

## Our Approach to Heartworm, Ticks and Associated Diseases

### **Is Heartworm Something to Be Concerned About?**

Heartworm is a parasitic worm (*Dirofilaria immitis*) that when fully mature, takes up residence in the pulmonary artery of affected dogs. When heavy burdens of worms are present, they will back up into the heart, hence the name heartworm. Heartworms are transmitted to dogs when bitten by a mosquito that is infected with larvae (microfilaria). Only certain strains of mosquitos can pass it along, and as a result we do not see heartworm everywhere we see mosquitos. We do see it in southwestern Ontario. London is considered a moderate risk region and there are pockets to the east and west of the city where heartworm is considered endemic. If left untreated, heartworm disease can be fatal.

### **How Do We Approach Heartworm Risks and Prevention?**

Although the risk of contracting heartworm here isn't as great as in the southern U.S, there is certainly enough of a risk that warrants us taking the time to adequately educate you. There are no proven natural methods for heartworm prevention. Treatment of heartworm disease is costly and carries a fair degree of risk. For these reasons, we do recommend preventative medication however, we don't insist that everyone must have their pet on preventives. We understand that for some of our clients and patients, routine use of pharmaceuticals isn't something they are comfortable with, and some dogs have health conditions that may warrant additional consideration regarding the use of heartworm prevention medications.

We do recommend that every dog gets tested for heartworm yearly, regardless of what their prevention status is. Why? Because if one of our patients' contracts heartworm, we want to catch it early; while it is just a heartworm infection and has not yet developed into heartworm disease (where they are showing symptoms). The most effective way to do this is with yearly testing.

For those who choose to use prevention, there are holistic options available that aim to support the body's natural ability to maintain health when using compounded chemicals to protect it. These options include homeopathic medicines and herbal remedies for liver support and cellular detoxification.

We recommend using milk thistle for 1-2 weeks after each heartworm/tick/flea prevention dose to support the detoxification of the liver. Milk thistle has an antioxidant effect; which has protective and therapeutic effects against hepatotoxicity and can minimize damage when toxicity occurs. Alternatively, we may recommend the use of herbal liver tonics for some pets to use for the entire season. At the end of the season, we can also use a homeopathic detox program to help the body eliminate any residual toxins it was not able to successfully eliminate in its own.

### **What About Alternative Testing or Prevention Protocols I Have Read About?**

There is a relatively new protocol being shared for Heartworm prevention that promotes testing dogs with a Heartworm DNA test twice yearly, and only giving one dose of prevention medication if one of these tests show a positive result. Unfortunately, we do not support this protocol because the strategy doesn't fit with the lifecycle of the heartworm parasite. One dose of prevention medication given at the time of a positive DNA test may not prevent heartworm, if employed.

Likewise, there are suggestions circulating that recommend using heartworm preventatives every 6 weeks instead of following the manufacturers guidelines for every 4 weeks. Due to the mechanisms of action in the preventive medications, employing this treatment strategy can potentially put your pet at risk for contracting Heartworm because these medications are only effective at specific stages of the heartworm life cycle. In theory, the 6-week protocol could work,

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however there is a greater risk for prevention failure because there is absolutely no grace period for being late in giving the prevention medication and there will be a chance that the prevention will have missed the window where it can be effective against the developing microfilaria.

For the safety and wellbeing of our patients we stand behind the manufacturers guidelines for administering preventive medications until further research has been conducted that supports successful outcomes when following a 6-week preventive medication protocol.

### **How Do We Feel About Ticks?**

Let's be honest... the consensus here with all the team is that ticks are pretty darn gross, and they definitely creep us out. It's safe to say, we've yet to meet anyone who feels otherwise. Aside from the ick-factor, according to the statistics being tracked by Idexx, tick numbers seem to be on the rise. We're also seeing new species of ticks in Ontario that we never used to see. We absolutely do see tick borne diseases in Ontario (Lyme disease is one example) and based on the statistics reported, these numbers appear to be on the rise as well.

