

Prison Greyhounds adoption group

Hookworm Problem in the greyhound breed (revised 12/2021)

We understand that your treatment plan has had the most success nationwide (anecdotally). What is the Prison Greyhounds adoption group recommended treatment for hookworm?

We have learned (the hard way) that the hookworm in today's greyhound is NOT the hookworm that the breed was dealing with 10 years ago. We believe now that it is coming from the farms, and the brood mamas, before the greyhounds even reach the racing kennels. It is not just one specific track, nor one specific farm. Today's greyhound hookworm does NOT respond to the medications that used to be effective, such as Panacur and Heartguard. Unfortunately we also discovered that these are the very medications that most greyhound adopter's veterinarians are prescribing, with no results. We are not parasitologists to tell you how the worm has 'morphed', nor are we veterinarians. But we have consulted with both. We also spoke with a veterinary school. We consulted with a previous racing track veterinarian. This track veterinarian was also intrigued by the new resistant hookworm. He did most of the leg work for us. So this is what we learned. To date, it is the only thing we have found that works.

During infestation time:

- We assume that ALL greyhounds arrive at their adoption group with a hookworm problem. It is so prevalent that we usually don't even test before we treat the dogs. If you want to spend some money and have your new greyhound tested first, feel free. But we decided to just treat ALL new greyhounds for 6 months minimum. The good news, it is not fatal, and this program WORKS! The bad news, it requires patience and consistency! And nothing else works.
- Every 14 days, for 6 months, we strongly recommend that you treat with both **Drontal Plus** and **Advocate (also known as Advantage Multi)**. Not every veterinarian carries these medications so at the end we will tell you where you can get them online without a prescription. Dose both meds on the same day.

Dose Drontal Plus XL (35kg), every 14 days (2 weeks). At the same time, also dose Advocate (aka Advantage Multi) every 14 days. Both on the same day. Continue for 6 months. The good news – this works. The bad news, in case of heavy infestation, it can take the full 6 months. On the very large (male) greyhounds it may take 9 months. Our practice is to dose the new arrivals on New Dog Day and continue to dose foster dogs every 14 days until adoption. Then we instruct the adopter to continue the dosing on the same schedule.

Why might it take that long?

The Drontal Plus tablet kills every ADULT hookworm in your dog, every time you dose him. But it cannot reach the eggs/larva in the tissue, those that are waiting to hatch. It cannot reach the dormant parasites.

The Advocate (Advantage Multi), which you may recognize also a topical monthly heartworm/flea preventive treatment, kills the eggs/larva lying dormant in the tissue where the Drontal cannot reach. The active ingredient in Advocate which does this is the **Moxidectin**. Very, very few monthly canine medications contain Moxidectin. **Moxidectin** protects against the "larval leak" as the imbedded eggs hatch out from the tissue. But it takes months of Advocate applications to build up a resistance within the tissue to the hookworm. We accomplish our desired result (safely) by increasing the dosage frequency (from monthly to every 14 days). You will learn later that we only do this for a limited period, usually 6 months, sometimes 9.

The gruesome, nasty secret is that as the adult hookworm dies and evacuates the intestine, that is the very trigger which the baby hookworm larva is waiting for. The death and elimination of the adult worm cause the next larva to grow. Drontal Plus kills the live worm which get excreted. This triggers the larva to activate and grow. So the cycle repeats. Larval leak is when the young parasite "leaks" out of the tissue into the intestine (or organ) and attaches to the sides with his teeth, and latches on as it grows into an adult worm. So our goal

is to have the Moxidectin build up, over time, in the tissue to what parasitologists call “**steady state**”. At the level of steady state, the eggs and larva cannot live, and they can no longer replace the adult hookworms that have also been killed off. Your greyhound has protection against hookworm! Finally!

Because this can take up to 6 months, sometimes up to 9 months in bigger dogs, we suggest that adopters treat their greyhounds until this period is over. Then take a fecal sample to your veterinarian for confirmation. You will save money by simply investing in the medications rather than paying for more frequent testings. If you buy from our sources, the medication is reasonable in price. Especially considering that you need to dose your greyhound with a monthly heartworm preventive anyways. The Advocate (Advantage Multi) will also serve as your heartworm / flea /tick preventive while you are also treating for hookworms. **NO OTHER PARASITE or HEARTWORM MED should be added to this program. That would be dangerous.**

During this infestation time, it is safe to dose every 14 days, but you will return to **monthly-only doses of Advocate**, while also eliminating the Drontal Plus, once the treatment period is over. Then continue with Advocate as your monthly heartworm preventive. Do NOT switch to another brand or it may come back. (Note: During treatment time, Advocate should be the only heartworm preventive that you use. So it treats both hookworm & also prevents heartworm.)

