

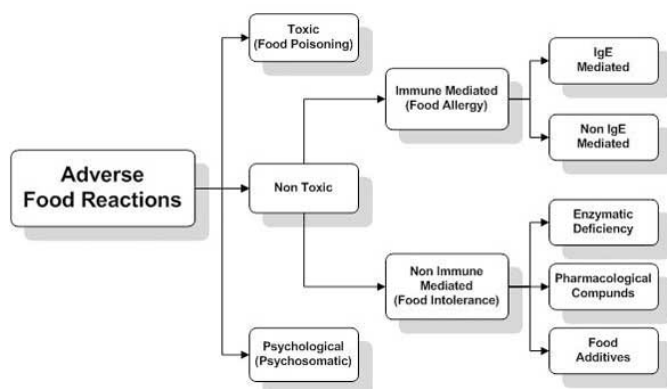
# Allergies and intolerances in cats and dogs: critical factors and role of diet

Author : Nicola Ackerman

Categories : [Canine](#), [Clinical](#), [Feline](#), [RVNs](#)

Date : May 4, 2015

**Dietary-induced skin problems include food intolerances; primary and secondary nutrient deficiencies and nutrient toxicities. A full dietary history needs to be taken and owners should include:**



The difference between adverse food reactions.

- specific commercial foods;
- all snacks and treats;
- supplements;
- chewable/palatable medications and vitamins;
- chew toys;
- human foods; and
- any food the animal may have access to.

Actively encourage owners to keep a food diary, as with obese animals and diabetics. The classification and diagnosis of nutritionally related skin disorders are initially based on a detailed dietary history and food evaluation.

Veterinary nurses are in an ideal position to help owners make an accurate representation of what their pet consumes.

## Food intolerances and allergies

The terms food allergy and food hypersensitivity should be reserved for those adverse reactions to food that have an immunologic basis. Food intolerance refers to adverse food reactions due to non-immunologic mechanisms. Dermatologists suggest only 1% to 6% of all dermatoses seen in practice relate to adverse food reactions and food allergies constitute 10% to 20% of allergic responses in dogs and cats.

A full dermatological work-up is required before a nutritional factor can be confirmed. It can be common, however, for an owner to self-diagnose his or her pet's food allergy or intolerance, even before seeing the veterinary surgeon.

Many diets are gluten-free, grain-free, hypoallergenic and/or natural. When a pet improves on these diets, the owner assumes his or her pet had an allergy to one of the ingredients, but in many cases this is purely a coincidence.

The skin is the largest organ of the body and has a heavy demand on bodily nutrient supply. When factors become sub-optimal, it is usually the skin that becomes the first organ to demonstrate deterioration.

Owners can easily detect signs of deterioration – loss of coat sheen, coat shedding or the coat becoming greasy and scurf at the skin surface – but in many cases signs of deterioration occur at such a slow rate, owners don't notice. It is not until the issue is resolved or the animal is placed on a different diet that its coat returns to "healthy" and owners notice a difference.

Food intolerance is not so clear cut and is a more controversial area. Although not life-threatening, it can – and often does – make the sufferer feel extremely unwell and can have a major impact on life. Some people actually lack the enzymes needed to break down foods – for example, lactose intolerance, where the enzyme lactase is not produced in large enough amounts to break down the lactose (milk sugars) in milk.

Food intolerance reactions do not involve immunoglobulin E (IgE) and the mechanisms are unclear; however, it is known reactions are more likely to be delayed, occurring several hours and sometimes up to several days after eating the offending food. The symptoms caused by these reactions are numerous, but have been associated with gut symptoms such as bloating, diarrhoea, constipation and irritable bowel syndrome, as well as skin problems such as eczema. Specific food additives that are known to cause problems include onions and propylene glycol, which can cause haematological abnormalities in cats.

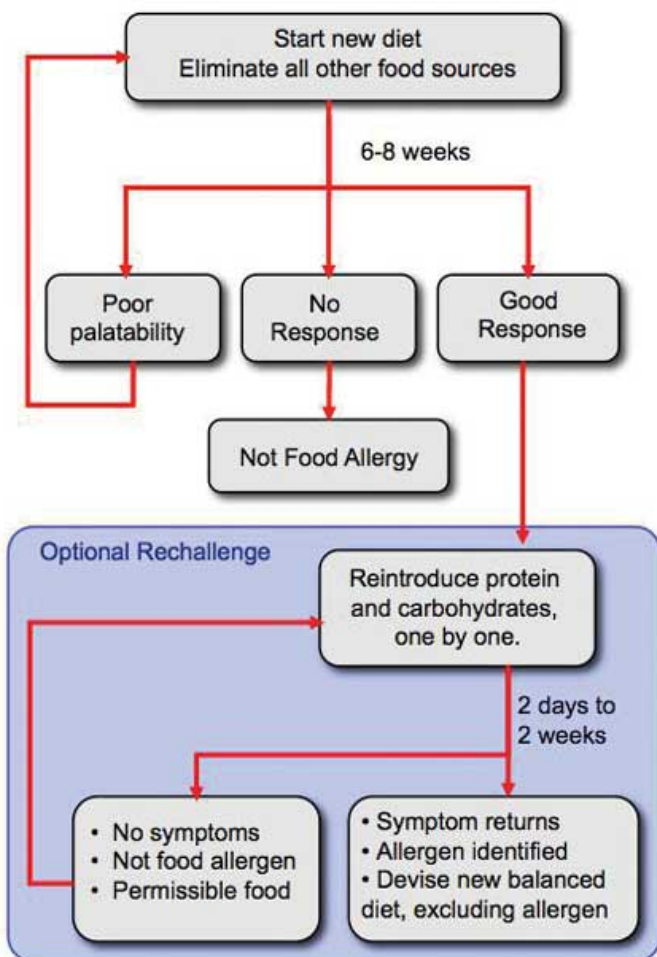
Lactose intolerance is a relatively common metabolic adverse reaction in dogs and cats. Diarrhoea can develop when given cow's or even goat's milk, due to the lactose content being higher than that of bitch's or queen's milk. Gluten-sensitive enteropathy has been well documented in Irish

