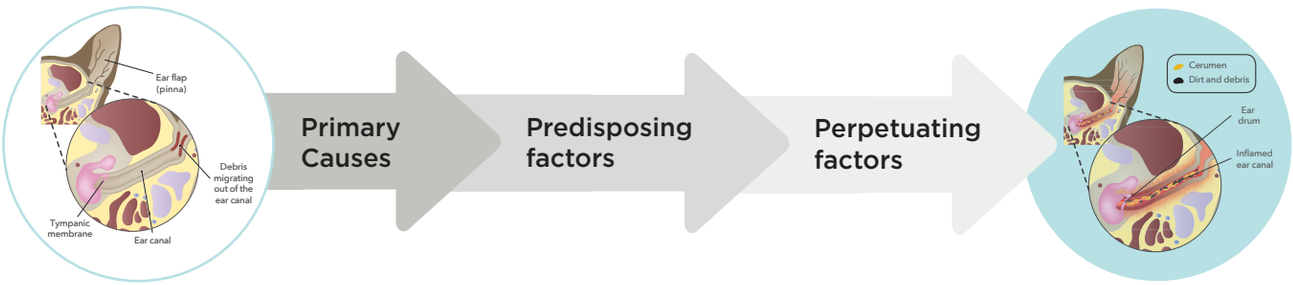
# Recurrent otitis externa and the use of topical glucocorticoids

**55% of dogs diagnosed with atopic dermatitis may show signs of otitis externa.**
In 3 to 5% of atopic dogs, otitis externa may be the only clinical sign.

Any disease that affects the skin can also affect the external ear canals.[1]

Allergy, especially atopic dermatitis, is the most common primary trigger for otitis externa in dogs. Ear disease recurs, and acute disease progresses to chronic, often irreversible disease when there is a failure to identify and manage the primary cause (or causes) for the presenting otitis externa.[1]

In dogs with allergies as the primary trigger (eg atopy, food allergy and contact allergy), skin barrier function may be compromised and it's important to ensure that any cleansing solutions used are well tolerated and do not exacerbate inflammation or irritation.




## PAW Gentle Ear Cleaner

**PAW Gentle Ear Cleaner is formulated to be a gentle and low irritant alternative for cleaning your pet's ears. PAW Gentle Ear Cleaner effectively clears the ear canal of excess ear wax and debris to help maintain a normal ear environment.**

**Features & Benefits:**

- Gentle ceruminolytic ear cleaner
- Utilises cold pressed citrus oil & gentle surfactants to effectively remove cerumen without compromising the skin barrier
- Reduces ear odours
- Contains no alcohol or acids
- Easy to apply using the flexible applicator nozzle
- Once a week maintenance application
- Suitable for dogs & cats


**Active Ingredients:**

- Cold pressed citrus oil
- Hydrolysed oat protein
- Deionized water
- Gentle botanically derived surfactants

**Dosage:**

Once a week for maintenance of a healthy ear environment

**Size:**

120ml bottle

**Storage:**

Store below 30°C

**Warnings/Safety:**

- For animal use only
- Do not use if tympanic membrane is ruptured

# Recurrent otitis externa and the use of topical glucocorticoids

Recurrent episodes of otitis externa can be associated with multiple underlying problems including foreign bodies, recurrent wetting and ear canal anatomical abnormalities, but the most common underlying trigger for recurrent otitis externa is underlying allergies, especially atopic dermatitis and adverse food reactions.

The reasons for this are multiple, and include decreased skin barrier function (allowing better penetration of microbes, microbial toxins and allergens), increased microbial adhesion to skin cells, reduced innate immune responses, and increased inflammation in the ear canal wall. These changes to the otic microenvironment favour overgrowth of normal ear flora (typically *Staphylococcus pseudintermedius* and/or *Malassezia pachydermatis*) leading to recurrent infection. Secondary implantation (e.g. from scratching) of environmental bacteria into this moist environment followed by antibiotic selection pressure starts the progression towards more complex infections (e.g. *Pseudomonas* spp).

