

Next+
Artuvetrin®
Skin Test
Therapy
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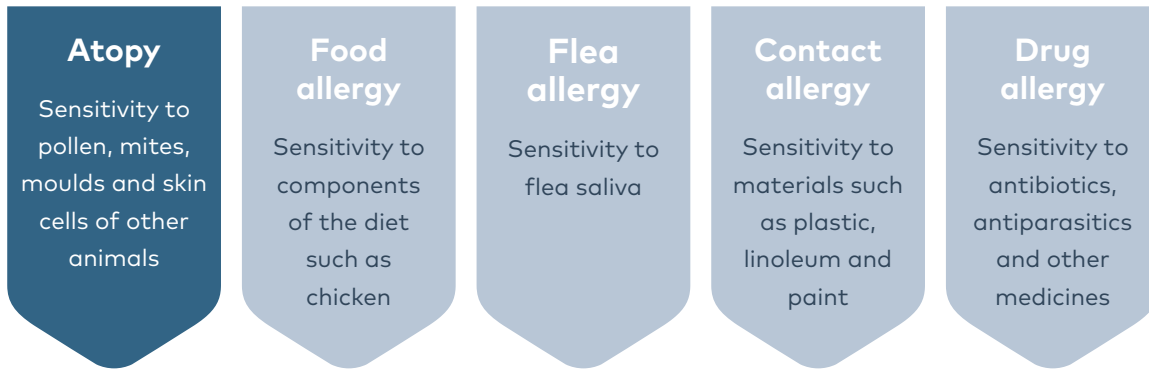


Atopic dermatitis

Diagnosis and treatment

Introduction

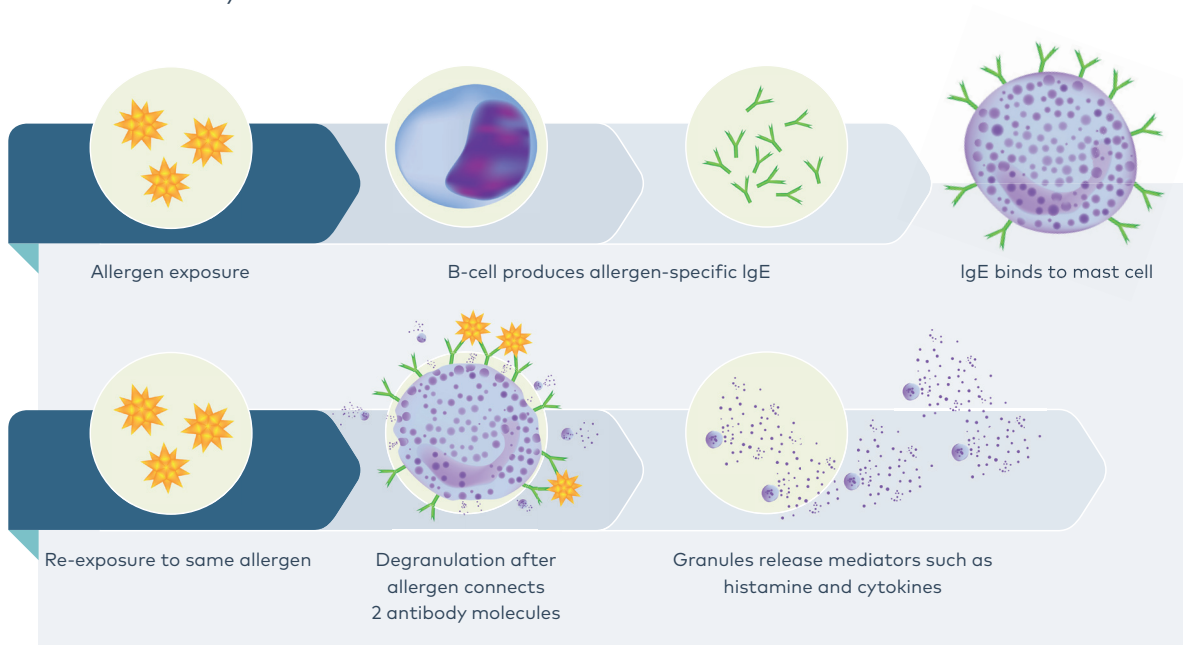
Allergy is a genetically predisposed condition of hypersensitivity to substances which are common and harmless to most animals.



