

TABLE 1.1
Emerging Parasites of Greatest Concern

Parasite name	Type of parasite	Primary hosts	Distribution in North America ^a	Transmission route	Site of infection	Zoonotic
<i>Ancylostoma caninum</i> [multiple anthelmintic drug resistance (MADR)] ^a	Nematode	Canids	Scattered across the United States and Canada	Transmammary; ingestion or transdermal penetration of infectious larvae	Intestinal tract	Yes—cutaneous larva migrans Reportable or notifiable^b : No
	Treatment recommendation: Triple combination deworming with benzimidazole, ML, and pyrantel					
<i>Baylisascaris procyonis</i> ^b	Nematode	Raccoons, occasionally dogs	Widespread across the United States and Canada	Ingestion of larvated eggs or tissues of paratenic hosts (rabbits, rodents, and birds) containing larvae	Small intestine and occasional systemic infections in dogs	Yes—ocular, visceral, and neural larva migrans Reportable or notifiable^b : No
	Treatment recommendation: Dogs: Fenbendazole, milbemycin oxime, moxidectin, and pyrantel pamoate					
<i>Cercopithifilaria bairae</i> ^c	Nematode	Dogs and various wildlife	Scattered throughout the United States	<i>Rhipicephalus sanguineus</i> (brown dog tick)	Superficial dermal tissues and subcutaneous tissues	No Reportable or notifiable^b : No
	Treatment recommendation: ML (topical moxidectin)					
<i>Cochliomyia hominivorax</i> ^{d,e,f}	Fly larvae	Any	Reemergence in 2026 in the United States and imported dogs anywhere in the United States and Canada	Adult female flies lay eggs in open wounds	Any open wound	Yes Reportable or notifiable^b : Yes
	Treatment recommendation: Remove larvae from wound(s); administer ML, nitenpyram, or an isoxazoline (all extralabel drug use)					
<i>Dipylidium caninum</i> (praziquantel resistant) ^g	Cestode (tapeworm)	Dogs and cats	Occasionally diagnosed across the United States	Ingestion of infected arthropod intermediate host (fleas most common)	Intestinal tract	Yes Reportable or notifiable^b : No
	Treatment recommendation: Pyrantel/praziquantel/oxantel, or nitroscanate (when available)					
<i>Dirofilaria immitis</i> (ML LOE populations) ^{h,i}	Nematode	Dogs, some wild canids, cats, wild felids, and ferrets	Distributed throughout North America with focal “hotspots” (e.g., southeastern United States, particularly the Lower Mississippi River Valley)	Mosquito vector and intermediate host	Pulmonary arteries and heart	Yes—rarely Reportable or notifiable^b : No
	Treatment recommendation: Dogs: Melarsomine (AHS protocol)* Cats: No adulticide treatment; manage symptoms and prescribe ML					

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TABLE 1.1, CONTINUED
Emerging Parasites of Greatest Concern

Parasite name	Type of parasite	Primary hosts	Distribution in North America ^a	Transmission route	Site of infection	Zoonotic
<i>Echinococcus</i> spp. ^{i,k} <i>E. granulosus</i> (EG) <i>E. canadensis</i> (EC) <i>E. multilocularis</i> (EM)	Cestode (tapeworm)	Wild and domesticated dogs (EG, EC, EM), and cats (EM)	Alaska, Canada, northern and upper Midwest United States	Dog as DH: Ingestion of infected intermediate host (sheep, goats, pigs, camels, cervids [EG and EC]; voles, lemmings, rodents [EM])	Dog as DH: Small intestine	Yes—cystic echinococcosis (EG, EC) and alveolar echinococcosis (EM) Reportable or notifiable^l: May be required in some regions
				Dog as IH (EM): Ingestion of fresh eggs	Dog as IH (EM): liver or other viscera	
Treatment recommendation: Praziquantel for intestinal adult stage; albendazole +/- surgical resection for larval stage (alveolar echinococcosis)						
<i>Haemaphysalis longicornis</i> ^l	Tick	Various wild and domestic animals, and humans	Eastern half of the United States, but spreading westward rapidly	Direct transmission following interaction with infested environments	Skin	Yes Reportable or notifiable^l: No, but USDA should be alerted
						Treatment recommendation: Approved dog or cat isoxazoline or pyrethroid-containing product
<i>Heterobilharzia americana</i> ^m	Trematode (flake)	Raccoons, occasionally dogs	Primarily southern United States, but cases are increasing across the United States	Penetration of dog’s skin by cercariae during contact with freshwater sources where intermediate hosts (freshwater snails) are present	Mesenteric vasculature	Yes—localized dermatitis, “swimmer’s itch” Reportable or notifiable^l: May be reportable locally
						Treatment recommendation: Combination of praziquantel and fenbendazole at higher dose and frequency than for other indications
<i>Trypanosoma cruzi</i> ⁿ	Protozoa	Dogs, cats, humans, horses, and other domestic and wild mammals	Primarily southern United States, but spread of vector (<i>Triatoma</i> spp.) suggests potential expansion	Introduction of infected kissing bug (<i>Triatoma</i> spp.) feces into a bite site or mucous membrane; ingestion of infected bugs; vertical transmission; contaminated blood transfusion	Myocardium	Yes Reportable or notifiable^l: May be reportable locally
						Treatment recommendation: Benznidazole or a combination of amiodarone and itraconazole

