

Canine Thyroid Disease Can Be Tough to Diagnose

by Norma Bennett Woolf

Introduction

Canine thyroid disease can be tough to diagnose. The symptoms can be legion and sometimes contradictory: lethargy, mental lassitude, weight gain, dull coat, skin infections, constipation, diarrhea, cold intolerance, skin odor, hair loss, greasy skin, dry skin, reproductive problems, aggression and more.

The associated diseases or conditions can be serious: megaesophagus, ruptured knee ligaments, testicular atrophy, cardiomyopathy, excessive bleeding, and corneal ulcers.

The disease can be inherited or of unknown or uncertain origin. The diagnosis can be complex; the treatment as simple as supplementing a basic essential hormone.

This is the description of canine hypothyroidism, the absence of sufficient thyroid hormone to maintain healthy body functions.

Thyroid gland

The mammalian body has 10 systems — skeletal, muscle, digestive, circulatory, excretory, integumentary (skin), respiratory, nervous, endocrine (ductless glands), and reproductive—that must be working properly for the animal to stay in good health.

Endocrine glands secrete hormones that help manage the body's processes. The thyroid gland lies on the dog's trachea, just below the larynx; triiodothyronine and levothyroxine, the hormones produced by the thyroid, govern the body's basic metabolism—including control of growth and development and maintenance of protein, carbohydrate, and lipid metabolism—throughout life. Failure of the thyroid gland means trouble of one sort or another for the body.

The clinical signs can mimic other diseases. Weight gain, lethargy, mental dullness, skin abnormalities, weakness, and a decrease in tolerance for exercise are most often seen, along with behavioral changes that owners may not attribute to physical causes often occur: the sweet dog can become aggressive and the steady dog may become flighty or fearful.

Diagnosis

Thyroid disease is considered the most common endocrine disease of dogs. Because susceptibility to one form

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of the disease may be inherited, it is of great concern to breeders. However, in spite of the attention the disease has received from researchers and the development of more precise diagnostic tests, hypothyroidism is not easy to identify. Part of the problem is that chronic or temporary illness, reproductive hormones, drugs, obesity, and exposure of the dog to temperature extremes can affect the test. Sometimes the only sure test is to supplement with thyroid hormone; if symptoms subside, the diagnosis was accurate.

Veterinarians may suggest a thyroid test if a pet has gained weight or is having chronic skin infections or if a breeding dog is experiencing reproductive difficulties, especially if the animal lacks energy and has a scruffy or dull coat. The veterinarian draws the blood and sends it to one of several laboratories with the equipment for conducting the test. The blood sample should be taken when the dog is otherwise healthy, is not approaching or in a heat cycle, and is not taking pharmaceuticals such as steroids, non-steroidal anti-inflammatories, or anti-seizure drugs. The latest tests include measurement of two forms of the thyroid hormones T₃ (triiodothyronine) and T₄ (levothyroxine) and a search for antibodies that could indicate autoimmune thyroiditis, the genetic form of the disease. Interpretation of the numbers recorded is as important as the numbers themselves, for the relationship between the hormones is complex. In addition, normal ranges of hormone vary somewhat with the breed or mix.

Treatment

Treatment consists of two daily doses of levothyroxine, the hormone identified in the test as T₄. Levothyroxine is converted to triiodothyronine by the body; dogs that cannot make this conversion will need both levothyroxine and triiodothyronine. The dosage is based on body weight; thyroid hormones are quickly metabolized and excreted from the body, so splitting the dose is most effective.

One to two months after starting the dog on thyroid therapy, the veterinarian will probably want to redo the tests to make sure the levels are within the normal range.

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Five Tips For Dogs in A Snowy Climate

With winter upon us, the snow will begin to fall. While it is beautiful to look at, it's hard for us humans to navigate and can be tough on our dogs too. Some dogs love the snow and want to play in it; while others just hate it. However, it is important to be specifically mindful of your dog when he or she is out in the snow as your pup's paws are very sensitive.