Pathogenesis

When an animal is in contact with an allergen for the first time, its immune system will react by producing IgE antibodies. These antibodies are specific for the allergen.

When the animal encounters these allergens again, the allergen will be presented to a mast cell which is already connected to the allergen-specific IgE. This leads to the production and release of mediators, such as histamine and cytokines.



Atopic dermatitis

Atopic dermatitis is a hereditary form of allergy where the animal is sensitive to airborne substances from the environment, such as pollen, mites, moulds and dander.

It is thought to be the most common form of allergy (10-15% of the dog population¹)

Any dog can develop atopy but certain breeds are at a higher risk. Such breeds include the Lhasa Apso, Schnauzer, Boxer, Labrador, Golden Retriever, Poodle, West Highland White Terrier, Cairn Terrier, Jack Russell, Fox Terrier, Cocker Spaniel, Dalmatian, Bulldog, English Setter, Irish Setter and Chihuahua.



Orchard grass



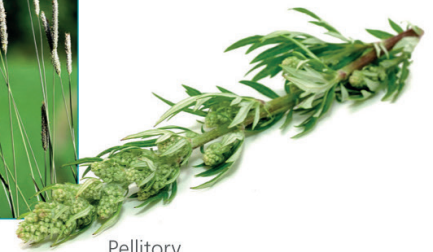
Rye grass, perennial



Fescue, meadow



Timothy



Pellitory



Nettle



Birch



Hazel



Mugwort



English plantain



English plantain



Willow



Hazel



Hay mite



House dust mite

Clinical signs

The most obvious sign of an atopic condition is itching. Itching is caused by inflammatory skin, typically on the paws, head, armpit or groin.

Dogs often lick or bite their feet and can be seen rubbing their heads along the floor or other objects.

The skin inflammation can be exacerbated by bacterial (Staphylococcus) or yeast (Malassezia) infections.

Occasionally, atopic dogs will develop watery eyes, sneezing or asthma. Sometimes digestive symptoms appear. Allergy symptoms can be present throughout the year or only during a season, depending on the allergens that trigger the allergic reaction.

In most animals, the initial symptoms of atopy appear between 1 and 3 years of age.

- Itching
- Skin inflammation
- Ear inflammation
- Loss or discoloration of hair
- Watery eyes
- Sneezing

Ears

Appearance:

Waxy discharge; redness; odor

Behaviour:

Scratching or rubbing ears with paws or against furniture

Skin

Appearance:

Reddened; possibly with crusts or scales; odor with secondary infections

Behaviour:

Scratching and licking sides/belly, elbows, groin

Feet

Appearance:

Inflammation, redness, odor, brown discoloration where licking has occurred

Behaviour:

Licking and chewing of feet/pads

Face

Appearance:

Inflammation; redness; conjunctivitis; swelling

Behaviour:

Scratching or rubbing face with paws or against furniture

- + Otitis externa
- Recurrent pyoderma
- Watery eyes
- Sneezing
- Asthma

Haircoat

Appearance:

