Allergies and Atopy in Cats

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Veterinarians who limit their practice to cats and dogs see a lot of skin problems. There are numerous conditions that cause problems with
a cat or dog's skin, but the most common, by far, is allergies.

Symptoms of allergies

In cats, the more common symptoms of allergies are:

- Pulling out tufts of hair
- Miliary dermatitis (crusty papules)
- Eosinophilic plaques (look similar to hot spots in dogs)
- Linear granulomas (long, thin, red lesions)
- Hair loss
- 'Twitchy' skin
- Mutilated skin

A cat who is allergic to something will show it through skin problems and itching, i.e., pruritus. It may seem logical that if a cat is allergic to something she inhales (atopy) like certain pollen grains, she will have a runny nose; if she is allergic to something she eats (food allergy) such as beef, she may vomit; or if allergic to an insect bite (urticaria or hives), she may develop a swelling at the site of the bite. In reality, the cat will seldom have these signs. Instead, she will have a mild to severe itching sensation over her body and may develop a variety of skin lesions.

> A cat who is allergic to something will often have skin problems and itching.

The skin lesions of the allergy are often the ones the cat produces by mutilating her skin through chewing, licking, and scratching. Allergic cats often groom excessively and pull out large amounts of hair. Their skin may appear sensitive, often twitching. The lesions they have on their skin can be very small crusts to large areas of oozing red skin. It is very common to get secondary bacterial infections of the skin due to these self-inflicted lesions.

Allergens

When a cat is allergic to something, her body is reacting to certain molecules called 'allergens.' These allergens may come from:

- Trees
- Grass
- Weed pollens
- Fabrics such as wool or nylon
- Rubber and plastic materials
- Foods and food additives such as individual meats, grains, or colorings
- Milk products
- House dust and dust mites
- Flea bites

The body's response to an allergen

The reason that all these allergens cause itchy skin is that, simplistically, when allergens are

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inhaled, ingested, or come in contact with the cat's body, they cause the immune system to produce a protein referred to as IgE. This protein then fixes itself to cells called 'tissue mast cells' that are located in the skin. When IgE attaches to these mast cells, it causes the release of various irritating chemicals such as histamine. In cats, these chemical reactions and cell types occur in appreciable amounts only within the skin.

Genetic factors and time influence allergies

Remember that pets must be exposed to the allergen for some time before the allergy develops. Exceptions may occur such as an allergy to insect bites, which may develop after only a few exposures. The pet's body must learn to react to the allergen. It is a learned phenomenon of the immune system that is genetically programmed and may be passed from generation to generation.

In pets, allergies usually start to develop between one and three years of age. They may start as late as age six or eight, but over 80% start earlier. To make matters worse, as the animal ages, she usually develops allergies to additional things and the response to any one allergen becomes more severe.

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Diagnosing allergies

Most allergies are the inhalant type and are seasonal (at least at first). The cat may be allergic to a certain tree pollen that is only present in the environment for three weeks out of the year, or the allergy may be to house dust mites which are in the environment year round.

A definitive diagnosis of an allergy and determination of exactly what the animal is allergic to can only come in one of two ways:

1. Allergy testing (intradermal or blood testing)
2. Eliminating things individually from the animal's environment until the culprit is isolated (this method is most often used when food allergies are suspected)

In some instances, it may not be necessary to determine the exact allergen causing the problem. For example, every year, in the same month, the cat starts licking excessively and develops pinpoint scabs on her head and body (miliary dermatitis). The veterinarian chooses either a tablet and/or single injection that will suppress the allergy for the 3-4 weeks necessary. In two days, the animal is back to normal and only has to wait until the following year when he or she will be returned with the same problem.

Unfortunately, things just do not always go that well. A more common scenario in a cat, for instance, would be the development of eosinophilic plaques that develop in an older cat. The lesions may tend to wax and wane, but they never completely go away. Many visits to different veterinarians and the use of various treatments never completely resolve the problem.

