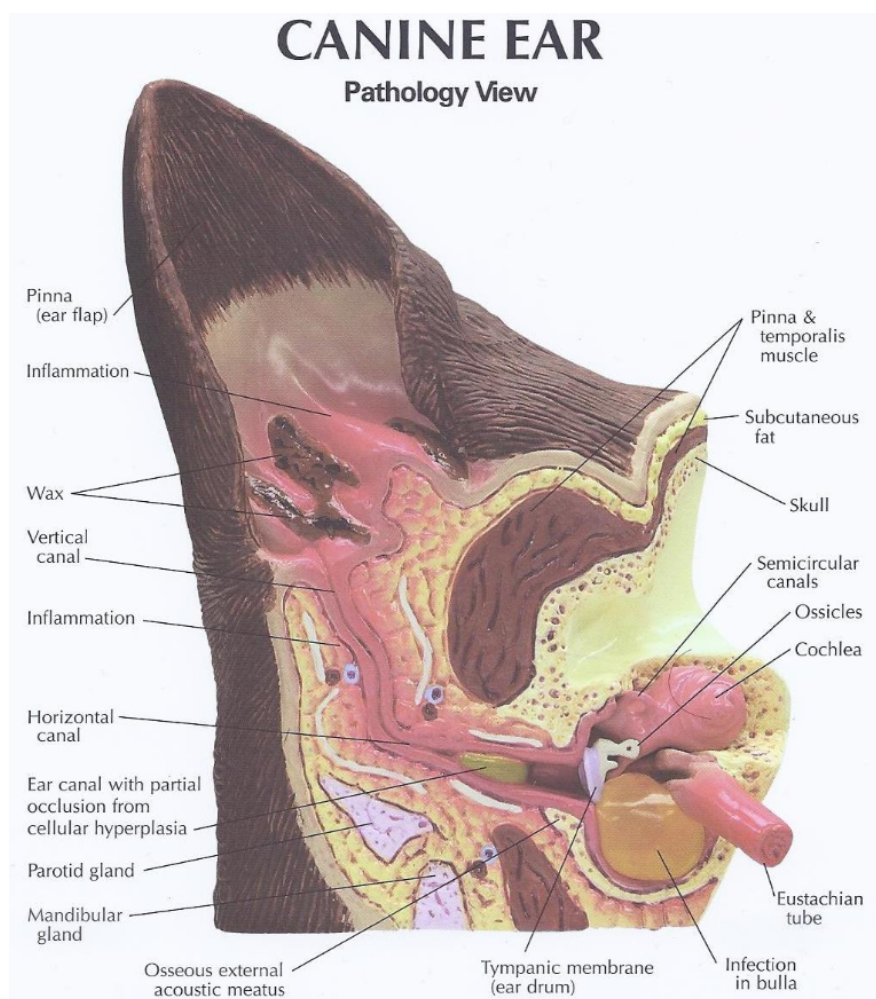


Otitis (Ear Disease)

What is Otitis?

Otitis is inflammation of the ear. The inflammation can affect both the skin of the ear flap (pinna) and also the skin lining the ear canals.

The external ear canals of dogs and cats start and are wide open at the base of the pinna. They are L-shaped skin-lined tubes that extend down to a semi-transparent membrane called the tympanic membrane (the ear drum). Inflammation affecting this part is called **otitis externa**.



The tympanic membrane (ear drum) sits at the deepest part of the external ear canal. It is responsible for transmitting sound waves to the brain. It does this by transferring vibrations to 3 small bones which sit in an air-filled cavity on the other side of the ear drum. This cavity at the base of the skull is surrounded by bone and is called the middle ear. Inflammation affecting this part of the ear canal is called **otitis media**.

Very rarely, inflammation can affect the very sensitive deep structures of the inner ear (the cochlea, vestibule and semicircular canals) resulting in **otitis interna**.

Of the three types of otitis, otitis externa is by far the most common and will be seen by most vets working in general practice on a daily basis.

What causes otitis?

Inflammation of the ear can be caused by many factors, and there is often more than one cause present in a patient with inflamed ears. Because the ears are lined with skin made up of the same skin cells as the rest of the dog or cat, inflammation of the ear canals is frequently a result of more widespread skin disease, explaining why dermatologists are responsible for treating many of these cases.

Contrary to popular belief, ear infections caused by bacteria and yeast are very rarely the underlying cause of otitis. These infections usually develop later. The bacteria or yeast take advantage of an already altered and inflamed ear canal caused by other factors.

