

Autoimmune Skin Disease in Dogs

What is an autoimmune disease?

The term *autoimmune* is a confusing one.

"...immune system attacks itself by mistake..."

Our bodies have an immune system that protects us from foreign invaders that can cause disease and infection; however, if you have an autoimmune disease, your immune system attacks itself by mistake, causing illness. The immune cells fail to distinguish the body's normal healthy cells from foreign cells and thus try to destroy the normal tissues. The cause of this "mistake" is not well understood. Autoimmune disease can affect a single system or multiple body systems. Autoimmune diseases can affect skin, connective tissue, nerves, muscles, the endocrine system (the system that controls hormones and other chemicals), and the digestive system.

What causes autoimmune disease?

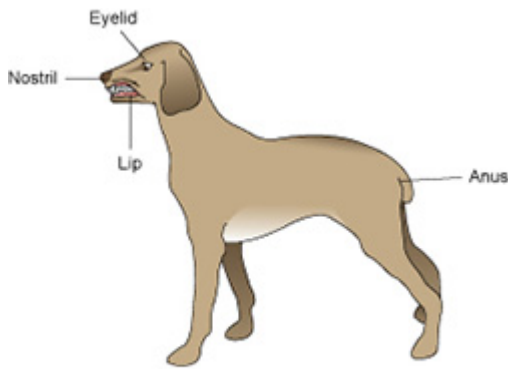
"...some theorize that genetics and/or environmental pollutants play a role."

The cause or causes of autoimmune disease are not understood, although some theorize that genetics and/or environmental pollutants play a role. Early recognition is extremely important. Left untreated, the complications of autoimmune disease are serious and multiple system involvement is common. This can make diagnosis and treatment very challenging and complicated.



What are some of the common autoimmune skin diseases in dogs?

Autoimmune skin diseases are relatively rare in dogs. Some of the more common forms of autoimmune skin disease include:



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Pemphigus complex

Pemphigus is a group of four autoimmune skin diseases characterized by vesicles and bullae (large and small "blisters") in the mouth and at mucocutaneous junctions (the junction between skin and mucosal tissues). Commonly affected areas include the eyelids, lips, nostrils, and anus.

Pemphigus Foliaceus – The term means "leaf-like pemphigus" and this is the most common immune-mediated skin disease of dogs and cats. Pemphigus foliaceus is rarely found in the mouth or at mucocutaneous junctions. In this form of pemphigus, the patient develops crusts (scabs) and ulcers around the eyes, ears, footpads, groin and bridge of the nose. The Akita is reported to have a high incidence of this condition. Pemphigus foliaceus usually appears

suddenly without a recognized cause, but in some cases, it may be drug-induced or can be the result of years of chronic skin disease.

Pemphigus vulgaris – The term means "common pemphigus" and it is the most frequent form of pemphigus in humans. Fluid filled blisters called "vesicles" form in and around the mouth, eyelids, lips, nostrils, anus, prepuce or vulva. These vesicles rupture easily, creating painful ulcers.

Pemphigus erythematosus – The term means "red and inflamed pemphigus" and its most common symptom is redness, crusting, scales and hair loss on the nose. Exposure to ultraviolet light worsens this form of pemphigus.

Pemphigus vegetans – This form is typified by thick and irregular vegetative lesions or lumps associated with chronic "oozing" and pustules. It is believed to be a more benign form of pemphigus vulgaris.

Bullous Pemphigoid

Bullous pemphigoid may sound like a form of pemphigus, but it is actually a different type of autoimmune skin disease. *Bullous* is the medical term for a large thin-walled sac filled with clear fluid. Usually the skin is very itchy and large red welts and hives may appear before or during the formation of blisters. Vesicles and ulcers may be found in the mouth, at mucocutaneous junctions, and in the axillae (armpits) and groin. Evaluation of the vesicles is critical to the diagnosis and because they rupture quickly after formation, the dog must often be hospitalized and examined every two hours until adequate biopsies can be obtained. Bullous pemphigoid resolves spontaneously in many cases.

Systemic lupus erythematosus

The classic example of a multi-systemic autoimmune disease is *systemic lupus erythematosus* (SLE), commonly referred to as *lupus*. Lupus is often called the "great imitator" because it can mimic almost any other disease state. The signs of SLE may be acute (sudden onset) or chronic, and usually they wax and wane. A fluctuating fever that does not respond to antibiotics is one of the classic clinical signs of SLE. Stiffness in the legs or shifting-leg lameness is also frequently reported with SLE. Other clinical signs may include blood abnormalities such as hemolytic anemia, thrombocytopenia (low platelet numbers), and/or leukopenia (a low white blood count), or a symmetrical dermatitis, especially over the bridge of the nose (often called a "butterfly lesion").

Discoid Lupus Erythematosus (DLE)

Discoid lupus erythematosus (DLE) is another autoimmune skin disease seen in dogs and rarely in cats. Another common name for this condition is "collie nose." Usually, the dog loses its pigmentation around the dog's nose, although the skin around the lips, eyes, ears and genitals may be affected. DLE can transform the surface of the nose from its normal "cobblestone" texture to smooth, flat and shiny. Ulcerated sores may occur. Some dogs find the disease irritating while others don't seem affected by it. DLE may be a non-systemic, less-serious type of systemic lupus erythematosus (SLE).

Are there autoimmune diseases that affect other body tissues in the dog?

Yes. Examples of autoimmune diseases affecting tissues other than the skin are:

- Autoimmune hemolytic anemia (reduction of red blood cells)
- Immune-mediated thrombocytopenia (destruction of clotting cells)
- Irritable bowel syndrome
- Immune-related arthritis (polyarthritis)

How is autoimmune skin disease diagnosed?

"...a biopsy of the affected skin is needed."

To definitively diagnose autoimmune skin disease, a biopsy of the affected skin is needed. Depending on the location, a skin biopsy may be performed with a local anesthetic. However, if the affected area involves the nose or face, or if the patient is anxious, sedation or general anesthesia may be required. A small round block of skin is removed with an instrument called a *punch biopsy*. This tissue sample is then sent to a veterinary pathologist to determine the diagnosis.

How is autoimmune skin disease treated?

The general treatment for autoimmune skin disease is immunosuppression. This means that your dog will receive drugs to reduce or attenuate the reaction of the immune system, that is causing the disease. For many dogs, treatment with prednisone or dexamethasone will be sufficient. Other dogs require stronger immunosuppressants such as azathioprine, chlorambucil or oral cyclosporine. If secondary bacterial infections are present, antibiotics and medicated baths will be used. Your veterinarian will determine the optimal treatment plan for your dog's condition.

What is the prognosis for autoimmune skin disease?

The prognosis for autoimmune skin disease depends on your dog's specific diagnosis and the severity of symptoms.

"This is a potentially life-threatening condition..."



Biopsy Punch

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In general, this is a potentially life-threatening condition requiring extensive diagnostic tests and treatments. Autoimmune disease is rarely curable, but is often controllable with the appropriate medication.

This client information sheet is based on material written by: Ernest Ward, DVM

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