Tick Diseases: An Overview

What Are They?

There are many things that make the greyhound breed unique among dogs and one of those is the fact that most often they spend the majority of their lives in a state other than the one in which they were born and raised. Most of them spend their first two to five years (or longer) in the states that have dog racing and it seems those states also have something in common: ticks. In fact, some of the racing states are noted for their tick infestations. And ticks like dogs.

When you put together these factors you have a situation that is ripe for high infection rates (over 50% in some areas) in racing greyhounds. Many of the dogs leave the tracks, moving through the adoption process either sick with tick borne diseases (TBD) or carrying them with no noticeable symptoms. Some of these dogs' careers are ended prematurely because they are sick and cannot run as well as they did before they were stricken. It is important for the greyhound owner or prospective owner to have some understanding of TBD, what they can do, how to test for them and how they are treated.

The two most common TBD's in greyhounds are ehrlichiosis and babesiosis. The two diseases are different from each other in the actual form of infection but are very similar in most other ways. They both are cyclical, like malaria, with three primary stages. In the early stage (acute) the dog commonly (but not always) becomes quite ill with flu-like symptoms and sometimes unresponsive diarrhea. This may go on for a few weeks or a few months until either the immune system builds up enough antibodies to fight it to a standoff or the dog dies. If the dog survives thanks to a good immune response, the disease will then go into a sort of dormant stage (subclinical), usually with no symptoms showing. This stage may go on for years; in fact the dog might never be sick from it again in its' lifetime. However, some dogs will exhibit seemingly unrelated or mysterious problems that can baffle many veterinarians, leading to inconclusive tests, incorrect diagnoses and unsuccessful treatments. And sometimes the symptoms will disappear as mysteriously as they appeared. Until the third (chronic) stage. At this time the dog may become seriously ill overnight or gradually, again confusing the veterinarian who is not familiar with these diseases. Usually, the dog dies in this stage and if not (due to treatment at this time), damage may be irreparable.

Should My Greyhound Be Tested?
Testing for TBD is a simple and relatively painless procedure accomplished with a simple blood draw and laboratory testing. However, the blood sample should be sent to a lab that specializes in these tests if the owner hopes to get accurate results. Protatek Reference Lab in Arizona is the best known and probably the best lab for tick panels (480-545-8499). Your veterinarian can contact the lab for the correct procedure to follow if he or she is not familiar with the testing. The test itself (IFA) consists of searching for and measuring the concentration of antibodies in the blood stream the dog will have developed to fight the foreign proteins present if he has been exposed. The results are measured and reported in titers; normally the higher the concentration (titer number) the more likely the veterinarian is to want to treat the dog. This may be incorrect, though, as the titer number actually represents the dog's success in manufacturing antibodies; a dog with a stronger immune system might show a higher titer number but be more healthy than the dog with the lower number caused by a weaker immune response. And there is NO titer number universally accepted by vets as indicating treatment should be given nor do the numbers give anyone an idea of which stage of disease the dog is in at the time. Complicating matters is the fact that inconsistencies in the reading of titers or the technique used can lead to a considerable difference in the number reported. For example, one test may give a titer number of 1:40, considered to be a "negative" reading (minimal exposure, but exposure nonetheless), while another on the same dog, the same day, may show it as high as 1:160 which is seen as indicating a positive result and/or an active infection.

With either disease being considered, early testing will at least enable the owner to eliminate TBD as a cause of many indeterminate illnesses if the results are negative. (Since the IFA test is measuring antibodies a false negative may result from testing too early - before the immune system has had the opportunity to develop them - so it is a good idea to wait until the dog has been away from racing for about six months.) If the test results are positive but are not followed with treatment, it gives the owner and the veterinarian a known possible cause to eliminate with treatment if a hard-to-diagnose problem should ever occur. A good example of this is a dog with stiffness and pain in the neck or back. If the dog was never tested for TBD or a test showed the dog had been exposed a trial of doxycycline may be advised; if the condition improves there is a good chance it was caused by ehrlichiosis. Treatment with the doxycycline should be continued then for the full course. Prednisone should not be used at this time, as it would confuse the results of the doxy trial.

**Should My Greyhound Be Treated?**

The answer to this uncertainty is to treat any dog that tests positive, in my view - why wait until your dog is sick and suffering needlessly? The veterinarian in an area not noted for ticks may have to be convinced and if that's not possible it's probably a good idea to find a new vet. Especially in the case of babesiosis, many animal doctors are reluctant to treat a dog that isn't symptomatic and sometimes even one that is. The reason is that the recommended treatment for this disease, Imidocarb, has in the past caused some dogs to suffer serious side effects. But today, with more treatment experience overall, these stories are
mostly a thing of the past. Dosages have been adjusted so that side effects are less likely while maintaining the same success rate and early treatment is advantageous since the dog is still strong and in good overall health, thereby minimizing problems of side effects. There is NO advantage gained by waiting until the dog is obviously ill. For ehrlichiosis the recognized treatment is doxycycline or tetracycline—antibiotics. These are given orally and rarely cause serious side effects.

Another reason for testing a dog and treating one that tests positive is that immuno-suppressant drugs like prednisone can tip the scale in the delicate balance between the dog’s immune system and the disease. Many dogs develop autoimmune diseases and need these drugs to survive while others will receive prednisone as an anti-inflammatory for a myriad of different problems, such as arthritis or skin problems. Many of the symptoms displayed by unrecognized TBD might indicate the use of prednisone to the unsuspecting vet, causing more confusion and worsening the dog’s condition quickly.

There is a well-thought-out theory that exposure to tick borne diseases may contribute to what appears to be a high rate of cancer, especially osteosarcoma, in greyhounds. Considering what we already know about environmental, diet and lifestyle factors affecting the likelihood of various cancers in humans, it stands to reason that the havoc wreaked by TBD’s on a dog’s systems and organs would make it more susceptible, too. While it seems there have been no definitive studies on this and may never be any, it certainly gives the owner another reason to avoid the long-term damage TBD’s cause.

Once treated, the dog will generally never be sick from these diseases unless it is re-infected by being exposed again—a rarity for greyhounds after adoption. Exposure requires that the infected tick feed on the dog for a day or more so proper care taken in prevention should avoid that. If the dog resides in an area known for ticks or travels to such an area a good flea and tick treatment should be applied and these can be purchased easily from an animal clinic or from better pet supply stores or even online. While it should be noted here that certain flea and tick preventatives should not be used on greyhounds other products are perfectly fine to use. Consult your veterinarian for recommendations. (Note: Although less common there are other ways a dog can be infected, i.e., contaminated blood or needles. Blood donors are, or should be, tested and eliminated from any donor program if they test positive.)

Keep in mind this article is merely a very general overview and was not written by a veterinarian. Some of the information was gathered through direct consultation with practitioners. Feel free to print this page and the following article if you think your vet needs the information.