

Desoxycorticosterone Pivalate (DOCP) for Addison's Disease

- Addison's disease occurs when the body cannot produce adequate amounts of certain hormones, including a hormone called *cortisol*.
- Desoxycorticosterone pivalate (DOCP) is an injectable medication used to help manage Addison's disease.
- Most pets with Addison's disease respond well to appropriate treatment and can live normal life spans.

What Is Addison's Disease?

Glucocorticoids (primarily cortisol) and *mineralocorticoids* are two important types of hormones produced by the body's adrenal glands. Under normal conditions, the brain releases a hormone called *adrenocorticotrophic hormone (ACTH)* that stimulates the adrenal glands to release their hormones. Addison's disease occurs when either the brain doesn't release adequate amounts of ACTH, or the adrenal glands fail to release their hormones in response to ACTH. The medical term for Addison's disease is *hypoadrenocorticism*.

Glucocorticoids and mineralocorticoids help regulate numerous complex processes in the body and participate in critical functions, including the following:

- Maintaining the body's fluid balance
- Maintaining the body's balance of sodium and potassium
- Maintaining the integrity and functioning of blood vessels
- Regulating blood pressure and blood flow to vital organs, like the kidneys
- Supporting cardiac function
- Controlling blood sugar levels and carbohydrate metabolism
- Helping to counteract the effects of stress
- Helping to maintain immune system function

The body has highly developed systems called *feedback mechanisms* that control how much of these

hormones the adrenal glands produce and release, based on the body's needs. During times of physical or emotional stress, the body tends to increase the production and release of glucocorticoids (cortisol) to help it deal with the stressful episode. In contrast, when the body is receiving cortisol from an outside source (like a cortisone pill or injection), it reduces the amount of cortisol that the adrenal glands produce.

In most cases, the cause of Addison's disease is not determined. Sometimes, the body's immune system can damage the adrenal glands' cells so extensively that they can't release hormones when they need to. In other cases, such as a brain tumor, the part of the brain that should release ACTH is unable to. However, Addison's disease can also occur if a pet that is

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receiving cortisol medication suddenly stops getting it. In this case, the body has reduced its own cortisol production and can't increase it quickly enough to compensate when the medication is discontinued. This is why steroid medications (such as prednisone) should not be discontinued suddenly, but must instead be gradually reduced and then discontinued.

Addison's disease is most commonly diagnosed in dogs, although it does occur rarely in cats. Young to middle-aged dogs are generally affected, and females are more commonly affected than males.

What Are the Clinical Signs of Addison's Disease?

The clinical signs associated with Addison's disease can vary greatly and can resemble those of other

diseases. They include the following:

- Vomiting and diarrhea
- Decreased appetite
- Increased drinking and urination
- Dehydration
- Weakness and collapsing episodes
- Abdominal pain
- Weight loss
- Weak pulses and slow heart rate

These clinical signs can vary in severity, and many owners report that the problems seem to “wax and wane,” sometimes seeming to resolve on their own and sometimes responding temporarily to very nonspecific treatment. Because pets with Addison’s disease have a reduced ability to handle stress, the emotional stress of visiting a boarding kennel or the excitement of a family gathering can cause clinical signs to resurface.

Diagnosis of Addison’s disease can be complicated; generally more than one type of test is needed to confirm a diagnosis.

What Is Desoxycorticosterone Pivalate (DOCP)?

Some pets with Addison’s disease arrive at the veterinary office in a state of life-threatening crisis. Low blood pressure, shock, dehydration, impaired heart function, and other complications of the disease can be fatal if not treated immediately and aggressively. In these cases, hospitalization for emergency intravenous fluid therapy and other stabilization is necessary.

In other cases, the clinical signs of Addison’s

disease are more subtle. As long as the pet is stable, treatment can begin on an outpatient basis.

The primary treatment for Addison’s disease consists of giving the body the adrenal gland hormones it is unable to produce on its own. Glucocorticoid supplementation commonly involves administering prednisone or hydrocortisone pills. Most pets also need mineralocorticoid supplements; these are available in pill and injectable forms.

A popular mineralocorticoid formulation is injectable desoxycorticosterone pivalate (DOCP); this medication can be given as an injection every 21 to 30 days. DOCP replaces a hormone that regulates sodium and potassium balance, promotes improved cardiac functioning and blood flow to the kidneys, and helps maintain the body’s blood pressure and fluid balance. DOCP injections are given into a muscle (intramuscularly). Your veterinarian can give injections at his or her office, but some pet owners can be shown how to give the injections at home.

Medications for Addison’s disease only replace missing hormones; they don’t cure the disease. Therefore, pets with Addison’s disease need to receive medications for the rest of their lives. Periodic veterinary examinations and repeat blood testing are required for the life of the pet, and sometimes medication dosages need to be adjusted. Your veterinarian may also want to discuss modifying your pet’s medication during times of stress, when the body’s need for these hormones may increase. Fortunately, pets that receive proper treatment for Addison’s disease can have a normal life span and enjoy a good quality of life.