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## Signs, Symptoms, Diagnosis and Treatment of Hyperthyroidism

### CLINICAL PICTURE OF FELINE HYPERTHYROIDISM

There are many clinical signs associated with feline hyperthyroidism. The hallmark sign is:

- \* **Weight loss despite excellent appetite.**

In the normal cat, the lobes of the thyroid gland cannot be felt with one's fingers. In the hyperthyroid cat at least one lobe is usually prominent (but not always) and may be detected by your veterinarian during a physical exam.



- \* **HYPERTHYROIDISM IS GENERALLY A DISEASE OF OLDER CATS. THE AVERAGE AGE AT DIAGNOSIS IS ABOUT THIRTEEN.**

### HOW TO TELL IF A CAT IS HYPERTHYROID

A blood panel is often ordered in the diagnostic work-up of any significant clinical signs. The blood panel surveys hepatic, renal, hematologic, and other body systems. Although there are multiple changes which fit hyperthyroidism, mild increases in liver enzymes are most commonly observed indicating mild (usually clinically insignificant) damage to the liver. The elevated T4 level forms the basis for diagnosis; there can be no other diagnosis in such a case.

- \* **If T4 is markedly elevated, the diagnosis is clear. Some cats have borderline results and require further testing.**

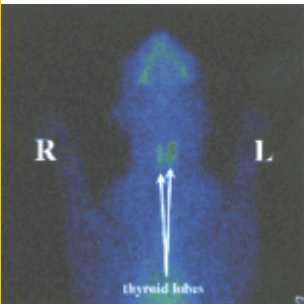
### WHEN T4 LEVELS ARE BORDERLINE

In older cats, the normal range for T4 is much lower than it is for young adult cats and thus sometimes it is not obvious whether a cat is truly hyperthyroid. Further, T4 levels are readily reduced by other disease states and there is some normal (but unpredictable) fluctuation in T4 throughout the day.

The easiest tests for your veterinarian to perform are called the T3 SUPPRESSION TEST and the EQUILIBRIUM DIALYSIS FREE T4. To do the T3 suppression test, the owner must be able to give the cat a pill three times a day for two days and return to the vet's office for a blood test on the third day. In other words, some specific scheduling is necessary and the cat must be able to take pills. The pill given is a T3 pill, active thyroid hormone. After two days of exposure to this medication, a normal thyroid will respond by reducing its T4 production. In a hyperthyroid cat, this negative feedback mechanism is not operating and the T4 level will not drop. Even borderline cases can be sorted out. The Equilibrium Dialysis Free T4 represents a special measurement of T4, the fraction that is not bound to blood proteins. The equilibrium dialysis free T4 is not as susceptible to fluctuation as the plain (or total) T4. This test is readily available at our reference lab and may be run fairly quickly. For this reason, we prefer the T4(ED) testing for confirmation.

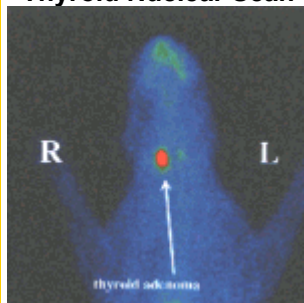
Of course a nuclear medicine scan will also identify a hyperthyroid cat readily. The equipment necessary is only available in a limited group of facilities, but we do have access to this technology both here in Houston (Gulf Coast Veterinary Diagnostic Imaging) and at Texas A&M University's Texas Veterinary Medical Center in College Station.

## Thyroid Nuclear Scan



Scan of cat with normal thyroid glands

## Thyroid Nuclear Scan



Scan of hyperthyroid cat, showing enlarged thyroid glands

**WHY**  
Hyperthyroidism is a common condition in cats, often caused by a thyroid adenoma. It can lead to various symptoms, including weight loss, increased appetite, and hyperactivity. Early diagnosis and treatment are essential for a good quality of life.

