



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

## Allergies in dogs and cats

When I first graduated as a vet in 1991, I thought I knew how to treat every disease in animals known to man. A few years in suburban practice quickly taught me the error of my thinking – and the greatest stumbling block I ever came across, was trying to treat skin allergies in dogs and cats. I quickly realized that the side effects of most of my treatments were rapidly becoming worse than the original disease itself. It was with this back ground that I was impelled to look deeper, to look for the un-seen cause of allergies.

Allergies are basically an “inappropriate” or “over-zealous” reaction of an animals’ (or persons) immune system. The reaction is caused by exposure to certain chemical or organic agents, commonly referred to as “allergens”. Genetics certainly play a role in pre-disposing an animal to developing allergies, but environment and nutrition will ultimately decide to what degree the allergy is expressed.

Allergies in pets fall into several different categories, but nearly all allergies have a common expression – chronic allergic skin disease, also known as allergic dermatitis or “eczema”. Allergies can be triggered by airborne allergens, which is called atopic dermatitis, by direct contact with the skin called contact allergy, by exposure to certain foods -food allergy, or by exposure to parasites eg flea allergy dermatitis. The pattern of skin disease can vary widely, but subtle differences can help to determine what type of allergy is involved. The classic signs of allergy include generalized itching, feet chewing, face and muzzle rubbing, dermatitis of the inner legs, abdomen and armpits, chronic ear infections, “hot spots”, and more recently, asthma in cats.

Traditional veterinary treatments for allergic skin disease have included using drugs like cortisone, antibiotics, anti-histamines, ant-parasitic agents, and topical medicated shampoos. The good old “bucket on the head”, known more professionally as an Elizabethan collar, has also been widely used to prevent self trauma. More recently, testing for known allergens has become popular, and the use of de-sensitisation (gradual exposure to diluted forms of the known allergen) has shown some success. Recognition of the role of essential fatty acids, primarily Omega 3 fatty acids, and their inclusion as a dietary additive, has also shown some promise. But on the whole, allergic skin disease is still one of the most common, and frustrating, veterinary complaints that brings pet owners to the waiting room.

One unfortunate reality of allergies is that despite all the advances in modern medicine, allergies are still considered a “chronic” disease – meaning that there is no “cure” for an allergy, the best we can hope to do is “control” the expression of an allergy, and limit the use of drugs required to do so..



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

## Understanding the Immune system

The key to “controlling” allergies is to understand how and why they occur. As mentioned, allergies are an inappropriate immune reaction to a specific allergen – a reaction that is not “pre-programmed” into the immune system by the core genetic code, but one that is “learned” or “accidentally” occurs.

The study of the immune system (immunology) is a fascinating science, and one that has provided much of the information that is driving modern medical advances. One of the fascinating facts about the immune system, is that it works in almost the same way in all animal species- from man to fish. It is an ancient and untouched genetic code, and is designed to “protect” an animal from disease, and to assist repair.

A thorough description of how the immune system works is beyond the scope of this article, but a very simplified overview will assist in understanding allergies. In very rough terms, the immune system can be divided into 2 parts. One part is involved in making antibodies – cells that produce special proteins that are specifically designed to “recognize” foreign molecules (eg bacteria or viruses) which are called “antigens”. The body has millions of different antibody producing cells (B lymphocytes) which produce different types of antibodies which protect us from infection, and these antibodies form the basis of the practice of immunization - where we introduce non-dangerous parts of a bacteria or virus so the body can make antibodies to that particular pathogen. The second part of the immune system is known as the “innate” immune system, and it involves cells that we commonly call “white blood cells”. These cells are responsible for directly destroying foreign agents, infected cells, or antibody/antigen complexes formed by the other part of the immune system. When your body is under attack by bacteria or viruses, these cells pour into the blood stream to fight off the agent, and the result is that on a blood test, you have a “high white blood cell count”. As white blood cells capture and destroy these foreign particles, they actually die themselves, and the resultant protein sludge that remains is known as pus.