Bald spots; brown discoloration where licking has occurred

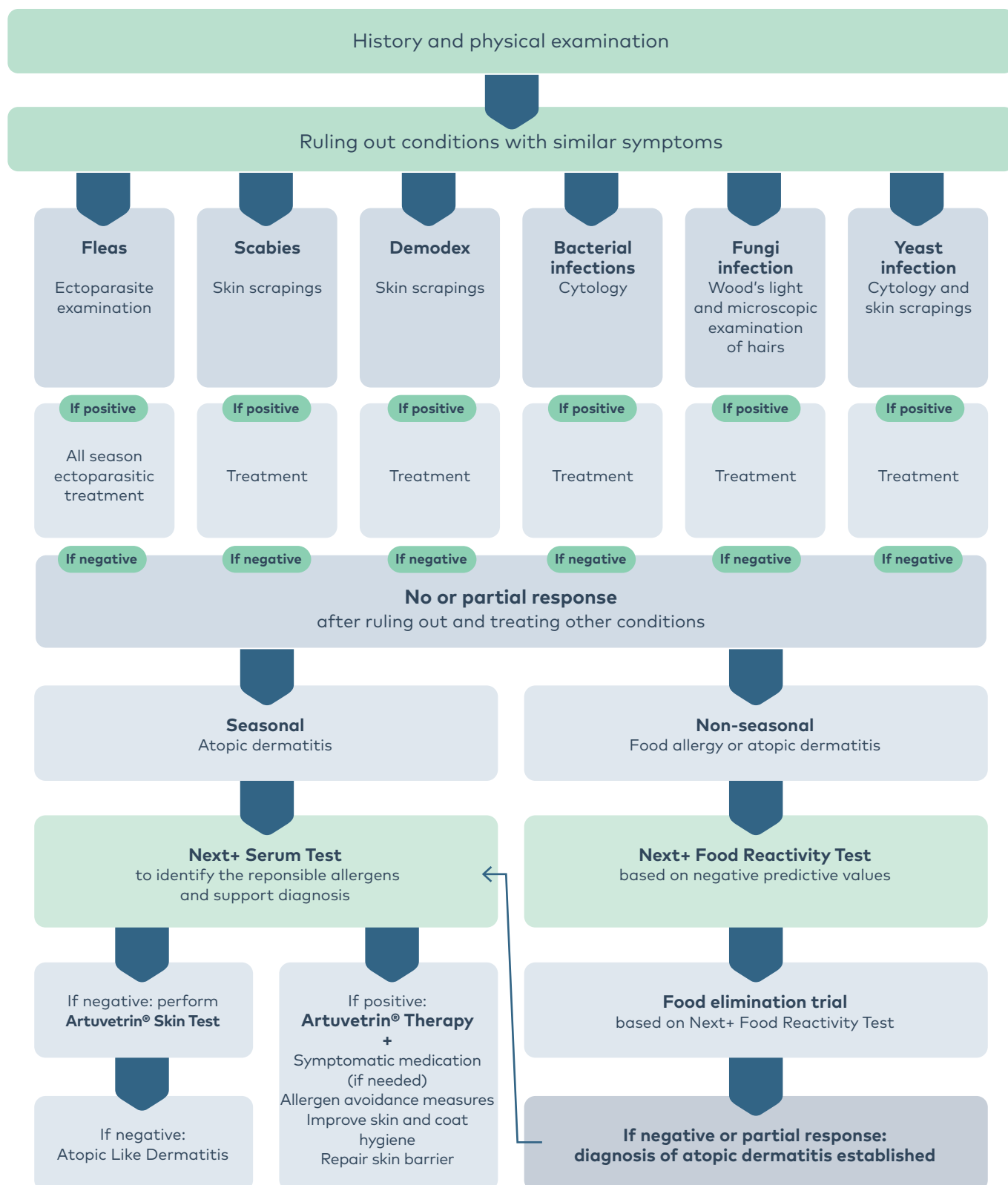
Behaviour:

Scratching sides/belly, rubbing face against furniture or carpet, licking



Diagnosis

The diagnosis of atopy should be based on the clinical history and by excluding other conditions that can present similar symptoms.



Next+ Serum Test

Next+ is an innovative allergy test for detecting specific immunoglobulin E (IgE) in the serum of dogs and cats. It has all the benefits of our ground-breaking technology it employs a new generation of CCD blockers.

