

## Dermatological Disorders

# DIET ELIMINATION TRIALS

Diet elimination trials are the gold standard for the diagnosis of food allergies and food intolerances, 1,2 considered adverse food reactions. Several elimination diet options exist, and strict compliance is needed.1,2



Although serum, intradermal, patch, saliva, and hair allergy testing are available for the diagnosis of food allergies, studies have shown they are not reliable in dogs and cats and thus cannot be recommended. 1.3

### **Key Messages**

- Hydrolyzed and amino acid-based (elemental) diets offer convenience as elimination diets especially when a pet has an unknown diet history or has been exposed to numerous dietary proteins.<sup>4</sup>
  - Hydrolyzed diets contain proteins broken into small pieces that are less likely to elicit an allergic response even if the pet is sensitized to that protein.<sup>2,5,6</sup>
  - Elemental diets consist of individual amino acids, similar to pediatric infant formulas for children with adverse food reactions. They may help manage even the most highly sensitized animals.<sup>4</sup>
- Many pet owners will have tried numerous diets prior to seeking veterinary care for their pet's potential adverse food reaction. This can make finding a novel protein source challenging. If a novel protein can be identified from the pet's diet history, an elimination diet can be either a home-cooked diet or a veterinary therapeutic diet. It is a veterinary the veterinary therapeutic diet. It is a veterinary the veterinary the veterinary therapeutic
  - Studies have shown that home-cooked diets are often not nutritionally balanced; thus, to ensure nutritional balance, a home-cooked diet should be formulated by a veterinary nutritionist.¹
  - Studies have shown that "over-the-counter" novel protein diets may contain ingredients not listed on the label including, potentially, the protein or ingredient intended to be avoided.<sup>7,8</sup> To minimize this risk, the use of a therapeutic novel protein diet is recommended.
- No food other than the elimination diet should be fed during the trial. Feeding treats, table scraps, flavored medications, supplements, or chew toys (such as rawhides) can compromise the elimination trial.¹
- In response to an elimination diet, improvement in gastrointestinal signs may be seen within 1 to 4 weeks or in dermatological signs within 4 to 8 weeks. However, complete improvement in dermatological signs may not be seen for up to 12 weeks.¹

(continued on next page)



#### **Key Messages (continued)**

- If the pet responds to the elimination diet, the pet should be challenged with the original diet. If the pet reacts and then improves again once the elimination diet is restarted, an adverse food reaction has been confirmed. Individual ingredient challenges should be used to identify those ingredient(s) to which the pet is allergic or intolerant.²
- Long-term management of pets with confirmed food allergy or intolerance requires avoidance of the identified allergen or ingredient. When this is not possible, long-term management usually requires continuation of the hydrolyzed, amino acid-based, or nutritionally complete novel protein diet.²
- Ingredient avoidance using an over-the-counter diet can be challenging as these diets are not made with dedicated processes to avoid small amounts of protein contamination during manufacturing.<sup>7,8</sup>

#### References

- 1. Mueller, R. S., & Unterer, S. (2018). Adverse food reactions: Pathogenesis, clinical signs, diagnosis and alternatives to elimination diets. *The Veterinary Journal*, 236, 89–95. doi: 10.1016/j.tvjl.2018.04.014
- 2. Verlinden, A., Hesta, A., Millet, S., & Janssens, G. P. J. (2006). Food allergy in dogs and cats: A review. *Critical Reviews in Food Science and Nutrition*, 46, 259–273. doi:10.1080/10408390591001117
- 3. Coyner, K., & Schick, A. (2019). Hair and saliva test fails to identify allergies in dogs. *Journal of Small Animal Practice*, 60(2), 121–125. doi: 10.1111/jsap.12952
- 4. Cave, N. J. (2006). Hydrolyzed protein diets for dogs and cats. Veterinary Clinics of North America: Small Animal Practice, 36, 1251-1268.
- 5. Jackson, H. A., Jackson, M. W., Coblentz, L., & Hammerberg, B. (2003). Evaluation of the clinical and allergen specific serum immunoglobulin E responses to oral challenge with cornstarch, corn, soy and a soy hydrolysate diet in dogs with spontaneous food allergy. *Veterinary Dermatology*, 14, 181–187.
- 6. Puigdemont, A., Brazis, P., Serra, M., & Fondati, A. (2006). Immunologic responses against hydrolyzed soy protein in dogs with experimentally induced soy hypersensitivity. *American Journal of Veterinary Research*, 67, 484–488.
- 7. Horvath-Ungerboeck, C., Widmann, K., & Handl, S. (2017). Detection of DNA from undeclared animal species in commercial elimination diets for dogs using PCR. *Veterinary Dermatology*, 28, 373–e86. doi: 10.1111/vde.12431
- 8. Raditic, D., Remillard, R. L., & Tater, K. C. (2010). ELISA testing for common food antigens in four dry dog foods used in dietary elimination trials. *Journal of Animal Physiology and Animal Nutrition*, 95(1), 90–97. doi: 10.1111/j.1439-0396.2010.01016.x

The Purina Institute aims to help put nutrition at the forefront of pet health discussions by providing user-friendly, science-based information that helps pets live longer, healthier lives.