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TABLE 1.1, CONTINUED
Emerging Parasites of Greatest Concern

*Disclaimer for Geographic Distribution: Information on geographic distribution may continue to change. Please refer to external resources such as CAPC, AHS, USDA, and CDC for United States updates, and CAPC and CPEP for Canada.

†Even if a disease is not reportable, individuals identifying these organisms are encouraged to promptly communicate findings to local animal and (as applicable) human health entities to enhance surveillance and control activities. Reporting requirements may change over time; consult local, state, and federal public health resources.

AHS, American Heartworm Society; CAPC, Companion Animal Parasite Council; CDC, Centers for Disease Control; CPEP, Canadian Expert Parasitology Panel; DH, definitive host; EG, *Echinococcus granulosus*; EC, *Echinococcus canadensis*; EM, *Echinococcus multilocularis*; IH, intermediate host; LOE, lack of efficacy; MADR, multiple anthelmintic drug resistance; ML, macrocyclic lactone; USDA, US Department of Agriculture.

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TABLE 1.2
Emerging Parasites of Potential Concern

Parasite name	Concern	Signs of infection in dogs/cats	Treatment [†]
<i>Ancylostoma ceylanicum</i>^{a,b}	Zoonotic canine hookworm in the Caribbean. May be introduced into the United States.	Diarrhea, anemia, and hypoproteinemia	Products efficacious against <i>Ancylostoma caninum</i> (e.g., fenbendazole, MLs, and pyrantel pamoate)
<i>Angiostrongylus cantonensis</i>^{c,d}	Zoonotic rat lungworm transmitted by snails and slugs. Can incidentally infect dogs. Detection in southeastern United States.	Ataxia, pain, ascending paralysis, hind-limb weakness, hyperesthesia, urinary incontinence, and muscle atrophy	Supportive care (e.g., analgesics and corticosteroids); fenbendazole or MLs may be efficacious
<i>Angiostrongylus vasorum</i>^{e,f}	French heartworm of dogs and wildlife, transmitted by snails and slugs. Occasionally diagnosed in North America. Endemic in Eastern Canada.	Coughing, dyspnea, lethargy, coagulopathy, and weight loss	Fenbendazole, milbemycin, moxidectin; some products available in North America have label claims for this parasite in other regions.
<i>Dirofilaria repens</i>^{g,h}	Zoonotic, subcutaneous filariid of canids transmitted by mosquitoes. Rare diagnoses in the United States.	Subclinical or cold and painless nodules containing parasites in skin	Topically applied moxidectin or selamectin are likely efficacious; products are licensed in some European countries. Nodule removal by surgery or aspiration.
<i>Hepatozoon americanum</i>ⁱ	Protozoan transmitted by the Gulf Coast tick (<i>Amblyomma maculatum</i>). Potential cause of myositis in dogs.	Altered gait, bilateral mucopurulent ocular discharge, decreased tear production, cachexia, generalized weakness and reluctance to move, muscle atrophy, lethargy, and painfulness	Ponazuril or combination of trimethoprim–sulfadiazine, clindamycin, and pyrimethamine; long-term use of decoquinatone is typically needed to prevent relapse. Nonsteroidal anti-inflammatory drugs may be necessary.
<i>Leishmania infantum</i>^{h,j}	Zoonotic protozoan of dogs transmitted by sand flies with occasional, but increasing, recognition in the southern United States.	Highly variable depending on location of parasite; ulcerative cutaneous lesions, alopecia, nodules, hyperkeratosis, severe dermatitis, conjunctivitis, weight loss, weakness, muscle atrophy, lameness, epistaxis, hematuria, vomiting, and diarrhea	Meglumine antimoniate or miltefosine in combination with allopurinol
<i>Leishmania mexicana</i>^k	Zoonotic protozoan transmitted by sand flies causing cutaneous lesions in cats in the southern United States.	Cutaneous nodules, scales, erosions, or ulcers typically on pinnae or muzzle	Allopurinol, meglumine antimoniate, miltefosine, or artemisinin
<i>Onchocerca lupi</i>^{l,m,n}	Zoonotic nematode of the eye transmitted by flies. Increasing diagnoses in dogs and cats in the southwestern United States. Infection reported in Alberta and Prince Edward Island, Canada associated with dog importation and travel.	Subclinical or ocular nodules in conjunctiva, sclera, or eyelids with resulting inflammation	Surgical removal of worms from nodules, melarsomine, ivermectin, topical antibiotics, and corticosteroids
<i>Thelazia callipaeda</i>^{b,o}	Zoonotic eyeworm transmitted by flies. Occasionally diagnosed in dogs and cats in the northeastern United States and a case in the southwest United States.	Subclinical or conjunctivitis, blepharitis, epiphora, periocular pruritus, or keratitis	Saline flush to remove worms; MLs appear to be efficacious