1 Three proprietary monoclonal antibodies derived from recombinant IgE

- Unique monoclonal antibodies that target specific IgE sites
- Developed from canine recombinant IgE
- No cross-reactions with other immunoglobulins like IgG
- 100% specificity and superior sensitivity
- Fewer in-lab steps to minimize the risk of inaccuracy

2 New-generation semi-synthetic CCD blockers

- First test with next-generation CCD blockers
- Highly specific blocking of CCDs
- No interference with any tested allergens

3 Excellent accuracy and reproducibility

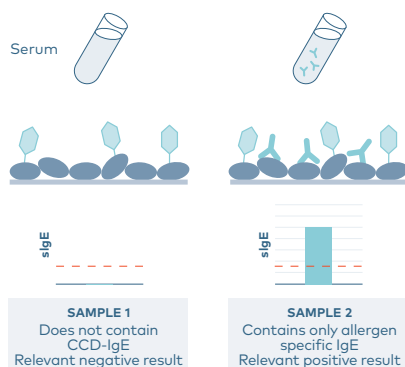
- Best-in-class intra-assay and inter-assay reproducibility
- Daily calibration curve removes variability

What are CCDs and why is important to block them?

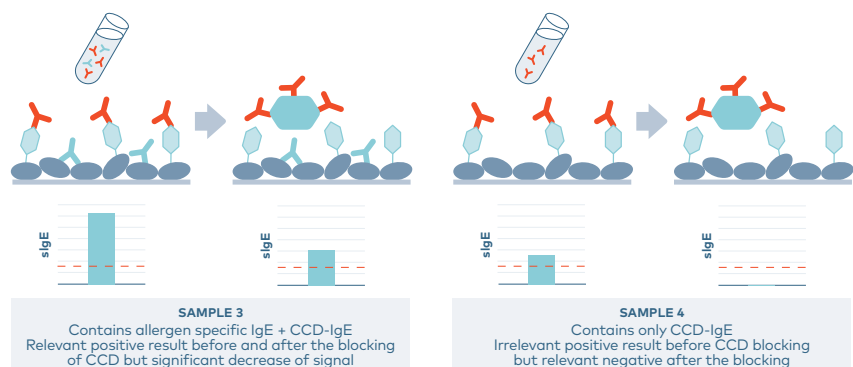
CCDs are cross-reactive carbohydrate determinants – the carbohydrate chains found in glycoproteins. CCDs are part of the structure of many allergy-causing proteins, especially plant-based allergens like pollen. During an allergic reaction, IgE is produced against the carbohydrate chains as well as the allergen proteins. Studies have confirmed that this occurs in 30% of humans, dogs and cats¹⁻⁴.

Other research shows that IgE against CCDs is clinically irrelevant. But it is now known that removing CCD-specific IgE makes *in vitro* test correlate well with the sensitivity and specificity of intradermal skin tests⁴. Blocking CCDs simply means that the specificity of the *in vitro* test is enhanced.

CCD negative samples



CCD positive sample



Allergen-specific IgE CCD-specific IgE Specific allergen protein CCD chain CCD-blocker

Screening

The Screening indicates if any of the tested allergens is positive or if all allergens are negative. It does not specify the result for each individual allergen (with exception of individual Flea result).

Complete panel

The detailed panel specifies the individual result for each allergen tested. Only with this panel can an allergen-specific immunotherapy be ordered.

- Specially developed for dogs and cats
- Includes Malassezia and Flea
- High specificity and sensitivity due to latest technology²
- Fast and reliable result
- 100% reliable screening
- Short-term medication does not have to be discontinued⁷
- Clearly set out and easy to interpret
- Support with our veterinary allergy experts

One step ahead

Serum Test results

Owner name: _____
 Animal Name: _____
 Species: _____
 Veterinarian: _____
 Practice details: _____
 Phone / Fax: _____
 Email: _____
 Test type: _____
 Date tested: _____
 Test number: _____
 Customer number: _____

Environmental screening

Allergens

Screening results: **POSITIVE**

A high level of antibodies (IgE) has been found for one or more allergens such as grasses, trees, weeds, mites, moulds or yeast.

