CONDITION

Ear infection - chronic

A chronic ear infection is long-lasting middle-ear inflammation that can cause repeated drainage through a damaged eardrum and hearing loss.

WHAT IT IS
Persistent middle-ear inflammation, often with drainage through a perforated eardrum

BODY SYSTEM
Ears and hearing

MAIN SYMPTOMS
Ear drainage, reduced hearing, fullness, intermittent ear pain

WHAT CAUSES IT
Persistent infection, poor ear ventilation, and eardrum damage

HOW IT IS DIAGNOSED
Ear examination, hearing tests, sometimes drainage culture

MAIN TREATMENT
Ear cleaning, antibiotic drops, hearing support, sometimes surgery

CAN IT BE CURED?
Sometimes - infection clears; damage may persist

IS IT AN EMERGENCY?
Sometimes - facial weakness, severe dizziness, or spreading swelling

LONG-TERM OUTLOOK
Most improve with care; hearing damage can remain

Overview

A chronic ear infection is long-lasting or repeatedly returning inflammation of the middle ear. The middle ear is the air-filled space behind the eardrum.

The term often refers to chronic suppurative otitis media . This causes ongoing or repeated drainage through a hole in the eardrum, called a perforation. The ear may drain for weeks or keep becoming wet after periods of improvement. Definitions of "chronic" differ, so the pattern of symptoms and the ear examination matter more than a specific number of days.

A chronic infection is different from a single short-lived middle-ear infection. It is also different from glue ear , where fluid remains behind an intact eardrum without active infection. However, these problems can occur at different times in the same person.

Chronic ear infection matters mainly because it can affect hearing and damage structures in the middle ear. A small number of people develop a cholesteatoma , which is a collection of trapped skin cells that can gradually erode nearby bone. Regular assessment helps identify these problems before more damage occurs.

Symptoms

Symptoms can affect one or both ears. They may be continuous or come and go.

Common symptoms include:

Chronic drainage is often less painful than a new, acute ear infection. Increasing pain, fever, marked dizziness, or swelling around the ear may mean there is an acute flare or a complication.

Young children may not describe reduced hearing clearly. They may turn up the television, respond less often, have trouble following speech in noisy places, or develop concerns with speech and learning.

- Fluid or pus draining from the ear
- Reduced or muffled hearing
- A blocked, full, or uncomfortable feeling
- An unpleasant smell from the drainage
- Ringing or other noises in the ear
- Mild or intermittent ear pain

Causes and risk factors

A chronic infection often develops when the eardrum has a persistent hole or when the middle ear does not ventilate properly. Bacteria can then remain in the ear or enter through contaminated water.

The Eustachian tube connects the middle ear to the back of the nose. It balances pressure and allows fluid to drain. In young children, this tube is shorter and more easily blocked. Swelling from colds, allergies, or enlarged adenoids can also affect its function.

Factors linked with chronic ear problems include:

An ear tube placed through the eardrum can sometimes be followed by persistent drainage or a perforation. This does not mean the tube was necessarily placed incorrectly.

A cholesteatoma can arise when part of the eardrum is pulled inward or when skin grows through a perforation. It is not cancer, but it can enlarge and damage the ear.

- Repeated acute middle-ear infections
- A previous eardrum rupture or ear surgery
- Poor Eustachian tube function
- Smoke exposure
- Crowded living conditions or limited access to treatment
- A weakened immune system
- Craniofacial conditions, including cleft palate

Diagnosis

A clinician usually diagnoses a chronic ear infection by examining the ear with an otoscope , a lighted instrument used to view the ear canal and eardrum. Suction or a microscope may be needed when drainage blocks the view.

The examination looks for pus, a perforation, scarring, retraction of the eardrum, damaged middle-ear structures, or signs of cholesteatoma. The other ear, nose, and throat may also be checked.

Hearing tests are important when symptoms have lasted, keep returning, or affect daily life. Audiometry measures the quietest sounds you can hear. Tympanometry checks how the eardrum moves and whether pressure or fluid is affecting the middle ear.

A sample of drainage may be sent to a laboratory if the infection does not improve, returns after treatment, or has an unusual appearance. This can identify the bacteria and help guide treatment.

A CT scan is not routine for every chronic infection. It may be used if cholesteatoma, bone damage, mastoid infection, or another complication is suspected.

Treatment and management

Treatment aims to stop drainage, control infection, protect hearing, and repair damage when appropriate. The plan is based on the ear examination, hearing results, previous treatment, and whether a cholesteatoma is present.

A clinician may gently clear pus and debris from the ear canal. This helps prescribed drops

reach the infected area. Do not try to clean deep inside the ear with cotton buds, hairpins, or other objects.