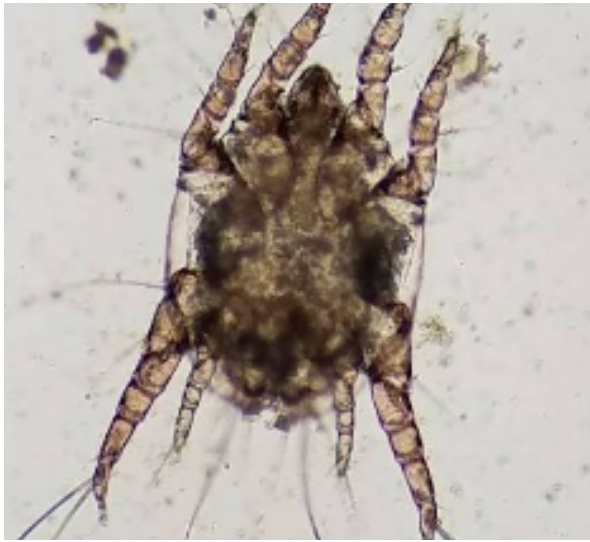


The most common initiating causes of otitis include:

- parasites (ear mites),
- foreign bodies (like grass seeds),
- allergic skin disease.

Rarer causes include hormonal diseases and growths (tumours) in the ear canals.

There may also be contributing factors which contribute to the formation and persistence of otitis externa, such as increased humidity, poor ventilation (e.g. from excessive hair or droopy pendulous ears) and regular swimming.

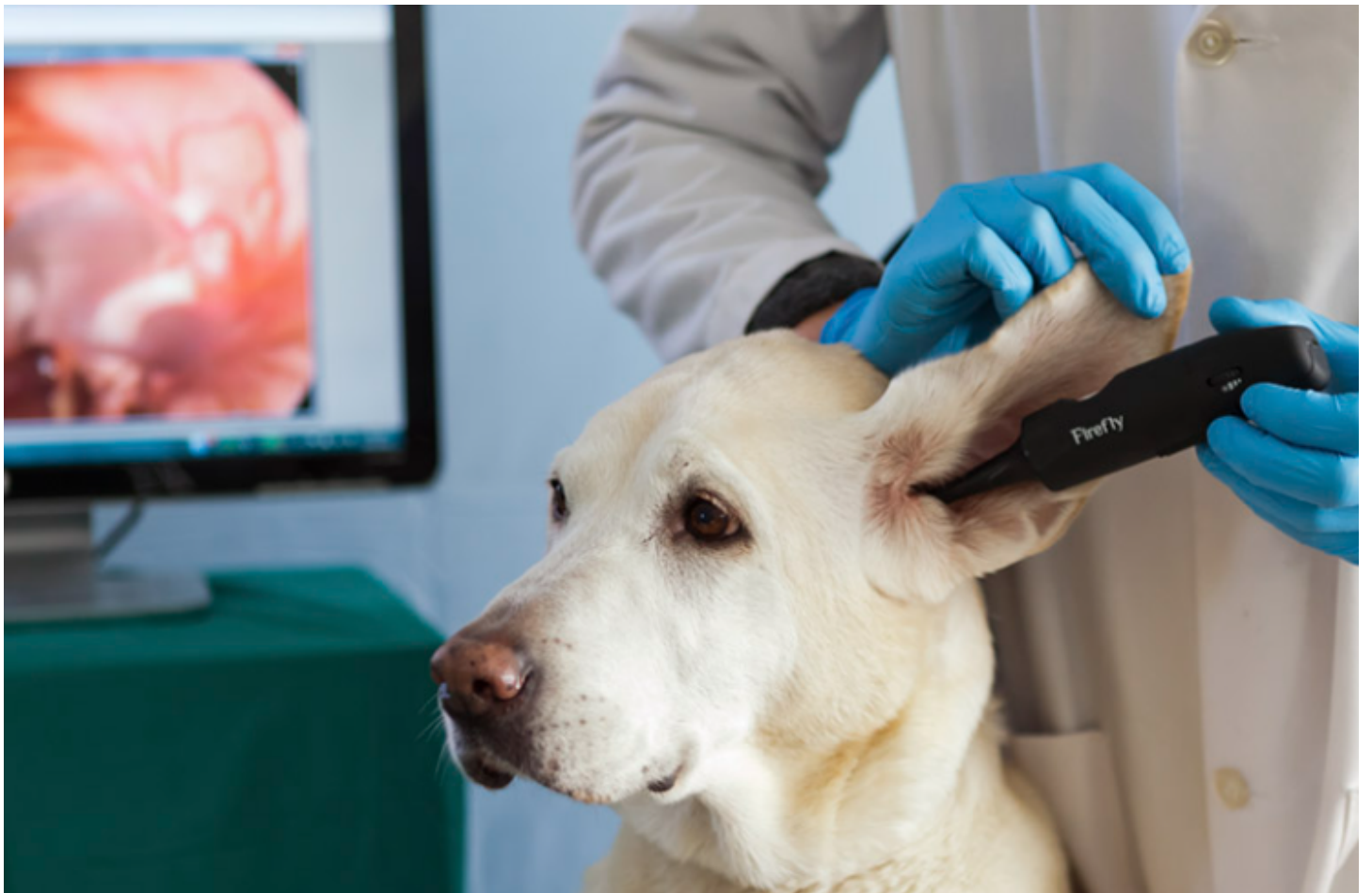


Otodectes (ear mites) and a grass seed.