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TABLE 1.2, CONTINUED
Emerging Parasites of Potential Concern

*Most treatments are extralabel use. Consult a specialist for assistance with diagnosis, reporting, and additional treatment information.
 ML, macrocyclic lactone.

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TABLE 1.3
Selected Diagnostic Strategies

Clinical Signs and Differentials	Test	Pros	Cons	Recommended For
Gastrointestinal signs (diarrhea, vomiting, acute abdomen, blood in feces, iron-loss anemia in young animals) DD: Intestinal parasites	Centrifugal fecal flotation with sugar solution (qualitative)	Inexpensive consumables. Relatively quick if performed in clinic. AI integration is available.	Training needed with good SOPs. Some parasites are distorted or do not float well. Centrifuge required. Qualitative only (presence or absence).	Qualitative identification of most intestinal parasites. Routine annual testing for intestinal parasites.
	" <i>Giardia</i> " float (centrifugal fecal flotation with zinc sulfate solution)	Inexpensive. Can be performed in clinic. Avoids the collapse of <i>Giardia</i> cysts.	Training needed with good SOPs.	Qualitative identification of <i>Giardia</i> spp.
	" <i>Giardia</i> " antigen tests	Quick diagnosis of <i>Giardia</i> infection. Extremely sensitive. Can be performed in clinic.	High sensitivity may lead to overtreatment if clinical signs are not considered.	Only for dogs with clinical signs (diarrhea). Not recommended for clinically normal animals.

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TABLE 1.3
Selected Diagnostic Strategies

Clinical Signs and Differentials	Test	Pros	Cons	Recommended For
Gastrointestinal signs, continued (diarrhea, vomiting, acute abdomen, blood in feces, iron-loss anemia in young animals), DD: Intestinal parasites	FECRT (fecal egg count [e.g., McMaster] performed before and 10–14 days after treatment; Wisconsin method may be preferred post-treatment if pre-treatment EPG is below 50)	Quantitative (determines EPG of feces). Inexpensive; quick if performed in clinic.	If not timed properly (10–14 days apart), results may be invalid.	Clinical diagnosis of <i>Ancylostoma caninum</i> (hookworm) resistance.
	Sedimentation	Detection of heavy eggs that will not float well in a flotation solution.	At least 5 grams of feces needed. Sensitivity is dependent on amount of feces examined. Must use saline when suspicious of <i>H. americana</i> .	GI flukes (<i>Heterobilharzia americana</i> , <i>Alaria</i> spp., <i>Nanophyetus salmincola</i> , and <i>Platynosomum fastosum</i>), <i>Physaloptera</i> spp. (stomach worm), and some tapeworms (<i>Spirometra</i> sp.).
	Fecal antigen test (e.g., hookworms, roundworms, whipworms, <i>Dipylidium</i> , and <i>Cystoisospora</i>)	Extremely sensitive detection of parasite antigen, often before the eggs are seen in feces.	Qualitative only. Available for a limited number of parasites. Prepatent detection of parasites may lead to confusion about treatment needs. Does not differentiate species.	Qualitative detection of select parasites.
	Fecal PCRs and PCR panel	Sensitive detection of parasite DNA present in feces.	Qualitative only. Available for a limited number of parasites.	Qualitative detection of a selection of GI parasites in the commercially available PCR panel, including markers for benzimidazole resistance in hookworms. Can categorize <i>Giardia</i> based on zoonotic potential [i.e., from a zoonotic assemblage], and differentiate <i>Taenia</i> from <i>Echinococcus</i> .
	Morphological identification of worms	Definitive diagnosis of some parasites.	Small parasites are easy to miss. Technique is limited to only a few parasites antemortem. Advanced training may be required.	Worms present in feces or vomitus; worms recovered during endoscopy or surgery.

