

# Allergic Reactions



*Causes and treatments.*



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THE TERM ALLERGY WAS FIRST USED BY AN Austrian physician in 1906 and describes a situation where the body's immune system overreacts and results in self-injury. The allergic reaction is in response to a specific substance (allergen) and affects some individuals but not others, which differentiates it from infections. Today, the term hypersensitivity is used synonymously with allergic reaction and occurs when an allergen (dust, mold, insect saliva, wool, etc.) enters or contacts the animal's body. In response to the allergen, a component of the immune system called IgE is activated by the horse's body and starts a cascade of chemical events that results in the release of histamine. Histamine then stimulates the development of a number of allergic reactions. Allergies in the horse, and the symptoms they create, vary with the allergen encountered and the body system affected. The horse can develop a hypersensitivity reaction to virtually hundreds of allergens, but we'll focus on the major types that are commonly encountered by horse owners.

## **COPD**

Chronic obstructive pulmonary disease, also called heaves, broken wind and equine asthma, is similar to asthma in people. It is a progressive illness and is caused by the horse developing hypersensitivity to inhaled allergens such as pollens, molds and fungal spores. The hypersensitivity reaction causes nasal discharge and narrowing of the lungs and airways. The condition, if left undiagnosed and untreated, can cause the tissue of the lungs to be irreversibly damaged. The most common symptoms of heaves are chronic cough, mucus discharge from the nose and forced expiration. With time, the horse

develops a "heave line" diagonally across the ribs as muscles thicken in an attempt to force air out of the lungs. If untreated, the condition can lead to decreased performance and eventually death. Treatment is aimed at removing the causative agent, as well as reducing lung inflammation and dilating the horse's bronchioles.

## **Sweet Itch**

Another serious type of allergic reaction is sweet itch (summer eczema), a horse's reaction to the saliva from the bite of a number of insects including mosquitoes, midges and "no see ums." The intense itching caused by the reaction and the subsequent rubbing to obtain relief causes hair loss and wounds on the neck, mane, pole, back and base of the tail. The affected skin thickens and eventually develops a gray, scaly appearance. These horses are extremely uncomfortable and constantly rub against fence posts or stall walls to relieve the intense itching. Treatment is aimed at removing the insect cause of the reaction and the administration of anti-inflammatory drugs.

## **Urticaria**

Urticaria is the medical term for hives or nettle rash. The cause is an allergic reaction of the skin to a variety of substances such as food (molds in hay and straw, proteins in high-protein feeds), drugs, vaccines or pollens. The reaction causes the skin to swell into raised plaques of variable size, which become itchy and might ooze serum. Swelling of the eyelids and nostrils is common. I've seen horses develop hives all over their body within minutes of receiving a vaccination or drug injection. Again, treatment is aimed at identifying the causative allergen and eliminating it. Supportive anti-inflammatory and antibiotic drugs are also indicated in serious cases.

## **Sweat Eczema**

Finally, sweat eczema (contact dermatitis) is a hypersensitivity reaction that causes loss of hair and hives where the saddle or harness contact the skin. The reaction is to substances contained in the leather, saddle cloth, wool saddle blankets, tan- [CONTINUED ON PAGE 328]



*For more information on keeping your horse healthy, consult an American Association of Equine Practitioners-member veterinarian in your area. For a list of members, log onto [www.aaep.org](http://www.aaep.org).*

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ning agents in the leather, or ointments and lotions. Again, treatment consists of removing the causative agent and implementing supportive therapy. Saddles and harnesses can also spread bacteria or fungi that cause skin infections and require disinfection of the tack and treatment of the horse with antibiotics.

It should be obvious that the most difficult problem in all of these allergic conditions is determining the allergen or agent that is initiating the response in the horse. A complete examination and diagnosis by a veterinarian is the first step before treatment is attempted. The diagnosis relies on history, physical examination and a battery of diagnostic tests. Blood tests to measure IgE are conducted to determine if an allergic reaction is occurring.

Skin biopsies are often indicated in horses suffering from allergic skin reactions. In addition, skin tests using a battery of allergens can be conducted to specifically determine the causative agent. The test is conducted by shaving an area on the horse's neck. Tiny amounts of a number of allergens are then injected just under the skin. An allergic response is demonstrated by the appearance of a small swelling at the injection site. Once the causative agent has been determined, it can be removed from the horse's area or the horse can be given decreasing doses of the allergen in an attempt to desensitize it to the agent.

Allergies are a major problem in many horses and very difficult to diagnose. If your horse is suffering from any of the conditions discussed in this column or has a recurring problem that doesn't resolve, contact your local veterinarian. Be prepared to give a detailed history on the horse's surroundings, types of feed, tack used and when the condition appears. 

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