

Hyperadrenocorticism (HAC) in Dogs

A Brief Guide • Part of the Educational Pet Disease Series from Lap of Love

Signs & Symptoms

Initial Symptoms

- Increased drinking
- Increased urination
- Increased appetite
- Large pendulous belly
- Frequent skin infections

Intermediate Symptoms

- Enlarged liver
- Dilute urine
- Thinning skin
- Thinning fur
- Panting
- Lethargy

Advanced Symptoms

- High blood pressure
- Bruising
- Comedones (black heads)
- Heat intolerance
- Dandruff
- Frequent urinary infections

Crisis Situations Requiring Immediate Medical Intervention

- Difficulty breathing
- Sudden collapse
- Uncontrollable shaking and panting
- Uncontrollable vomiting/diarrhea
- Crying in pain
- Seizures, coma

What Is It?

Hyperadrenocorticism (HAC), or Cushing's disease, is one of the most commonly diagnosed canine endocrine disorders. HAC can occur naturally or develop from chronic medication use (iatrogenic form). Over time, HAC exposes the dog's body to chronic steroid production due to underlying benign neoplasia or cancer of the adrenal glands located near the kidneys and/or of the pituitary gland located in the brain. The steroid of concern is called cortisol; cortisol is a common stress hormone produced by the body, but it can cause damage when there is too much in the blood stream for extended periods of time. Approximately 80% of dogs develop the pituitary form of HAC with the other 20% due to adrenal disease or chronic medication use. Of adrenal tumors, about 50% are cancerous and may spread to other areas of the body. The chronic cortisol elevation, regardless of the source, may cause symptoms such as increased thirst, urination, appetite, panting, weight gain, pendulous bloated abdomen, enlarged liver, symmetrical hair loss on the trunk, thinning skin, and bruising, among other signs. Proper diagnosis, treatment, management, and monitoring are essential elements for successful treatment. HAC is commonly seen in poodles, dachshunds, and terriers. The average reported age of onset is 8-9 years, and there is a mild female sex predilection. Long term, the dog's liver and kidneys may become affected, and many dogs may display concurrent illnesses such as diabetes.

Diagnosis

There is no specific test to diagnose HAC. An initial diagnosis is based on clinical signs and supported by bloodwork (ACTH stimulation test, low-dose dexamethasone test, urine cortisol creatinine ratio) and other diagnostics. Further testing may involve abdominal ultrasound to visualize the adrenal glands, blood pressure monitoring, blood and organ panels, urinalysis, and thyroid testing. The diagnostic goal is to confirm a diagnosis of HAC then differentiate between pituitary and adrenal forms, consider whether the mass or masses may be benign or cancerous, and to then determine prognosis and treatment. CT, MRI, and biopsy of the tumor are ideal to determine characteristics such as benign versus malignant, and visualization of the tumor via methods such as CT, MRI, and abdominal ultrasound can also identify local tumor invasion and metastasis (the spread of the cancer to other areas of the body).

Treatment and Management

Several treatment options are available, however, it is important to note the most common therapies typically do not cure the disease but only help to manage clinical signs. Medications, generally oral pills, reduce excess cortisol production by either destroying layers of the adrenal gland or blocking steroid production, which will in turn reduce the severity of the clinical symptoms at home. Cancerous tumors may respond to medications, but unfortunately not as well or for as long as the non-cancerous tumors. Dogs with malignant cancer, such as an adrenal or pituitary carcinoma, may benefit from surgical or laparoscopic remove of the gland(s), however these procedures are expensive and risky surgeries that are best performed by a specialist. Pituitary tumors may respond to radiation as well. There are many herbal, supplemental, and holistic options for adjunctive therapy that may be used safely, but they require consultation with a holistic veterinarian in order to be safe. Oral therapy is generally life long, and follow up testing, dose adjustments and/or medication changes will likely be required for the remainder of the pet's life.



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Prognosis

Most dogs affected with the non-cancerous forms of HAC respond well to medical management. Cancerous adrenal or pituitary tumors, though they may respond to medical management to reduce symptoms, generally have a guarded prognosis and may spread to other areas of the body. It is possible to surgically cure pets with complete removal of the tumor, though uncommonly performed. Treatment and management of other concurrent illnesses is necessary. Due to the non-specific and varied nature of the disease, communication with your veterinarian and consistently re-visiting options and follow-up testing are important for an individualized treatment plan for your pet.

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Management Tips

Consider providing:

- Easily accessible food and water
- Consistent measured meals
- Cool areas for your pet to lay
- Low stress activity and stimulation
- A doggie door for smaller dogs in warm climates with fenced yards
- A dog walker during the day as many dogs will need to go out often since their disease increases thirst and urination
- Pee pads and diapers if needed

Try to:

- Be consistent with medications
- Track appetite, urination, defecation, weight, energy level, etc.
- Limit stress (kids, noise)
- Avoid steroid medications
- Keep up with preventative care
- Consult with a specialist
- Address concerns ASAP
- Avoid adjusting medications without talking to your veterinarian first
- Consult with a holistic veterinarian before starting natural remedies

Cats can be diagnosed with HAC though it is incredibly rare. Before your pet's condition becomes unmanageable or they are losing quality of life, it is important to begin end-of-life care discussions. Learn about pet hospice care and/or euthanasia services in your area so you are prepared.