Flea

Flea results: **NEGATIVE**

The level of antibodies (IgE) specific for flea is normal.

Positive for allergens, what now?

The next step is to expand the screening to identify the allergens. Only after this can an allergen-specific immunotherapy be ordered.

Do I need to send new serum to expand the results?

No, it is not necessary to send new serum.

Negative for fleas, what now?

The level of antibodies (IgE) is normal, a flea allergy is not suspected.

Expand the screening

☐ Yes, I would like to expand the screening results.

Date: _____

Signature: _____

Please return this form by email to info@nextvet.com

Your new support in DERMATOLOGY

allergen neutraliser skin support bandaging

100% reliable

Exceeding the results from the screen has 100% correlation.

Need any technical help?

If you have any questions or if you need support in the diagnosis or treatment of a patient, please contact our medical department by phone (+31 20 789 78 78) or by email info@nextvet.com

32 allergens (Indoor + Outdoor)

- Grain mite
- Farinae mite
- House dust mite
- Hay mite
- Copra mite
- Flea
- Alternaria alternata
- Aspergillus fumigatus
- Cladosporium herbarum
- Malassezia
- Common Ragweed
- Common Mugwort
- Lambs quarter
- English plantain
- Red/sheep sorrel
- Common dandelion
- Stinging nettle
- Birch
- Sycamore
- Willow
- Elm
- Olive
- Privet
- Cypress
- Bermuda grass
- Orchard grass
- Perennial rye grass
- Timothy grass
- Kentucky blue grass
- Oat
- Rye
- Rape



Artuvetrin® Skin Test

The Artuvetrin® Skin Test determines to which substances a dog is allergic to, by injecting small amounts of different allergens in the skin (intradermal test).

