Addison’s Disease
How it affects your dog

ZYCORTAL®
SUSPENSION (desoxycorticosterone pivalate injectable suspension)
What is Addison's disease?

Addison's disease is a condition in which a dog's adrenal glands are not working as well as they should. Medically, Addison's disease is also referred to as primary hypoadrenocorticism.

Dogs with the disease have lower than normal levels of glucocorticoids (cortisol) and mineralocorticoids (aldosterone). These hormones are vital to keep your dog's body functioning normally.

What causes Addison's disease?

The adrenal glands are two small glands that sit next to the kidneys. They produce essential hormones, including cortisol and aldosterone. In dogs with Addison's disease the adrenal glands have been damaged and are not producing these essential hormones as they should. Damaged adrenal glands can be a result of a number of things: hereditary auto-immune disease, tumors, injury, prescription drug side effects, infection or inflammation.

The damaged adrenal glands do not produce enough cortisol and aldosterone, and sometimes none at all. These hormones are vital to regulate many bodily functions such as metabolism, blood pressure, hydration and response to stress.

When a dog doesn't produce enough of these hormones it will become unwell and if the levels become very low it can be life-threatening.

Recognize the signs of Addison’s disease

Addison's disease is rare and the symptoms often mimic more common diseases. Symptoms are vague, and can wax and wane over time, which often causes a delay in diagnosing Addison's disease.

Diagnosis is not always straightforward. It takes time and as Addison’s disease often looks like other more common diseases with similar symptoms, you will need to give your veterinarian a thorough history of your dog’s health and onset of symptoms.

The more noticeable signs of Addison's disease are:

- Loss of appetite
- Lethargy
- Weakness
- Vomiting
- Diarrhea
- Weight loss
- Shivering, tremors and or muscle stiffness
- Depression
- Dehydration

Diagnosing Addison's disease

Your veterinarian will initially suspect Addison's disease based on the clinical signs your dog is showing. They will perform a thorough physical examination of your dog, and your dog will need to undergo a series of blood tests to confirm the diagnosis.
The Importance of Treatment

Treating your Addison’s dog is possible and consists of hormone replacement.

Treatment will help resolve your dog’s clinical signs. However, if left untreated Addison’s disease can be potentially fatal or may result in emergency hospitalization of your dog.

Treating with ZYCORTAL® Suspension (desoxycorticosterone pivalate injectable suspension)

ZYCORTAL Suspension is a long-term medication which replaces the missing aldosterone, the hormone responsible for maintaining hydration and blood pressure.

• Once your dog is diagnosed with Addison’s they will receive their first dose of ZYCORTAL Suspension immediately.

• To help determine the correct dose, your dog will need to return to the veterinarian for bloodwork approximately 10 days later and again 25 days after their first injection.

• Once the proper dose is established, your dog will need to visit the veterinarian around once a month to receive an injection of ZYCORTAL Suspension. Your veterinarian will determine the best timing for return visits.

• Your dog will also need a daily tablet to help replace the cortisol, normally secreted by the adrenal gland. You will be asked to give this to your dog at home.

It is important that you follow the instructions given by your veterinarian and attend all scheduled appointments for follow up blood tests and injections, as your veterinarian may need to adjust your dog’s dose.

Continuous care

There is no cure for Addison’s disease but treatment with ZYCORTAL Suspension will help to manage the symptoms. Your dog will need to be treated for the rest of its life.

Monitoring is important and regular examinations and bloodwork performed by your veterinarian will ensure your dog continues to get the best care. Monitoring will consist of measuring electrolytes, in particular the potassium and sodium levels.

Missing a dose of ZYCORTAL Suspension can be extremely detrimental to your dog’s health. Never miss a scheduled appointment or injection. Without the hormone replacement provided by ZYCORTAL Suspension, your dog will get sick again and could have a life-threatening emergency event.

ZYCORTAL Suspension is intended for long-term administration at intervals and doses dependent upon individual response.

