

Use for diagnosing feline hyperthyroidism



If hyperthyroidism is suspected in Cats (details of the illness and clinical and biological signs), the total T4 (tT4) assay confirms or rules out the diagnosis in the majority of cases.

The positive predictive value of tT4 is very important. Therefore a high tT4 value in a clinically suggestive context often suffices for making a diagnosis.

In contrast, age, physiological fluctuations, progression stages and interference with some disease conditions (chronic renal failure (CRF), hypoproteinemia, etc.) may lead to a sensitive interpretation of the results close to the high limit of the reference range.

Focus - Reference range and diagnostic value

Reference range

According to IFCC standards, the reference range obtained in Cats is

12 - 49 nmol/L*

A very small percentage of Cats (less than 3%) may nevertheless have a higher value of tT4 with no symptoms, no physical changes (ultrasound and scintigraphy) and no significant blood biochemistry changes.

Diagnostic value (cutoff value)

All Cats that have a value higher than or equal to 60 nmol/L (cutoff value) present with hyperthyroidism (clinical manifestations, ultrasound, scintigraphy and therapeutic response).

At around 50 nmol/L, it can be difficult to make a diagnosis (physiological change and early hyperthyroidism).

Lastly, some elderly patients, or those with certain disease conditions (CRF or hypoproteinemia), may be suspected to suffer from hyperthyroidism even with values slightly lower than 50 nmol/L.

* Performed with the FDC Immuno AU10



FDC Immuno AU10

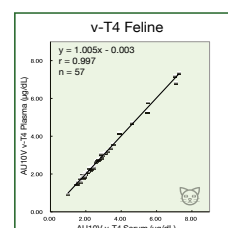
v-T4 Cartridge, with technical characteristics that allow an assay on heparinised plasma

Conventionally, hormonal assays are performed on serum.

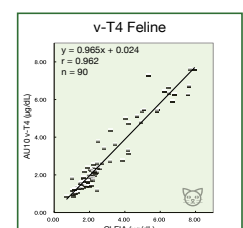
Fujifilm developed an assay technology to use heparinised plasma with an excellent correlation.

Name	v-T4 Cartridge
Analysis time	10 minutes
Sample	Plasma and Serum - 100 µl
Measuring range	6 - 103 nmol/L
Storage	4 - 8°C

Plasma/Serum Correlation

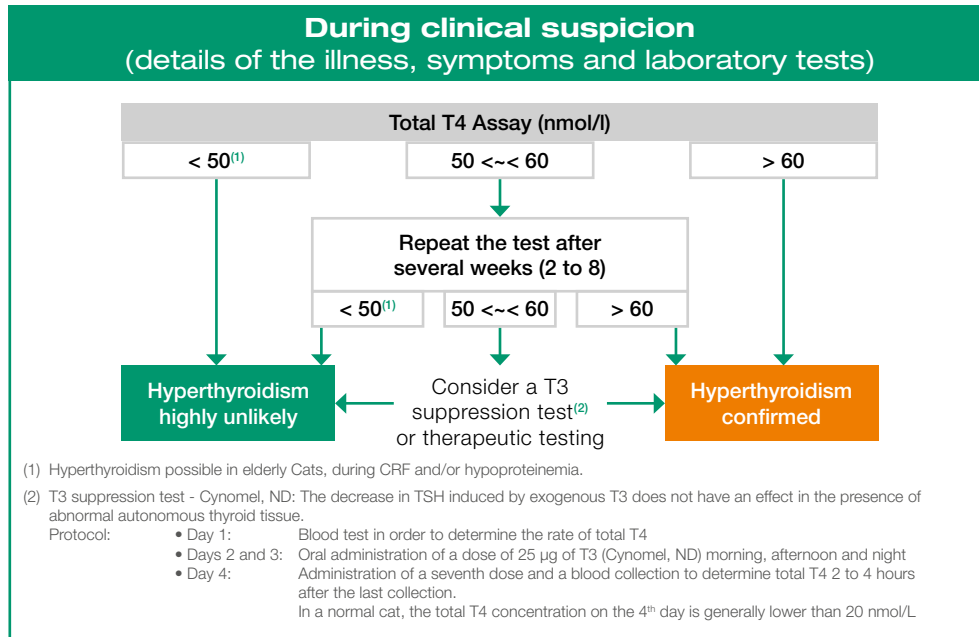


Fuji v-T4 vs Standard Method





Diagnostic approach



Follow-up treatment (if hyperthyroidism is confirmed or therapeutic testing)

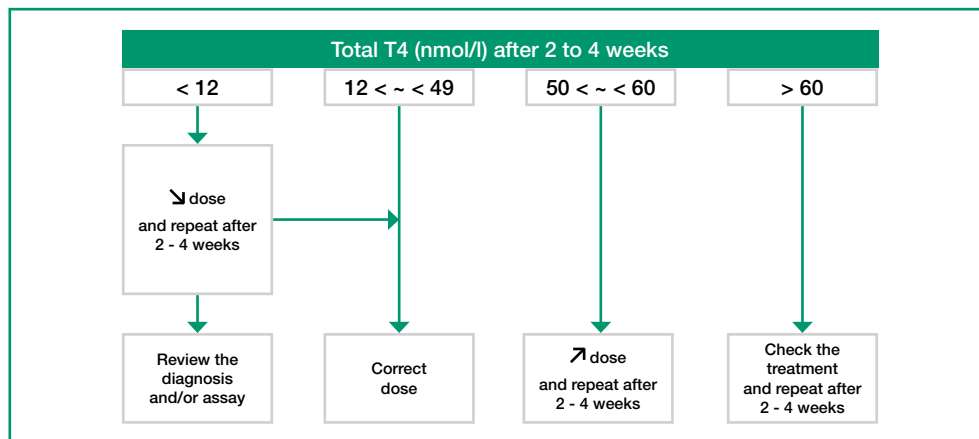
It is recommended to wait at least 15 days after the start of treatment or a change in dose to perform the test.

The blood collection must be done between 4 and 6 hours after taking the chosen medication.

Carry out a follow-up of biological and clinical tT4 (updating CRF, side effects, cardiac monitoring, etc.).

Objective: Check, if the value is in the reference range

Follow-up every 6 months once the clinical situation stabilizes



References:

Carmel T. Mooney; Mark E. Peterson - BSAVA manual of canine and feline endocrinology - fourth edition.

Feldman EC, Nelson RW, Reusch CE, Scott-Moncrief JC, Berhend EN - Canine and feline endocrinology, 4th ed. Elsevier, St Louis 2015.

Rannou B. - Abstract ECVCP 2016 - Evaluation of a new point-of-care immunoassay using surface plasmon-enhanced fluorescence method (FUJI DRI-CHEM IMMUNO AU10V) for the measurement of feline total thyroxine