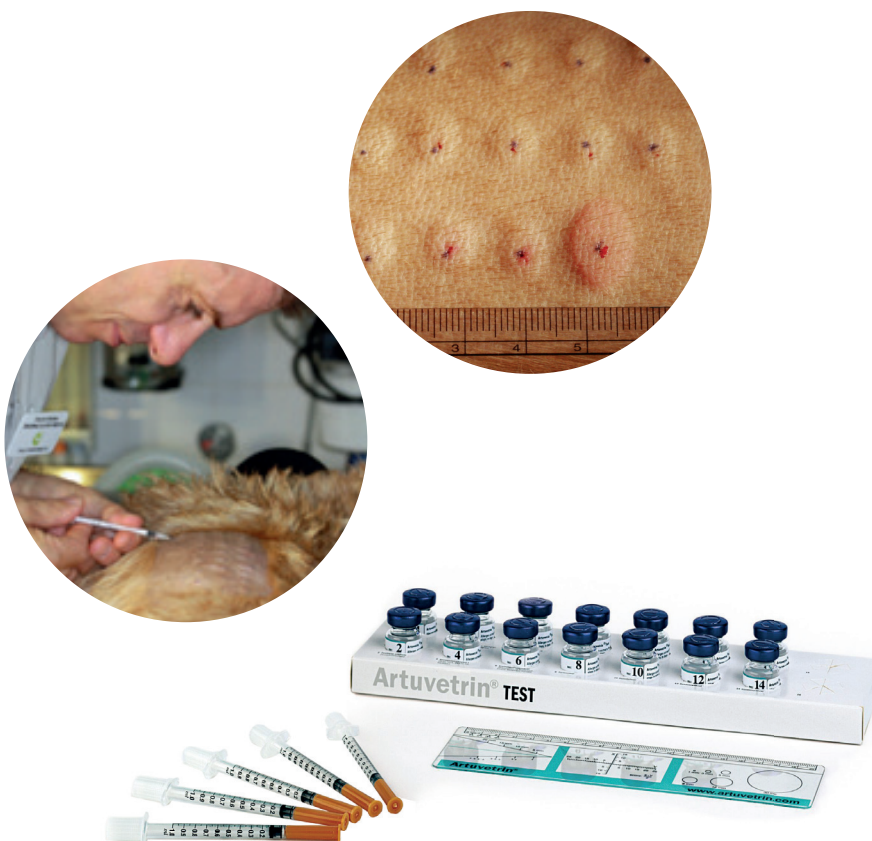


- 80 individual allergens or mixtures available
- 3ml vials (enough for 60 tests): cost-effective
- Supplied within 8 working days
- Concentrations based on determination of threshold values for reliable results
- Performed directly in the skin (local reaction): immediate result

Subsequently, it is possible to evaluate whether or not a local reaction develops at the site of the injection.

Based on the clinical history of the patient, it is possible to perform a skin test with the most relevant allergens. With over 80 individual allergens and mixtures available for skin testing, you can compose your own test set.

Before carrying out this test, any medication that could affect the results – including prednisone, cyclosporine and antihistamine – must be suspended typically for 2 – 6 weeks.



Treatment

Atopic dermatitis is a life-long condition, and for that reason any treatment option must be continued for life.

The best and simplest treatment is to avoid contact with the allergens. Unfortunately, most of the time this is not possible.

There are a number of short-term medications available to help control the allergy symptoms. These symptomatic medications, such as corticosteroids, cyclosporine, oclacitinib and lokivetmab are excellent at suppressing the allergic reaction, however they do not treat the root cause of the disease.

These medications can have significant disadvantages, especially when they have to be given as long-term

therapy over an animal's lifetime. For that reason, it is advisable to administer these medications for short periods.

After determining the cause of the allergy through Artuvetrin® Serum test and/or Artuvetrin® Skin Test, it is possible to produce an allergen-specific immunotherapy (hyposensitisation) specifically for each patient.

Allergen-specific immunotherapy is the only disease modifying therapy, which can make the immune system less sensitive, or not sensitive at all, to the allergens that trigger the allergic reaction.

Highest category of evidence and strength of recommendation

The international Task Force on Canine Atopic Dermatitis has concluded that allergen-specific immunotherapy has the highest category of evidence (COE 1a) and the highest strength of recommendation (SOR A) for the treatment of atopic dermatitis⁶.

Allergen-specific immunotherapy can be injected subcutaneously (Artuvetrin® Therapy) or by placing the allergenic extract in the animal's oral mucosa (Sublingual Immunotherapy)



Artuvetrin® Therapy

Artuvetrin® Therapy is the only licensed allergen-specific immunotherapy in Europe*. It is a custom made treatment produced individually for each animal.




- Treats the root cause, not only the symptoms
- Effective^{3,5,6}
- Safe⁴
- Only licensed therapy in Europe
- Delivery within 10 working days
- Identical allergens for allergy tests and therapies
- 10 months treatment with only one vial
- One vial, one concentration
- Easy to use

Artuvetrin® Therapy has proven efficacy^{3,5,6} and safety⁴. It has very few rare side effects and can therefore be given for long periods.

Artuvetrin® Therapy works by giving repeated doses of allergens, thereby stimulating an immune response in the body which leads to the build-up of immunological tolerance. It is the only treatment which alters the course of allergic disease while at the same time controlling the symptoms.

The efficacy rate for Artuvetrin® Therapy is 75%³



Under the European veterinary medicine regulations (Directive 2004/28/EC), Artuvetrin Therapy is the product of choice.

