



# CAYMAN ANIMAL HOSPITAL

## Addison's Disease (Hypoadrenocorticism)

Hypoadrenocorticism (commonly referred to as Addison's disease) typically affects young or middle-aged female dogs (the average age is about four to five years old). Any breed of dog can develop Addison's disease, although the majority of affected dogs appeared to be mixed breeds. Labrador retrievers, Rottweilers, and West Highland white terriers are diagnosed with Addison's disease more frequently than other breeds.

Hypoadrenocorticism or Addison's disease was named after a 19th-century English physician, Thomas Addison, who first described the disease in people.



The disease results from a deficiency of steroid production by the adrenal glands. The adrenal glands are two small structures located alongside each kidney. The main hormones produced by the adrenal gland are steroids. There are two major classes of adrenal gland steroids: one plays a major role in regulating sodium, potassium, and water balance. The other helps regulate glucose (body sugar) production and metabolism.

Destruction of 85 to 90 percent of the steroid-producing cells in the adrenal gland is necessary for symptoms of Addison's disease to appear. The cause of the disease is most commonly due to immune-mediated destruction of the adrenal glands. Less frequently, infections, inflammation, cancer, drug therapy, or abnormalities in blood supply to the glands can contribute to the development of Addison's disease.

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Secondary adrenal gland failure due to problems that affect a portion of the brain or pituitary gland may also occur, resulting in symptoms associated with Addison's disease. This is not due to an atrophy of the adrenal gland, but rather a disfunction of the control mechanism between the brain and the gland.

The disease and symptoms usually occur gradually. In the beginning, mild clinical signs only appear during periods of stress. Often, these initial symptoms go unnoticed. As the destruction of the adrenal glands continues, steroid production becomes inadequate even under normal conditions. Occasionally, Addison's disease can be diagnosed in dogs with relatively mild symptoms. However, it is common for dogs not to be diagnosed until a life-threatening crisis develops. In addition to vomiting and diarrhea, a dog with acute Addison's disease is extremely weak, possibly in acute kidney failure, hypothermic (low body temperature) and in a state of shock. This is an emergency condition and the dog must receive immediate veterinary care in order to save its life. If treatment is initiated within a reasonably short time, the animal can be stabilized successfully. Intravenous fluids are necessary, as well as the addition of minerals and corticosteroids.

Once the initial crisis passes, maintenance treatment with either oral or injectable mineralocorticoids, and for many dogs, oral glucocorticoids are necessary for life. Most dogs with Addison's disease do well with mineralocorticoid replacement alone, but others require glucocorticoid supplementation with prednisone.

Despite the serious nature of Addison's disease, the vast majority of dogs can be well controlled with medication. However, supplementing some dogs with glucocorticoid insufficiency is necessary during any period of stress.