In order for a tick to transmit a disease to its host, they must be attached and feeding for 24 to 48 hours. Fortunately, tick-borne diseases such as Lyme are usually not fatal and usually don't have the same health ramifications in dogs as in people. For example, roughly 95% of dogs that test positive for Lyme disease will be completely asymptomatic, which suggests their immune system is keeping the bacteria under control. Current recommendations for dogs who are asymptomatic are that these dogs probably do not need to be treated for the disease. They should only be treated if they are showing symptoms. Most commonly, if they become symptomatic, they will develop a polyarthritis (inflammation in multiple joints). In more severe cases they can develop Lyme nephritis (inflammation of the kidneys), but this is very rare. Currently, there is a less than 5% chance of contracting Lyme disease for a dog that lives in Ontario.

### **What Do We Do About Ticks and Tick-Borne Disease?**

The decision about how to handle the risk of picking up a parasite depends on the risk involved if that parasite chooses you or your dog as a host. Ticks that aren't infected with a tick-borne disease can be viewed as no more than a nuisance. They pose no real threat or danger, they're just yucky to deal with. The challenge with ticks is that we're unable to tell from their outside appearance which tick is carrying an infection. There are some simple "tick tricks" based on commonly known facts: for example, Lyme disease is transmitted only by the deer tick, and Ehrlichia is transmitted by the dog tick. By knowing the type of tick you find, it can help narrow down what disease it may or may not be harbouring.

Currently, the most common tick-borne disease in Ontario that our pets are being affected by is Lyme disease. There is a vaccine available to protect against Lyme, however this vaccine doesn't protect against any other tick-borne diseases. Right now, there aren't vaccines available for any of the other tick-borne diseases. If Lyme disease prevention is important to you and you're interested in vaccinating your dog for Lyme disease, please refer to our handout on Lyme Disease for more detailed information.

For the most part, prevention of tick-borne diseases involves strategies to prevent ticks from attaching to our pet.

#### Tick Management Strategies:

- 1) Avoidance of known tick areas (e.g. walking only on well mowed areas, paved streets and low risk areas)
- 2) Completing tick checks after walks. Note that there's always a risk of unidentified tick attachment and transmission with this approach
- 3) Regular application of a safe insect repellent, such as an essential oil recipe

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#### 4) Use of tick preventative medications:

- a) Targeted to risk periods, for example, when going away for a week camping in Rondeau Park
- b) All season long. Adult ticks tend to be most active in spring and early summer, with peak activity in SW Ontario typically in April, May and June with some adults also having a smaller peak in September and October. If using prevention medication for ticks, it would be best to start in March or April depending on the weather

The U.S. Food and Drug Administration (FDA) has issued a warning that medications in the isoxazoline class such as Bravecto, Credelio, Nexgard and Simparica have the potential of causing seizures, ataxia, muscle tremors, or other neurological problems in your pets. Ataxia is a condition in which your pets can't control their muscle movements and thus may have trouble walking or balancing. The FDA warning means that you should be on the lookout for any struggles that your pet may be having after taking these medications.

It's important to understand that tick preventives do not prevent contracting Lyme or other tick-borne diseases, they merely decrease the risk by decreasing the chances that ticks will attach to your pet and feed on them for the time frame needed to transmit the disease that the tick may be carrying.

For all the strategies listed above we have excellent handouts available to share with you that provide detailed tips and tactics on how to employ these strategies, as well as additional best practices and lifestyle tips.

The need to treat our cats with any form of tick preventative is generally not recommended at this time, however these recommendations may change in the future.

### **Why Wellness Testing Now?**

Wellness testing is a great surveillance tool for maintaining health because it allows for early disease detection. All patients on regular medications should have wellness screening annually (at minimum, if not more often) to monitor pets for adverse effects from the medications, and for early detection of conditions that may preclude the use of those medications.