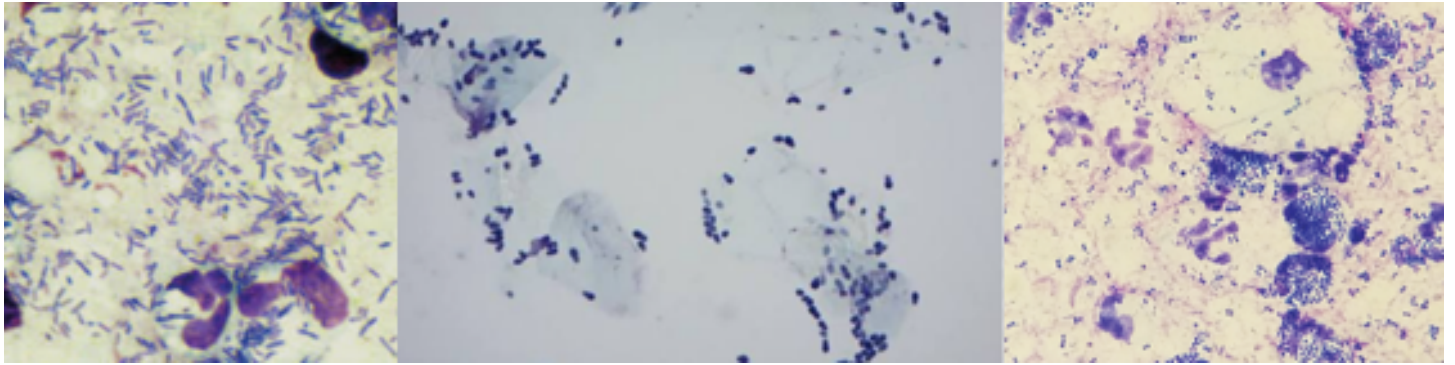
Successful resolution of otitis is achieved only when all of the factors contributing to its formation are identified and controlled.

How is otitis diagnosed?

In many cases, otitis externa (external ear canal only) is suspected with a thorough history and clinical examination. In some cases, such as those caused by grass seeds, the cause of otitis will be apparent straight away on otoscopic examination.



Secondary infections can be identified by taking swabs from the ears, staining them using special stains and examining them under a microscope. This allows us to look for bacteria (cocci or rods) and yeast. In some cases, it may necessary to send these samples off to a laboratory to grow (culture) the infectious organisms and see what antibiotics are appropriate.



Rods, malassezia and cocci on microscopy.

In more long standing, recurrent or difficult cases that are not responding to treatments, the risk of otitis media (inflammation beyond the ear drum) becomes much higher and further investigations are usually needed.

As this area is deep within the skull and beyond the ear drum, it is not possible to see inflammation at this location. In order to assess this area, imaging is needed and this is most effectively achieved with a CT scan, which gives a very detailed image of the patient's skull. Under general anaesthesia, a camera called a video-otoscope can also be inserted deep down into the external ear canal to assess the deeper portions of the canal and inspect the tympanic membrane (ear drum) for damage. It is often necessary to take samples or swabs from these deeper parts, including beyond the ear drum, to ensure that deeper infections are identified.



Treating otitis

Otitis can only be treated effectively when all the factors contributing to its formation have been addressed. Ideally, the initiating factors are identified and treated accordingly. Many cases of recurrent otitis in dogs and cats are caused by allergic skin diseases, so management of these conditions is essential to prevent future relapses. This may involve diet trials, lifestyle modification, anti-itch medication, steroids or monthly monoclonal antibody injections.

Secondary infections are usually treated with ear cleaners, appropriate ear drops, topical steroid or anti-fungal sprays, and anti-inflammatory steroids. Some infections, such as pseudomonas, develop a thick biofilm, which prevents the topical ear drops from penetrating and killing the bacteria. In these cases, an ear flush under general anaesthetic may be required to get the treatment started. After that, an ear wash product containing Triz-EDTA, can be used to help to breakdown the greasy biofilm and therefore allow the antibiotics to penetrate, to kill the bacteria.

In some cases, management changes are also required to alter factors such as ear canal humidity and ventilation.

In severe cases, when the ear becomes chronically thickened and narrow (stenotic), or a patient is suffering from a recurrent or resistant infection, a Total Ear Canal Ablation (TECA) surgery may be recommended to remove the whole of the diseased ear canal.

What is the outlook?

In cases of otitis externa (external ear canal only), the prognosis for a successful outcome is usually very good if the contributing factors can be identified and addressed quickly and successfully. Cases of otitis media (involvement beyond the ear drum) carry a more uncertain prognosis but many can be successfully treated with the aid of CT scans and video-otoscopy procedures. In rare or poorly responsive cases, surgery is sometimes needed.

To book your dog in for a health check, please call us on 01423 228080 or visit

www.clarohillvets.co.uk