

Diagnostic approach to Canine Atopic Dermatitis

Canine atopic dermatitis (CAD) is a common inflammatory and pruritic skin disease of dogs with a genetic predisposition, which can also present with recurrent otitis. It is a diagnosis of exclusion and other differential diagnoses like ectoparasites, microbial skin infection and food cutaneous adverse reaction, should be ruled out before reaching a **clinical diagnosis** of atopic dermatitis^{1,2}.

Similar to intradermal allergy tests, **serological allergy tests are not suitable to make a diagnosis of atopic dermatitis**. These tests should only be used as a tool to identify potentially relevant allergens to include in allergen-specific immunotherapy (ASIT) for patients with a clinical diagnosis of atopy.

Although the test can be performed at any age, a more meaningful interpretation is possible if tests are performed when the patient **has been affected for at least one full allergy season and is symptomatic at the time of testing**.

Claude Favrot in 2010 proposed a set of criteria (Favrot's criteria) that may be used to assess the probability of the diagnosis of CAD with a sensitivity and specificity of around 80% for both. However, it is also highlighted that no diagnostic test or set of criteria can replace a thorough work-up to establish a clinical diagnosis of canine AD¹.

Please check the guidelines for a systematic approach to pruritus on the next page

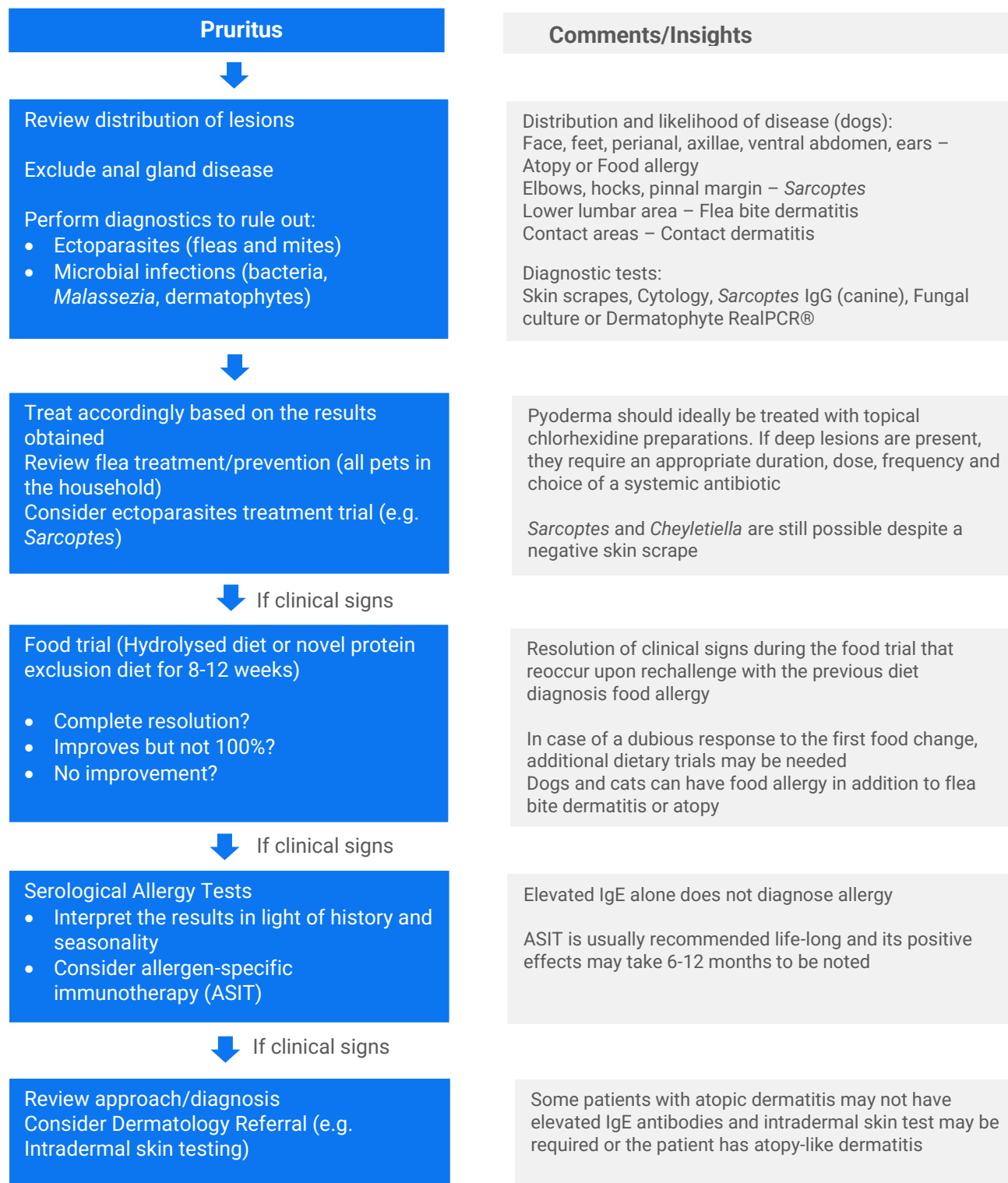
Note: Feline allergic skin diseases are associated with a more variable appearance and distribution of skin lesions compared to dogs. These diseases have recently been reclassified as Feline Atopic Syndrome (FAS) and Feline Atopic Skin Syndrome (FASS)^{3,4}. Similar to CAD, the clinical diagnosis of FAS/FASS requires the exclusion of other appropriate differential diagnoses and a similar systematic approach to these cases is recommended.

