
Brought to you by the maker of **Heartgard[®] Plus**
(ivermectin/pyrantel)

WELCOME TO THE FAMILY!

Preventive care for your new puppy

Contributed by Dr. Dean Dailey

Few things in life are as exciting or rewarding as welcoming a new puppy into the family. They're adorable, they're loving, they're funny – and they're also counting on you to help protect them from parasites and diseases. Here's a quick look at the main parasites and diseases you need to know about.

HEARTWORM DISEASE: A Real Heartbreaker

Heartworm disease in dogs has been diagnosed in every state of the US.¹ Heartworms are transmitted by mosquitos, and the worms live in the heart and lungs of the dog. Clinical signs seen in dogs include cough, difficulty breathing, weight loss, exercise intolerance, and eventually heart failure and death. Unlike intestinal parasites, which can be easily treated, treatment for heartworm disease is expensive – up to \$1,000 in veterinary bills² – time consuming, and has significant side effects. Fortunately highly effective preventives like HEARTGARD[®] Plus (ivermectin/pyrantel) are available for this devastating disease. Dogs love to take HEARTGARD Plus,³ the only heartworm preventive approved by the FDA that's available in a Real-Beef Chewable formulation. The American Heartworm Society recommends using a heartworm preventive year-round to protect your dog.⁴

WORMS: Worth Worrying About

Intestinal parasites, including roundworms and hookworms, can cause serious problems in puppies. Roundworms are commonly diagnosed in puppies,⁵ and may infect 90% of puppies under three months of age.⁶ Intestinal parasites cause more severe disease in young puppies. Clinical signs include failure to gain weight, poor hair coat, and vomiting. Some puppies may even die from roundworm infection. Hookworms are another intestinal parasite commonly seen in puppies. Infected puppies may develop diarrhea, anemia due to blood loss, and fail to gain weight. Hookworm infection can also

result in death. Ask your veterinarian about proper deworming protocols for puppies. You can reduce the risk of exposure to these intestinal parasites by avoiding potentially contaminated environments and promptly removing feces from the yard or other public areas. It is also important that you place your dog on a heartworm preventive, such as HEARTGARD Plus, that is labeled for the treatment and control of roundworms and hookworms.

FLEAS & TICKS: Disgusting and Dangerous

Fleas are insects that feed on the blood of dogs, inflicting misery on them and their households with a maddening cycle of biting, itching, and scratching. The adult fleas that you see on your pet only represent a small percentage of the flea population in your environment. Flea eggs, larvae and pupae are also present in the environment and will take time to eliminate. You can prevent a flea infestation by using a product such as FRONTLINE[®] Plus which kills adult fleas, flea eggs, and flea larvae, thus breaking the flea life cycle.

Ticks evoke a certain level of disgust and fear among many people. Ticks often cause painful, irritating sores where they attached. In addition to this irritation, ticks may act as vectors for many serious diseases including: Lyme disease, ehrlichiosis, Rocky Mountain spotted fever and anaplasmosis. The best way to control ticks on your pet is to use a product, such as FRONTLINE Plus, which has been shown to be highly effective and kills ticks in 48 hours,⁷ and lasts for the entire month.

**Don't forget to ask your vet for HEARTGARD Plus –
the ONLY Real-Beef Chewable.**



Important Safety Information:

HEARTGARD (ivermectin) is well tolerated. All dogs should be tested for heartworm infection before starting a preventive program. Following the use of HEARTGARD, digestive and neurological side effects have rarely been reported. For more information, please visit www.HEARTGARD.com.



Vaccination Checklist

Puppies are at greater risk of contracting many serious and potentially fatal diseases than adult dogs.

Below is a chart showing diseases and the problems they can cause. It is recommended that every puppy receive their core vaccinations to protect against these diseases.⁸

Check with your veterinarian to determine if your dog is at risk and should be vaccinated for other diseases such as canine coronavirus, kennel cough, Lyme disease, and leptospirosis.



