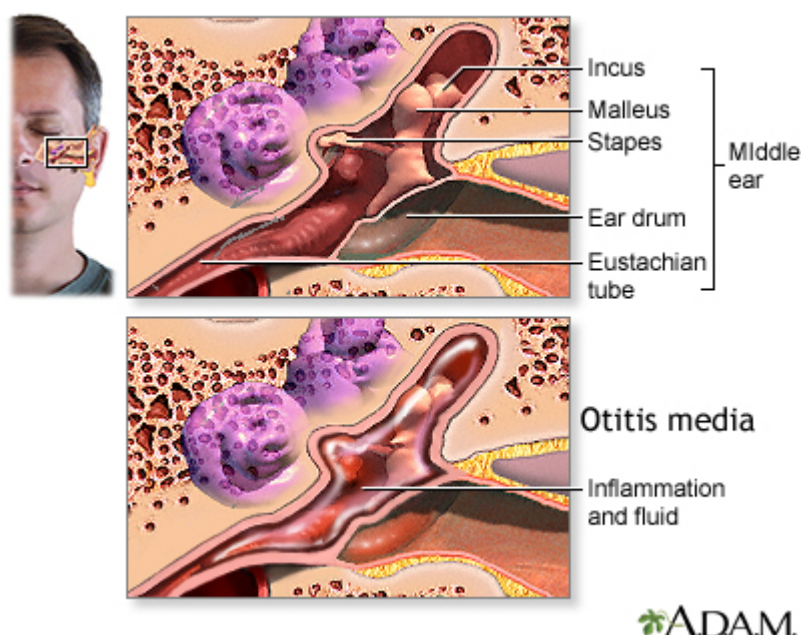


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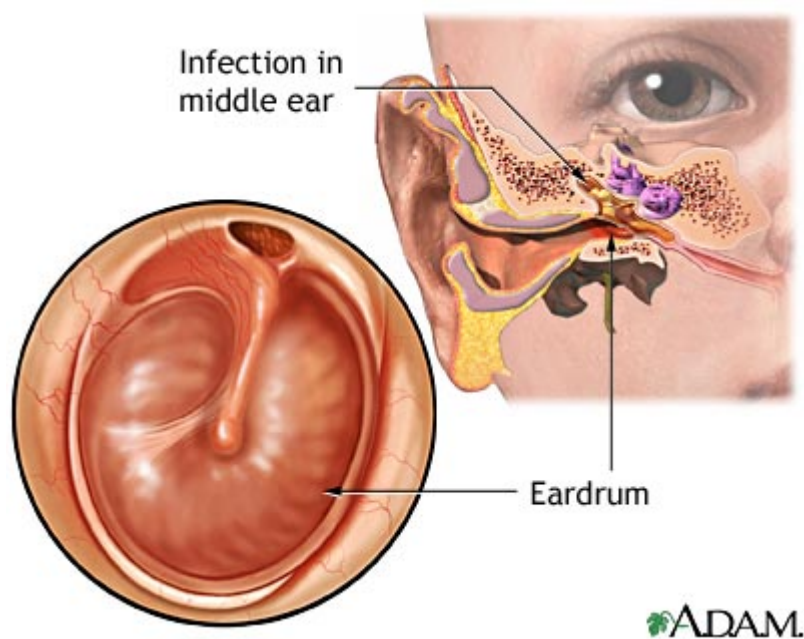
## Ear infection - chronic

Chronic ear infection is fluid, swelling, or an infection behind the eardrum that does not go away or keeps coming back. It may cause long-term or permanent damage to the ear and involves a hole in the eardrum (perforation) that does not heal.