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TABLE 1.3, CONTINUED
Selected Diagnostic Strategies

Clinical Signs and Differentials	Test	Pros	Cons	Recommended For
Respiratory signs (coughing, dyspnea) DD: Heartworm, lungworms	<i>D. immitis</i> antigen test	Multiple formats. Quick; performed in clinic.	Cannot detect infections until ~6 mo after infection in dogs. Infected cats can be antigen negative.	Heartworm diagnosis in dogs. Routine annual testing for dogs and cats.
	<i>D. immitis</i> antibody test	Detection of antibodies to <i>D. immitis</i> .	Indicates prior or current infection but cannot differentiate. Reference laboratory offered test.	Routine annual testing of <i>D. immitis</i> in cats.
	Microfilarial test (modified Knotts)	Sensitive. Concentrates mf in a volume of blood. Can help differentiate <i>Dirofilaria</i> spp. from <i>Acanthocheilonema</i> spp.	Training needed with good SOPs. Micrometer needed.	Confirmation of <i>D. immitis</i> infection in dogs.
	MFST (quantitative modified Knott's test performed before and 10–14 days after ML treatment)	Quantitative (mf per mL of blood).	Training needed with good SOPs. Micrometer needed.	Confirmation of ML resistant <i>D. immitis</i> .
	Centrifugal fecal flotation (qualitative) in a high specific gravity solution	Inexpensive. Relatively quick if performed in clinic.	Training needed with good SOPs. Larval lungworms are distorted.	Respiratory dwelling helminths that produce eggs (<i>Eucoleus</i> [<i>Capillaria</i>] <i>aerophilus</i> , <i>Eucoleus boehmi</i>), <i>Paragonimus</i> spp.
	Baermann test	Recovers and does not distort larval stages shed in feces.	Time consuming. Training is needed to distinguish lungworms from free-living larvae.	Lungworms that produce larval stages (<i>Filaroides</i> in dogs, <i>Aelurostrongylus</i> in cats).
Systemic signs (fever, severe lethargy, anemia, weight loss), DD: Blood parasites	PCR tests (in panels or single)	Sensitive detection of parasite DNA in blood or tissue.	Qualitative only.	Confirmation of active tick-borne bacterial and protozoal diseases (<i>Anaplasma</i> spp., <i>Ehrlichia</i> spp., <i>Cytauxzoon</i> spp., <i>Babesia</i> spp., <i>Bartonella</i> spp., hemotropic <i>Mycoplasma</i> spp., <i>Rickettsia</i> spp.).
	Antibody tests (e.g., ELISA and IFA)	Detection of antibodies. Some performed in clinic.	Cannot differentiate between past or current infection.	Detects exposure to <i>Anaplasma</i> spp., <i>Ehrlichia</i> spp., <i>Borrelia burgdorferi</i> , <i>Babesia canis</i> , <i>Bartonella</i> spp., and <i>Rickettsia</i> spp.

