

## Thyroid dysfunction in pets

Have you ever noticed that your dog is sleeping more, gaining a surprising amount of weight, and keeps getting those smelly ear infections? Or that your older cat can't seem to sit still, is meowing all the time, and is eating more but losing weight? While there may be many medical explanations for these observations I would surely want to check these pets' thyroid gland function.

We actually share a lot in common with our pets when it comes to thyroid function. Like us, dogs and cats have paired thyroid glands on each side of the windpipe (trachea) in the mid-throat area. The thyroid gland produces thyroid hormone that is released into the blood and circulates around the body. This hormone affects many systems of the body but most notable is its effect on metabolic rate. The rate of metabolism in the body is directly related to how much thyroid hormone is present. If too much thyroid hormone is present the body's metabolism increases to unhealthy levels. And vice-versa, if too little hormone is present the metabolic rate slows.

Conveniently Mother Nature made thyroid problems in dogs very different than those in cats. Dogs most commonly develop reduced thyroid function (hypothyroidism) where cats tend to develop overactive thyroid glands (hyperthyroidism).

Hypothyroidism in dogs is a common endocrine disease but not always easy to recognize. The classic hypothyroid dog will often show signs of a general slowing of their metabolic rate. This may be seen by the owner as diminished energy, unexpected weight gain, poor quality hair coat, recurrent ear and skin infections, and intolerance to cold (this dog may always seek out the warmest spot in the house). Some less obvious and less common symptoms might include reduce tear production in the eyes causing crusty ocular discharge, or even some kinds of neuromuscular disease. Unfortunately hypothyroid dogs may only display a single, subtle symptom of their reduced thyroid function. These are the cases that can be easily missed.

If a dog is suspected of having hypothyroid disease some simple blood tests will usually diagnose the condition. Occasionally, additional testing is needed to clarify equivocal blood tests.

As a clinician I really hate to miss the diagnosis of hypothyroidism in dogs. I say this because if it is truly amazing how a hypothyroid dog responds to treatment.

It should come as no surprise that the treatment for low thyroid function is to supplement with thyroid hormone in pill form. This medication is relatively inexpensive, which is nice because these patients need to be treated for life.

Most dogs, once started on thyroid supplement, regain their energy, lose weight, and generally feel great. Needless to say, the treatment of hypothyroidism is rewarding for a pet, pet owner, and veterinarian alike. If your dog is showing one or more of the above symptoms don't hesitate to ask your veterinarian about hypothyroidism.

Our feline friends can also be hypothyroid but that is quite rare. More commonly cats will develop overactive thyroid glands or hyperthyroidism. This condition is almost exclusively seen in cats over 9 years of age. Cats with too much thyroid hormone in their system will often display a host of symptoms including vomiting, diarrhea, excessive thirst and urination, hyperactivity, and weight loss despite a good or even ravenous appetite. If untreated, hyperthyroidism can result in severe wasting, high blood pressure

and even life threatening heart disease. As with dogs, with simple blood testing, feline thyroid disease is usually a straightforward diagnosis.

Interestingly, feline hyperthyroidism has only been recognized in cats within the past 20 years. The first published report of the disease in the veterinary literature appeared in 1980. I distinctly remember, some 16 years ago as a new graduate starting my first job as a veterinarian. Some of my fellow "more seasoned" clinicians were still skeptical that hyperthyroidism really existed in cats. Today it is universally accepted as one of the most common endocrine diseases seen in the geriatric cat.

Cat owners actually have a few options when it comes to treating their hyperthyroid pet. For years a popular approach has involve using radioactive iodine to selectively reduce the thyroid gland's ability to produce hormone. This treatment is still widely used and considered by many to be the gold standard for feline hyperthyroid treatment. Families not wanting to leave their cats at a referral center for several days to decontaminate from the radioactive iodine treatment can choose from several other therapeutic options. Surgery or life-long oral medication were treatments used before radioactive iodine treatment became available, and are still popular. Some very new therapeutic modalities currently being investigated just up the road from us at the UC Davis School of Veterinary Medicine are starting to become available as well. Regardless of the mode of treatment, feline hyperthyroidism-like canine hypothyroidism- is a rewarding disease to treat.

Of all the endocrine (hormonal) diseases seen in our pets, thyroid problems are easily one of the most common. Fortunately, thyroid illnesses in dogs and cats are relatively well understood by veterinarians and effective treatments are readily available.

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