Can I use a different medication instead of Advocate (aka Advantage Multi) to get rid of Hookworm?

NO! We repeat: We have had numerous adopters try other medications at their veterinarian’s suggestion. All we know is that the adopters lost a lot of valuable time and expense. Panacur, Ivermectin, Heartguard, these are the ones tried the most. Every greyhound on the farm and in the kennel is dosed with these medications. Often as frequently as every 2 weeks, month after month, year after year. We presume that the hookworm develops immunity to the medicine. **The Tri-Heart Plus medication** has also proven to be ineffective on our greyhounds. **The 6-month Proheart injection (which also contains Moxidectin)** has proven to be ineffective against this hookworm, and we suspect even dangerous among the results we have heard.

Note that hookworm can probably only be eradicated after the greyhound leaves the farm or kennel and moves into a home environment. You have to get the dogs away from heavy exposure on a daily basis. That means the time after retirement is the best time to treat them. But you need an effective medication.

If you have young children, you can put a lightweight t-shirt over your greyhound while his topical dosage of advocate is soaking into his skin. This will prevent them from transferring the medication onto themselves.

I see BLOOD!! Gross! Why might I see blood in the stools, or blood in vomit?

While the greyhound has hookworm, you can expect some blood with his stools. (We have occasionally seen it in vomit, but not as often.) Don’t panic! This is an encouraging sign that your treatment is working. The adult hookworms have tiny teeth that anchor to the intestinal lining so they can feed on tissue fluids and blood, while injecting an anti-coagulant substance. This substance (found in hookworm saliva) can cause continued bleeding for a while after the hookworm has detached from the feeding site (during the process of dying). There are literally very small ulcerations or wounds left behind, that still bleed for a short time after the medication kills the adult worm. The blood may come and go in cycles, according to the dosing schedule. The color may even be very dark red or almost black and tarry. Unlike normal (non-greyhound) hookworms, we have even seen some the size of earthworms, very engorged, as the dead ones let go of the dog’s inside.

What can I do about diarrhea, loose stools?

If the stool is too loose, our favorite solution is the **unflavored 100% Psyllium husk powder**. (Do not use Metamucil, nor Benefiber, nor anything with sweetener. Avoid sugar also. For every cup of kibble that you feed, mix 1 tablespoon of **Psyllium husk powder** into 8 ounces or so of cold water, and pour on top of every meal. Feed immediately after pouring the mixture on the kibble. Results are immediate with the next poop cycle! Metronidazole Rx can also help to soothe and protect the gastro tract. Keep the yard cleaned up of dog

waste. The added advantage to the psyllium husk is that it 'gels' the poop together so yard cleanup is easier. Lowfat cottage cheese is also a good probiotic option.

Note from previous veterinarian we consulted with:

As we discussed earlier today, your foster greyhound's fecal was positive for hookworm eggs. Your foster greyhound may have a problem getting rid of hookworms because of a syndrome called "larval leak".

Advantage Multi is a good option (in addition to your Drontal Plus treatments) because that product keeps moxidectin levels continuously in the body rather than intermittently. In larval leak syndrome, it seems that recurrent and persistent hookworm infection results in some encysted larvae that periodically get released and make their way to the intestinal tract and mature into an adult, reproductive infection. Theoretically, encysted larvae reactivate (which is the basis of transmammary and transplacental infections) and this is why routine antiparasitics fail to clear dogs of their infection. Those drugs simply can't reach the encysted larvae.

