

Canine Atopic Dermatitis & Immunotherapy

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Canine atopic dermatitis (CAD), one of the most common diagnoses in general veterinary practice, is a progressive condition that decreases the quality of life in 10% of companion dogs worldwide.¹⁻⁴

CAD's most common sign is pruritus, most often affecting the ears, face, ventral neck, distal limbs, and ventrum, as well as the perianal and perivulvar regions. Secondary bacterial and yeast infections are also common. CAD may begin seasonally and progress to nonseasonal pruritus.

CAD is thought to be a polygenetic disorder involving immune dysregulation and epidermal barrier dysfunction.⁵ The atopic immune response causes increased production of allergen-specific IgE, while barrier dysfunction facilitates transcutaneous allergen and microbe penetration.

CAD is diagnosed via exclusion of other causes of pruritus; it cannot be accurately diagnosed by allergy testing alone. Nonseasonal CAD and cutaneous adverse food reaction (CAFR) are clinically indistinguishable and an elimination diet trial (≥ 8 weeks) is the only reliable way to distinguish between the 2; however, a diet trial requires excellent client communication and support for success. Serum tests are unreliable for diagnosing CAFR because of frequent false positive and false negative results.

ASIT

Allergen-specific immunotherapy (ASIT) is the administration of antigens subcutaneously or sublingually to induce immune tolerance in atopic patients. ASIT increases T-regulatory cell numbers and likely has additional immunologic effects.⁶ Immunotherapy effectively reduces pruritus in most canine patients within 12 months and has no known long-term side effects. Following ASIT, half the patients responding to therapy require additional anti-inflammatory therapy for optimal control, and the other half experience reduced pruritus but still require concurrent anti-inflammatory therapy for adequate control of signs.

Intradermal and/or serum tests identify allergens for inclusion in ASIT. Neither test is 100% sensitive nor specific; therefore, interpretation of results in

regard to the seasonality of signs and environmental exposure to antigens is recommended for antigen selection. Intradermal tests assess for immediate hypersensitivity *in situ*, and serum tests assess for circulating allergen-specific IgE; therefore, these tests may produce divergent results.

RESPIT

Regionally specific immunotherapy (RESPIT; vetrespit.com), an alternative to ASIT, is based on the premise that allergy testing and specific allergen selection are not required for an oligoerogenic immune response. RESPIT includes common regional allergens. A peer-reviewed, blinded study comparing the efficacy of ASIT and RESPIT has not been published.

SLIT & SCIT

Peer-reviewed publications comparing success rates of sublingual immunotherapy (SLIT) and subcutaneous immunotherapy (SCIT) in dogs are lacking. The results of clinical trials with SLIT suggest a success rate similar to SCIT. In the author's experience, some patients will fail SCIT but respond to SLIT and vice versa.

No method is currently known to predict efficacy for the individual patient; the author therefore requests that the client, who will perform the task, chooses the route of administration to optimize compliance.

STEP 2
Treatment Plan ►

Treatment Approach

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Clients should be offered multiple treatment options for CAD patients and given an explanation of costs and potential adverse effects. Given its safety, immunotherapy should always be offered as a treatment option. Clients should be educated that it may take 3–12 months before the pruritus improves, so most patients will require symptomatic anti-inflammatory and/or antimicrobial therapy and follow-up examinations during the first year of treatment. Immunotherapy is expected to be a lifelong treatment.

Immunotherapy may be managed by the general practitioner; however, referral to a veterinary dermatologist is recommended. Immunotherapy without regular follow-up visits often leads to lack of client compliance and discontinuation of ASIT before any clinical benefit.

The veterinarian must choose the ASIT testing method (ie, skin testing, serum testing) or use the RESPIT approach. Most serum test providers offer the subcutaneous and sublingual immunotherapy options; both forms are also available for RESPIT. After intradermal tests are performed, immunotherapy may be directly provided because the antigens used to administer the test are also used for the immunotherapy formulation. Of note, the sublingual and subcutaneous immunotherapy formulations differ, with the former often glycerinated and higher in concentration.

The immunotherapy protocol typically involves a 1–3-month induction with increased concentration and volumes of antigen followed by a maintenance phase. With SLIT, protocols typically involve administration q12–

24h; with SCIT, injections are given q48–96h in the induction phase and then once every 7–21 days. In the author's experience, weekly maintenance therapy is more effective, particularly in the first year of therapy. Clients must be able to recognize an anaphylactic reaction and seek immediate treatment for the patient. Clients must also be instructed to contact the veterinarian if the pruritus increases during therapy so the dose may be adjusted as necessary.

Follow-up examinations should be performed \geq 3mo during the first year of immunotherapy. Glucocorticoids, cyclosporine, and oclacitinib are routinely used in patients during the initial phase, with periodic tapering to assess the effectiveness of immunotherapy alone. The impact of these medications relative to the long-term response of immunotherapy is unknown. Weekly bathing is suggested for all CAD patients to remove pollens from the body and discourage development of secondary infections.

