

Skin Problems in dogs & cats





What is skin?

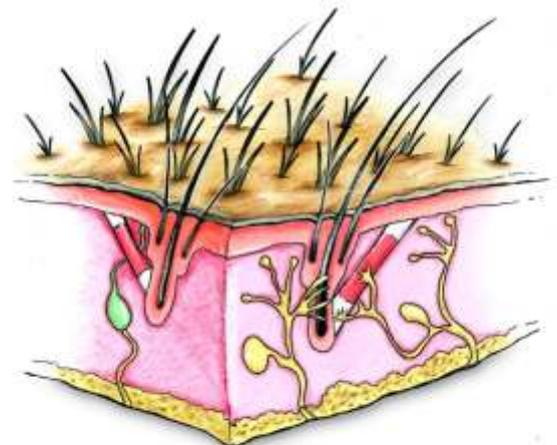
The body's overall protective mechanism is the skin layer which covers the whole surface of the animal. Any breach to this secure layer can mean infection, inflammation and secondary problems.

The skin consists of the external epidermal layer of thickened cornified cells that are periodically shed throughout the lifetime of the animal.

Under this is the dermis, a thicker layer from where skin cells are generated and hair follicles and sebaceous glands arise. The subcutis is a fatty layer between the skin and muscle.

Always remember that the ears are really just skin folding over and forming a canal. So any skin problem may be seen in the ears and may even be worse in the ears due to a lack of air flow, increased humidity and inability to thoroughly be cleaned.

We'll discuss some of the common skin problems we see in pets in the in the following pages.



Infection

Malassezia

Malassezia is a microscopic yeast or fungus that is a normal organism living on all animals. It will multiply in moist, dark areas with reduced airflow.

It is commonly found in large numbers in the ear canals, between the digits and in facial creases, skin folds and around external genitalia.

Malassezia can be difficult because it does not respond to the use of antibiotics or antifungals, rather treatment needs to be performed topically with a miconazole medicated wash. Contact time between the malassezia and the medication is required before washing off.

Staphylococcus

Staphylococcus is the bacterial cocci that is on all animal's skin and it too will multiply in the same areas as Malassezia.

Staphylococcus intermedius is the species of bacteria that normally is associated with skin infections. General antibiotics are effective to kill the bacteria but care must be taken to ensure infection is fully resolved before halting medication as this bacteria tends to recur quickly.

Parasites

Demodex

Demodex canis is the demodectic mange mite that is usually found to cause skin problems to young growing pups with short coats.

Demodex does occur naturally on dogs and can only be passed on by close contact - normally between parents and young or litter mates. This parasite only causes a skin problem in large numbers when the body has been put under stress, such as during puppy growth.

The whole life cycle occurs on the dog and so treatment is extended for at least 6 weeks. Medications used may be topical or oral.

Sarcoptes

Sarcoptes is another skin mite seen in dogs that may have been in areas where foxes are.

This skin mite burrows under the skin like Demodex but is more difficult to find on microscopic examination. It is severely itchy to the animal and most irritation is around the ears and neck.

Ticks

Ticks can cause a local reaction by the mouthparts being inserted into the epidermal layer and blood being withdrawn. The body will cause an inflammatory reaction of heat, redness and swelling to the local area in an effort to make the tick pull out and drop off.

Unfortunately this doesn't work and the tick is usually there long enough to cause paralysis in most animals and a local reaction known as a tick crater.

Midges and Mosquitoes

Midges or mosquitoes can cause local allergic reactions to the skin. This involves redness, swelling, hives and inflammation.

Some pets will develop an allergy to the saliva of the mosquito or midge and start to scratch and rub, breaking the skin barrier and leading to secondary infection.

This is commonly seen on the ear tips in dogs such as German Shepherds as a fly bite dermatitis and in cats on the nose as a mosquito bite allergy.

Treatment can involve removing the source by repellents or housing the animal at specific times of the day.

Medicated creams and repellents can be obtained from the clinic, and the vet may need to prescribe an injection in some severe cases.





