

Parasites in Dogs Webinar: What You Need to Know About Fleas, Ticks and Worms in Dogs

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Summary:

1. What is a parasite?
2. What are the most common dog parasites?
3. Internal versus external parasites
 - a. Internal
 - i. Intestinal Worms – the most common intestinal worm parasite
 1. [Roundworms](#)
 2. [Hookworms](#)
 3. [Whipworms](#)
 4. [Tapeworms](#)

ii. [Heartworm](#)

iii. [Giardia](#) – It is unknown why some strains of Giardia cause illness and clinical signs in some animals and not in others. Other factors may play a role in the GI health of the patient including co-infections with other parasites, bacterial (such as cryptosporidium) and viruses, the microbiome of the patient, age, and how the patient's immune system function. nutritional status, and diet.

1. Transmission of Giardia – the only transmission of giardia occurs by cysts being shed in the feces, and being ingested. It takes 5 to 16 days for the cysts to cause clinical signs. Not all disinfectants will kill the cysts – bleach and [Rescue](#)/Peroxide based disinfectants may reduce the number of cysts in the environment. Before the disinfectant can be effective, the organic material must be removed and a soap to degrease the area must be used.

2. The goal of treatment is to prevent the clinical signs of diarrhea, not to eliminate all cysts. The recommendation is to only treat a patient with symptoms. Elimination of all cysts or treating until the ELISA test is negative is not a realistic treatment goal. However, all contact animals in the litter should be treated if any in the litter have diarrhea.
 3. Treatment should start with [fenbendazole](#) at 50 mg/kg once a day for 5 to 7 days. [Metronidazole](#) can be used at a dose of 25 mg/kg 2 times a day for 5 to 7 days. The 2 drugs can be combined should one alone fail to return the patient to normal. There is a narrow margin of safety using metronidazole.
 4. Secnidazole is used in humans. There are published doses for cats only. In a pilot study in 18 cats from Brazil, the drug was found to be 95 to 100% effective. Lab values for kidney and liver function remained normal. Many cats had hypersalivation lasting 5 minutes and 25% did not eat well for 2 days after treatment. There was not a study comparing Secnidazole to metronidazole. Secnidazole was dosed as a single dose at 30 mg/kg as a suspension in water. There are NO veterinary products in the US, the UK, Australia, or Canada. Cost is 20% of the cost of metronidazole. Single dose treatment may mean reduced cost, better compliance, less stress, reduced cyst contamination. Studies in dogs and cats are needed to determine the value of use.
 5. Bathing all patients with diarrhea daily or every other day during the 7 days of treatment is recommended to remove the cysts shed in the feces attached to the haircoat that can serve as a new source of infection.
 6. During treatment, use disposable litter boxes, disposable bowls, and clean blankets and enrichment items to reduce the spread of the disease by cysts in the environment.
 7. Treatment success is defined as the resolution of diarrhea.
 8. The most common reason for treatment failure includes failure to complete the course of medication, errors in medication doses due to failure to weigh patients and dose correctly, failure to shake and distribute medication uniformly in the dose of medication administered, and failure to bathe patients.
- iv. [Coccidia](#)
- v. Other –
1. Paragonimus
 2. Lungworms

- vi. Transient parasites – just passing through - coccidia
 - a. Parasite appearance
 - b. Life cycle
 - c. Symptoms – what are the signs of parasites?
 - d. Diagnosis
 - e. Treatment
 - i. Resistance - hookworms
 - ii. [What is safe for pregnant and nursing dogs?](#)
 - iii. What is the best way to [manage external parasites in pregnant dogs?](#)
 - iv. What to avoid –
 1. Metronidazole and Secnidazole – avoid in pregnancy and lactation. Avoid in pups under 6 weeks of age. There are no veterinary formulations, only human ones in the US, Canada, Australia or the UK. Published information on use in cats -
 2. Toltrazuril for coccidia. “Not commercially available in the United States; must be legally imported or compounded by a reputable pharmacy.” Where are you getting yours?
 3. Are you sure you have dog coccidia? Reach for Albon or if a losing battle, ponazuril, not toltrazuril. Ponazuril is an approved drug in the US but is not commercially available as a small animal drug. There is NO US approved Toltrazuril preparation. This means you need to have it compounded by a commercial pharmacy. Using a tube of paste and trying to calculate the dose yourself is a terrible idea. The tubes of paste are meant to treat a 1500 pound animal, not a 1 pound puppy. The medication may not be uniformly distributed throughout the suspension. You may make a mistake in dosing – having the mate wrong and the decimal point off by 1 spot can mean a 10 fold dosing error. Bottom line – don’t do it! Remember the 21 polo ponies from Venezuela worth millions of dollars who died in Florida with a vitamin E and selenium miscalculated dose? And that was a vitamin and mineral supplement, not even a drug. If something goes wrong, you won’t have anyone to back you up. Can you afford to lose a litter of pups while you are trying to save a few bucks? Albon is labeled for dogs, can be easily and accurately dosed, and is so yummy the pups will readily take it. Despite previously circulated doses stating 1 dose of ponazuril will eliminate coccidia, it is needed for 3 to 5 consecutive