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TABLE 1.3, CONTINUED
Selected Diagnostic Strategies

Clinical Signs and Differentials	Test	Pros	Cons	Recommended For
Systemic signs, continued (fever, severe lethargy, anemia, weight loss), DD: Blood parasites	Stained thin blood smear	Quick, inexpensive, and in-clinic test.	Sensitivity depends on the operator. Some parasites are only detectable during early infection.	Detection of intracellular protozoa and bacteria.
Skin lesions (pruritus, alopecia, nodules) DD: Ectoparasites	Ectoparasite identification	Definitive diagnosis of infestation.	Training needed. Dichotomous keys are not available for every parasite group.	Identifies infestation with ticks, fleas, and lice.
	Skin scraping	Quick, inexpensive, and in-clinic test.	Sensitivity depends on the number of parasites present. Training needed for species level identification of mites.	Identifies skin-dwelling mites.
	Biopsy	Useful to understand pathological changes in skin and detect skin parasites.	Parasite groups can be identified but not to species level.	Identification of <i>Cercophithifilaria</i> spp. in skin.
	PCR	Can be performed on skin scraping or biopsies.	Sensitive and specific.	Confirmation of ectoparasite identity.

AI, artificial intelligence; DD, differential diagnosis; EPG, eggs per gram; FECRT, fecal egg count reduction test; GI, gastrointestinal; mf, microfilaria; MFST, microfilarial suppression test; ML, macrocyclic lactone; PCR, polymerase chain reaction; SOP, standard operating procedure.

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MANAGING PARASITIC INFECTIONS USING A ONE HEALTH FRAMEWORK^{a,b}

1. Stay up to date.

Use existing domestic animal, wildlife, and human data to determine relevance and risk of specific parasites for your patients (see Box: Sources of Relevance and Risk Data).

2. Ensure an accurate diagnosis.

Diagnostic test-informed treatment provides useful information related to infectious disease counseling for clients (e.g., likely exposed household pets and people, and effectiveness of current prevention) and follow-up measures. Use appropriate diagnostic tools for the targeted parasites.

Identifying some parasites, especially those that are emerging, may require unique diagnostic tools not readily available through typical diagnostic groups.

As appropriate and based on prior treatment history and presence of antiparasiticide resistance in the region, investigate resistance through available diagnostics.

Use advanced diagnostics (e.g., molecular testing) to complement microscopic findings where applicable.

3. Treatment and follow-up.

Consult established evidence-based parasitology resources to ensure appropriate treatment and follow-up periods (e.g., CAPC, CPEP, and AHS guidelines).

3a. Zoonotic potential.

Determine the zoonotic potential of the parasite and identify the life stage responsible for disease. Some parasites have complex lifecycles for which zoonotic spread from the pet may only apply to a parasite's specific life stage or the time since the parasite is shed from the pet (time to infectivity). Make clients aware of direct health concerns from their pets and indirect health concerns such as those that stem from their shared environment (especially for households with young children or those likely to engage in pica). Offer to provide veterinary support for consulting with human healthcare providers (see the *AAHA One Health Guidelines: Navigating Cross-Disciplinary Partnerships* at aaha.org for more information).^a

3b. Risk assessment.

A risk assessment helps guide the approach to patient treatment and monitoring. For zoonotic parasites, this includes determining if there are individuals at increased risk of infection or severe disease in the household (e.g., people who are under 5 yr of age, over 65 yr of age, pregnant, or immunocompromised) or have regular contact with the animal.

3c. Use judicious treatment strategies to mitigate resistance.

Create contextualized, risk-based protocols to reduce unnecessary treatments or medication use in low-risk pets and households (e.g., indoor only cats, dogs always supervised and walked on leash, adult immunocompetent pet caregivers, and family members).

Follow the six rights—right patient, parasite, drug, administration (dose/route), disposal, and monitoring—for treatment efficacy and responsibility (Table 2.1).

Encourage product use within a valid veterinarian–client–patient relationship to ensure proper drug selection and follow-up. Discourage over-the-counter product use and guide client education.

4. Consider animal care and housing facilities.

Infection control practices such as effective cleaning, disinfection, and isolation are critical to reduce contamination of animal and personnel environments (see the *AAHA Infection Control, Prevention, and Biosecurity Guidelines* at aaha.org for more information).^c

5. Consider environmental impacts.

Educate clients on the importance of prompt, safe feces removal and disposal. Importance may be elevated immediately after treatment for some parasites as environmental burden may be increased.

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FIGURE 2.1

Managing parasitic infections using a One Health Framework

6. Communicate.

Use in-person discussions and educational materials to effectively communicate parasite risks and the importance of preventive care (medication and diagnostics).

7. Take an active role in parasite surveillance.

Report parasite infections/infestations and occurrences to animal and public health entities, as indicated.