Multiple cytologic evaluations should be performed throughout therapy to assess for secondary bacterial and yeast infections. Infections should be treated topically; if they are deep or generalized, they should also be treated systemically for a minimum of 3 weeks, with follow-up to assess for clinical and cytologic response. Antimicrobial shampoos, wipes, or sprays in key areas can be used to prevent infection recurrence during the initial phases of immunotherapy.



STEP 3
Team Roles ►

Team Roles & Responsibilities

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RECEPTIONIST

Patient and client bonding expert

- Facilitate an amiable relationship between the practice and client
- Facilitate communication between the client and veterinary team members
- Schedule medical progress examinations

TECHNICIAN

Client educator, caregiver

- Record the patient's history
- Assist with the cytologic examination and other diagnostics
- Provide written and verbal client education
- Provide instruction on immunotherapy administration and the correct use of topical, otic, and other treatments
- Communicate regularly with the client to support compliance

VETERINARIAN

Medical expert, client and team educator

- Order and interpret the diagnostic tests
- Inform the client about the treatment options, costs, benefits, and adverse effects
- Generate and update client education materials
- Facilitate the veterinary technician's role in client care and education
- Educate the veterinary team about CAD and immunotherapy

PRACTICE MANAGER

Workflow facilitator, team and education coordinator

- Create client education material
- Facilitate the generation and updating of client handouts
- Involve team members in role-play to give them increased confidence when educating clients
- Create diagnostic codes in the practice management system, allowing follow-up with clients who accept recommendations and those who do not
- Create a client follow-up plan during treatment
- Ensure that veterinary technicians are trained to perform diagnostic procedures efficiently

STEP 4
Team Training Plan ►

Team Training Ensures Good Communication

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CAD can be frustrating for clients; therefore, the veterinary team should be prepared for questions, concerns, and objections. All team members should be fully educated about CAD and the treatment options, including risks and the associated benefits, and be able to communicate information effectively.

Veterinarians should develop a CAD standard protocol for the practice that includes:

- A general description of the condition
- Clinical signs
- Laboratory tests required for diagnosis

- Treatment options
- A list of client handouts to enhance communication and education.

Team training is crucial for successful client communication. *All* team members should be included. Receptionists should be familiar with the disease (eg, scientific terms, clinical signs) and the



treatment options. Veterinary technicians should be taught specifically about CAD, including the scientific causes of itching and the treatment options.

Veterinary technicians may be responsible for presenting the treatment plan and its costs to the client, so knowledge about the disease will give them confidence to present the plan and answer questions, which will positively affect clients and may influence them to accept recommendations. Team members should develop a list of frequently-asked client questions about CAD and use it to role-play to become more confident when responding to clients.

Effective team training topics include:

- Disease presentation
 - Obtaining an accurate patient history by asking the “right” questions
- Diagnostic techniques
 - Food elimination trial
 - Intradermal test
 - Serum test
- Treatment options
 - Short-term and long-term treatment goals
 - ASIT
- Communication styles
 - Enhancing verbal, paraverbal, and nonverbal communication skills to increase client compliance.

STEP 5
Communication Keys ►

Communicating with Clients

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Team members should be able to communicate and educate clients with clear, concise information, ultimately ensuring that patient care is a priority. How treatment plans and cost estimates are presented can determine whether a client accepts the recommendations, so team members should pay attention to their communication style. A study of the client–veterinarian bond showed that clients did not accept recommendations for their pet because they did not believe the treatment was necessary.⁷

Three learning styles—visual, verbal, and physical—have been identified as applicable to the veterinary setting. The visual style uses images (eg, photos, illustrations) and spatial learning; verbal uses words, both spoken and written; and physical uses the hands and a sense of touch.

Team members likely do not know how individual clients learn, so it is important to incorporate each style into the training plan using items such as manufacturers' brochures, client education handouts, models, and videos.

Clients should always be given written, resourced information that team members verbally review with them before discharge. Team members should use models, which manufac-

urers may provide free of charge, and allow clients to feel and touch as team members verbally explain the service or procedure. Team members can also show clients short videos that can later be emailed, along with handouts, to the client.


Clients should hear a message 3 times to fully absorb the information. They must understand a procedure and its value or they may decline the recommended services.

Client education topics include:

- CAD description, including clinical signs
 - Food allergies
 - Environmental allergies
- Tests required for diagnosis
 - Intradermal and serum tests
- Treatment options
 - Food elimination diet trial
 - ASIT, RESPIT
- Expected short-term and long-term outcomes with treatment options
- Financial estimates
 - Cost of diagnosis
 - Cost of immediate treatment
 - Long-term cost of disease maintenance, including all progress examinations.

In addition to client education, team members must provide follow-up for CAD patients because the disease is

Clients should hear a message 3 times to fully absorb the information.

difficult for clients to understand and frustrating when immediate resolution does not occur. 

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