days, and needs to be repeated 10 to 14 days later. The length of time the solution is stable after diluting has not been determined. And the dose range is still not well researched. There are no studies showing safety during pregnancy and lactation. It is considered to be coccidiocidal. Safety during pregnancy and lactation has not been determined.

f. Prevention

- i. Preemptive treatment
- ii. Nutrition
- iii. Crowding

g. **External**

- i. [Fleas](#) – the most common external parasite
- ii. [Ticks](#)
- iii. [Lice](#)
- iv. [Mites](#)

i. Symptoms




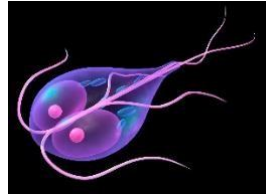
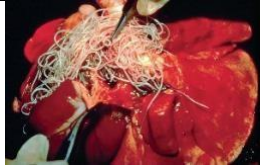
j. Diagnosis

k. Treatment

- i. What is safe for pregnant and nursing dogs?
- ii. What is the best way to manage external parasites in pregnant dogs?




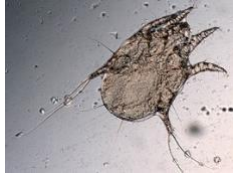

l. Prevention - why does my dog keep getting parasites?

- i. Crowding
- ii. Stress
- iii. Failure to bathe
- iv. Failure to complete treatment protocols
- v. Failure to weigh and dose drugs accurately
- vi. Poor nutrition
- vii. Other parasites
- viii. Resistant parasites

<u>Internal</u>	Intestinal worms – Roundworms, Hookworms and Whipworms	Tapeworms	Intestinal protozoal one- celled parasites - coccidia	Intestinal flagellates - giardia	Heartworms
Appearance					
Life Cycle Summary	Fecal-Oral RW – Transplacental Hooks - Transmammary	Involves a mammal or flea as an intermediate host. The presence of tapeworms suggests a break in flea control.	Fecal - Oral	Fecal - Oral	Mosquito
Symptoms	<ol style="list-style-type: none"> 1. Worms visible – “spaghetti” Soft 2. stools/ diarrhea Weight loss 3. Failure to gain 4. weight Blood in stool Unthrifty appearance 5. appearance 6. Poor hair coat 7. 	<ol style="list-style-type: none"> 1. Worms visible – “grains of rice” 2. Weight loss 3. Fleas – intermediate host 	<ol style="list-style-type: none"> 1. NOT visible 2. Soft stools/diarrhea 3. Weight loss 4. Vomiting 5. Lack of appetite 6. Failure to gain 7. Blood in stool 	<ol style="list-style-type: none"> 1. NOT visible Soft stools/diarrhea Weight loss 3. Failure to gain 4. Blood in stool 5. 	<ol style="list-style-type: none"> 1. None 2. Cough 3. Weight loss