Remember that snow is basically crystallized water. So, taking your dog out for a potty (or simply to play on a snowy day) is like rubbing a piece of icy cold crystal against your dog's paws which are very sensitive. Snow can irritate a dog's paws or cause rips on your pup's paws over time. However, a short dash in the snow won't hurt your pup but the below tips can prevent irritation to your dog's paws.

Below are 5 tips to help:

1. Keep your dog's groomed and nails trim. Nails are more fragile in a cold-wet environment and can crack or break during playtime. Also, keep your dog's fur trimmed between your dog's paws. This particular spot tends to accumulate snow and dirt which can become uncomfortable or irritating for your dog's paws.

2. For more extreme conditions, it is wise to keep their feet covered. Booties work really well if your dog doesn't mind wearing them. Just be sure that they're waterproof, or they won't provide any benefit. In heavy snow situations, dog boots are probably your best solution. These cover your dog's paws, as well as, keep them warm and protected. Dog boots can be quite expensive.

3. You can also try applying a layer of petroleum jelly or balm on your dog's paw pads just before you go out. The layer will help protect against chafing. Don't put too much, though, for it can make the paws less hard-wearing and more susceptible to cuts from debris. One thin layer is enough. There are also paw-waxes specifically designed for your dogs' paws and can be found at most popular pet stores. This method helps protect their feet and soothe their paws.

4. After a walk or an outdoor snow activity, take the time to wash your dog's paws with warm (not hot) water to remove all debris and help improve circulation to their toes. This will also help clean away any protecting balms that you don't want your dog licking on (or tracking through the house).

5. Watch out for rock salt for your pup. Rock salt is used to keep sidewalks from icing up or to prevent thick layers of snow from accumulating. Rock salt is very abrasive, and can quickly chafe your dog's paws, even if you don't notice it.

Most dogs will not have sores or cuts, but may still suffer from irritated paws that will be bright pink or red. Your canine pal will limp or avoid walking due to the discomfort that he is feeling. He may begin licking his paws excessively to soothe the pain. If there are cuts or sores, be sure to treat them immediately. Wash them thoroughly and apply antiseptic or antibiotic ointments. It is then best that they stay out of the snow for at least a couple of days.

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Blood should be drawn four-to-six hours after the morning dose. Dogs on long-term thyroid therapy should have a complete panel of tests every six to 12 months.

Inherited disease

Some dogs have a genetic susceptibility to diseases that attack their own immune system. Researchers suspect that these immune-mediated diseases may be triggered by environmental chemicals, viruses, repeated inoculation with multivalent modified live vaccines, and other immune system challengers. The presence of autoantibodies in the thyroid test is considered by some researchers and breeders to be a forecaster of autoimmune lymphocytic thyroiditis—the inherited form of the disease—but other researchers consider the data base of information to be too small to make that call. However, breeders should test their dogs and bitches, keep good records, and be wary of using animals with the potential to further spread the disease.

Studies indicate that the breeds most commonly affected by autoimmune lymphocytic thyroiditis include Golden Retriever, Great Dane, Beagle, Borzoi, Shetland Sheepdog, American Cocker Spaniel, Labrador Retriever, Rottweiler, Boxer, Doberman Pinscher, German Shepherd, Akita, Old English Sheepdog and Irish Setter. Symptoms usually appear between one and five years of age, but blood tests can indicate the potential for disease before clinical signs appear. Unfortunately, a clean thyroid test at one year of age does not mean the dog will remain free of disease throughout its life.

In August 1996, the American Kennel Club Canine Health Foundation hosted an international symposium on canine hypothyroidism at the University of California at Davis. Here the world's experts on the disease shared findings, asked and answered questions, and suggested avenues for further study to increase understanding of the disease, improve diagnostic tests, and identify a genetic marker for the inherited form of the disease. Until more is known, however, dog owners can watch their pets for the classic signs of thyroid disease manifestation as outlined above and potential dog owners can ask breeders if the sire and dam of that wonderful litter have been screened for thyroid disease or are taking thyroid medication. Even though the tests are not perfect, the answer will indicate a breeder's commitment to ridding his dogs of thyroid disorder. ☐

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