



## **RECURRENT EAR INFECTIONS**

Ear disease ('canker', otitis externa) is a common, recurrent problem in many dogs, and some cats. Treating the secondary infections will often result in only a short to medium term resolution. Recurrence is very likely unless the primary cause is detected & treated. The ear(s) may be inflamed only, or inflamed and infected with any combination of yeast, round or rod-shaped bacteria, and/or with parasites.

The factors, causing ear canal inflammation & infection, can be divided into four categories - primary, predisposing, perpetuating & secondary – listed below. Examples of the most common causes are given:

### **Primary causes**

These factors directly induce ear inflammation (otitis externa):

- Hypersensitivity
  - Atopic dermatitis** (the most common cause)
  - Adverse food reactions (food allergy or dietary intolerance)
  - Contact hypersensitivity
- Parasites
  - Ear Mites *Otodectes cynotis*
  - 'Fox' mange *Sarcoptes scabiei*
  - Demodex canis* mites
  - Ticks & fleas *Echidnophaga gallinacea*, *Spilopsylla cuniculi*
- Foreign bodies
  - Grass seeds/awns
  - Loose hair, sand, dirt, medication concretions (grooming powders)
- Keratoseborrhoeic
  - Hypothyroidism
  - Primary Idiopathic Seborrhoea
  - Vitamin A - responsive Dermatitis
- Local Glandular disorders
  - Ceruminous gland hyperplasia
  - Sebaceous gland hyper- or hypoplasia
  - Altered secretion rate
  - Altered type of secretion
- Autoimmune diseases
  - Granulomatous Sebaceous Adenitis
  - Pemphigus foliaceus and erythematousus
  - Lupus erythematosus
  - Cold agglutinin disease
  - Epidermolysis bullosa acquisita
  - Vasculitides
- Microorganisms
  - 'Ringworm' (Dermatophytosis) *Microsporum canis* etc
- Viral
  - Distemper
- Inflammatory
  - Eosinophilic dermatitis-granuloma
  - Frostbite & solar (actinic) dermatitis – white cats & dogs
  - Juvenile cellulitis
  - Proliferative & necrotising otitis externa (feline)
  - Nasopharyngeal polyps
  - Relapsing polychondritis
  - Sterile eosinophilic folliculitis



### Predisposing factors

These factors increase the risk of development of ear disease but do not directly induce it:

- ① Conformation Long, dangling ear flaps (pendulous pinnae)  
Hairy ear canals (hirsutism)  
Stenotic canals
- ② Excessive moisture 'Swimmer's ear'  
High humidity environment
- ③ Excessive cerumen (wax)
- ④ Treatment effects Hair plucking (Groomers)  
Cotton bud trauma
- ⑤ Obstructive disease Benign cutaneous neoplasia  
Polyps
- ⑥ Systemic disease Immune suppression or viral disease  
Generalised neoplastic disease  
Debilitation and negative catabolic states

Please note the first factor, conformation of the ear, does not directly cause ear disease. This is a common misconception. If this was true then all dogs with large, floppy, and/or hairy ears would have recurrent ear infections.

### Perpetuating causes

These factors prevent complete resolution of the disease, sometimes permanently.

- ① Progressive pathological changes (from chronic inflammation and recurrent infections)
  - Ceruminous Gland hyperplasia
  - Disruption of elevator clearance mechanism
  - Fibrosis - scarring
  - Hidradenitis
  - Hyperkeratosis
  - Hyperplasia – increased epithelial folds
  - Oedema – swelling
  - Ossification of ear cartilage
- ② Otitis media (middle ear disease)
  - Simple purulent
  - Caseated or keratinous
  - Choleostoma
  - Proliferative
  - Destructive osteomyelitis

### Secondary infections

Microbial infections, which are never primary, often cause the more acute clinical signs and this further progression leads to another visit to the Vet.

- ① Yeast *Malassezia pachydermatis*, *Candida sp.*
- ② Bacteria *Staphylococcus pseudintermedius*, (*Streptococcus sp.*)  
*Pseudomonas sp.* (*Proteus sp.*, *Escherichia coli* etc.)

Therefore the more infections that a patient undergoes the more difficult it may be to reverse the progression of the ear disease.

Eventually permanent damage will ensue and surgical treatment will be the only option through re-referral to a Soft Tissue Surgeon for salvage surgery (total ear canal ablation with bulla osteotomy).