Inflammation

This is the body's natural response to attack. The skin will tend to become hot as blood flow is increased to the area.

It can be itchy or pruritic so as to make the animal scratch and lick to remove the attacker. Wheals (raised itchy area) can develop, secondary pustules and papules too, with infection taking hold.

The problem our pets have is they cannot resist the temptation to scratch and rub and bite and lick at the area. This only makes the skin condition worsen, leading to secondary infection. Licking at the paws, scratching the ears, rubbing the base of their tail further irritates the skin and allows more infection.

What is the treatment?

Treatment of this inflammation can involve physical restraint using an Elizabethan collar, the use of cortisone or antihistamine creams and the use of cortisone or

antihistamine orally.

Problems with the side effects of medications has lead to further development of the use of cyclosporine though this is still very expensive. Antibiotics and antifungals can be used to reduce the secondary infection.





Flea Allergy Dermatitis

The cat flea (*Ctenocephalides felis*) is the only flea that exists. It is known as a cat flea, grass flea, dog flea, baby flea etc but they are all describing the one type of flea.

Fleas undergo a lifecycle that involves needing to feed on blood from a warm blooded host such as our pet dog or cat. It is interesting to note however that 95% of the time the flea is not actually on the animal, rather in the environment. This is often the reason that we have difficulty in eradicating a flea population from a particular household.

Fleas have the ability to jump onto a nearby passing host, sensing the host is there by vibration and heat. This is why you may suddenly get flea bites when walking into a house that has not been lived in for a while, that previously had a flea infestation. You may also notice this when you return from holidays!

The flea can withstand a long period of egg or larvae hibernation of up to a year, waiting until the environmental change is just right for emerging to feed. The blood meal required by the female flea to allow her to lay eggs is obtained by inserting its mouthparts into a small capillary at the epithelial layer of the skin.

To prevent the blood from clotting as they withdraw the blood, the flea will insert a small amount of saliva. It is this saliva or protein that actually causes the allergy to the flea. It is not just the stimulus from fleas crawling over the pet that causes the scratching, rather the allergy to the saliva protein that the flea injects into the animal.

The response naturally of the skin to a foreign protein is to make the area hot and inflamed, producing its own proteins to bind up the flea protein and cause the animal to

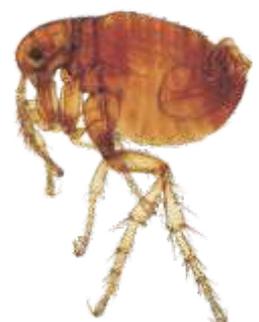
scratch at the itchy site to remove the offender.

The problem we have in animals with a sensitivity to the flea protein is that this allergic reaction can be very pronounced, extended and can cause secondary infections once the skin surface barrier is damaged. Pets can continue to scratch for several weeks after a single flea bite!

Control of the flea allergy dermatitis is multifaceted. Of course eliminating the flea is necessary to prevent further stimulus of the reaction. This can be done by using a number of products, some more effective than others in different environments and individuals. Some examples include the spot on products, chemicals in collars, sprays and rinses. Each will last a variable amount of time and our veterinary staff can advise you of a product best suited to your pet's circumstances.

The other factors to consider with the flea allergy is controlling the inflammation and infection. Medications can be either topical (but too often these are licked off by the animal) or parenteral (oral or injected). Many of these preparations include cortisone, antihistamines and in some, antibiotics. The veterinarian will prescribe these as needed.

Environmental prevention of flea allergy dermatitis can include the simple act of not providing the flea with an ideal environment. We can obtain this by regular washing and drying in the sun of all the pet's bedding and rugs, limiting the pet's exposure to dark, damp areas around the host and yard, and treating the environment with flea control chemicals.





Atopy

This is the term used to describe a contact or inhaled allergy. Atopy is typically seen as a seasonal allergy in that whatever the pet is having the allergy to is only at the stage of growth, seeding, flowering to cause the allergy at a certain time of year.