We recommend yearly testing for patients over the age of 9 years for early disease detection. We strongly suggest considering wellness testing every other year for patients between the ages of 4 and 9 years. This biannual testing helps to establish a baseline of what your pet's "normal" lab values look like when they are in good health. It's also a good idea to have wellness testing done on patients under one year of age to check for any congenital concerns that may be hidden from view. This can also be performed prior to any surgery that they may have to monitor kidney and liver function prior to undergoing anesthetic.

Early detection of changes in your pet's bloodwork that may signal health concerns is something we wish to be proactive on. The cost savings of heartworm and wellness testing during spring makes it an ideal time to consider annual or biannual wellness screening. These discounts are only offered by the lab once a year and we're pleased to be able to pass these savings through to you. Since we're already taking blood for the heartworm test, we recommend pairing wellness testing at the same time because it only requires us to take a wee bit larger blood draw.

### **Still Uncertain?**

It's always challenging to know what the best thing to do for your family is when there are so many available options to choose from. For the most part, there is no right or wrong decision. Your decision needs to be based on your lifestyle and risk factors combined with what you're most comfortable with.

If you're feeling unsure about what the best choice is for your pet, it may be helpful to consider what your goals are,

whether you're comfortable with the use of pharmaceuticals, what your summer plans are (e.g. Do they involve travel, camping, hiking of any other activity that would increase the chances of picking up ticks or fleas?), what your risk factors are for encountering infected mosquitoes or picking up fleas and/or ticks? It may also be worth considering what you're willing or comfortable tackling in the event your pet picks up fleas or ticks. These are great places to start the conversation with your veterinary team because it will help them to be able to make personalized recommendations for you and your pet.

As an example, both Dr. Mary-Anne and Dr. Lori test their dogs for Heartworm and tick-borne diseases annually. Dr. Lori completes wellness testing with her pets every year, whereas Dr. Mary-Anne does it when she feels it's warranted. Both veterinarians use monthly heartworm prevention with their dogs from June until November, and both use milk thistle after administering their prevention medications. Dr. Mary-Anne uses tick prevention when she takes her dogs camping. Dr. Lori doesn't use tick prevention even though she walks her dog through farm fields and forest every day. When Dr. Lori remembers, she does apply an essential oil tick repellent. Both veterinarians check their dog daily for ticks and remove any that are found. All our staff that live in the London area use heartworm prevention and one who lives north of the city does not. They all test their dogs yearly for HW and tick-borne diseases. Some staff members do wellness testing yearly, while others do it biannually. There is an even split on using tick prevention amongst the staff.

### **Let's Wrap it Up...**

The overall message we wish to advocate is that annual testing is our best chance to catch heartworm and tick-borne diseases early. The options for preventative measures range from no active prevention but instead dealing with any infestations if they arise, natural methods that attempt to decrease the chances that your pet picks up unwanted parasites, to pharmaceutical products that will kill parasites if they bite your pet thereby decreasing the chances that they will contract a disease. Pharmaceuticals can also be combined with natural options that help to protect your pet from any damaging side effects from the pharmaceuticals.

We do feel it's important to reiterate a very key point relating to heartworm prevention and disease. It's essential for pet parents to understand that even under the best circumstances (e.g. a very healthy pet fed optimal nutrition via a whole food species appropriate diet, combined with consistent use of natural preventive measures, while making conscious lifestyle choices that mitigate risks) currently there isn't a holistic or natural option that has been proven to be protective on its own. You can certainly use holistic options in a complementary fashion, in fact we encourage it. But unfortunately, heartworm disease can't be protected against unless pharmaceutical preventive medications are used as directed.

There are a variety of options for you to choose from for your pet based on your lifestyle and your family's needs. We also have many great educational resources available for you to take home and review at your convenience. If you're feeling overwhelmed, or just need some time to consider your options you can do so from the comfort of your home without feeling like you need to remember everything the doctor (or other team members) discussed with you during your pet's appointment. We're here to help support you every step of the way! It's just as important to us that you feel confident about the choices you're making for your beloved pet, and that the protective and prevention options you select best fits your needs and wants.

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