

# capsules

## THE CURRENT LITERATURE IN BRIEF

### Thyroid Function in Obese Dogs

Obesity is seen in 40% of dogs with hypothyroidism. Obesity also is a common nutritionally related problem in dogs. Many dogs in practice are tested and/or treated for hypothyroidism because they are overweight. This study compared thyroid function in obese dogs with that of lean dogs and of dogs undergoing caloric restrictions. Thyroid function was evaluated by measuring serum concentrations of total thyroxine (TT4), free thyroxine (FT4), total triiodothyronine (TT3), thyrotropin-stimulating hormone (TSH), and reverse triiodothyronine (rT3) as well as a TSH stimulation test using 75  $\mu$ g IV of recombinant human TSH.

In the first study, which compared lean dogs with obese dogs, serum TT3 and TT4 concentrations were significantly higher in the obese dogs but were within the reference range. Calorie restriction led to decreased TT4, TT3, and TSH concentrations but they were statistically significant only for TT3 and TSH. Although obesity and weight loss alter thyroid homeostasis in dogs, the observed changes are not likely to cause errors in interpretation of thyroid function tests in clinical practice. This study further evaluated the role of recombinant human TSH for use in dogs. This may be particularly valuable as the pharmaceutical grade of bTSH is no longer available.

**COMMENTARY:** Obesity is a growing problem in veterinary medicine, and many dogs undergo hormone evaluation as a routine part of their diagnostic workup. It is suspected that most obese dogs are euthyroid, which makes the current study very clinically relevant. It demonstrates that thyroid homeostasis is maintained in obesity as well as during caloric restriction as a treatment for obesity. This will provide further assistance during hormone evaluation of obese dogs.—*David S. Bruyette, DVM, MS, Diplomate ACVIM*

*Evaluation of thyroid function in obese dogs and in dogs undergoing a weight loss protocol. Daminet S, Jeusette I, Duchateau L, et al. J VET MED A 50:213-218, 2003.*