

## Monitoring dogs with hypothyroidism

Monitoring the patient on levothyroxine (e.g. Eltroxin) is not as straight forward as it might seem. This is because the percentage of medication that is absorbed through the GI tract in a particular dog on any given day ranges from 13% to 87%.<sup>\*</sup> This results in the serum T4 being quite variable on a day-to-day basis and consequently the “reference interval” for dogs on eltroxin medication is only a guideline which must be interpreted in conjunction with the clinical response.

The return to the euthyroid state is more accurately determined by looking at serum TSH. TSH is expected to be high in hypothyroid dogs and to fall within reference with appropriate treatment. However, as is well recognised, many dogs with hypothyroidism do not have an elevated serum TSH based on the current methodology. This makes it difficult to use TSH as a monitoring tool except in dogs that have an elevated concentration prior to treatment.

Assessing the clinical response to medication remains the most useful tool for monitoring a patient that is receiving levothyroxine. Evaluating the serum T4 concentration is useful in dogs that appear to be responding poorly or in which over-dosage is considered possible.

<sup>\*</sup> In people Eltroxin is taken on an empty stomach because this enhances absorption. There are no such recommendations in dogs and often the suggestion is that it can be given with or without food. There are no canine studies investigating the absorption of levothyroxine in relationship to feeding to validate timing of medication. Consequently, it is possible that food intake may account for some of the variation in levothyroxine absorption.