In clinical practice at the Animal Skin and Ear Specialists, it has been found that once weekly topical glucocorticoids are usually adequate to control relapse of otitis externa in most allergic dogs without ear canal anatomical abnormalities. Maceration has not been seen as a consequence of once weekly long term therapies, although it has been seen occasionally in some cases requiring twice weekly therapy. Other side effects, aside from occasional focal hair loss at the base of the pinnae and focal comedones on the tragus, have not been noted in their experience in dogs. Cats are a little more susceptible to topical glucocorticoid side effects including acquired 'floppy' pinnae.

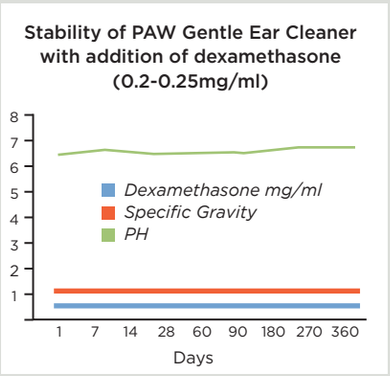
The specialist team typically use 0.1% mometasone lotion, 0.05-0.1% dexamethasone or hydrocortisone aceponate 0.0584%. Critical to success is ensuring the ear canal is as normal as possible prior to commencement of therapy. Starting prevention therapies prematurely following treatment of otitis markedly increases the risk of their failure. In previous years commercial otic formulations have been used to achieve this but with the rising prevalence of methicillin-resistant *S. pseudintermedius* in companion animals, routine preventative use of systemic or topical antibiotics is to be avoided where possible.

Glucocorticoids have anecdotally been added to ear cleaners and whilst efficacy has not been assessed clinically, they should be effective. Clinicians should remain aware of maceration as a risk especially with twice weekly or greater use (the latter of which is not recommended) long term, and that infection may recur secondary to maceration.

If an ear continues to relapse with otitis despite appropriate preventative therapies then reassessment of both the ear canal and the underlying diagnosis is warranted because

- exudate in the deep ear canal can prevent penetration of topical glucocorticoids
- exudate in the deep ear canal can entrap otherwise undiagnosed infection
- topical glucocorticoids are going to be most effective where allergies are the underlying trigger for the recurrent otitis

## PAW Gentle Ear Cleaner + Dexamethasone stability (0.2mg/ml) [2,3,4]




### Method:

- Stored at 25°C/60% relative humidity for 12 months. One bottle was allocated for each time point assigned in the testing schedule.
- The product was examined at Day 1, 7, 14, 28, 60, 90, 180 and 360 days for organoleptic properties (appearance), physical properties (specific gravity, pH) and dexamethasone content.

### Results:

- The organoleptic properties of the formulation remained consistent over the 12 months, with no notable change in specific gravity or pH.
- Dexamethasone was stable in PAW Gentle Ear Cleaner after 12 months storage at 25°C/60% relative humidity in 120ml HDPE bottles.

## Summary

- The most common underlying trigger for recurrent otitis is underlying allergies.
- Topical glucocorticoids are effective for prevention of allergic otitis because they control the early steps of inflammation which would otherwise progress to create a microenvironment suitable for microbial overgrowth and subsequent infectious otitis.
- Once weekly topical glucocorticoids are often adequate to control relapse of otitis externa in allergic dogs prone to recurrent otitis when administered to a clean and non-infected ear canal.
- If the ear continues to relapse, reassessment of the ear canal and the diagnosis are warranted.


**REFERENCES:** 1. Paterson, Sue. (2016). Discovering the causes of otitis externa. In Practice. 38. 7-11. 10.1136/inp.i470. 2. Stahl J, Mielke S, Pankow WR, Kietzmann M. Ceruminal diffusion activities and ceruminolytic characteristics of otic preparations - an in-vitro study. BMC Vet Res. 2013;9:70. Published 2013 Apr 10. doi:10.1186/1746-6148-9-70 3. Bajwa J. Canine otitis externa - Treatment and complications. Can Vet J. 2019;60(1):97-99.4. Paterson, S., 2016. Topical ear treatment - options, indications and limitations of current therapy. Journal of Small Animal Practice, Volume 57, pp. 668-678.

paw PURE ANIMAL WELLBEING by BLACKMORES