DISEASES	CLINICAL SIGNS
RABIES	Rabies is a disease of almost all warm-blooded animals, including humans. In most areas, local laws require that pets be vaccinated against it.
PARVOVIRUS	Canine parvovirus is a common cause of illness in puppies in the United States. It causes a severe gastroenteritis with signs of bloody diarrhea, lethargy, anorexia, fever, and vomiting. Unfortunately many infected puppies will die despite treatment.
DISTEMPER	Canine distemper is a highly contagious, and potentially fatal, viral disease in dogs which can cause vomiting, diarrhea, pneumonia, and seizures.
HEPATITIS (ADENOVIRUS)	Canine hepatitis is an acute liver infection that can kill dogs, especially puppies. The clinical signs include sudden death, abdominal pain, fever, vomiting, diarrhea, and liver failure.

Help your pet live a long, healthy and happy life – help protect them from parasites and make sure they get regular veterinary care. And, remember – be sure to spay and neuter your pet!



About the Author

Dr. Dailey graduated from the University of Georgia College of Veterinary Medicine. He currently is working as a veterinarian for Merial Limited, the maker of HEARTGARD Plus. He also works part-time as an associate veterinarian for a hospital in Athens, GA. In his spare time, he and his wife chase around their 10-year-old Golden Retriever and 1-year-old son.



Heartgard[®] Plus

(ivermectin/pyrantel)

CHEWABLES

CAUTION: Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.

INDICATIONS: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae (*Dirofilaria immitis*) for a month (30 days) after infection and for the treatment and control of ascarids (*Toxocara canis*, *Toxascaris leonina*) and hookworms (*Ancylostoma caninum*, *Uncinaria stenocephala*, *Ancylostoma braziliense*).

DOSAGE: HEARTGARD[®] Plus (ivermectin/pyrantel) should be administered orally at monthly intervals at the recommended minimum dose level of 6 mcg of ivermectin per kilogram (2.72 mcg/lb) and 5 mg of pyrantel (as pamoate salt) per kg (2.27 mg/lb) of body weight. The recommended dosing schedule for prevention of canine heartworm disease and for the treatment and control of ascarids and hookworms is as follows:

Dog Weight	Chewables Per Month	Ivermectin Content	Pyrantel Content	Color Coding On Foil Backing and Carton
Up to 25 lb	1	68 mcg	57 mg	Blue
26 to 50 lb	1	136 mcg	114 mg	Green
51 to 100 lb	1	272 mcg	227 mg	Brown

HEARTGARD Plus is recommended for dogs 6 weeks of age and older. For dogs over 100 lb use the appropriate combination of these chewables.

ADMINISTRATION: Remove only one chewable at a time from the foil-backed blister card. Return the card with the remaining chewables to its box to protect the product from light. Because most dogs find HEARTGARD Plus palatable, the product can be offered to the dog by hand. Alternatively, it may be added intact to a small amount of dog food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes after administration to ensure that part of the dose is not lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

HEARTGARD Plus should be given at monthly intervals during the period of the year when mosquitoes (vectors), potentially carrying infective heartworm larvae, are active. The initial dose must be given within a month (30 days) after the dog's first exposure to mosquitoes. The final dose must be given within a month (30 days) after the dog's last exposure to mosquitoes.

When replacing another heartworm preventive product in a heartworm disease preventive program, the first dose of HEARTGARD Plus must be given within a month (30 days) of the last dose of the former medication.

If the interval between doses exceeds a month (30 days), the efficacy of ivermectin can be reduced. Therefore, for optimal performance, the chewable must be given once a month on or about the same day of the month. If treatment is delayed, whether by a few days or many, immediate treatment with HEARTGARD Plus and resumption of the recommended dosing regimen will minimize the opportunity for the development of adult heartworms.

Monthly treatment with HEARTGARD Plus also provides effective treatment and control of ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*). Clients should be advised of measures to be taken to prevent reinfection with intestinal parasites.

EFFICACY: HEARTGARD Plus Chewables, given orally using the recommended dose and regimen, are effective against the tissue larval stage of *D. immitis* for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus Chewables are also effective against canine ascarids (*T. canis*, *T. leonina*) and hookworms (*A. caninum*, *U. stenocephala*, *A. braziliense*).