Treating allergies

Avoidance

This can be a very important part of managing atopy. While it may be impossible to completely eliminate all of the offending agents, many can be reduced with minimal effort on the part of the owner. For avoidance therapy to have any benefit, the offending agents must be identified through intradermal skin testing. Avoidance is rarely a complete treatment in itself, but is used in conjunction with other treatments.

Allergen	Avoidance Suggestions
House dust	Keep pets out of room several hours when vacuuming Change furnace filters regularly
House dust mites	Use a plastic cover over pet's bed Wash bedding in very hot water Avoid letting pets sleep on stuffed furniture Avoid stuffed toys Keep pets in uncarpeted rooms Run air conditioner during hot weather Change furnace filters regularly

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Molds	Keep pets out of basements Keep pets indoors when the lawn is mowed Avoid dusty pet foods Clean and disinfect humidifiers Use dehumidifiers Avoid large numbers of houseplants
Pollens	Rinse the cat off after periods in high grass and weeds Keep pets indoors during periods of high pollen season Use air conditioners

Topical therapy

Topical therapy consists of shampoos and rinses and topical anti-itch solutions. Topical therapy offers immediate, but short-term relief. Cats can be bathed, and many do not resent it as much as you think they will. I recommend using a hypoallergenic shampoo or colloidal oatmeal shampoo. Hydrocortisone shampoos may also be used.

Topical solutions containing hydrocortisone offer some relief. They are the most practical in treating localized itching. Cats tend to lick off these preparations. But the use of creams or salves on areas the cat cannot lick, e.g.; top of the head may be useful. After applying these preparations, it is recommended to get the cat involved in some activity to prevent him from licking the treated area. These products are very poorly absorbed into the bloodstream, and when used in moderation, do not create long-term side effects or problems associated with injectable or oral steroids.

Omega-3 fatty acids

Fatty acids have been recommended for years to improve coat quality and shine. Recently, new research has shown that certain fatty acids - the omega-3 fatty acids - are also very beneficial in the management of allergies in dogs and cats. Omega-3 fatty acids work in the skin to help reduce the amount and effects of histamine and other chemicals that are released in response to allergies. Not every allergic pet responds to omega-3 fatty acids. Some pets show improvements, others have a complete cure, and others show no change after being on the omega-3 fatty acids. Most pets need to be on the omega-3 fatty acids daily for several weeks to months to notice significant improvement. Omega-3 fatty acids are very safe and have very few side effects. Studies show that when omega-3 fatty acids are used in conjunction with other treatments, such as antihistamines, the use of steroids can often be decreased or discontinued. Be sure to use an omega-3 fatty acid supplement derived from fish oil. Other types of fatty acids (such as omega-6 fatty acids) can actually make some allergies worse. It is often best to use the omega-3 fatty acid supplements in conjunction with a diet lower in fat.

Antihistamines

Antihistamines are widely used in both the human and animal medical fields. Most of the antihistamines used in veterinary medicine are antihistamines that were designed for and used primarily by humans. Antihistamines have been shown to be effective in controlling allergies in up to 70% of cats and 30% of dogs. When used as part of a treatment plan including fatty acids and avoidance, the percent of respondents goes much higher.

Every animal will respond differently to each of the different antihistamines. Therefore, several different antihistamines may have to be used before an effective one is found. Every antihistamine has a different dose and risk of side effects. Antihistamines should be used with veterinary guidance. Some common side effects include sedation, hyperactivity, constipation, dry mouth, and decreased appetite. The correct antihistamine given at the proper dose should not cause unwanted side effects. For severely itchy cats, mild sedation may be a positive and desired side effect.

Antihistamines come in several forms including H1 and H2 blockers. While the H2 blockers (Claritin, Seldane, and Hismanal) have been shown to be very effective in treating human allergies, they have not been shown to be effective in treating feline or canine allergies, and are therefore, not recommended for pet use. There are many different H1 antihistamines available on the market, but veterinary use is usually restricted to the following.