- a. McNeil C, Roth C, Sick B, et al. 2025 AAHA One Health guidelines: navigating cross-disciplinary partnerships. *J Am Anim Hosp Assoc* 2025;61(5):117–45.
- b. Centers for Disease Control (CDC). National One Health framework to address zoonotic diseases and advance public health preparedness. 2025. Available at www.cdc.gov/one-health/media/pdfs/2025/01/354391-A-NOHF-ZOONOSSES-508_FINAL.pdf. Accessed February 21, 2026.
- c. Stull JW, Bjorvik E, Bub J, et al. 2018 AAHA infection control, prevention, and biosecurity guidelines. *J Am Anim Hosp Assoc* 2018;54(6):297–326.

FIGURE 2.1, CONTINUED

Managing parasitic infections using a One Health Framework

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TABLE 2.1
The “Six Rights” of Antiparasitic Prescribing

Right	Application [*]
Patient	Conduct a comprehensive risk assessment, considering factors such as the pet’s age, lifestyle, geographic location, comorbidities, and family.
Parasite	Base treatment on a definitive diagnosis whenever possible, using the most sensitive, specific, and appropriate methods available.
Drug	Select the most targeted agent that is effective against the parasite diagnosed.
Administration	Prescribe the correct dose, route, and frequency of administration as determined by the drug label or, in the case of extralabel use, by evidence-based protocols.
Disposal	Counsel clients on the proper disposal of unused products to prevent the release of active pharmaceutical ingredients into the environment, where they can harm nontarget organisms (e.g., aquatic invertebrates and pollinators).
Monitoring	Conduct a post-treatment evaluation to confirm that the therapeutic goal for administering the drug was achieved, including: Clinical follow-up with diagnostic confirmation; resistance surveillance; and pharmacovigilance (i.e., report any adverse events and drug inefficacy).

^{*}See text for more details.

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TABLE 3.1
Communication Tools to Use When Recommending Parasite Control

Communication tool	Description and purpose	Example(s)
Nonverbal communication	Ensuring your body position, eye contact, tone of voice, and facial expressions demonstrate attentiveness and respect for clients.	When sharing information about parasite preventives with a client, the credentialed technician sits and faces the pet caregiver and provides good eye contact and an open body posture.
Open-ended questions	Asking questions that invite more than a “yes” or “no” or brief answer.	<i>“What experience has your family had with using medication to prevent parasites for Sammy?”</i>
	Gathers more detailed information and encourages clients to share perspectives and goals.	<i>“How do you feel about using medications to help prevent flea and tick infestations for Tucker?”</i>
Reflective listening	Listening to understand and repeating back what you have heard.	<i>“It sounds like you are wondering how Simba might be exposed to parasites when she spends most of her time indoors...”</i>
Empathy statements	Demonstrating care, concern, and understanding for the family’s situation.	<i>“It can be worrisome to think about adverse reactions to medications when Rex has been sensitive to other medications in the past.”</i>
		<i>“You are doing a great job of searching for parasite control information for Peanut. Can we look together at a website I trust to provide us with sound information?”</i>
Transparency^{a,b}	Sharing truthful, accurate information about parasites and parasite prevention including costs, risks, and benefits of each option.	<i>“It’s true that the incidence of heartworm disease for dogs in our region is low, based on this map. One of the main reasons we are still concerned with heartworm prevention is that the mosquitoes that spread heartworm disease are prevalent in our area, and treatment of this disease can be costly and difficult.”</i>
Unconditional positive regard^{a,b}	Accept clients for who they are and meet them where they are, rather than holding them to impossibly high standards. ^a	When Mr. Brown calls for the third time this week with questions about the tick he found on his dog, Reggie, the veterinary technician, reminds you that Mr. Brown is very worried and has a close bond with Reggie.
Offer options	Share a variety of alternatives and explain the advantages, disadvantages, and costs of each, including expectations and evidence.	<i>“Let’s talk about some of the options we have for preventing parasites for Bella. We can discuss the costs, as well as advantages and disadvantages of oral versus topical preventive medications to help you find something that works for you and Bella.”</i>

Explore more resources and tools that can help bridge communication gaps between veterinarians and clients with diverse backgrounds in the AAHA Community Care Guidelines at aaha.org.

