HYPOADRENOCORTICISM (Addison’s Disease)

What is hypoadrenocorticism?

The adrenal glands are located near the kidneys and produce two types of hormones crucial to your dog’s health:

1. glucocorticoids give them the ability to use glucose quickly and adapt to stressful situations
2. mineralcorticoids give them the ability to balance levels of water and critical minerals (or salts) such as potassium and sodium.

Addison’s disease is an uncommon disease in dogs but occurs when the adrenal glands either are not stimulated to produce the correct hormones due to a problem in the brain (rare) or due to destruction of the gland itself (more common). We aren’t certain what causes the wasting and destruction, but it is suspected to be due to the animal’s own immune system doing the wrong thing and attacking its own adrenal glands.

Over 90% of the adrenal gland must be destroyed or not functioning correctly before clinical signs are observed and so a lot of dogs may not be diagnosed until the time of an ‘Addisonian Crisis’.
What are the clinical signs of hypoadrenocorticism?

Dogs are usually young (4-5 years old) and females are affected more often than males. Any breed of dog can be affected, although common breeds include Standard Poodles and Collies.

Hypoadrenocorticism can be very challenging to diagnose as not only can clinical signs vary, but other diseases can have very similar clinical signs.

Clinical signs may be vague at first and include intermittent lethargy and possibly intermittent vomiting or diarrhoea. A slow or irregular heart beat and poor blood circulation may be noticed if there is very high potassium levels as these adversely affect the heart.

Unusual symptoms that may occur include seizures (due to a low blood sugar level) or continued regurgitation of undigested food due to abnormal nerve function in the oesophagus (a condition called megaoesophagus).

Dog are often first diagnosed when they collapse from the acute form of the disease called an Addisonian crisis. This is a highly life threatening situation and, when it occurs, dogs will be in shock, will have a low body temperature, dehydration, possibly bloody diarrhoea and/or an abnormally slow or irregular heart rate. Patients may not survive this episode and certainly without treatment they will die.
**How is this disease diagnosed?**

Blood tests will often show an increased potassium level and a low sodium level. There may be changes in the kidney parameters due to dehydration and sometimes there may also be high calcium and/or a low glucose level.

The only definitive test for hypoadrenocorticism is a test called the ACTH stimulation test. This is where the dog receives a dose of the hormone (ACTH) responsible for the release of corticosteroids in times of stress. A normal dog will have an elevated cortisol level in response to this hormone an hour after the test. Dogs that have been previously treated with steroids or that have hypoadrenocorticism will not respond to the hormone and will have a low cortisol level after the test.

**How is an Addisonian Crisis treated?**

Immediate veterinary care involves administration of large volumes of intravenous fluids, slow correction of the abnormal sodium and potassium levels, administration of glucose if needed and then treatment to artificially replace the cortisol that the adrenal glands are no longer producing.

**What happens when your dog is ready to go home?**

Once a dog is diagnosed and stable continued replacement of the adrenal hormones is required. Although a complete cure is not possible, with appropriate medication and close veterinary monitoring, a dog with this disease can live a normal, happy and healthy life.
The most common medications include

1. Florinef® tablets – these tablets contain a mineralcorticoid and are given morning and night. The amount of Florinef® required is determined by blood tests to assess the sodium and potassium levels. Blood tests, in particular of the sodium and potassium levels, are initially required every 7 to 14 days. But once the levels are stable these blood tests are only needed two to four times a year.

2. Percorten® - this is an injectable medication which can be given instead of the Florinef® tablets. The injection is given approximately every 4 weeks by your veterinarian. The sodium and potassium levels are measured prior to the injections at first but again usually testing can be reduced up to two to four times a year.

3. Prednisolone tablets – these are glucocorticoids and can be given in addition to either the Florinef® or Percoten®. These tablets may be given daily to every second or third day and the levels may need to be adjusted, after discussion with your veterinarian, according to expected stress levels (eg. if your dog is travelling, is boarding in a strange place or perhaps requires surgery).