In an allergic reaction, we have an “accidental” response. Lets use the example of an inhaled grass pollen. Normally the immune system should not recognize the grass pollen as foreign or dangerous as we inhale microscopic pollens all the time during spring and summer. But in an allergic response, for some reason the immune system creates a specific antibody to the pollen. This antibody seeks out the pollen, and binds to it. Then, a particular part of the innate immune system, white blood cells known as “eosinophils” are released into the blood to capture and destroy these antibody/antigen complexes. When these eosinophils have done their job, they also “die”, but as the cells burst, they release histamine – which causes intense local swelling and itching. In people, this reaction commonly occurs locally, at the location of the nose and eyes where the pollen first contacts the moist mucus membranes – and results in “hay fever symptoms” (swollen itchy eyes and nose, sneezing etc).



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

If the reaction occurs deeper in the body, at the level of the bronchi in the lungs, it can cause “asthma”. In dogs and cats, these cells actually migrate to the skin, and sometimes to the lining of the gut, where they cause an intense itching reaction which we call allergic dermatitis. When the animal itches, it breaks the skin, and allows secondary infection to occur, which further adds to the irritation – and so the cycle goes on. The pattern of allergies is determined by the type of allergen. Some allergies are seasonal, meaning that the allergen is only in the environment for a specific time of the year – most of these are caused by plant pollens etc and are called atopic allergies. Some contact allergies, like grass allergy only occur when grasses are dry and producing seed heads, and most of the signs occur on the underneath of the dog, in areas where there is no fur protecting the skin eg. groin, armpits, and belly. If the allergen is present all year round, such as a food allergy or allergies to dust mites, then the signs of allergic dermatitis will be constant.

### **So what causes the Immune system to malfunction ?**

The answer to this question is the key to solving the mystery of allergies, and unfortunately there is not one simple answer. A genetic predisposition is certainly one big factor. Certain breeds of dog e.g. West Highland White Terriers, are genetically predisposed to developing allergies. Staffordshire terriers are prone to contact allergies, German Shepherds are prone to food allergies and chronic ear infections etc. But in veterinary practice, we are seeing more and more dogs with allergies and it is probably the number one reason people go to see their vet apart from vaccination, so genetics alone cannot be the answer.

Modern immunology has now shown us that both nutrition, and environment, will affect the way our immune system functions. When we talk about environment, we really mean the “artificial” environment, and the exposure to man made chemicals. In the house, pets may be exposed to chemical cleaning agents, carpet and floor products, insect sprays, deodorisers, perfumes etc. And outside, in the garden or on a walk, there are air pollutants eg. petrochemical fumes, weed sprays and herbicides, water pollutants (fluoride, chlorine) and a host of other “unnatural” potential allergens. And what about the products we deliberately use on our pets – shampoos, conditioners, worm tablets, flea and tick control, heartworm prevention, even the chemical stabilizers used in vaccines – all of these can act as potential “triggers” for allergies. Naturally some of these cannot be avoided, but we do need to exercise some care when we have an allergic pet. Other recognized triggers also include the huge range of chemical preservatives and colourings used in processed pet foods, some of which are now recognized as carcinogenic. Sulphur dioxide, a common preservative used in pet meat, is also a known trigger for asthma and eczema in people. It is important to remember that most of these chemical agents are “new” to the immune system - they weren’t around hundreds of millions of years ago when the immune system was evolving in fish, so it is not surprising that our bodies do react to them as “foreign”.



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

Recent studies into immunology and parasites have also revealed some startling results in this area. Dogs and cats have been evolving on earth for some 40 Million years, and for the first 39.98 Million years, they did so without interference from man. Their bodies had developed a natural balance between intestinal and topical parasites, which was controlled by their immune system. The part of the immune system that controls parasites, are the same cells (eosinophils) that are involved in allergies. When these eosinophils react at the gut level, the release of histamine actually causes swelling and increased motility, which aids the elimination of gut parasites (worms). At the skin level, the release of histamines causes itching, which in turn, aids the removal of fleas. This process has kept the natural balance of parasites in check for millions of years. With the advent of modern chemical worming tablets and the widespread adoption of 3 monthly worming programs, intestinal worms have become a thing of the past. To further add to this, modern “all in one” topical preparations that control topical parasites and heartworm, also kill the majority of intestinal worms, but on a monthly basis. Whilst this may at first appear to be a great thing for our pets, and don’t get me wrong, these products are very useful, but we have now reached a position where our pets can be completely “sterile” of all parasites.