setters.

## Inflammatory bowel disease and food intolerances

The role of food allergies in canine and feline inflammatory bowel disease (IBD) is unknown. It is thought hypersensitivity to food is involved in the pathogenesis of this syndrome. The role of elimination food trials often alleviates the signs of IBD, which does seem to imply food allergies or food intolerances play a role in this syndrome.

### Elimination diets



Flow diagram of protocol of elimination diets.

When designing or recommending an elimination diet, certain characteristics do need to be taken into consideration. Review the diet history sheets and diaries to give you an indication of what the animal has been exposed to in the past. A limited number of protein sources are required, along with the protein being of a novel source. Excessive levels of protein should be avoided; the protein

present needs to be of a digestibility greater than 87%.

Hydrolysed protein can be used as digestibility is high. Digestibility is an important factor as free amino acids and small peptides make poor antigens. The diet needs to be free of additives and excessive levels of vasoactive amines, while still being nutritionally adequate for the animal's life stage and body score.

Hydrolysed diets are advantageous as they remove the absolute necessity of finding the primary causal agent of the food allergen. Hydrolysed diets work by taking a protein and reducing it in size through hydrolysis. When the hydrolysed protein is then ingested, the body no longer recognises the protein as an antigen and the allergic immune response is not initiated.

The use of carbohydrates in the diet also needs to be limited. In many elimination diets, a novel carbohydrate source is also used. Many carbohydrate sources used include rice, potato and tapioca.

## **Feeding an elimination food (dermatological and gastrointestinal disease)**

The main diagnosis method for nutritional adverse food reactions is dietary elimination trials. Either a commercial product or a home-made diet can achieve these trials.

It must be noted home-made diets are likely to be nutritionally inadequate for maintenance requirements. Most lack a source of calcium, essential fatty acids, vitamins and other micronutrients. These diets can also contain excessive levels of protein. If the owner insists on the use of a home-made diet, guidance on constructing a balanced diet is required from the practice.

To make a diagnosis of nutritional adverse food reactions, only the elimination food can be used. The trial needs to be performed for several weeks to months, with full dedication from the owner.

Elimination trials can be extremely useful when diagnosing the causal nutritional agent in both dermatological and gastrointestinal disease. A strict elimination trial protocol does need to be adhered to, and the owner and anyone in contact with the animal needs to be aware of this. No other foodstuffs, other than the elimination food, should be ingested over this period. This includes treats, flavoured vitamins, chewable/palatable medications, fatty acids supplements and chew toys. Advice must be clearly conveyed to the owner when discussing the use of an elimination food trial.

The patient is fed the controlled diet for four to 12 weeks for dermatological disease. A shorter period of two to four weeks is usually satisfactory in gastrointestinal disease.

The degree of clinical improvement during the elimination trial will be 100% only if food sensitivity is the sole causal agent. These trials are often difficult to interpret in dermatological disease; this is

due to concurrent allergic skin disease. These patients may only partially respond to an elimination trial.

Confirmation of a diagnosis can be made to an adverse food reaction when the clinical signs reoccur within 10 to 14 days after the animal is challenged with its original diet. Always give the client written instructions describing the requirements of the elimination trial and feeding quantities. Details on how to contact an advising veterinary nurse can prove useful if the owners have any questions during the trial.

## **Prolonged elimination can build tolerance**

Weeks or months of elimination of the reactive food may lead to reintroduction of the food without reaction.

This is known as tolerance and its maintenance depends on establishing the threshold of both frequency and quantity for that animal – in other words, eating the food occasionally may be tolerated, but reintroducing it in large quantities or on a very regular basis (for example, every day) might lead to symptoms recurring. This is purely individual, so working this out and not restricting the diet more than is necessary is a major consideration.

## **What is gluten?**

Gluten is a mixture of two proteins present in cereal grains – especially wheat – that is responsible for the elastic texture of dough. Gluten is a general name for the proteins found in wheat (durum, emmer, spelt, farina, farro, Khorasan and einkorn), rye, barley and triticale. Very few foods are totally gluten-free; home-prepared diets or a veterinary diet based with potatoes or soya can be gluten-free.

## **Conclusion**

Food intolerances can cause a variety of clinical signs, from skin issues to gastrointestinal signs. A good diagnostic work-up by the veterinary surgeon is required; part of this can include a food elimination trial.

These trials can prove to be useful, but interpretation of them can be difficult. Exceptionally good client guidance is needed in diet trials and veterinary nurses should take a pivotal role in aiding clients.