Diagnosis	1. Fecal analysis – microscope	Appearance in stool or near rectum	Fecal analysis – differentiate between	1. Fecal analysis – microscope	1. ELISA blood test
	2. ELISA test		dog and other species coccidia	2. ELISA test	2. Filter Test 3. Drop of blood – microscope 4. X-rays 4. Echo
Treatment	1. Pyrantel Pamoate 2. Fenbendazole 3. Piperazine 3. Ivermectin – not recommended – high doses may cause toxicity.	1. Drontal 2. Praziquantel after 6 weeks of age 3. Fenbendazole	1. Albon 2. Probiotics 3. Bathing	1. Fenbendazole 2. Metronidazole 3. Secnidazole ONLY IF needed- no studies in dogs.	Melarsomine Injectable with pred and doxycycline – veterinary use only.
Treating pregnant dogs	Fenbendazole from week 5 of pregnancy till week 2 of lactation	Praziquantel and Fenbendazole are safe.	No drug labeled as safe during pregnancy.	Fenbendazole is safe, Metronidazole is not.	Selamectin, Ivermectin, Moxidectin, and Milbemyacin are safe.
Prevention	1. Monthly pyrantel 2. Monthly selamectin	1. Praziquantel 2. Fenbendazole .	None	Fenbendazole	1. Ivermectin 2. Selamectin 3. Moxidectin

Comments			Dog coccidia is dog specific and does not cross species.	May be species specific but can be zoonotic.	
xxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx
<u>External</u>	Fleas	Ticks	Lice – Biting and Sucking	Ear Mites	Skin mites – Demodex, scabies, cheyletiella

Appearance	<p>6 legs, flattened side to side, red-brown,</p>  <p>no wings, only jumps</p>	<p>Multiple types and colors, size depends on life stage, 8 legs, crawl, no wings, do not jump, small head,</p>  <p>large body.</p>	<p>Visible with magnification, cream colored, 6 legs, crawl, no wings, do not jump.</p> 	<p>Cannot be seen without magnification, only seen in the ear</p>  <p>canal, 8 legs, crawl.</p>	 <p>The demodex mite under microscope</p>
Life Cycle	Blood meal required for female to reproduce	Blood meal required for female to reproduce	Blood meal required for female to reproduce		

Symptoms	1. Scratching/ biting 2. Hair loss	Visible attached tick	Visible – attached to hair or skin	1. Dark brown crumbly ear debris – confused with yeast	
Diagnosis	1. Visible fleas	Visible ticks			
Treatment					
Treating pregnant dogs	1. Frontline 2. Selamectin 3. Bravecto				
Prevention	1. Frontline 2. Vectra 3D 3. Many others 4. Selamectin 5. Bravecto	6. Frontline 7. Selamectin 8. Bravecto	9. Frontline 10. Selamectin 11. Bravecto	1. Selamectin 2. Bravecto Any 3. oily ear medication	1. Selamectin 2. Bravecto
Comments					

Model Deworming Program:

There is not 1 single product that is labeled for use in breeding, pregnant, and nursing dogs that prevents or treats heartworms, intestinal parasites and external parasites. There are products that “do it all” that are not labeled for use in breeding, pregnant and nursing dogs and there are products that likely give good control for all parasites but are not approved by FDA for covering all parasites.

Puppies:

Deworming protocol for Pups			
Age	Product	Dose	Spectrum
	Pyrantel Pamoate 4.54 mg/ml = SA Nemex OR Pyrantel Pamoate 50 mg/ml = LA Strongid		Roundworms & Hookworms
1 week of age	Pyrantel Pamoate UNLESS the Dam was on 4 weeks of Fenbendazole during pregnancy & lactation	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
2 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
3 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
4 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms

5 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
6 weeks of age	Fenbendazole	LA = 1 cc/4 # x 5 days in a row or SA Granules	Roundworms, Hookworms, Whipworms, Giardia, Taenia tapeworms
8 weeks of age if over 2 pounds	Start monthly Heartworm/Intestinal/ Flea/Tick control products of Bravecto and Sentinel Spectrum or Heartgard OR Revolution	See package	
3 Days prior to leaving facility	For the last 3 days at your facility through the 1 st 3 days at their home, give Albon	Albon at label dose	To stabilize GI bacteria, reducing the risk of contracting Parvovirus. Liquid is most palatable and easy to use.
	No metronidazole routinely		

Females:

