above dosages do not exceed blood levels of 12ug/ml which is the mammalian nephrotoxic level. This dosage produces blood levels for 12 hours; however the mammalian nephrotoxic level is greatly exceeded initially.
			Blue & Gold Macaw*	10mg/kg	The avian nephrotoxic level has not been determined. This dosage SID has been used successfully in hundreds of clinical cases.
		Oral	Most	40mg/kg; SID	For sterilization of the gut or treatment of infections confined to the gut. Genta-
		Water	Most	2-3 days 1-5ml/gal;	

### Antibiotic Dosages For Birds

Generic Name	Form	Route	Species	Frequency & Duration	Dosage;	Notes
Gentamycin- (Continued)	(Injectable Aqueous Solution 50mg/ml) Continued	Nebulize	Most	1ml/10ml sa- line; 15 min TID		
		Intra- tracheal	Most	5-10mg/kg; SID	Useful in pneumonias in con- junction with carbenicillin or tylosin.	
		IV	Most	5-10mg/kg; Once	For initial therapy in life threatening infections. IM therapy should follow.	
Chlorotetra- cycline	Soybean meal base 100gm/lb (SF-66-Cyanamid)	Food	Large Psittacines	1 lb/20 lb mash* 2%; Only food source for 30-45 days	For treatment of ornithosis. Prepare mash by cooking rice, corn & commercial chicken foods in water until soft. Cool completely & add CTC. Brown sugar may be added in equal volumes to CTC. Must be prepared fresh daily. Base ration - 4/6 water, 1/6 honey & 1/6 metrical. Rice or commercial chicken feeds may be added.	
	Capsules	Food	Lorys & Lorikeets	500mgCTC/ liter 0.05%;		
	Pelleted feeds (Zeigler Brothers)	Food	Large Psittacines	1% CTC; Only food source for 30-45 days		
	Impregnated Millet (Keet Life - Hartz)	Food	Small Psittacines & Finches	0.5% CTC; Only food source for 30 days	Excellent for budgerigars & cockatiels; may be inade- quate for lovebirds.	
	Capsules	Water	Most	250mg/pint;	Tetracycline breakdown is rapid in water. Solution should be changed BID or TID. Candidiasis is common fol- lowing long term use of tetracyclines.	
	Soluble Powder 25gm/lb (Aureomycin- Cyanamid)	Water	Most	1/4-ltsp/qt.		

### Antibiotic Dosages for Birds

Generic Name	Form	Route	Species	Frequency & Duration	Dosage; Notes
Tetracycline Hydrochloride	Soluble Powder 10gm/6.4oz. Oral Suspension	Water Oral or by gavage	Most Psittacines	1tsp/gal; 5-10 days SID 75mg/300 g;	Must be changed BID or TID. For converting ill birds to mash or pelleted feeds when gavage feeding is required. Inadequate for long term treatment of ornithosis.
Oxytetracycline and Neomycin	20 gms. OTC 14 gms. neomycin/ 4 oz. (Neoterramycin Powder-Pfizer)	Water	Most	$\frac{1}{4}$ tsp/gal; 7-10 days	Due to rapid breakdown of tetracycline in water, solution should be changed BID or TID. Unsatisfactory for treatment of ornithosis.

ANTIFUNGAL DRUGS

Generic Name	Form	Route	Species	Dosage; Frequency & Duration	Notes
Nystatin	Oral Suspension 100,000 Units/ml (Mycostatin-Squibb)	Oral Most		1ml/300gm; SID or BID	Well accepted. Useful for the treatment of Candidiasis, after antibiotic therapy, & in handfeeding birds.
	Feed Premix (Myco-20-Squibb)	20gm/ 1lb feed	Most,	2tsp/5 lb mash; 10-14 days	For flock treatment.
Chlorhexidine	2% Solution (Nolvasan-Fort Dodge)	Water	Psittacines	10cc/gallon; 5-10 days	For flock or individual treatment of candidiasis. Slows spread of some viral diseases (esp. Avian Herpes Virus) through a flock. This may be due to viricidal action in water or in gut.
Amphotericin B	Injectable 50 mg Vial (Fungizone-Squibb)	IV	Raptors	1.5mg/kg; TID for 3 days	Use in conjunction with or follow with 5 fluorocytosine therapy.
	Intra- tracheal Nebulize	Raptors & Raptors &	Psittacines	1mg/kg 1mg/ml ster- ile saline; 15 min BID	Dilute to 2cc with sterile water.
	Lotion - 3%	Oral ap- plication	Psittacines	SID	Apply to oral lesions of candidiasis which are refractory to nystatin.
Flucytosine	Capsules 250mg (Ankabon-Roche)	Gavage	Psittacines	250mg/kg; BID	Use by gavage, mixed with food or mix with a favorite soft food. This dosage can be used safely for extended periods of time; however efficacy is uncertain. Fungicidal at this level.
		Raptors		120mg/kg; TID	

ANTHELMINTICS

Generic Name	Form	Route	Species	Dosage; Frequency & Duration	Notes
Levamisole	Injectable 13.65% (Ripercol-L- Cyanamid)	Water	Most	5-10cc/gal; 1-3 days	Effective for most nematodes. Repeat in 10 days. Breeding birds should be treated twice a year.
	Gavage	Australian Parakeets		15mg/kg	For treatment of individual birds or in species which fail to drink water (many desert species may refuse water for several days). Do not use in lorys or in debilitated birds.
	IM or SC	Most		4mg/lb	
Niclosamide	Tablets (Yomesan-Haver Lockhart)	Gavage or Food	Most	250mg/kg- Psittacines  500mg/kg- Finches	For treatment of tapeworms. Ground tablets are not water soluble; must suspend for gavage treatment. May be sprinkled on top of soft food for lorys, mynahs & toucans. May pill waterfowl.
Amprolium	9.6% Solution (Amprol or Corid- Merck)	Water	Most	2cc/gallon; 5 days or longer	For treatment of coccidiosis. To prevent reinfection, cage must be cleaned with live steam & wooden portions re- placed. B vitamins should be supplemented. Some strains in softbills are resistant.
Dimetridazole	Soluble Powder 182gms/6.42oz. (Emtry-Salsbury Lab)	Water	Most	1tsp/gal; 5 days	May be toxic if this dosage is exceeded. For trichomon- iasis, giardiasis & histo- moniasis. Do not treat flock during breeding as male may overdose by feeding hen on the nest. For birds which fail to drink adequate amounts of water.
	Gavage	Budgerigar		1.5gm/pt water; give 1/2cc/30 gm; 3 doses at 12 hr inter- vals	

## Anthelmintics

<u>Generic Name</u>	<u>Form</u>	<u>Route</u>	<u>Species</u>	<u>Frequency &amp; Duration</u>	<u>Dosage;</u> <u>Frequency &amp; Duration</u>	<u>Notes</u>
Ipronidazole	Soluble Powder 61gm/2.65oz (Ipropran-Roche)	Water	Most	500mg/gal; 7 days	For giardiasis, histomoniasis & trichomoniasis.	
Metronidazole	Tablets, 125 mg (Flagyl-Searle)	Pill	Pigeons	1/6 Tablet; 5 days	For trichomoniasis.	