

GUIDE TO DIAGNOSE ALLERGIC DISEASES IN DOGS IN 5 STEPS

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1ST STEP: Define the problem as pruritic. There is never an allergic disease without pruritus.

Anamnesis

Pruritus and history of pruritus.

Ask the owner about:

- Scratching, licking, rubbing as evidence of pruritus
- Duration and intensity of pruritus: use the PVAS (Pruritus Visual Analogue Scale)
- The first presentation of pruritus and for how long pruritus has been present

Define pruritus as acute, chronic, seasonal or recurrent.

Physical examination

1. Check for pruritus, its intensity and distribution:

Clinical pruritus tests:

- **Tronco-pedal reflex:** movement of rear leg when rubbing the trunk.
- **Pinnal-pedal reflex:** movement of rear leg when rubbing the edge of the pinna → this sign is frequent in sarcoptic mange.
- **Otic pruritus:** movement of rear leg when palpating the ear canal in between the fingers or induced during otoscopy or sampling with a swab → otic pruritus is suggestive of otoacariosis and allergic disease (food allergy or atopic dermatitis).

Distribution of pruritus or secondary lesions:

- Pruritus localised on the caudal trunk, rump, tail, caudal thighs and groin – more suggestive of flea allergy dermatitis.
- Intense pruritus and lesions on elbows, tarsus, edges of pinnae, distal extremities, ventral trunk – more indicative of sarcoptic mange.



Source: Dr. Carmen Lorente

- Dorsal trunk pruritus with white desquamation – more suggestive of Cheyletiella infestation.
- Facial pruritus, affected axillae, groins, elbows and tarsal folds, pinnae (no edges) → more suggestive of food allergy or atopic dermatitis.
- Any distribution of pruritus can indicate any allergic disease.
- No pruritus = There is no allergic disease.

2. Check for skin lesions related to pruritus

- **Erythema:** first lesion in allergic diseases due to inflammation of the skin.
- **Excoriation:** autotraumatic lesion associated with scratching, licking or biting.
- **Papules or crusting papules:** associated with an allergic reaction, parasite bites → **cytology**.
- **Crusting papules, pustules, epidermal collarettes:** consider secondary pyoderma → **cytology**.
- **Alopecia:** can be traumatic or due to bacterial folliculitis, demodicosis, dermatophytosis → **trichogram (fungal culture)**.

- **Acanthosis, lichenification, hyperkeratosis, hyperpigmentation:** sign of a chronic process – check for Malassezia and bacteria on the skin surface → **cytology**.
- **Oily seborrhea and exudative lesions**
- check for Malassezia and bacteria → **cytology**.
- **Dermal or subcutaneous small nodules with draining tracts and haemorrhagic discharge:** warning signs of furunculosis – deep pyoderma → **cytology, culture, biopsy**.



Source: Dr. Carmen Lorente

3. Check for pododermatitis and otitis

Otitis and pododermatitis are suggestive of food allergic dermatitis and atopic dermatitis.

PODODERMATITIS

Always do cytology to determine if there is secondary bacterial or Malassezia infection.

OTITIS

1. Identify if it is parasitic, ceruminous, Malassezia or bacterial otitis.

Direct exudate microscopy (Otodectes)

Cytology – check for Malassezia, bacteria: cocci or rods, neutrophils.

2. Otoscopy to evaluate the condition of the ear canal: the amount of exudate, inflammation, ceruminous plug, the integrity of the tympanic membrane.

Do not do otoscopy if the animal is in pain or the canal is stenotic. In these cases, determine the type of otitis by cytology, treat and delay otoscopy until the pain is under control.

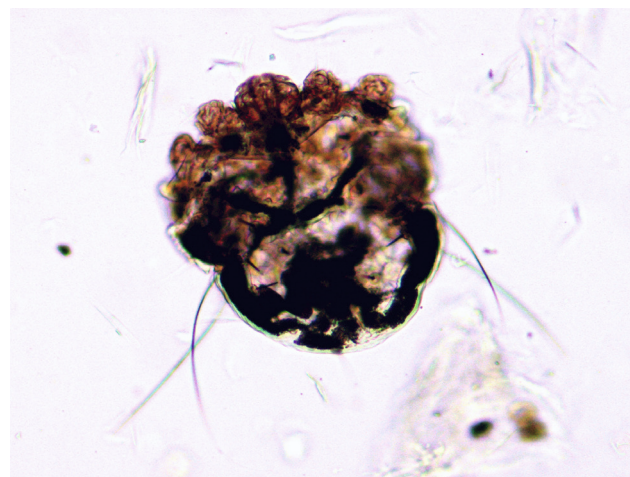
2ST STEP: Diagnostic tests to check for parasites and secondary infections.

A. Search for fleas or their dirt:

Comb the dog over white cellulose and add water to look for flea faeces.

If no fleas are seen: **Test for IgE against fleas** – It helps to confirm a suspected flea allergy and to stick the owner to the treatment. You can test for flea antibodies as a single test or together with mites, pollen and fungi in the allergy screening test.