Deworming protocol for female with litter of pups nursing			
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Age	Product	Dose	Spectrum
	Pyrantel Pamoate 4.54 mg/ml = SA Pyrantel OR Pyrantel Pamoate 50 mg/ml = LA Strongid		
When pups are 1 week of age	Pyrantel Pamoate UNLESS the Dam was on 4 weeks of Fenbendazole during pregnancy & lactation	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
When pups are 2 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
When pups are 3 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
When pups are 4 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
When pups are 5 weeks of age	Pyrantel Pamoate	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms & Hookworms
When pups are 6 weeks of age	Fenbendazole	SA = 1 cc/2 # LA = 1 cc/20#	Roundworms, Hookworms, Whipworms, Giardia, Taenia tapeworms
When pups are 8 weeks of age and every 4 weeks thereafter	Revolution/Generic Selamectin Dose: 5 # - 0.13 ml topically on shoulders 5 to 10 # - 0.25 ml topically on shoulders 10 to 20# - 0.5 ml topically on shoulders 20 to 40# - 1 ml topically on shoulders 40 to 85 # - 2 ml topically on shoulders 85 to 130# - 3 ml topically on shoulders	Measure with a 1 ml TB syringe for dogs needing 1 ml or less	Heartworm, Fleas, Most Ticks, Ear mites, mange mites Does NOT have a label indication to manage roundworms and hookworms. OK to use in pregnant and nursing females as well as other dogs in the breeding kennel.

When pups are 8 weeks of age and every 4 weeks thereafter	INSTEAD OF, NOT ALONG WITH SELAMECTIN	1 mg/ml <i>compounded</i> product	Heartworm Mites
		For each 10# - 0.05 ml orally For 100# - 0.5 ml orally	
When pups are 8 weeks of age and every 4 weeks thereafter	Iverhart Max , Heartgard , Other commercial Heartworm/Roundworm/Hookworm product: safe during pregnancy (OTHER than Trifexis and Simparica/Simparica Trio are not labeled for pregnant or breeding dogs).		Heartworm Tapeworms Roundworms Hookworms
When pups are 8 weeks of age and every 4 weeks thereafter	Effitix		Flea and tick control

Adults:

	Deworming protocol for Adult dogs in a breeding program that are not currently pregnant:		
Timing	Product	Dose	Spectrum
Monthly	Bravecto ORAL (Not Nexgard, Credelio or Simparica/Simparica Trio)	See package Every 12 weeks	Fleas and Ticks Safe in pregnant and nursing dogs, breeding dogs.
Monthly	Frontline Topical	See package insert	Fleas and Ticks
Monthly	Revolution /Generic Selamectin Dose: 5 # - 0.13 ml topically on shoulders 5 to 10 # - 0.25 ml topically on shoulders 10 to 20# - 0.5 ml topically on shoulders 20 to 40# - 1 ml topically on shoulders 40 to 85 # - 2 ml topically on shoulders 85 to 130# - 3 ml topically on shoulders		Heartworm, Fleas, Most Ticks, Ear mites, mange mites Does NOT have a label indication to manage roundworms and hookworms. OK to use in pregnant and nursing females as well as other dogs in the breeding kennel.
Monthly	Iverhart Max	See package	Heartworm, Roundworms, Hookworms, Tapeworms. Does not include flea/tick control. Safe for breeding, pregnant and nursing dogs.

Oral anti-parasite medications: Koret recommendations:

