

# Chronic Otitis

- Chronic ear infections may involve bacterial or yeast overgrowth in the external, middle, or inner ear.
- Chronic infection can permanently damage the ear canal and cause pain, neurologic signs, and deafness.
- Ear infections are usually secondary to an underlying condition that allows for an unhealthy ear environment.
- Treatment is based on eliminating the bacteria or yeast with antibiotics or antifungal medication while working to resolve the underlying condition.
- Regular ear cleanings and resolution of the underlying condition help to prevent recurrence.

### What Is a Chronic Ear Infection?

Ear infections are usually secondary to inflammation of the external ear canals (the tube-shaped part of the ear visible under the ear flap). Inflammation of the canals leads to the reproduction of normal bacteria and yeast that live in the ear to the point where the body is unable to control their numbers (called *overgrowth*). Other bacteria can also take advantage of the inflammation and unhealthy environment inside the ear to establish infection. The overgrowth of these organisms causes more inflammation. Inflammation of the ear canal causes swelling, making the tube narrower than usual. Inflammation also causes an increase in the production of wax. The ears become very itchy and painful. Severe ear infections can lead to eardrum rupture and middle and inner ear infections. Deep infections can lead to deafness and neurologic signs.

Certain disorders or diseases may be the primary reason ear infections develop. These conditions include:

- Allergies (environmental and food)
- Ear mites
- Foreign bodies
- Skin disorders (like seborrhea)
- Thyroid disease (in dogs)
- Tumors or polyps in the ear

Ear infections may recur because of the inability to control the original infection or treat the underlying

cause. Chronic changes lead to future infections, and scar tissue and permanent narrowing of the ear canals can make future infections difficult to treat.

### What Are the Signs of an Ear Infection?

An external ear infection first shows signs of local inflammation (redness, discharge). Pets may shake their heads, scratch their ears, or rub their ears against furniture or the floor. Some pets with severe infections may cry or groan as they rub and scratch their ears. Some pets scratch so severely that their nails create wounds on the skin around their face, neck, and ears.

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External ear infections may progress to involve the middle and inner ear, leading to more serious signs of disease:

- External ear infection (*otitis externa*)
  - Itchy or painful ears
  - Head shaking
  - Discharge and odor from the ears
  - Narrowing or even closing of the canals
- Middle ear infection (*otitis media*)
  - Paralysis of the nerves in the face
  - Dry eye
  - Hearing loss
  - Abnormal pupil size
- Inner ear infection (*otitis interna*)
  - Inability to keep balance, stand, or walk
  - Nausea
  - Head tilt

### How Is an Ear Infection Diagnosed and Treated?

During a physical examination, your veterinarian will look in the ear for the presence of inflammation,

## Common Conditions

redness, discharge, growths, or other findings that may indicate an ear infection. Sometimes, a cotton swab is used to collect debris from the ear. This material can be placed on a slide and examined under a microscope to determine if the infection is due to yeast, bacteria, or mites. Your veterinarian may also collect a sample of ear debris for culture and sensitivity testing, which identifies the exact organisms present and helps your veterinarian select the best antibiotic to use.

In severe cases, or if the animal is in too much pain to permit an examination of the ears, sedation may be needed to evaluate the ears, collect samples of discharge, clean the ears, and initiate treatment. With the pet sedated, the ears can be gently flushed to remove debris and facilitate better examination of the ear. Radiographs (x-rays) and other diagnostic tests can be performed while the pet is sedated to determine if the middle or inner ear are also involved.

Once the infection has been identified, most animals with chronic ear infections can be treated at home. Ear mites are relatively easy to treat with medication placed directly into the ear or applied topically between the shoulder blades. Most yeast

and bacterial infections can be treated with regular cleanings and topical or oral medication. When inflammation is severe, a steroid may be needed to give comfort to your pet and decrease the swelling around the ear canals.

If there are underlying problems such as thyroid disease or seborrhea, these must also be addressed to clear the infection and reduce the chances of recurrence.

If the ear canals have been permanently narrowed or damage is otherwise severe, surgery may be recommended to allow for drainage and application of medication. In other cases, more extensive surgery may be recommended to prevent the pet from being in chronic pain due to a permanently deformed, infected ear.

### How Can Ear Infections Be Prevented?

Once an infection has been cleared, maintaining a healthy ear environment with regular cleaning helps prevent recurrence. Unfortunately, regular cleaning isn't always enough. Underlying diseases such as allergies and skin disorders must be identified and resolved in order to help avoid future infections.