

# Addison's Disease

*courtesy of Animal Info Publications*

**Author:** Lisa Mantellato, Cathy Lambert

## What is Addison's Disease?

Addison's Disease, also known as Hypoadrenocorticism, is a disease which causes damage to the adrenal glands. These glands are located near each kidney and are responsible for releasing hormones such as cortisol and adrenaline that are important in controlling water, salt and sugar balance. There are three forms of the disease; primary, secondary and atypical. The primary and atypical forms are usually caused by immunological damage to the glands (a form of autoimmune disease where the body attacks its own tissues) and secondary Addison's is caused by the pituitary gland failing to stimulate the adrenal glands with adrenocorticotrophic hormone (ACTH). This is quite a rare condition, but can be life-threatening, and so it is important to have an understanding of the illness in case your dog develops symptoms.



## What are the Signs or Symptoms of Addison's Disease?

Addison's Disease produces a vague number of symptoms that may wax or wane over a number of months or even years may be present. These include:

- Gastrointestinal upsets (vomiting, diarrhoea, pain in the hind quarters, lack of appetite)
- Lethargy, depression, muscle weakness
- Incontinence, increased thirst
- Tremors or shaking

Typically, a dog with Addison's disease will have a history of indistinct illnesses associated with times of stress that responded to supportive care such as fluids and rest. Severe signs will appear when your dog is stressed or when electrolytes are out of balance enough to cause problems with heart function (eg high potassium levels). If left untreated, the dog will ultimately have an acute episode causing renal failure and possibly even death. At this point the kidneys are unable to function and the dog needs urgent, medical attention. Fluids will give an almost miraculous recovery, but the real problem lies in adrenal function not kidney failure.

## How is Addison's Disease Diagnosed?

Diagnosis is difficult because symptoms are common to many other diseases. If suspected, there is only one definitive test and this will determine the ability of the adrenal glands to produce cortisol. Cortisol is measured in your dog's blood before and after being injected with ACTH - cortisol stimulating hormone. Addison's is diagnosed if there is no increase in cortisol levels after the ACTH injection. Looking at electrolyte levels, especially sodium (Na) and Potassium (K) and the ratio between the two can also be

helpful, as dogs with primary Addison's will usually have high K and low Na levels, but note that secondary and atypical forms do not affect electrolyte balance.

### **How is it Treated?**

Once diagnosed with Addison's disease, treatment will allow your dog to live a happy and normal life. However, your dog will be on medication for the rest of its life and will need careful monitoring. All forms of Addison's require treatment with cortisol replacement hormones. If your dog has the primary type, it will need additional hormone replacement therapy to maintain electrolyte balance. There are a number of drugs available, and some dogs will respond to one drug better when compared with another. Dogs with Addison's disease cannot produce cortisol in response to stress so recognising your dogs stress triggers and avoiding them will help. Be aware that your dog will probably need additional cortisol at times of stress, injury or surgery. What a dog finds stressful will depend on its temperament.

### **How can you Avoid Buying a Dog with Addison's Disease?**

Addison's disease is probably genetic, but the path of inheritance is unknown. Breeders should therefore not breed from affected dogs or their close relatives. It may be caused by an environmental trigger, for example secondary Addison's may be caused by suddenly withdrawing cortisone medication. Currently there is no known genetic marker so the only test that can be done is to see if the adrenal glands are functioning. Ask the breeder about Addison's disease in the genetic lines of a dog or puppy you are considering purchasing.