*Licensed in the Netherlands

Active ingredients (extracts)	250 NE
per dose of 1 ml:	
Agrostis gigantea	250 NE
Lolium perenne	250 NE
Anthoxanthum odoratum	250 NE
Phelipendula	25 NE
Dermis pteronyssinus	25 NE
Acarus siro	250 NE
Chenopodium album	250 NE
Typhlodromus	250 NE
Adjuvants:	
Aluminiumhydroxide	0,5 mg.

Administration and dosage

Schedule

The first dosage starts at 0.2ml, after which it is gradually increased over longer intervals to a maximum of 1.0ml. When this dosage is reached after 12 weeks, a fixed dose of 1.0ml is administered monthly.

Allergy is a chronic disease and every 10 months a follow-up vial is required.

Adviced schedule	Dosage
Week 1	0.2 ml
2 weeks later (week 3)	0.4 ml
2 weeks later (week 5)	0.6 ml
2 weeks later (week 7)	0.8 ml
3 weeks later (week 10)	1.0 ml
3 weeks later (week 13)	1.0 ml
4 weeks later (week 17)	1.0 ml
4 weeks later (week 21)	1.0 ml

Maintenance period: 1.0 ml every 4 weeks.

One vial of Artuvetrin®
Therapy lasts for
10 months.
Up to 8 allergens
per each vial



Possible deviations

In some particular cases, it can be necessary to deviate from the standard dosing schedule, for example:

Are symptoms occurring or worse immediately after the Artuvetrin® injection and reducing after 1-2 days?

Sometimes the dosing schedule seems to be too quick for some animals. It is best to take a step back for 1 or 2 times in the dosing schedule (for example, giving 0.8 ml instead of 1.0 ml). If needed, symptomatic medication can be given concomitant to alleviate the symptoms and calm the skin.

Are the symptoms coming back 1-2 weeks before the new injection?

The interval can be too long for the animal. It is possible to adjust the interval to 0.8 ml every 3 weeks or 0.5 ml every 2 weeks. This then becomes the new maintenance dose. Adjusting the interval is only recommended if the dog was already on the maintenance dose (1.0 ml every 4 weeks).

Our allergy experts are always available to discuss particular cases in order to find the best schedule for your patient.



Management

A multimodal approach to allergy is very important. You can use in conjunction with Artuvetrin® Therapy other products that can help control the symptoms of allergy when necessary.

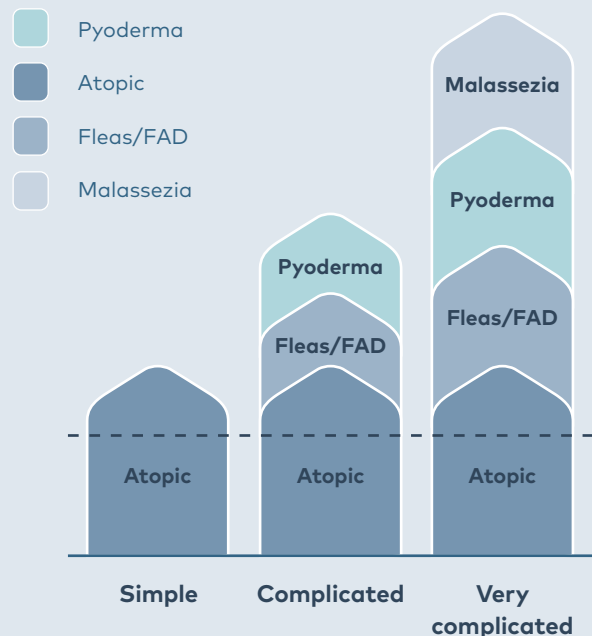
Products like EFAs can support the skin barrier and help control inflammation. Products and different measures can reduce significantly the exposure to allergens. For more information about these products, please refer to the last two pages of this brochure. Symptomatic medication can reduce allergic symptoms, especially during build-up phase of immunotherapy and in case of flare ups.