*Note: Dogs on heartworm prevention like Heartguard Plus can be reinfected very soon after they receive those medications. The reason is the active ingredient that kills hookworms (pyrantel) in Heartguard Plus is gone in a day or two and if the property is infested with hookworm, the dog can immediately get reinfected. Fourteen days later the hookworms are laying eggs and reinfesting the property. Another 15 or so days later, the owner gives Heartguard plus again. By then the hookworms have been laying eggs for 15 or so days, then get killed off again... but in a day or two are reinfected. So in these cases, the thing to do is to re-treat in the middle (or every 2 weeks) to stop them from reinfesting the property. Picking up poop helps too! Again, **Advantage Multi / Advocate helps in this scenario because it has extended durations of activity.***

NOTE: The manufacturer of Advantage Multi (Bayer) recommends that due to the zoonotic potential in the case of hookworms, dogs who are positive should be dewormed twice at 2 week intervals with regular deworming agents such as Drontal Plus or Panacur. I was told there are no speed of kill studies for the intestinal parasites. Peak serum levels for Advantage Multi are in 5-7 days, but the Bayer rep I spoke to could not say how quickly the worms are affected, so, at least for the initial deworming, it is best to do the Drontal Plus or Panacur, but then follow up with the Advantage Multi in 2 weeks and keep it going monthly.

Where can I buy Advocate & Drontal Plus if my vet only sells other medications?

If you have problems persuading your veterinarian to stock these specific medications, or need a good inexpensive source, we get our parasite 'killers' here: www.Petsupplyexpress.com This source requires NO prescription. We have always been very happy with their service, we used them since 2012. It ships from the UK, and I repeat: no prescription required. When we had a veterinarian on our board of directors, she researched and confirmed that these are genuine, not counterfeit. From the day we opened our doors, we have used this supplier as a means of cost effective treatment.

- Advantage Multi / Advocate for dogs over 55#, blue box, 6 tubes for \$65 (@ \$11 dose)
- Drontal Plus (35kg) for large dogs 6 tablets for \$75 (@ \$13 dose)

Please note that the Drontal Plus can be tough on the dog's gut. If you have a small female (50 pounds) and the whole pill seems to adversely affect her stomach, consider dosing ½ the pill.

You may want to give your veterinarian this document to help explain the treatment plan your dog will be under. It is often hard to disagree with a veterinarian, but yours needs to understand this Frankenstein hookworm of the greyhound if yours suggests that you switch treatments.

A word on FECAL TESTS

There are various ways that your veterinarian can run a fecal test. There are some vets that send their fecal tests offsite to have a lab send the antigen report back. (The IDEXX test.) They will tell you whether the fecal has any **antigen** for hookworm. Other veterinarians will do their fecal test in-house, and count the number of eggs they see under a microscope. Before we understood what the difference in these techniques meant, it caused a lot of confusion on how long we were treating specific greyhounds. (First of all, this disclaimer: There can always be false tests, both showing either negative or positive.) We now realize that **a greyhound that**

was once heavily infested may ALWAYS show positive for hookworm antigen; even beyond the time when we can stop treating them. (We liken this to greyhounds who were successfully treated for Babesia Tick Disease. They may always test positive for Babesia, but you don't treat them again.) So the hookworm antigen may always show up, but if your greyhound has reached "steady state" (in the 6-9 months), and you have kept him on the once-monthly dose Advocate, then we recommend you do NOT start treatment again. If he shows signs of infestation (ravaging appetite, weight loss, bloody loose stools, and he returns to being a scavenger always hunting for something to eat) then you can consider a shorter treatment period to catch his "steady state" of Moxidectin back up. Especially if you took your greyhound off the Advocate and substituted another heartworm or hookworm preventive.

If your veterinarian utilizes the in-house 'under the microscope' test where they can give you a numeric egg count, this can be encouraging, as you see the infestation decrease from heavy to moderate to low. In my human brain this is the most encouraging to me, as I see progress as the tedious months go by. But I imagine this technique also has some shortcoming.

So what is an adopter to do? We suggest treatment for 6-9 months (depending on the size of your greyhound). And then stop. At the end of this period, the most accurate (but most expensive) thing to do would be to request BOTH types of fecals. Some adopters will want the peace of mind, and not care about the expense. Most of us will just accept the singular test that our veterinarian offers, knowing that either way; we are going to stop to dosing both meds every 14 days, and we will **transition to Advocate once monthly**. And we'll keep ALL of our dogs on Advocate, even the non-greyhounds if we have any.

We felt a need to revise our instructions; to add this maximum time limit. You cannot keep dosing every 14 days for the entirety of the greyhounds life. So if the ANTIGEN test haunts you in future fecal tests, take comfort knowing it may be more of a ghost from the past!

If you find another solution....

You now know more than you ever desired to know about hookworm!!! We learned this by experience over time. If we learn more we will be glad to share. But to date, this is the only treatment we have proven effective. Many other greyhound adoption groups throughout the US have confirmed this treatment thru anecdotal experiences.