If you would like to know more about the Favrot's criteria, CAD, FAS and FASS and treatment guidelines, please check this recommended reading list (these articles are open access at the time of writing this document).

1. Hensel P, Santoro D, Favrot C, Hill P, Griffin C. Canine atopic dermatitis: detailed guidelines for diagnosis and allergen identification. *BMC Vet Res.* 2015;11(1). doi:10.1186/s12917-015-0515-5
2. Olivry T, DeBoer D, Favrot C et al. Treatment of canine atopic dermatitis: 2015 updated guidelines from the International Committee on Allergic Diseases of Animals (ICADA). *BMC Vet Res.* 2015;11(1). doi:10.1186/s12917-015-0514-6
3. Santoro D, Pucheu-Haston C, Prost C, Mueller R, Jackson H. Clinical signs and diagnosis of feline atopic syndrome: detailed guidelines for a correct diagnosis. *Vet Dermatol.* 2021;32(1):26. doi:10.1111/vde.12935
4. Mueller R, Nuttall T, Prost C, Schulz B, Bizikova P. Treatment of the feline atopic syndrome – a systematic review. *Vet Dermatol.* 2021;32(1):43. doi:10.1111/vde.12933



A systematic approach to pruritus



Anti-pruritic medications and their effects on serological tests

Serological allergy testing relies on the quantification of allergen-specific IgE. There is a concern that some drugs used for the symptomatic treatment of atopic dermatitis, may reduce the production of these antibodies resulting in IgE concentrations to fall below the limit of significance (false negative) and lead to a less effective allergen-specific immunotherapy (ASIT).

We suggest the following withdrawal times **assuming that these medications are used at the licensed dose unless otherwise mentioned.**

	DRUG	MINIMUM WITHDRAWAL ¹
CORTICOSTEROIDS	Oral, short-acting at <1mg/kg/day for < 2 months (e.g. prednisolone, prednisone)	0 days
	Oral, short acting at >1mg/kg/day or any dose for > 2 months (e.g. prednisolone, prednisone)	Consider 4-6 weeks ^{2,3}
	Injectable long-acting ("depot") (e.g. methylprednisolone acetate)	> 28 days post-injection
	Injectable short-acting (e.g. single dose of dexamethasone)	0 days ⁴
	Topical (skin, otic and ophthalmic) short-acting or low potency (e.g. hydrocortisone)	0 days ⁵
	Topical long-acting, high potency or prolonged use (e.g. otic medications NEPTRA® and OSURNIA® with sustained residual effects)	14 days ^{2,5}
OTHER	Antihistamines, lokivetmab (CYTOPOINT®)	0 days
	Oclacitinib (APOQUEL®) and ciclosporin (ATOPICA®) for < 2months	0 days
	Oclacitinib (APOQUEL®) and ciclosporin (ATOPICA®) for > 2months	Consider 2-4 weeks ²

1. These recommendations do not apply to intradermal allergy testing.
2. There is a lack of evidence for this scenario, therefore the proposed time is based on clinical judgment and experience.
3. If 4-6 weeks withdrawal is not possible and alternative therapies are insufficient to control the clinical signs, consider reducing the dose as much as possible (e.g. prednisolone ≤0.5mg/kg every other day) and take this into consideration when interpreting the results.
4. There is lack of evidence in dogs and cats; this was extrapolated from an equine study
5. After very prolonged use (>2months) or use of a very potent glucocorticoid (e.g. betamethasone) longer withdrawal may be needed.

To arrange a free-of-charge consultation please dial UK: +44 (0)2037 887 508 or EIRE: +353 (0)156 212 11.

References for the proposed withdrawal times

Olivry T, Saridomichelakis M. Evidence-based guidelines for anti-allergic drug withdrawal times before allergen-specific intradermal and IgE serological tests in dogs. *Vet Dermatol.* 2013;24(2):225-e49. doi:10.1111/vde.12016

Petersen A, Schott H. Effects of dexamethasone and hydroxyzine treatment on intradermal testing and allergen-specific IgE serum testing results in horses. *Vet Dermatol.* 2009;20(5-6):615-622. doi:10.1111/j.1365-3164.2009.00837.x

Clear, V., Petersen, A., Rosser, E.J. & Ruggiero, V. Investigation of the effects of 30 day administration of oclacitinib (Apoquel®) on intradermal and allergen-specific IgE serology testing in atopic dogs. In Abstracts of the North American Veterinary Dermatology Forum 15-18 April 2015 Nashville, TN, USA. *Vet Dermatol.* 2015;26(3):133-159. doi:10.1111/vde.12213

Souza C, Rosychuk R, Contreras E, Schissler J, Simpson A. A retrospective analysis of the use of lokivetmab in the management of allergic pruritus in a referral population of 135 dogs in the western USA. *Vet Dermatol.* 2018;29(6):489-e164. doi:10.1111/vde.12682