- Englar RE. Defining two new skills that companion animal clients value: compassionate transparency and unconditional positive regard. In: *A Guide to Oral Communication in Veterinary Medicine*. 5M Publishing; 2020:282–96.
- Englar RE. Recasting the gold standard—part II of II: communicating healthcare options along a continuum of care. *J Fel Med Surg* 2023;25(12):1–14.

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TABLE 3.2
Key Communication Tips to Aid Parasiticide Adherence

Listen first. Use open-ended inquiries to solicit clients' views. This core communication skill helps us understand clients' views and concerns, and shows we care.*
Find common ground. Even though veterinary team members may not agree with information clients share, finding a common interest upon which to base conversations, such as keeping their pet healthy and free of parasites and protecting human family members, builds trust and demonstrates willingness to partner with clients to accomplish their goals.
Share evidence-based facts. Kindly and respectfully refute misconceptions using scientifically sound information obtained from evidence-based sources. Individually tailored tools including images, statistical data, reliable websites, analogies, and real-life stories and examples can help clients gain understanding and develop scientific literacy. Relay information in a client's primary language when able and in terms pet caregivers readily understand, and avoid medical terminology. ^a
Practice empathy and unconditional positive regard. ^{b,c} Acknowledge clients' efforts to find information that will benefit their pet and share your interest in partnering with them in their pet's health care.
Be patient. It can take time to reconsider firmly held beliefs, especially if clients have obtained conflicting information from friends and family members. Reinforce important information over time with bi-directional, iterative conversations and spaced repetition of evidence-based facts, using a kind and nonjudgmental tone.

*For examples of open-ended questions to ask clients, see Resources at aaha.org/one-health-parasitology.

- Brown CB, Garrett LD, Gilles WK, et al. Spectrum of care: more than treatment options. *J Am Vet Med Assoc*. 2021;259(7):712-717.
- Englar RE. Defining two new skills that companion animal clients value: compassionate transparency and unconditional positive regard. In: *A Guide to Oral Communication in Veterinary Medicine*. 5M Publishing; 2020:282-296.
- Englar RE. Recasting the gold standard—part II of II: communicating healthcare options along a continuum of care. *J Fel Med Surg*. 2023;25(12):1-14.

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TABLE 3.3
Quick Practical Steps to Boost Adherence

1. Ask before advising —Use open-ended questions like “What concerns you about parasite prevention?” to uncover doubts.
2. Show, don’t just tell —Use or describe posters, photos, or maps to illustrate or explain parasite risks and zoonotic concerns.
3. Use geographic evidence and/or personal experience — “Here in our area, X% of pets had fleas/heartworm last season.”
4. Send reminders —Use automated texts, emails, or app alerts for refills and dosing schedules.
5. Make it a team effort —Have customer service representatives, technicians, assistants, and veterinarians all reinforce messages consistently.
6. Simplify choices —Offer a few well-selected options (e.g., three-in-one products if indicated, 6 or 12 mo packs) to reduce confusion.
7. Use less technical language —Treat explanations conversationally (“mosquitoes can still bite indoors in winter...”).
8. Follow-up —Track compliance, gently revisit declined decisions later, and continually educate via newsletters or social media posts.

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TABLE 3.4
Support Tools to Address Adherence Barriers

Barrier addressed	Resource/tool
Client forgetfulness	Phone reminders, auto-refill services, and clinic reminder systems
Low-risk parasite perception/confusion	Local maps and forecasts, and staff-led discussions
Cost concerns	Bundled prevention plans and affordable options
Administration challenges	Demonstrations, product variety, and visual aids
Safety/trust worries	Empathetic staff conversations and easy-to-read materials

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TABLE 3.5
Educational Resources for Clients and Veterinary Professionals

CAPC	Offers local parasite prevalence maps, monthly forecasts, guidelines, and client-friendly materials (capcvet.org).
AHS	Provides heartworm prevention guidelines, educational campaigns, and printable handouts for clients (heartwormsociety.org).
Pet Disease Alerts	Provides forecast maps, alert maps, and resources (petdiseasealerts.org).
American Veterinary Medical Association	Offers preventive care guidance and resources (avma.org).
State and provincial VMAs	Many offer continuing education modules and compliance resources on preventive care.
Fear Free Pets	Training and resources for making preventive care less stressful for pets and pet caregivers, which can boost compliance (fearfree.com).

AHS, American Heartworm Society; CAPC, Companion Animal Parasite Council; VMA, Veterinary Medical Association.

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