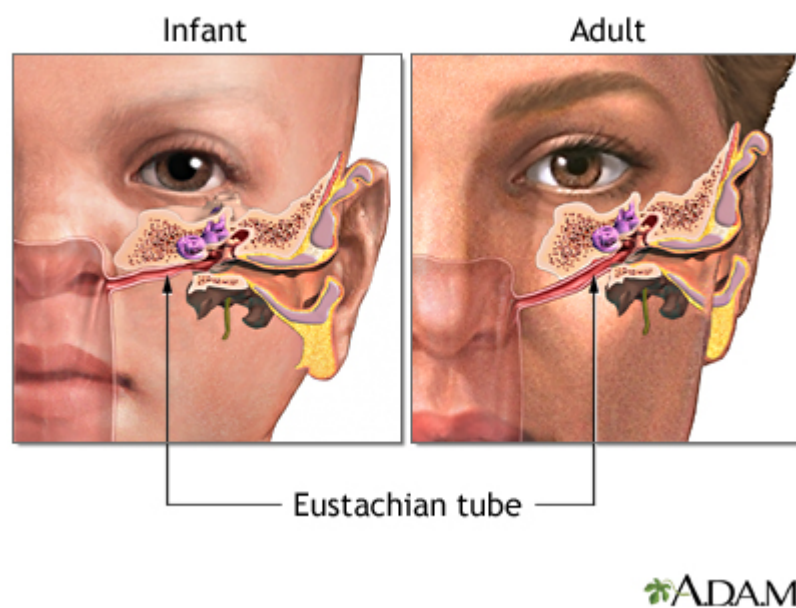
### Causes

The eustachian tube runs from the middle of each ear to the back of the throat. This tube drains fluid made in the middle ear. If the eustachian tube becomes blocked, fluid can build up. When this happens, infection can occur. A chronic ear infection develops when fluid or an infection behind the eardrum does not go away.



A chronic ear infection may be caused by:

- An acute ear infection that does not completely go away
- Repeated ear infections



Suppurative chronic otitis is a term used to describe an eardrum that keeps rupturing, draining, or swelling in the middle ear or mastoid area (the bone behind the ear) and does not go away.

Ear infections are more common in children because their eustachian tubes are shorter, narrower, and more horizontal than in adults. Chronic ear infections are much less common than acute ear infections.

## Symptoms

Symptoms of a chronic ear infection may be less severe than symptoms of an acute infection. The problem may go unnoticed and untreated for a long time.

Symptoms may include:

- Ear pain or discomfort that is usually mild and feels like pressure in the ear
- Fever, usually low-grade
- Fussiness in infants

- Pus-like drainage from the ear
- Hearing loss

Symptoms may continue or come and go. They may occur in one or both ears.

## Exams and Tests

Your health care provider will look in the ears using an otoscope. The exam may reveal:

- Dullness, redness in the middle ear
- Air bubbles in the middle ear
- Thick fluid in the middle ear
- Eardrum that sticks to the bones in the middle ear
- Draining fluid from the eardrum
- A hole in the eardrum
- An eardrum that bulges out or pulls back inward (collapses)

Tests may include:

- Cultures of the ear fluid that may show a bacterial infection.
- A CT scan of the head or mastoids may show that the infection has spread beyond the middle ear.
- Hearing tests may be needed.

## Treatment

Your provider may prescribe antibiotics if the infection is caused by bacteria. These medicines may need to be taken for a long time. They may be given by mouth or into a vein (intravenously).

If there is a hole in the eardrum, antibiotic ear drops are used. The provider may recommend using a mild acidic solution (such as vinegar and water) for a hard-to-treat infected ear that has a hole. A surgeon may need to clean out (debride) tissue that has gathered inside the ear.

Other surgeries that may be needed include:

- Surgery to clean the infection out of the mastoid bone (mastoidectomy)
- Surgery to repair or replace the small bones in the middle ear
- Repair of the eardrum
- Ear tube surgery (myringotomy)

## Outlook (Prognosis)

Chronic ear infections often respond to treatment. However, your child may need to keep taking medicines for several months.

Chronic ear infections are not life threatening. However, they can be uncomfortable and may result in hearing loss and other serious complications.

## Possible Complications

A chronic ear infection may cause permanent changes to the ear and nearby bones, including:

- Infection of the mastoid bone behind the ear (mastoiditis)
- Ongoing drainage from a hole in the eardrum that does not heal, or after ear tubes are inserted
- Cyst in the middle ear (cholesteatoma)
- Hardening of the tissue in the middle ear (tympanosclerosis)
- Damage to, or wearing away of the bones of the middle ear, which help with hearing
- Paralysis of the face
- Inflammation around the brain (epidural abscess) or in the brain
- Damage to the part of the ear that helps with balance

Hearing loss from damage to the middle ear may slow language and speech development. This is more likely if both ears are affected.

Permanent hearing loss is rare, but the risk increases with the number and length of infections.

## When to Contact a Medical Professional

Contact your provider if:

- You or your child has signs of a chronic ear infection
- An ear infection does not respond to treatment
- New symptoms develop during or after treatment

## Prevention

Getting prompt treatment for an acute ear infection may reduce the risk of developing a chronic ear infection. Have a follow-up exam with your provider after an ear infection has been treated to make sure that it is completely cured.

## Alternative Names

Middle ear infection - chronic; Otitis media - chronic; Chronic otitis media; Chronic ear infection

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