College of Veterinary Medicine

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Empiric Antibiotic Pocket Guide

Antimicrobial Prescribing for Common Small Animal Diseases

Adapted from materials by the University of Minnesota Antimicrobial and Stewardship Initiative (arsi.umn.edu/as-resources)

Ten Tenets of Antimicrobial Prescribing

1. Make a diagnosis.
2. Follow antimicrobial guidelines.
3. Consider host, likely disease agent, and drug when selecting an antimicrobial.
4. Use the correct dose and duration.
5. Document indication, drug, dose, frequency, route, and duration.
6. Incorporate watchful waiting, as appropriate.
7. Regularly review the need for therapy.
8. Teach clients to administer antimicrobials appropriately and dispose of unused microbials.
9. Do not prescribe antimicrobials “just in case.”
10. Use a tiered approach, choosing antimicrobials with lower importance to human medicine first.

Tips for Managing Client Expectations

- Recommend specific symptomatic therapy when antibiotics are not needed.
- Provide a plan if symptoms do not improve.
- Educate clients. Combine positive treatment recommendations with explanations for why antibiotics are not needed.
- Answer questions.
- When using delayed prescriptions, write an expiration date on the prescriptions so it can be filled only during the watchful waiting period.

Respiratory Disease

	Feline Upper Respiratory Infection, Canine Infectious Respiratory Disease, and Suspect Bacterial Bronchitis	**Bronchopneumonia**
Considerations	Disease previously unresponsive or recurs after antibiotics → diagnostic investigation recommended	Some aspiration pneumonias may not require antibiotic therapy if due to chemical injury alone
Diagnostics Prior to Antibiotics	Thoracic radiographs — if cough > 10 d or suspicion for lung or heart disease	Thoracic radiographs Complete blood count
Culture Recommendations	Consider sterile airway wash for chronic cough. Nasal/pharyngeal swab cultures NOT recommended	Consider sterile airway wash, especially in the presence of sepsis
Empiric Antibiotic Selection	Clinical signs present for < 10 d with normal appetite/attitude — watchful waiting (no antibiotics)	Community-acquired (shelter, boarding, daycare) pneumonia with normal appetite/attitude/breathing — doxycycline 5 mg/kg PO q 12 h Re-evaluate at 10-14 d
	Clinical signs for > 10 d or with lethargy, inappetence or fever — Doxycycline 5 mg/kg PO q 12 h for 7-10 d	Pneumonia without sepsis — Ampicillin, ampicillin-sulbactam, or cefazolin during hospitalization Oral equivalents at discharge Re-evaluate at 10-14 d
		Pneumonia with sepsis — parenteral fluoroquinolone + ampicillin/ampicillin-sulbactam/clindamycin

Urinary Disease

	Bacterial Cystitis	Pyelonephritis
Considerations	Clinical signs of lower urinary tract disease (stranguria, pollackiuria, hematuria) must be present. Asymptomatic bacteriuria should NOT be treated with antibiotics. Bacterial cystitis is rare in young cats and male animals. Consider other differentials. Recurrent bacterial cystitis (≥ 3 per 12 months or ≥ 2 per 6 months) should receive diagnostic investigation.	IV antibiotics recommended for systemically ill animals
Diagnostics Prior to Antibiotics	Urinalysis	Complete Blood Count Biochemistry Panel Urinalysis Abdominal Ultrasound
Culture Recommendations	Sporadic bacterial cystitis – sterile urine recommended, but not required; consider saving a sample for culture. Recurrent bacterial cystitis – sterile urine culture by cystocentesis is REQUIRED	Urine culture is REQUIRED, ideally by pyelocentesis, cystocentesis is acceptable Consider blood cultures in immunosuppressed or febrile patients
Empiric Antibiotic Selection	Amoxicillin (NOT Clavamox) 10-15 mg/kg PO q 12 h for 3-5 d OR Trimethoprim-sulfa 15-30 mg/kg PO q 12 h for 3-5 d	Enrofloxacin, marbofloxacin, or cefpodoxime for 10-14 d

Gastrointestinal Disease

	Acute Diarrhea	Chronic Diarrhea	Acute Hemorrhagic Diarrhea Syndrome (AHDS)	Parvoviral Enteritis
Considerations	Antibiotics are NOT indicated, may cause further dysbiosis Consider dietary, prebiotic, probiotic and supportive therapy	Antibiotics are NOT indicated, may cause further dysbiosis Recommend diagnostic investigation	Previously called Hemorrhagic Gastroenteritis (HGE) Antibiotics only indicated with sepsis	Antibiotics indicated for secondary infections from GI translocation/ immunosuppression Treat supportively
Diagnostics Prior to Antibiotics	-	-	-	Complete Blood Count Biochemistry Panel
Culture Recommendations	-	-	-	-
Empiric Antibiotic Selection	Antibiotics NOT indicated	Antibiotics NOT indicated	Without sepsis – Antibiotics NOT indicated; treat supportively	Without sepsis — ampicillin/ sulbactam IV, then amoxicillin/ clavulanate PO for 7-14 d
			With sepsis (e.g., degenerative left shift, septic shock) — ampicillin/amoxicillin 5-7 d	With sepsis — consider adding a fluoroquinolone, aminoglycoside, or third-generation cephalosporin

Skin & Ear Disease

- In-house cytology can rapidly confirm bacterial infection and support responsible antibiotic prescribing — it is NOT possible to diagnose pyoderma or bacterial otitis without cytology results
- Amoxicillin without clavulanic acid is not recommended for any form of pyoderma or otitis

	Superficial Pyoderma	Deep Pyoderma	Otitis externa	Otitis media/interna
Considerations	Characteristic lesions: papules, pustules, epidermal collarettes	Characteristic lesions: Ulcers, draining tracts, hemorrhagic crusts, fistulae	Oral antibiotics have no penetration to the external ear canal	Diagnosis is confirmed by 3D imaging (CT, MRI)
Diagnostics Prior to Antibiotics	In-house cytology	In-house cytology	Otic exam In-house cytology	Otic exam In-house cytology
Culture Recommendations	Culture if rods or mixed population present; or if history of recent abx use	Highly recommended in all cases	Generally not indicated	Ideally performed via myringotomy
Empiric Antibiotic Selection	Localized lesions (1 to 4 small lesions) – consider topical treatment (e.g., ear ointments) applied twice daily until resolution	Lesions with cocci only – Clavamox 20-25mg/kg BID PO 28 days	Topical treatment (triple abx/steroid/ antifungal product) DO NOT use systemic antibiotics	Clavamox 20-25mg/kg BID PO 60 days
	Generalized lesions with cocci – cephalexin 30mg/kg BID PO 14-21 days OR Clavamox 13.75–20mg/kg BID PO 14-21 days	Lesions with rods – await culture results		
	If rods present or recent history of antibiotics use – await culture results, use topical treatment until then			