



Canine Hyperadrenocorticism Diagnostic Tests

Individual Test

- 1 Urine Cortisol/Creatinine Ratio
Sensitive test to exclude HAC, but must not be used to diagnose HAC. Morning urine sample can be collected in the animal's home environment.

Dynamic Tests

- 1 ACTH Stimulation Test (ACT2)
- 2 Low Dose Dexamethasone Screening Test (LDD)
- 3 Atypical Hyperadrenocorticism/Adrenal sex hormone alopecia panel (SHAP)

Unfortunately there is no perfect diagnostic test or test protocol for hyperadrenocorticism.

- ACTH stimulation is a good screening test in the first instance and is the test of choice for diagnosing iatrogenic Cushing's.
- Low-Dose Dexamethasone screening test is more sensitive than the ACTH stim test for confirming HAC and false negative results occur very seldomly which gives high confidence in negative test results. However false positive results are common especially where there is concurrent non-adrenal illness or other sources of stress.
- Some dogs with HAC will show a significant increase of 17-OH Progesterone after ACTH stimulation and together with an exaggerated cortisol response these results could indicate classic hyperadrenocorticism. In cases of functional adrenal tumour, there may be a high and/or exaggerated 17-hydroxyprogesterone response to ACTH but a normal or subnormal cortisol response.

Test to Differentiate between PDH and ADH

1. Endogenous ACTH
(Special Sampling Requirements)





Protocols:

Canine ACTH Stimulation Test

- 1 Collect a basal fasted blood sample (1-2ml). Label tube as 'pre ACTH'
- 2 Immediately inject 0.25mg (250µg) synthetic ACTH i.v. or i.m. (Synacthen Ampoules, Alliance Pharmaceuticals)
- 3 Collect a second blood sample (1-2ml) one-hour post Synacthen injection. Label tube as 'post ACTH'.
- 4 Submit tubes and request form to the laboratory
- 5 The same samples can be used for the measurement of 17-hydroxyprogesterone and/or aldosterone if required in addition to cortisol.

Sample type: Suitable sample types at most laboratories include separated heparinised plasma or serum, or centrifuged serum gel tubes.

Notes: Please do not use "Synacthen Depot Ampoules (1mg/ml)"

Canine Low Dose Dexamethasone Suppression Test

- 1 Collect a basal fasted blood sample (1-2ml). Label tube as 'pre Dex'
- 2 Immediately inject 0.01 to 0.015mg/kg Dexamethasone i.v.
- 3 The volume of Dexamethasone to administer in ml = (bodyweight (kg) x dose (mg/kg))/concentration (mg/ml)
- 4 Collect two further blood samples 3 hours and 8 hours post dexamethasone injection. Label sample times clearly on the tubes (e.g. "3hrs post").
- 5 Submit tubes and request form to the laboratory

Sample type: Suitable sample types at most laboratories include separated heparinised plasma or serum, or centrifuged serum gel tubes.

Notes: You should use a dexamethasone solution or dexamethasone sodium phosphate product that is licenced for intravenous use. The 0.015mg/kg dose is believed to help reduce the false positive rate seen with the 0.01mg/kg dose. Volumes for injection are small for this test, and in some cases it can be helpful to make a 1:10 dilution of dexamethasone before administration.



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