Antihistamine	Trade Name	Possible Side Effects
Diphenhydramine	Benadryl	Sedation, dry mouth

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Hydroxyzine	Atarax	Sedation, no dosage for cats
Clemastine fumarate	Tavist	Sedation, dry mouth
Chlorpheniramine	Chlor-Trimeton	Lethargy, diarrhea

Cyclosporine

Cyclosporine, in the form of the brand name drug Atopica, is being used very successfully in the treatment of atopy in dogs, and has also been used off-label in cats. (Off-label use describes the practice of using a medication to treat a condition for which it was not developed (or licensed). A large number of medications fall under this category. Research has almost always been performed to determine the effectiveness and safety of the product, but the manufacturer has not undertaken the lengthy process required for licensure.) The most common side effects of cyclosporine are diarrhea and vomiting. It does not work immediately, but may take 3-4 weeks to see an effect. It may be used for short periods of time for seasonal allergies, or can be given long-term for year-round atopy.

Steroids

Steroids are extremely effective for relieving severe itching and inflammation. The problem is that they can have many short and long-term side effects if not used correctly. Steroids are a drug, and just like any other drug, they can be misused. If used correctly, they can be as safe as any other drug that we use. Because of their potential side effects, they should be used carefully and at the lowest effective dose. They are usually reserved as one of the last lines of treatments, but if nothing else works, use the steroids.

Steroids are usually administered in one of two forms, injectable and in tablet form. The steroids being discussed here are corticosteroids, and are not the anabolic steroids used by body builders. Anabolic steroids are a completely different drug and have no application in treating animal allergies. There are many different forms of corticosteroids currently available on the market. They vary widely in their duration of activity and strength.

Injectable: Injectable forms of steroids include betamethasone, dexamethasone, flumethasone, methylprednisolone, and triamcinolone. These agents are usually given subcutaneously or intramuscularly, and have between one week and six months duration depending on the product, the dose, and the individual animal.

Oral supplementation allows a more accurate and tailored dose, but injectables may be preferred in several situations. Injectables are preferred in animals that are very difficult to give pills to, in cats, and in animals that need immediate relief. Once the injection is given, it is impossible to reverse its effects and side effects. With oral administration, if unwanted side effects appear, the product can be discontinued and the side effects will diminish.

> Steroids can be used effectively and safely, if a careful dosage schedule is followed.

Oral: As mentioned earlier, it is much easier to customize an individual dosing program with the tablet form. The affected animal usually begins with daily therapy for a period of three to five days and then the dose is reduced to every other day dosing. If the animal needs to be treated for more than a couple of weeks, then the dose is halved weekly until a minimum therapeutic level can be established. The goal with all steroids is to use the minimum dose necessary to alleviate the symptoms. By taking this approach, the side effects are eliminated or reduced.

Side Effects: The potential side effects associated with steroid use in dogs are numerous; in cats they are usually fewer. Side effects can appear with any duration or form of steroid therapy. Each animal responds differently to each type of treatment. However, the number and severity of the side effects are very closely related to dose and duration of treatment. Most of the side effects associated with an effective minimum dose, short-term therapy are mild and resolve once therapy stops. The most common symptoms include increased water consumption, increased urination, increased appetite (weight gain), depression, and diarrhea.

Long-term use has the risk of creating more permanent and severe damage. Some high dose, long-term side effects include increased incidence of infections, poor hair coat and skin, immunosuppression, diabetes mellitus, adrenal suppression, and liver problems. The potential problems can be severe, however, it must be stressed that these side effects are dose dependent. Despite the potential side effects, steroids can be used effectively and safely, if a careful dosage schedule is followed. Still, because of the availability of safer yet effective therapies, steroid use is reserved until all other treatment options have been exhausted. Several studies have shown that if fatty acids and antihistamines are used concurrently with steroids that the amount of steroids needed to offer relief is greatly reduced.

Treatment of concurrent infections

Since bacterial and yeast skin infections can occur in cats with allergies, it is important to treat the infections as well as the atopy. A yeast infection would be treated with an antifungal medication. A skin culture and sensitivity may be performed to best identify which antibiotic to use in the case of bacterial infections. In addition, special shampoos may be helpful to control

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these infections.

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