

# Skin Disorders Caused by Reactions to Food

## Basics

### OVERVIEW

- Adverse reactions to food, affecting the pet's skin
- Associated with ingestion of one or more substances in the pet's food

### SIGNALMENT/DESCRIPTION OF PET

#### Species

- Dogs
- Cats

#### Mean Age and Range

- Any age

### SIGNS/OBSERVED CHANGES IN THE PET

- A wide range of signs that can mimic any of the other increased sensitivities or reactions in the skin due to the presence of a foreign substance (known as “hypersensitivity”)
- Itchiness (known as “pruritus”) is the main sign; itchiness may involve any body location
- Poor response to anti-inflammatory doses of steroids in the treatment of suspected “allergy”
- Vomiting
- Diarrhea
- Excessive rumbling or gurgling sounds caused by movement of gas in the intestinal tract (known as “borborygmus”), excessive gas formation in the stomach or intestines (known as “flatulence”), and frequent bowel movements
- Very rare association with nervous system signs (seizures) with food hypersensitivity
- Inflammation of the skin (known as “dermatitis”) with the presence of the yeast, *Malassezia*
- Secondary bacterial infection and inflammation of the hair follicles (known as “bacterial folliculitis”)
- Inflammation of the outer ear (known as “otitis externa”)
- Thickened, raised, flat-topped areas that are slightly higher than normal skin (known as “plaques”)
- Small, circumscribed elevations of the outer layer of the skin (epidermis) filled with pus (known as “pustules”)
- Reddening of the skin (known as “erythema”)



- Dried discharge on the surface of skin lesions (known as “crusts”)
- Accumulations of surface skin cells, such as seen in dandruff (known as “scales”)
- Self-induced hair loss (known as “self-induced alopecia”)
- Scratches or breaks in the skin (from scratching and/or biting at the skin), frequently with blood or dried discharge (known as “excoriations”)
- Darkened skin (known as “hyperpigmentation”)
- Thickening and hardening of the skin, usually associated with hyperpigmentation (known as “lichenification”)
- Hives or wheals (known as “urticaria”)
- Large, localized areas of fluid buildup under the skin (known as “angioedema”)

## CAUSES

- Immune-mediated reactions (food hypersensitivity)—result of the ingestion and subsequent presentation to the immune system of one or more proteins (allergens) either before or after digestion; sensitization may occur at the lining of the gastrointestinal tract, after the substance is absorbed, or both; “allergens” are substances to which the pet has developed an allergy
- Non-immune-mediated reactions (food intolerance)—result of ingestion of foods with high levels of histamine or substances that induce histamine either directly or through histamine-releasing factors; the pet reacts to the food, but the reaction is not a true allergic reaction

## RISK FACTORS

- Unknown
- Intestinal parasites or intestinal infections may damage to the lining of the intestines, resulting in abnormal absorption of allergens and subsequent sensitization of the pet to a particular substance and leading to a “food allergy” to that substance

## Treatment

### HEALTH CARE

- Outpatient management
- Avoid food substance(s) that cause clinical signs
- Other causes of itchiness (pruritus), such as flea-bite allergy; atopy (disease in which the pet is sensitized [or “allergic”] to substances found in the environment [such as pollen] that normally would not cause any health problems); and external parasites also must be treated to control signs

### ACTIVITY

- No change

### DIET

- Avoid any food substances that cause clinical signs
- **Diet trial or food elimination diet trial may be necessary to identify proteins/allergens to which the pet reacts**
- **All treats and chewable toys must be removed during the dietary trial**
- “Elimination diet” is a diet that does not contain substances that the pet normally eats and is free of additives
- “Restricted ingredient diet trial” is a diet that contains only certain ingredients and does not contain substances that the pet normally eats
- **“Novel protein diet” uses a novel protein source (that is, feeding a protein to which the pet has never been exposed) or hydrolyzed protein diet (where the protein source has been processed to break down the protein into smaller units, less likely to cause an allergic response) as a dietary trial or as part of the pet’s treatment**

## Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- Drugs administered by mouth or injection to control the itchiness (known as “systemic antipruritic drugs”)—may be useful during the first 2–3 weeks of diet trial to control self-mutilation
- Antibiotics or antifungal medications—useful for secondary bacterial infection/inflammation of the hair follicles (bacterial folliculitis) or *Malassezia* (yeast) inflammation of the skin (*Malassezia dermatitis*)

## Follow-Up Care

### PATIENT MONITORING

- Examine pet and evaluate levels of itchiness (pruritus) and clinical signs every 3–4 weeks

### PREVENTIONS AND AVOIDANCE

- Avoid intake of any of the proteins included in the previous diet
- Treats and chewable toys should be limited to known safe substances (such as apples and/or vegetables used as treats)
- Flavored vitamins and heartworm medications may contain offending food substances and may need to be discontinued; follow the recommendations of your pet's veterinarian

### POSSIBLE COMPLICATIONS

- Other causes of itchiness (pruritus), such as flea-bite allergy; atopy (disease in which the pet is sensitized [or “allergic”] to substances found in the environment [such as pollen] that normally would not cause any health problems); and external parasites (such as sarcoptic, *Notoedres*, and *Cheyletiella* mites) can mask the response to the food elimination diet trial
- Rarely a dog or cat may develop increased sensitivity or reaction (hypersensitivity) to new substances, which may require a new elimination diet trial

### EXPECTED COURSE AND PROGNOSIS

- Prognosis is good, if food ingredients are the only cause of the itchiness (pruritus) and the offending ingredients are avoided
- A partial response to a diet trial or food elimination diet trial suggests a combined food reaction with another cause of itchiness, such as atopy (disease in which the pet is sensitized [or “allergic”] to substances found in the environment [such as pollen] that normally would not cause any health problems)

## Key Points

- Eliminate treats, chewable toys, vitamins, and other flavored medications (such as heartworm preventive), which may contain ingredients from the pet's previous diet; elimination of flavored medications should be done only under the direction of your pet's veterinarian
- Outdoor pets must be confined to prevent foraging and hunting
- All family members must be aware of the diet trial test protocol and must adhere to the restricted-ingredient diet trial protocol
- **Most animals with food allergy have skin signs and some degree of gastrointestinal issues in common**