

## Hypothyroidism in the Boston Terrier

Definition of hypothyroidism Hypothyroidism is a disease of thyroid insufficiency. The thyroid gland basically consists of two oval bodies located at either side of the neck. Dog World authors John Cargill and Dr. Susan Thorpe Vargas say "Think of the thyroid gland as the crystal that sets the clock speed on your computer. If it produces too much or too little, the body system may malfunction because the various interconnecting subsystems can't interface properly. Together with the pituitary gland, the thyroid gland "calls cadence" for the many interconnected systems of the body, serving much like a combination thermostat, rpm governor, pressure regulator in mechanical systems." The purpose of the thyroid gland is to control metabolism. Dogs with hypothyroidism have metabolic rates below normal.

### Frequency in Boston Terriers

Boston Terriers have fewer problems with hypothyroidism than many breeds of dogs do. Our Health Survey has reported that over 3% of all Bostons have a problem with this disease. The best known of the thyroid testing laboratories is at Michigan State University and they report a 2.1% of Bostons tested have shown hypothyroid problems.

### Symptoms of hypothyroidism

Hypothyroidism is said to be the most common skin problem in dogs. Some of the symptoms are bisymmetrical hair loss, darkening of the skin, change in texture of the skin, chronic skin infections, poor hair regrowth after clipping, seborrhea. With Boston Terriers a "rat tail" with no hair on it can be typical of hypothyroidism. Other signs of hypothyroidism may include weight gain, lethargy, mental dullness, exercise intolerance, hyperexcitability, aggression, corneal ulceration and other eye problems, diarrhea, vomiting, constipation, absence of heat cycles, pseudopregnancy, infertility, lack of libido, and other disorders. A slow heart rate, high blood cholesterol and anemia are also symptoms. Most dogs will show only a few of these possible symptoms. Dr. Jean Dodds feels that changes in personality such as aggression may often precede physical symptoms of hypothyroidism. Additionally, some dogs with epilepsy will also have an associated hypothyroid condition.

### What causes hypothyroidism?

About half of the cases of hypothyroidism are caused by a dog's own immune system causing destruction of the thyroid gland. The other half are caused by atrophy of the thyroid gland by causes that are not well understood. Hypothyroidism results from the decreased secretion of a damaged thyroid that can no longer function well. Most cases of hypothyroidism are the endstage of autoimmune thyroiditis where the immune system attacks the thyroid gland.

### Who gets hypothyroidism

Larger dogs are much more susceptible to hypothyroid than smaller dogs. It is very rare in very small breeds. Spayed females are more apt to have the disease than intact females. Otherwise there is no sex predilection. In most cases hypothyroid problems do not develop until a dog is over 5 years old. Hypothyroidism is known in over 70 breeds of dogs.

### Recommendations for testing

AKC and other groups recently sponsored an International Symposium on Canine Hypothyroidism. Participants recommended that dogs should be tested by breeders for thyroid and this test profile should include Total Thyroxine (T4), Thyroid Stimulating Hormone (TSH) Free T4 by Dialysis, and Thyroidglobulin Autoantibody (TgAA) Dr. Ray Nachreiner at Michigan State says "Since idiopathic hypothyroidism appears to be the end stage of autoimmune thyroiditis, the majority of primary hypothyroidism in dogs is most likely a result of autoimmune disease. An important fact for breeders is that the TgAA test can detect this disease years before clinical signs of hypothyroidism occur."

### The Orthopedic Foundation for Animals

OFA, working with the Canine Health Foundation, has set up a new Thyroid registry for Dogs. OFA has also certified about half a dozen laboratories located across the United States to do the assays.

Mailing addresses are on the back of the OFA form.

### **How to get your Boston Terrier Thyroid Certified with OFA**

First make sure that your veterinarian has the OFA Thyroid Certification forms on hand. When you take your dog in to your veterinarian to draw blood, make sure that you have your registration information with you. You will need registered name and number of your dog and its parents. Make sure that you have your dog's permanent identification (either chip or tattoo) The blood will be drawn, packed in ice, and sent same day by Federal Express or other carrier to the laboratory of your choice. You will be asked if you want the results of the tests placed in open or closed registration before you know the results of the tests. (If you truly want to benefit the breed you will agree to the open registration.) Your personal check for the \$15 registration fee will be attached to the papers which are shipped with the blood. It may be as long as two weeks before you learn the results of the thyroid test. You may be charged \$100 or more for your thyroid test depending on location.

### **Treatment of hypothyroidism**

The treatment is simple. A supplement such as "Soloxine" given daily in pill form is usually effective in restoring normalcy within a very few weeks.

### **The moral dilemma**

Hypothyroidism is known to be hereditary although the mode of transmission has not been determined. When you breed a dog with hypothyroidism you may be passing on these genes for future generations. If your dog or bitch requires thyroid supplement to breed normally and carry a litter is this a trait you should be passing on to future generations? Authors John Cargill and Dr. Susan Thorpe Vargas take a "hard line" approach when they say "If you have not tested your dogs for proper thyroid function, you have no business breeding them."

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