

## SKIN PROBLEMS IN PETS

Dogs and cats suffer from many problems that affect their skin. It is important to understand that the skin is an organ, just as the liver and kidneys are organs. The skin functions as a barrier to protect the body from infection, caustic substances, ultra violet light and dehydration. Good health and proper function of the skin is dependent on the health and function of the other organs that make up our pets' bodies.

Diseases that affect the skin can be placed into one of two categories, primary and secondary skin disease. Primary skin diseases are those that affect the skin directly, such as mange or flea and tick hypersensitivities. Secondary diseases are those that initially involve other organs, and thereby affect the skin, such as hypothyroidism.

The diagnosis and treatment of skin diseases can be difficult and time consuming. The following are some of the common diseases and conditions affecting the skin. A brief description of their diagnosis and treatments is provided.

**ALLERGIES:** Humans with allergies usually react by sneezing, but your pet reacts by scratching. Both you and your pet are reacting to an allergen, which is a substance that causes sensitivity. Most allergens are inhaled, but a few are the contact type, such as an allergy to wool. Some allergens are found in food, most commonly corn, wheat, soy, beef and dairy products. The first signs of allergic reactions are scratching, licking, biting or rubbing the skin. This can lead to infection characterized by red bumps and pimples. Because of the discomfort, it is important to get professional help as soon as possible.

**BACTERIAL INFECTION:** A bacterial infection is common, but is usually secondary to another underlying disease such as an allergy. Treatment for bacterial infections may include antibiotics, either given orally or topically. It is important to seek professional help to treat the bacterial infection while searching for the underlying disease.

**HOT SPOTS or ACUTE MOIST DERMATITIS:** Hot spots are usually a result of self-trauma and occur as your pet tries to relieve itself from some pain or itch. Treatment includes thorough cleaning, topical and systemic antibiotics, and anti-inflammatory agents.

**PYODERMA:** Pyodermas include a wide range of infections that result in the formation of pus. Pyodermas vary in severity. Treatment is similar to that for hot spots, but typically is longer-term. Shampoos and rinses are also helpful.

**ATOPY or ALLERGIC INHALANT DERMATITIS:** Atopy is a very itchy skin disease that is the result of allergies to microscopic particles in the air. Diagnosis is based on clinical presentation and absence of other causes such as ectoparasites. Treatment includes dietary supplements, antihistamines and steroids and is often long term. In refractory cases, skin allergin testing and hyposensitization may be helpful. Shampoos and rinses are also often helpful.

Ectoparasites (external parasites): External parasites include mites, fleas and ticks. These parasites break the barrier formed by the skin and allow bacterial infections to occur. They also may lead to allergic conditions. Diagnosis is achieved with gross observation and microscopic examination of skin scrapings. Treatment depends on the parasites present and includes antiparasitic drugs and antiparasitic shampoos and rinses.

**FUNGAL INFECTIONS:** These include *Malassezia* sp., Dermatophytosis (Ring Worm) and Dermal Coccidioidomycosis. Diagnosis is achieved via culture of the organisms, microscopic examination of skin scrapings, and blood tests that identify antibodies for *Coccidioides immitis*. Treatment includes topical and systemic antifungal drugs and antifungal shampoos and rinses.

**FOOD ALLERGIES:** Food allergies often manifest themselves as skin problems. Food allergies are usually diagnosed by ruling out other possible conditions. Treatment is trial feeding of hypoallergenic diets for a minimum of six weeks.

**IRRITANT CONTACT DERMATITIS:** Contact allergies are diagnosed based on history of contact and clinical presentation. Treatment involves washing the exposed areas to remove the irritant. Patients experiencing itching are given steroids for a short period of time. It is important to prevent re-exposure.

**AUTOIMMUNE SKIN DISEASES:** There are several autoimmune skin diseases, and the foundation of diagnosis is surgical biopsy. Treatment includes combinations of dietary supplementation, steroids and immune modulation drugs.

**SECONDARY SKIN DISEASE:** Secondary skin diseases, such as hypothyroidism, are diagnosed via clinical testing for the underlying disease. Diagnosis often requires blood tests, biopsies and X-rays. Treatment of the underlying condition usually results in improvement of the skin problems.

## **DIAGNOSIS and TREATMENT**

Your pet's skin problems often combine two or more of the previously mentioned diseases. For example, flea infestation hypersensitivity can lead to pyoderma. Because of the complicated interactions between the skin and other organs within the body, and due to skin's varied response to insult, diagnosis and treatment of skin diseases may be difficult and time consuming.

The skin scrape is the mainstay of diagnoses. Several small areas of your pet's skin are shaved to remove hair. A scalpel blade is used to scrape up the top layers of skin. The resulting material is viewed under a high-powered microscope. In addition to skin scrapes, blood tests and surgical biopsies are necessary to diagnose some skin diseases.

Treatment of skin disease may include steroids, antibiotics, antihistamines, topical drugs, antifungal drugs, shampoos and rinses, dietary supplementation, or modification and surgical removal of masses. In some cases, therapy must be continued for months, and even for life.

*(Information provided by Dr. Brett Hinsch, Animal Health Hospital.)*