What modern immunology has discovered however, is that when the body is sterile of parasites, the part of the immune system that has evolved over millions of years to control them, the eosinophils, are now left without a job to do – and as a result, there are now large numbers of these cells available to react to “allergens”. What this means is that the effect of an allergic reaction in pets that have no parasites to control, is actually far more intense, than in a pet where these cells are actually doing the job they were designed to do. In short, dogs and cats that are “sterile” are far more prone to having serious allergic skin disease.

### **And what of nutrition?**

How does what we eat, or what we feed our pets’, affect the immune system ? Most people nowadays do accept that what we eat will affect our overall health and longevity, but what we may not realize is, that it affects our health by affecting our immune system. In simple terms, the better your immune system works, the better your every day health will be, and the longer you will live (excluding bad luck). Modern nutrition recognizes that there are 76 known macro and micro nutrients required for perfect health. Simply put, your immune system needs all 76 elements to function perfectly. What we also now understand, is that our bodies (and that of your pets’) do not exist in a “sterile” environment. The intestinal tract requires the presence of pro-biotic bacteria - often termed “good” bacteria – names like acidophilus , the bacteria found in natural yoghurt, are now commonly recognized as being healthy. Our pets also have their own population of good bacteria, and they are also essential for good health. It is the combination of a diet that provides all the necessary nutrients, combined with an intestinal tract full of pro-biotics, which allows our body to absorb the nutritional value. And this ultimately ensures that the immune system receives all 76 of the elements required for it to function at its optimum.

*“The natural choice for exceptionally healthy pets.”*



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

Unfortunately, for both humans and pets, the supply of good, healthy food is no longer as simple as it used to be. Just two hundred years ago, people ate good quality fresh food. Produce was grown organically, harvested and eaten. There was little in the way of processing or preserving, and the soils that were used to grow crops, fruit, or livestock, were healthy and nutrient rich. Compare that to today, when an apple bought from the supermarket may be 9 months old before you eat it, and it has been grown entirely on artificial fertilizers and sprayed with chemicals, or the fact that the vitamin C content of a supermarket orange has fallen to 2% of what it was the day it was picked, and we see it is not so hard to understand what has gone wrong. If you add to that the processing and preservatives used to extend shelf life, and the over-abundance of sugars and salts included in processed food and drinks, we start to see an insidious pattern of modern day “malnutrition” emerging.

But don't think that your pet has been spared this reality. For the past 40 Million years, dogs and cats ate a healthy diet of wild prey, raw, uncooked and unprocessed, supplying not only the necessary probiotic bacteria for gut health, but also the complete 76 nutrients for perfect health. But in modern society, we now know better, and pets' are fed on man's waste! On the whole, processed pet foods are made from in-edible carcass remains - made into meat meal and meat by-products, cheap sources of bulk carbohydrate and vegetable matter, sugar, salt, flavours, and preservatives. Add to this a cocktail of about 25 + chemically derived essential vitamins and minerals – there is a commercially available product which guarantees a pet food will meet AAFCO nutritional standard. Then finally, mix all this into biscuits, cook at high temperatures (> 240°C for import into Australia), and then spray with liver digest and fat so your pet will actually eat it – this is what has replaced the natural diet of dogs and cats.

Modern pet foods are sterile (they provide no pro-biotic bacteria) and they certainly do not provide the body with the 76 nutrients required for optimal health, no matter how much they cost, or what they say on the pack. Sure, there are much better ones, and much worse ones, but collectively, they are contributing to the same “modern day malnutrition” that is affecting western society. We are slowly turning our pets into “junk foodies”.