Humans see this problem as “hayfever” , exhibiting sneezing, runny, swollen, inflamed eyes, occasional wheezes or flares and itchiness. Animals with this type of allergy often experience similar clinical signs, though they tend to do more damage to themselves via scratching, licking and biting at the areas affected, than people do.

The most common areas to see the irritation in include the paws, front legs, jaw and chin, corners of the mouth, ears and under the belly. As with the flea allergy, a secondary infection may occur after the skin barrier is damaged.

Treatment is similar to the flea allergy - using creams or injections and tablets. Recently a drug known as cyclosporine has shown some favourable response with limited side effects compared to cortisone.

Pictured below are some of the most common allergy producing plants. Do you have any of these plants in your garden?

Rhoeo / Moses-in-a-boat



Wandering Jew



Paspalum



Purple heart





Food Allergy

Again, this is yet another stimulus that can cause an allergy whereby the scratching leads to a break in the skin barrier, further inflammation and possible infection.

Food allergies vary between species and individuals but generally dogs show more allergies to red meat and wheat or soy and cats show more allergies to fish and milk.

Treatment involves an elimination diet. This can be done naturally by only feeding a single protein and a single carbohydrate source for up to 6 weeks.

Once the allergy has settled, a new variable can be added to see if it sparks off a reaction. The easiest and most effective way however is to feed your pet a manufactured allergy diet that we can supply from the clinic.

Specific Allergy Diagnosis

Skin allergy testing and blood allergy testing can be done either in house or by a specialist.

This process is the same as in humans whereby small amounts of a set number of common allergens in our area are pin pricked into the skin and a reaction is seen at the site if the animal is allergic to that substance.

From this, an elimination process can occur in the environment or an autogenous vaccine can be made up and injected into the patient periodically over time to desensitize the animal to that substance.



Smelly Skin

Any smell associated with the skin is due to infection. This may be bacterial or fungal.

Characteristics of infected skin can be seen as

- Thickened or lichenified elephant like skin
- Black, greasy, sticky skin,
- Dry scurfy, dandruff like skin.

Each type may need a different therapy to bring it back to normal. The skin barrier is very important and in general to get a smelly skin, this barrier must be broken, so skin irritation by allergies are often compounded by skin infection.

Washing and Shampoo

Cleaning your pet by washing with a shampoo should be limited to only as necessary to control dirt, smell, skurf, organic material, infection or inflammation.

We recommend not to wash more than every 2 weeks unless with a medicated shampoo under direction of the veterinarian. Many supermarket type shampoos will strip the oil out of the skin and damage the protective layer that is normally on the skin. Medicated shampoos take this into account and are manufactured to not cause any stripping of oil from the coat.

A natural shampoo of neutral pH is required for general washing. An antibacterial and / or antifungal shampoo is needed for infected skin and may be used up to twice a week.

These medicated washes often rely on contact time with the skin and so must be left

on the coat for 10 minutes before washing off. Follow up conditioners can extend the antibacterial action and so reduce the number of washes per week needed. Some shampoo is soothing and helps to strip dead skin layers off the surface. Oatmeals and aloe vera are common ingredients in these.

Do not use human shampoo on dogs or cats. Yes, even woolmix or sunlight soap can cause damage to the skin barrier! Some animals will tolerate these products with no external signs of complication but we always see some animals that have a poor response to these and it is possible they can do more harm.

Diet

Another important matter to think about in skin protection is that of the diet.

Food can cause allergies and food can also compound other skin problems even if the pet is not specifically allergic to a food type. A well balanced diet is necessary for total body health and this does include the skin.

The correct ratio of Omega 3 and 6 fatty acids is necessary to balance the skin's protective layer. A **premium** quality food of guaranteed analysis is much better to use than a food or foods that continually change their type and amount of ingredients.

Changes in food should always be done slowly by mixing old with new as a sudden change can upset both the gastrointestinal tract and the skin barrier.

We will recommend the best food for your pet.