ACCEPTABILITY: In acceptability and field trials, HEARTGARD Plus was shown to be an acceptable oral dosage form that was consumed at first offering by the majority of dogs.

PRECAUTIONS: All dogs should be tested for existing heartworm infection before starting treatment with HEARTGARD Plus which is not effective against adult *D. immitis*. Infected dogs must be treated to remove adult heartworms and microfilariae before initiating a program with HEARTGARD Plus.

While some microfilariae may be killed by the ivermectin in HEARTGARD Plus at the recommended dose level, HEARTGARD Plus is not effective for microfilariae clearance. A mild hypersensitivity-type reaction, presumably due to dead or dying microfilariae and particularly involving a transient diarrhea, has been observed in clinical trials with ivermectin alone after treatment of some dogs that have circulating microfilariae.

Keep this and all drugs out of the reach of children.

In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning cases of ingestion by humans.

Store between 68°F - 77°F (20°C - 25°C). Excursions between 59°F - 86°F (15°C - 30°C) are permitted. Protect product from light.

ADVERSE REACTIONS: In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (1.1% of administered doses). The following adverse reactions have been reported following the use of HEARTGARD: Depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hypersalivation.

SAFETY: HEARTGARD Plus has been shown to be bioequivalent to HEARTGARD, with respect to the bioavailability of ivermectin. The dose regimens of HEARTGARD Plus and HEARTGARD are the same with regard to ivermectin (6 mcg/kg). Studies with ivermectin indicate that certain dogs of the Collie breed are more sensitive to the effects of ivermectin administered at elevated dose levels (more than 16 times the target use level) than dogs of other breeds. At elevated doses, sensitive dogs showed adverse reactions which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitability, stupor, coma and death. HEARTGARD demonstrated no signs of toxicity at 10 times the recommended dose (60 mcg/kg) in sensitive Collies. Results of these trials and bioequivalency studies, support the safety of HEARTGARD products in dogs, including Collies, when used as recommended.

HEARTGARD Plus has shown a wide margin of safety at the recommended dose level in dogs, including pregnant or breeding bitches, stud dogs and puppies aged 6 or more weeks. In clinical trials, many commonly used flea collars, dips, shampoos, anthelmintics, antibiotics, vaccines and steroid preparations have been administered with HEARTGARD Plus in a heartworm disease prevention program.

In one trial, where some pups had parvovirus, there was a marginal reduction in efficacy against intestinal nematodes, possibly due to a change in intestinal transit time.

HOW SUPPLIED: HEARTGARD Plus is available in three dosage strengths (See DOSAGE section) for dogs of different weights. Each strength comes in convenient cartons of 6 and 12 chewables.

For customer service, please contact Meril at 1-888-637-4251.

¹ www.heartwormsociety.org/article.asp?id=48#epidemiology. Slide 5. Accessed October 15, 2010.

² Vital statistics for your veterinary practice. In: Landeck E, ed. *The Veterinary Fee Reference*. 6th ed. Lakewood, CO:AAHA Press, 2009;57, 58, 200, 213, 226, 265, 333.

³ Of dogs showing a preference in three studies conducted by independent investigators, dogs preferred HEARTGARD[®] Chewables over INTERCEPTOR[®] (milbemycin oxime) Flavor Tabs[®] by a margin of 37 to 1; data on file at Meril.

⁴ www.heartwormsociety.org/veterinary-resources/canine-guidelines.html. Accessed October 15, 2010.

⁵ CAPC Recommendations. <http://www.capcvet.org/recommendations/ascarids.html>. Accessed October 13, 2010.)

⁶ Schantz PM. Zoonotic ascarids and hookworms: the role for veterinarians in preventing human disease. In: *Emerging Vector-Borne and Zoonotic Disease, The Compendium Suppl* 2002;24(1):47-52.

⁷ Data on file at Meril.

⁸ Paul MA, Carmichael LE, Childers H, et al: 2006 AAHA Canine Vaccine Guidelines, *JAAHA* 42(2):80-89, 2006.

