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## ADVERSE REACTIONS TO FOOD, WHAT IS THE BEST APPROACH?

Adverse reactions to food (ARF) are common in dogs and cats. Both cutaneous, gastrointestinal, and combination ARF have been described. Current tests that are on the market to make the diagnosis are unreliable, so a restriction (elimination)-provocation dietary trial remains the golden standard<sup>(1,2)</sup>. For a proper elimination trial, a novel protein source must be selected. Veterinarians have either home cooked or commercial diet options. The home cooked elimination diet consists of the selection of one novel protein source, which can be combined with a carbohydrate source to limit its costs. Home cooked elimination diets are deficient and should not be fed for more than 12 weeks in adult dogs and cats and not more than 3 weeks to puppies and kittens. Home cooking can be considered labor intensive, so commercial diets can be an alternative. Commercial diets should have 1 novel protein source or contain hydrolyzed protein. The degree of hydrolyzation is important, the further the proteins are hydrolyzed, the less likely it will evoke an adverse response<sup>(3)</sup>. The further a protein is hydrolyzed, the less palatable it will be, so this might cause non-compliance. The benefits of commercial novel protein or hydrolyzed protein diets is that they are complete and balanced. Some of them are also complete and balanced for puppies and kittens. The final diagnosis is made when the clinical signs disappear on the elimination diet and reoccur after a challenge with the previous diet, and again resolution on the elimination diet. Most pet owners don't want to go for this option, so this might overestimate the diagnosis.

It is important to be very strict during an elimination trial and also when treating dogs and cats with ARF. A single crumb of bread might result in relapse, as well as licking plates from the dishwasher that was left open. Also during walks or outside access, dogs and cats may eat something which they cannot tolerate. Flavored medication or gelatin in tablets and powders might be causative factors for ARF. When relapse occurs, symptomatic treatment as well as treatment of secondary infections are often necessary. A lot of pet owners are impatient and want to switch immediately when they assume that a new diet is not effective within a few days, or if the symptoms get worse. It is really necessary to stick to the 6-8 week period to determine the effects. When symptoms worsen they should revisit the veterinarian for a thorough diet history and evaluation of possible secondary infections.

Treatment of ARF consists of feeding a diet that is tolerated by the animal. Home cooked elimination diets are deficient and should be balanced with a source of essential fatty acids, vitamins, minerals and trace elements, as well as with an additional fiber source. Commercial diets can be used as well. Some pet owners like to find out which allergen to avoid, so they try different products. Relapse usually occurs within 48 hours, however delayed responses may be visible after 2 weeks. Therefore, it is recommended to add 1 item each 2 weeks before trying another one.

To calculate the amounts of the ingredients for a home cooked diets, the energy requirements should be calculated first. The Resting Energy Requirement (RER) = 70 x (ideal body weight in kg)<sup>0.75</sup> in kcal ME per day. Ideal body weight can be estimated or calculated by using Body Condition Score (BCS) on a 9-point scale. Each point on the BCS over 5, corresponds with about 10% extra weight. The Daily Energy Requirement (DER) = RER x f. (f = 0.8 for cats that have to lose weight, 1.0 for dogs that have to lose weight, 1.0 for inactive cats, 1.2 for inactive dogs, 1.4 for neutered cats, 1.6 for neutered dogs and intact cats, 1.8 for adult dogs and cats during growth, 2.0 for dogs during growth). The energy densities and protein contents of foods can be found in food databases such as [voedingswaardetabel.nl](http://voedingswaardetabel.nl). Minimum and maximum requirements can be found on <http://www.fedialf.org/self-regulation/nutrition.html> nutritional guidelines. As a source of essential fatty acids, corn oil can be used. Vitamin, mineral mixtures for dogs and cats are commercially available. Vegetables are excellent fiber sources. If you feel uncertain on calculations, you can contact a board certified nutritionist.

### References

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