- **Pyrantel** ([Nemex[®]](#), Strongid[®], others) – effective against roundworms and hookworms. Inexpensive and easy to administer. For dogs and cats. Is safe to give to pregnant animals and to neonatal puppies and kittens. Requires repeat dosing. Should not be used in conjunction with piperazine.
- **Fenbendazole** ([Panacur[®]](#)) – effective against roundworms, hookworms, whipworms, some tapeworms (*Taenia*) and Giardia. Must be given for at least 3 consecutive days in order to effectively treat whipworms, and 5 days for Giardia. Safe, but can be difficult to administer and relatively expensive. Available in granule or liquid formulations. Safe in pregnant animals. Labeled for use in dogs, but is effective and safe in cats.
- **Febantel** ([Rintal[®]](#)) – effective against roundworms, hookworms, and whipworms. Formulated for use in horses, so doses for dogs and cats must be carefully calculated. May not be readily available.
- **Piperazine** ([Pipa-Tabs[®]](#), [Seargent's Worm-Away[®]](#), others) – effective against roundworms, including *Toxacara*, *Toxascaris* and *Baylisascaris*. Not effective against hookworms (or any other parasites), which greatly limits its usefulness. For dogs and cats. Is safe to give to pregnant animals and to neonatal puppies and kittens. Requires repeat dose. Should not be used in conjunction with pyrantel.
- **Praziquantel** ([Droncit[®]](#)) – effective against nearly all tapeworms (*Diplydium*, *Taenia*, *Echinococcus*, *Diphyllobothrium*, and at a higher dose, *Spirometra*). Relatively expensive, very safe. Can be given to pregnant animals. Should not be used in animals younger than 4 weeks. Single dose. For dogs and cats. Injectable form also available (see below). It is also important to control fleas when treating *Diplydium caninum* infections.
- **Epsiprantel** ([Cestex[®]](#)) – effective against most tapeworms (*Diplydium caninum* and *Taenia*). Should not be used in pregnant animals or animals younger than 7 weeks. Single dose. For dogs and cats. It is also important to control fleas when treating *Diplydium caninum* infections.
- **Pyrantel + praziquantel** ([Drontal[®] for Cats](#)) – effective against roundworms, hookworms, and tapeworms (*Diplydium*, *Taenia*, *Echinococcus*, *Diphyllobothrium*, and at a higher dose, *Spirometra*). Formulated for use in cats, but can also be used in dogs. Relatively expensive, very safe. Can be given to pregnant animals. Should not be used in animals younger than 4 weeks. Repeat dose required for treatment of roundworms or hookworms, single dose for tapeworms. It is also important to control fleas when treating *Diplydium caninum* infections.
- **Pyrantel + praziquantel + febental** ([Drontal Plus[®]](#)) – effective against roundworms, hookworms, whipworms, and several tapeworms (*Diplydium*, *Taenia*, *Echinococcus*, *Diphyllobothrium*, and at a higher dose, *Spirometra*). There is also some evidence that this product may also be helpful in treating Giardia. Relatively expensive. Single dose for treatment of all worms except for whipworms. Formulated for use in dogs, but not cats. Should not be used in pregnant animals or puppies younger than 3 weeks or less than 2 pounds. It is also important to control fleas when treating *Diplydium caninum* infections.

- **Ponazuril (Marquis Paste[®])** – This product, made by Bayer, is labeled for use in horses, so it must be carefully diluted.
- **Metronidazole (Flagyl)** – This drug is an antibiotic that is also used to treat infections such as Giardia, Trichomoniasis, and Amoebiasis. This medication is illegal in all food animals and has a narrow margin of safety.
- **Sulfadimethoxine (Albon[®])** – Albon is an antibiotic suspension that is used to treat a variety of conditions in small animals. Albon can be used to treat coccidia in dogs and cats.

Injectable Anti-Parasite Medications:

- **Ivermectin (Ivomec[®])** – This medication is formulated for cattle, but can be used in dogs and cats. Extreme caution should be used in dose calculation because overdoses can be fatal. Injectable product can be given subcutaneously, orally, or, for some external parasites, topically (for more information about external parasites see section below). This formulation of ivermectin provides a dose many times higher than that found in heartworm preventatives. Effective against roundworms and hookworms. Also effective against some external parasites (ear mites and sarcoptic mange mites). For more information, see section on external parasites. Ivermectin is not reliably effective against whipworms. Single dose effective for most parasites. Inexpensive. Can be used in dogs and cats. Should NOT be used in collie-type breeds, in dogs that may be infected with heartworm, in puppies less than 6 weeks old, or in kittens less than 4 weeks old.
- **Praziquantel (Droncit[®])** – effective against nearly all tapeworms (*Diplydium*, *Taenia*, *Echinococcus*, *Diphyllobothrium*, and at a higher dose, *Spirometra*). Relatively expensive, very safe. Can be given to pregnant animals. Labeled for use in dogs and cats at least 4 weeks of age. Single dose. Oral formulation also available (see above).

General Comments Regarding Parasite Control in a multiple dog setting: (sourced and modified from UC Davis Koret Shelter Medicine)

Intestinal parasites

- When new bottles of suspension medications such as Albon, Fenbendazole, or compounded drugs are received, they should be shaken well, and poured into smaller bottles. This serves to provide more accurate dosing of medication as well as longer shelf life due to less exposure to air.
- All drug doses should be calculated by weighing each individual pup and dosing according to the current weight.
- A deworming program should be based on a knowledge of which parasites are present in the particular population.

