Specialist Referral Service
Willows Information Sheets

Ear disease
Ear disease

What is Otitis?

Otitis is a term that describes inflammation of the ear. Inflammation can affect both the skin of the ear flap (pinna) and also the skin lining the ear canals themselves.

The ear canals of dogs and cats are open to the outside world at the base of the ear flaps, and are L-shaped skin-lined tubes that extend down to a semi-transparent membrane called the tympanic membrane or ear drum (figure 1). The part of the ear canal from the entrance down to the tympanic membrane is called the external ear canal (figure 2), and inflammation affecting this part is called ‘otitis externa’.

The tympanic membrane (ear drum) sits at the deepest part of the external ear canal, and is responsible for transmitting sounds waves through 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 membrane. This cavity at the base of the skull is surrounded by bone and is called the middle ear cavity. Inflammation affecting this part of the ear canal is called ‘otitis media’.

The 3 bones of the middle ear cavity transmit the vibrations through to the hearing centres of the brain. Very rarely, inflammation can affect these very sensitive deep structures 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 at any given time in a patient with inflamed ears. Inflammation of the skin lining 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 fungi are very rarely the underlying cause of otitis. These infections usually develop later, taking advantage of an already altered and inflamed ear canal caused by other factors. By far the most common initiating causes of otitis include parasites, foreign bodies (like grass seeds) and allergic skin disease (figure 3). Rarer causes include hormonal diseases and growths (tumours) in the ear canals (figure 4). Factors such as increased humidity and poor ventilation (e.g. from excessive hair) can also contribute to the formation and persistence of otitis.

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) can be diagnosed with a thorough history and clinical examination. In some cases, such as those caused by grass seeds, the cause of otitis will be apparent at a very early stage. Secondary infections can be identified by taking swab samples from the ears and examining them under a microscope. In some cases, it is necessary to send these samples off to a laboratory to grow (culture) the infectious organisms.

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. Secondary infections are usually treated with ear rinsing procedures, appropriate ear drops and tablets and cleaning solutions. 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.

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

What is the outlook/prognosis?

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. 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. For further information regarding ear surgery, see our related Total Ear Canal Ablation (TECA) in dogs information sheet.

Why should I bring my pet to Willows for investigations and treatment of otitis?

Willows has a team of recognised, accredited Specialists working in a state-of-the-art hospital to ensure the highest standards of care. Our Specialist in dermatology has extensive experience of managing complex cases of otitis. Specialists in diagnostic imaging run the sophisticated CT and MRI imaging facilities, and this, along with video-otoscopy performed by our dermatology Specialist, allows cases of otitis to be investigated fully. The Specialist-led anaesthesia service is also present to ensure a smooth and uneventful recovery from ear procedures performed under general anaesthesia.

If you have any queries or concerns, please do not hesitate to contact us.
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