Pruritic threshold and flare-ups

In case of a flare-up, the symptoms suddenly appear or worsen. This means that the animal has risen above the pruritic threshold. It can happen due to different causes:

- more contact with allergens
- secondary infection (yeast, bacterial, etc.)
- other skin irritation due to fleas, swimming, more or less washing, etc.

With a flare-up, it is important to find the cause and prevent it. If the cause is unknown, it can sometimes be sufficient to correct the symptoms with temporary symptomatic medication.



A multimodal approach

A multimodal approach to allergy is very important. You can use in conjunction with Artuvetrin® Therapy other products that can help control the symptoms of allergy when necessary.

Control environmental exposure



Avoid contact with allergens is the most effective way to treat the symptoms. Although most of the allergens are impossible to avoid, there are some preventive options than can help.

Pet's Relief® ALLERGONE is an innovative allergen neutralizing spray designed to reduce the exposure to house dust allergens. It provides a long term protection of 5 months after a single application.

Skin health supplements

It is believed atopy is associated with a defect skin barrier. This makes it easier for allergens to penetrate the skin and cause symptoms. Dietary skin supplements can support and improve the skin barrier⁸.

Pet's Relief® ATOPI-3 is a complete and well-balanced dietary supplement that includes omega 3 (EPA and DHA), Zinc, MSM (methylsulfonylmethane), Vitamine A, Vitamine C and Vitamine E. It is specially developed to maintain the natural skin barrier, to promote skin repair, to help control excessive skin inflammation and to support neutralization of free-radicals (antioxidant).



Loyalty & Care Program

Our Loyalty & Care Program offers you total support, which enables you to provide your customers with fully customised care.

All latest information and developments

Subscribe to our newsletter, visit our website (www.artuvet.com) or contact us by email or phone. Our specialised staff are happy to help.

Free educational programs

Sign up for unlimited educational programs including: Lunch&Learns, webinars, DermaTalks, in-house days, my allergic pet sessions, etc.

Online ordering

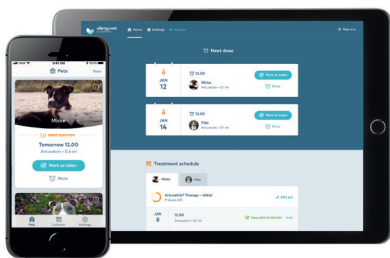
At www.artuvet.com you can find not only information, digital order forms and materials, but you can also order our products directly in a comfortable, easy and practical way.

Reminder service for your practice

When you sign up for the Artuvetrin reminder service you receive personalised emails that can be used to remind your clients to reorder Artuvetrin® Therapy in time. You don't need to keep track of when the subsequent therapy is needed.

Allergy Treatment App and Web-reminder for the pet parent*

Pet parents can simply download the free allergy.vet app from the app store to keep track of doses given and receive a reminder when a follow-up-treatment needs to be ordered.



Pet parent materials*

Pet allergies: All the background information about allergies, testing, and treatment options.



Allergen Guide: Information about common allergens and tips about how to reduce exposure.

Treatment Diary with itching scale:

Each patient may react differently to a treatment. The diary can be used to record reactions and observations in order to adjust the treatment schedule, if necessary. Scoring the extent of itching can give an insight into the effectiveness of the treatment.



*All these materials are included in the Artuvetrin® startKIT



References

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- 2 Garcia-Gallo, et al. ESVD Proceedings book (2011) 150
- 3 Willemse. Tijdschr. Diergeneesk. Deel 129 (2004) 402-408
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- 6 International Task Force on Canine Atopic Dermatitis. 2010 clinical practice guidelines for the treatment of canine atopic dermatitis. Vet. Derm. 21 (2010) 223-248
- 7 Olivry, et al. Evidence-based guidelines for anti-allergic drug withdrawal times before allergen-specific intradermal and IgE serological tests in dogs. Vet. Derm. 24 (2013) 225-232
- 8 Logas D et al. Vet Dermatol. (1994) 5 (3) 99-104