B. Exclude ectoparasitic diseases:



(Sarcoptes mite)

Source: Dr. Carmen Lorente

- **Superficial skin scrapings** to search for Cheyletiella or Sarcoptes scabiei, but parasites can be very difficult to find.
- Use **ELISA** or **PCR** to rule out or confirm sarcoptic mange.
- Treat with an effective acaricidal drug and check the response.

Our pruritus profile is very useful in this step.

C. Perform cytology whenever Malassezia or bacterial infection is suspected.

D. Culture and antibiogram (sensitivity test) whenever resistance is suspected (previous antibacterial treatments, use of corticosteroids or immunosuppressive drugs, deep or severe infection) and always if rods are found in cytology.

E. In case of suspected deep pyoderma, take a **skin biopsy** for histopathological examination and send a piece of tissue sampled in sterile conditions for culture and sensitivity tests.

3ST STEP: Diagnosis of an allergic dog.

Your patient is an allergic dog if you have ruled out ectoparasitic diseases, if there are no secondary infections, and if the pruritic dog continues to have clinical signs of an allergic disease.

4ST STEP: Identify the allergic disease.

Does your patient have flea allergy dermatitis (FAD), food-induced allergic dermatitis (FIAD), atopic dermatitis (AD), or a combination of these?

A. Confirm or rule out FAD by **testing for flea bite allergy**.

- You can test for flea antibodies as a single test or together with mites, pollen and fungi in the allergy screening test.
- In any case, **make sure to strictly treat for fleas throughout the entire year**. Atopic dogs are prone to develop flea allergy dermatitis if they come into contact with fleas.

B. **Diet trial** to confirm or rule out food-induced allergic dermatitis (FIAD)

- Select an elimination diet.
- **Food allergy tests** (food allergen basic, extended and exotic) help to design the elimination diet, to increase compliance of the owner, and to choose the diet for maintenance after the offending challenge.
- During the diet trial, only the elimination diet and water must be fed. No treats, no flavoured medication or toys are allowed.
- The duration of the diet trial should be at least eight weeks.
- Skin lesions, secondary infections and pruritus must be controlled with adequate treatment before an evaluation of the response to the diet is possible.

- After two months of feeding the elimination diet, the food-allergic dog (without lesions and secondary infection) should be controlled only with the elimination diet.
- If the dog needs medication to control the pruritus, this treatment must be stopped after two months of feeding the elimination diet. If the dog is exclusively allergic to the food, pruritus will not reappear after stopping the medication (ensure this by continuing the elimination diet for at least 15 days without any treatment for pruritus). If pruritus reappears → begin treatment and exclude FIAD → go to step 5.
- To confirm that pruritus is induced by food, a challenge trial must be done. Introduce the former diet → if the pruritus reappears in less than 10-15 days, the dog has a food allergy. If the pruritus does not appear, consider other diagnoses.



Source: Dr. Carmen Lorente

5ST STEP: The dog suffers from atopic dermatitis.

Well done: You have confirmed that your patient is an atopic dog.

The diagnosis of atopic dermatitis is clinical and is made in a dog with history and clinical signs of allergic disease after excluding ectoparasites, flea allergy dermatitis, food-induced allergic dermatitis and if all the secondary infections that can produce pruritus are under control.

Highlights

Your patient has a chronic disease and will need medical treatment to control it. Clinical signs of atopic disease usually worsen year by year.

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Allergen-specific immunotherapy (ASIT) offers your patient the possibility to reeducate its immune system and recover from the disease.

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Allergy tests (seasonal panel, perennial panel) are needed to identify the offending allergens to formulate ASIT.

Summary

The diagnostic and therapeutic protocol of canine atopic dermatitis.

1. Your patient is an allergic dog (step 3).
2. Control of secondary infections.
3. Control pruritus and inflammation with medical treatment.
4. Maintain strict control of fleas throughout the year. This is even more important during the investigation of allergies and in flea-allergic animals. Use the flea test to confirm this condition.
5. Confirm or exclude FIAD by an elimination diet. Food allergy tests help to design the elimination diet, to make it easier for the owner to stick to the diet and to select the food after the diet challenge.
6. The dog is diagnosed as atopic after ruling out flea and food allergy.
7. Do allergy tests to identify the offending allergens.
8. Use an allergen-specific immunotherapy to control the disease. 50-70% of the dogs can be well controlled with ASIT without the need for chronic drug therapy.
9. Ask our dermatology/allergy team to assist you with your allergic cases. We are pleased to help you.

Allergy Tests at BattLab

Allergy tests and Profiles

Pruritus Profile
Dermatology Profile
Food allergy profile
Mediterranean panel
Perennial panel

Allergen-specific immunotherapy

ASIT incl. insects

Ectoparasites

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Sarcoptes Ab - PCR

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BattLab offers an extended number of allergy profiles to help you with the diagnosis and treatment of allergic diseases.