So back to allergies, how is all this causing allergies in pets? It is quite simple. The way immune cells react is actually influenced by a wide range of nutritional factors, many of which modern science is yet to fully understand. We do know that if an animal's diet is deficient in Omega 3 essential fatty acids, the immune system will react in a more inflammatory way, producing more histamine release and a greater “allergic” tendency, than compared to an animal that has an adequate dietary intake of Omega 3 fats. We also know that omega 3 fats are commonly deficient in processed pet foods, or are easily oxidized and rendered useless, by the processing and handling of dry and tinned pet food. And this is but one of the 76 elements that can affect the immune system. When we combine this type of deficiency, with other mal-nutritional factors caused by poor dietary ingredients and processing, a pattern emerges. Add the loss of pro-biotic bacteria, and the sterile gut caused by over zealous parasite control, and we have a “pro-allergic” state in the animal's immune system – which is just waiting to react.

*“The natural choice for exceptionally healthy pets.”*



Dr Bruce Syme, Dr Phil Larwill,  
Colleen Garsed & Associates  
9 Elizabeth Street, Castlemaine VIC 3450  
Ph: 03 5472 5477 Fax: 03 5470 5264  
email: [info@healthypetsvc.com.au](mailto:info@healthypetsvc.com.au)  
website [www.healthypetsvc.com.au](http://www.healthypetsvc.com.au)

So whereas the “healthy” body may have shown just a mild reaction to an allergen, say flea saliva from a flea bite, we suddenly have a massive over-reaction to the introduction of a normally mild allergen – with wide scale release of histamine and intense itching and chewing, and we end up with a dog with “hot spots”. If we combine all this with a living environment full of modern chemical agents and potential “triggers”, then it is not hard to understand why we are seeing such an “epidemic” of allergies in pets, and in people.

### **So what can we do ?**

Certainly I do not profess to have all the answers to treating allergies, but there are some basic guidelines that I follow in practice, that consistently lead to effective, positive results in pets that have allergies.

1. To best supply the necessary pro-biotics and 76 elements, change you pet onto a natural, raw, balanced and unprocessed diet, using fresh meats and produce that has not been treated with chemical preservatives (avoid sulphur dioxide = preservative 220, 221, 222 etc). Choose a meat source that your pet is not likely to have had regular access to (eg kangaroo meat, or tripe) – avoid chicken and beef. And stick to a simple carbohydrate, like rolled oats or brown rice. Eg Vets All Natural Premium Choice/Raw 76 Skin Support, or Complete Mix Sensitive Skin.
2. Add the following daily supplements - a dose of pro-biotics, high potency anti-oxidants, chinese immune modulating herbs, and an Omega 3 fatty acid supplement . All of these can be found by combining the Vets All Natural Skin and Coat powder with Omega Blend oil
3. When using parasite control, try to use products that only affect the parasite you are targeting. Eg, use a product that only kills fleas if you have a flea problem, or a product that only kills heartworm larvae, and not one that also kills intestinal worms. For regular worming, consider having a faecal test done to see if there are worms present at large numbers (much like we do for horses and other stock animals) rather than just treating every 3 months. Pets can tolerate low numbers of worms naturally.
4. When an animal’s skin is inflamed, avoid using shampoos and medicated washes, they often provide only temporary relief, and may actually be “contributing” to the ongoing cycle. Many soap based products will constantly strip the natural coat oils away each time you wash the dog, and these oils actually protect the skin.
5. Avoid feeding ANY treats or snacks which may contain allergenic food groups or food colours / preservatives. If you feed raw bones, only feed the same type as the meat you are feeding (eg kangaroo tails if you are feeding kangaroo meat)
6. Consider using rain water for drinking rather than chlorinated and fluoride treated tap water
7. Make whatever adjustments to your home and backyard environment that are feasible – try and avoid using harsh chemical sprays or cleaning agents

My experience, gained over my years in practice, has shown me that more than 70% of allergic pets can be maintained on a drug free regime if they follow these guidelines.

The ultimate goal is to get your pet off all ongoing medications and treatments (especially cortisone) – even if they have the occasional itch.

**Dr Bruce Syme**

*“The natural choice for exceptionally healthy pets.”*