

## BASIC INFORMATION

### Description

Otitis externa is inflammation of the external ear canal. In many cases, the ear pinna (flap), middle ear, or both are also involved.

### Causes

Many different factors are involved in the development of otitis externa, including predisposing factors, primary causes, and perpetuating factors. Predisposing factors alter the environment of the external ear canal, thereby allowing secondary bacterial and yeast infections to develop. Some examples are:

- Pendulous (floppy) ears
- Ear canals with a small or narrow diameter (stenotic)
- Numerous glands in the ear canals that overproduce wax
- Excess hair in the canal
- Frequent swimming (“swimmer’s ear”)
- Mechanical trauma to the ear canal from overzealous cleaning with potent drying agents, use of cotton-tipped applicators for cleaning, or vigorous plucking of hair from the canal

Primary causes include conditions that directly induce ear inflammation, such as the following:

- Parasites, such as mites or ticks
- Plant material, such as grass awns
- Allergic skin disease, such as atopic dermatitis or food allergy
- Autoimmune skin diseases, in which the immune system attacks components of the skin
- Keratinization disorders, such as idiopathic seborrhea, that result in excessive wax production in the ear canal
- Hormonal disorders, such as low thyroid levels (hypothyroidism)
- Masses in the ear canal, such as benign inflammatory polyps and tumors
- Foreign bodies

Perpetuating factors prevent resolution of the ear inflammation or worsen an existing ear disease and may include the following:

- Bacterial and yeast infections
- Inflammation of the middle ear (otitis media)
- Progressive or persistent changes in the ear canal, such as swelling, scarring, and mineralization (calcification)

### Clinical Signs

Otitis externa occurs in dogs more frequently than in cats, and in animals of any age or gender. The most common breeds of dog affected include the cocker spaniel, golden retriever, Labrador retriever, and miniature poodle; however, otitis externa may affect any dog.

The most common signs of otitis externa are discharge and odor from the ear, redness and swelling of the ear, rubbing or pawing at the ear, shaking of the head, and decreased hearing.

### Diagnostic Tests

Physical and dermatologic examinations are performed to identify predisposing factors and primary causes of the otitis. An ear examination with an otoscope is done to evaluate the amount of debris and exudate in the ear, to look for changes in the ear canal, and to evaluate the eardrum (tympanic membrane). The ear canal is swabbed, and the material collected is examined under the microscope to look for bacteria, yeast, and ear mites. In certain cases (especially in chronic otitis), an ear swab may be submitted for bacterial culture.

Diagnosis of underlying diseases often requires further testing, such as laboratory and hormonal tests, allergy testing, skin scrapings, and biopsies.

## TREATMENT AND FOLLOW-UP

### Treatment Options

The goals for treatment of otitis externa are to remove debris from the ears, relieve inflammation, resolve infections, control predisposing and perpetuating factors, and treat the primary cause. Common medications applied to the ear include cleaning and drying agents, antibiotics and antifungals to treat the infection, and steroids to relieve itching and swelling. In severe cases, oral medications (steroid, antibiotic, antifungal) may also be prescribed.

Specific treatment for any underlying conditions is also started. Treatment of ear mites requires that all animals in the household be treated, because ear mites are contagious to other animals.

In some cases of otitis externa, the changes in the ear canal cannot be managed with medications, and surgery is needed. The most common surgery performed is a total ear canal removal (ablation) and bulla osteotomy. Surgery relieves pain, helps resolve infection, and can be used to remove masses in the external and middle ear.

### Follow-up Care

Follow-up visits are critical to the management of otitis externa. It is important to continue all prescribed medications until the recheck examination, because, although the clinical signs may resolve soon after starting the medications, infection may still be present. Contact your veterinarian if the signs worsen or recur.

### Prognosis

Some cases of otitis externa (such as ear mites) are easy to resolve, but others are not easily cured and may only be controllable. Prognosis is good if early treatment and resolution of the primary causes and predisposing and perpetuating factors are achieved. Chronic, recurrent otitis externa, especially those cases complicated by severe bacterial infections, may be difficult to control and may require surgery.