- All dogs and puppies entering shelters should be kept isolated from other animals, tested, and treated for parasites to minimize exposure of the rest of the population, prevent environmental contamination or infestation, and minimize zoonotic threats to kennel staff and the public.
- For preventive treatment for intestinal worms, a dewormer effective against roundworms and hookworms, are an oral dewormer containing pyrantel pamoate (Nemex[®] and Strongid[®] are the most commonly used products), In addition to deworming on intake, puppies should also be dewormed repeatedly with pyrantel every 2 weeks from 2 weeks to 16 weeks of age.
- All pregnant and nursing dogs and cats should also be dewormed with pyrantel every 2 weeks OR treated from day 42 of pregnancy through day 14 of lactation with fenbendazole.
- If whipworms, tapeworms, Giardia, coccidia, ear mites, or other parasites are common in the shelter population, the intestinal parasite protocol can be modified as needed. For example:
- If coccidia is a problem in the puppies, give Albon suspension to all puppies starting at 2-3 weeks of age, repeated in 7-14 days, and then as needed based on clinical signs/ fecal exams. Additionally, give Albon the last 3 days at the kennel through the 1st 3 days in the new home to stabilize gut bacteria and reduce the risk of developing parvovirus during the stressful transition to their new home.
- Giardia is also prevalent in puppies in kennels. Treatment with Fenbendazole should be the first line of defense. Metronidazole should be avoided in pups under 7 weeks of age. Secnidazole may be considered if fenbendazole is not successful.

External Parasites:

- For external parasites including flea and tick preventive, the use of topical products such as [selamectin \(Revolution\)](#) or [fipronil \(Frontline\)](#).
- For a geographic indication of prevalence of parasites in the US, see [CAPC Prevalence Maps](#).

Hygiene and Cleaning:

- Avoid crowding and provide excellent hygiene. Remove organic material (feces) and clean with a surfactant (detergent) to remove oils before using a disinfectant for maximal success.
- When coccidia is present in an environment, deep cleaning is key to prevent both exposure and re-infection. Since oocysts are highly resistant to disinfection, a good mechanical cleaning is key. That means physically removing oocysts by removing all organic material (feces) and wiping down the contaminated environment. Smoother surfaces will be easier to clean, rough surfaces can be sealed if necessary and carpet and fabric should be avoided or disposed of after a single use if it cannot be washed. Risk can be minimized by

implementing disposable litter boxes that don't require any cleaning. The time required for sporulation of oocysts (i.e. before they become infectious) in the environment is temperature dependent, and can be as little as 12 hours at 86° F. This means the more often feces can be removed, the less contamination there will be.

- After mechanical removal a detergent and a disinfectant are needed. Accelerated hydrogen peroxide (e.g. [Rescue™](#)) is popular because it serves both functions. This saves time and money. Research has been done showing Rescue is effective against Clostridial spores which suggests it may be effective against coccidia oocysts, however there is no research looking directly at coccidia. A 1:16 dilution with a 5minute contact time or 1:32 dilution with a 10-minute contact time is recommended for deep cleaning between animals.
- Drying is an important step in cleaning for both coccidia and giardia. Kennels should be completely dry before animals are placed in them as oocysts thrive in humid environments. Allowing kennels to air dry is recommended if possible.

Have a question about parasites or need help developing a parasite prevention plan?

Call a Revival Pet Care Pro at 800.786.4751.

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Resources:

1. [Shop RevivalAnimal.com](#)
2. [Revival Animal Health Learning Center](#)
3. [Deworming Pregnant Dogs - Dr. Greer's Deworming Protocol](#)
4. [Companion Animal Parasite Council](#)
5. [Koret at UC Davis Veterinary](#)
6. [Wisconsin Veterinary](#)
7. [Maddie's Fund](#)
8. [Selamectin and roundworm control](#)
9. [Fenbendazole for transplacental and transmammary migration of parasites](#)
10. [Fenbendazole](#): Fenbendazole treatment of pregnant female dogs to reduce prenatal and lactogenic infections of *Toxocara canis* and *Ancylostoma caninum* in pups J Am Vet Med Assoc. November 1983;183(9):987-90. T M Burke ¹, E L Roberson