As with all drugs, side effects may occur. In field studies the most common side effects reported were: increases in the amount of water consumed and frequency of urination, depression/lethargy, inappropriate urination, hair loss, decreased appetite, panting, vomiting, diarrhea, shaking/trembling, increased appetite, urinary tract infection, urinary tract incontinence and restlessness. ZYCORTAL Suspension should be used with caution in dogs with congestive heart disease, edema, severe kidney disease or liver failure. Dogs presenting in Addisonian crisis must be rehydrated with appropriate intravenous therapy before starting treatment with ZYCORTAL Suspension. Refer to the prescribing information for complete details or visit www.dechra-us.com.
ZYCORTAL®
SUSPENSION (desoxycorticosterone pivalate injectable suspension)

For subcutaneous use in dogs only

Mineralocorticoid

**CAUTION:** Federal law (U.S.A.) restricts this drug to use by or on the order of a licensed veterinarian.

**DESCRIPTION:** Desoxycorticosterone pivalate is a mineralocorticoid hormone. Chemically, desoxycorticosterone pivalate is C₂₆H₃₈O₄.

**INDICATION:** Use ZYCORTAL Suspension in dogs with primary aldosteronism (Addison’s disease), hypoadrenocorticism, or mineralocorticoid deficiency, including hypoadrenalinemic crisis.

**DOSEAGE AND ADMINISTRATION:** Prior to each use, reconstitute ZYCORTAL Suspension by gently swirling the vial to suspend the contents. Dosage and administration is based on the dog’s body weight. ZYCORTAL Suspension should be administered subcutaneously. Dosage guidelines are as follows: initial dose and subsequent doses.

**CLINICAL PHARMACOLOGY:** Desoxycorticosterone is a corticosteroid with primarily mineralocorticoid activity, similar to aldosterone. In the kidney, desoxycorticosterone causes sodium and chloride ion retention, and hydrogen and potassium ion excretion, creating an osmotic gradient. The osmotic gradient promotes water absorption from the renal tubules resulting in increased extracellular fluid volume, leading to blood volume expansion, improved venous return to the heart, and increased cardiac output. After subcutaneous administration, 11 mg/kg body weight (five times the labeled starting dose of 2.2 mg/kg) of ZYCORTAL Suspension, the plasma half-life (mean ± standard deviation) is approximately 17 ± 7 days, with a maximum concentration (Tₘ) of 13.2 ± 5 mg/mL, and time to maximum concentration (Tₘ) of 10 ± 3.5 days.

**EFFICACY:** A double-blinded, multi-site, 180-day field study evaluated the effectiveness of ZYCORTAL Suspension compared to an FDA-approved desoxycorticosterone pivalate active control. One hundred fifty-two (152) dogs of various breeds, 0.5–12.4 years of age and weighing 0.95–61.2 kg were enrolled. One hundred thirteen (113) dogs were treated with ZYCORTAL Suspension and 39 dogs were treated with the active control. Both groups were administered an initial dose of 2.2 mg/kg. Subsequent doses administered and/or frequency of administration were adjusted according to the clinical needs of the dog. A dog was considered a treatment success if it remained clinically normal or had improved clinical signs compared to baseline and the Na⁺ and K⁺ concentrations were within the reference range. Findings considered treatment-related included: subcapsular and cortical renal cysts, corresponding histologically with mineralocorticoid hyperplasia; decreased urine specific gravity concentrations in all treated groups; decreased chloride concentrations in the 3X group; decreased sodium concentrations in all treated groups; decreased potassium concentrations in all treated groups; increased sodium concentrations in all treated groups; decreased chloride concentrations in the 3X group; decreased blood urea nitrogen concentrations in all treated groups; and decreased urine specific gravity concentrations in all treated groups. Gross necropsy findings considered treatment-related included: subcapsular and cortical renal cysts, corresponding histologically with vascular tunica media hyperplasia; and irregular white plaques in the injection site subcutaneous tissue, corresponding histologically with granulomatous inflammation. Additional histology findings considered treatment-related included: chronic inflammation of the renal cortices, cortical tubular basophilia, cortical tubular dilation, glomerulopathy (3X and 5X groups), and adrenal gland vacuolization (3X group).

**STORAGE INFORMATION:** Store at controlled room temperature 25°C (77°F) with excursions between 15-30°C (59-86°F) permitted. Do not freeze. Use within 120 days of first puncture and puncture a maximum of 4 times.

**HOW SUPPLIED:** ZYCORTAL Suspension is supplied in a clear glass vial with 4 mL (100 mg) desoxycorticosterone pivalate (25 mg/mL).

**NADA 141-444, Approved by FDA** NDC 17033-382-04

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