Antibiotic ear drops are commonly used for an actively draining chronic middle-ear infection. The choice matters because some drops are not suitable when the eardrum is perforated. Use only a product recommended for your ear and follow its instructions. Oral or intravenous antibiotics are usually reserved for infection that is spreading, causing significant illness, or cannot be managed with drops alone.

Keeping contaminated water out of a perforated ear may reduce further drainage. Avoid directing shower water into the ear. Ask for individual advice about swimming and suitable ear protection. Ear candles and home irrigation are not safe ways to treat a chronic infection.

If hearing remains reduced, support may include hearing aids, classroom seating changes, or assistive listening devices. Children may need speech and language assessment if hearing has affected communication.

Surgery may be offered when a perforation does not close, infections keep returning, hearing bones are damaged, or cholesteatoma is present. Tympanoplasty repairs the eardrum and may also reconstruct the small hearing bones. Mastoid surgery removes infected tissue or cholesteatoma from the air spaces in the bone behind the ear.

Surgery can improve the chance of a dry, safer ear, but it cannot always restore normal hearing. Follow-up remains important, especially after treatment for cholesteatoma.

Complications

The most common long-term problem is hearing loss. This is often conductive hearing loss , meaning sound is not passing efficiently through the eardrum and middle-ear bones. Inner-ear damage can sometimes add permanent hearing loss.

Possible complications include:

Spread of infection to tissues around the brain is rare but serious. Prompt assessment of warning symptoms reduces the chance of delayed treatment.

- Scarring or further perforation of the eardrum
- Damage to the small middle-ear bones
- Delayed speech or learning difficulties in children
- Cholesteatoma
- Mastoiditis, an infection of the bone behind the ear

- Problems with balance
- Weakness of the facial muscles

Prevention

Not every chronic ear infection can be prevented. Some people have lasting Eustachian tube problems, structural differences, or an eardrum perforation that makes infection more likely.

Treating new ear symptoms and attending follow-up can help limit damage. Recommended childhood vaccinations and avoiding tobacco smoke reduce some causes of acute ear infection, which may lower the chance of repeated middle-ear problems.

If you have a perforated eardrum, avoid putting unapproved drops, oils, or objects into the ear. Protect it from dirty or soapy water as advised. Do not stop prescribed treatment simply because drainage improves; follow the course and follow-up plan provided.

Living with it and what to expect

Some chronic infections settle after the ear is cleaned and treated. Others return when water enters the ear or during colds. A perforation may remain even when the ear is dry and comfortable.

Hearing can improve when drainage and swelling settle. If the eardrum or hearing bones are damaged, some hearing loss may remain until it is treated with surgery or hearing support. The result cannot be predicted from symptoms alone.

Children with persistent hearing loss may need closer monitoring at home and school. Facing the child when speaking, reducing background noise, and making sure teachers know about the hearing problem can help while treatment is underway.

After tympanoplasty or cholesteatoma surgery, recovery and hearing improvement usually take time. Follow-up examinations check healing and look for recurrent trapped skin or infection. Some people need long-term ear checks even when they feel well.

Most people continue their usual work, school, travel, and exercise. Practical adjustments may be needed around swimming, hearing devices, or treatment appointments.

When to get medical help

Arrange a routine appointment if ear drainage lasts more than a few days, keeps returning, or is

accompanied by reduced hearing. Assessment is also appropriate for persistent fullness, a known eardrum perforation, an unpleasant-smelling discharge, or concerns about a child's hearing or speech.

Seek prompt same-day medical advice for:

Seek emergency care for facial weakness, confusion, unusual drowsiness, a severe headache with neck stiffness, a seizure, or marked swelling behind the ear that pushes the ear outward. These symptoms do not always mean a severe complication, but they need urgent assessment.

- New or rapidly worsening hearing loss
- Significant ear pain or fever
- New dizziness, vomiting, or difficulty walking
- Increasing redness, tenderness, or swelling around the ear
- Drainage that continues despite prescribed treatment
- Symptoms in someone with a weakened immune system

Common questions

Will a chronic ear infection go away on its own?

Drainage may stop temporarily, but a perforation or cholesteatoma will not necessarily resolve when symptoms improve. Recurrent or persistent drainage should be examined so that hearing and the eardrum can be checked.

Why does the drainage smell bad?

Bacteria and trapped debris can produce an unpleasant smell. A strong smell is common with chronic drainage and can also occur with cholesteatoma. Smell alone does not show how serious the problem is.

Can a chronic ear infection cause permanent hearing loss?

It can. Infection, scarring, a perforation, or damage to the middle-ear bones may reduce hearing. Early treatment can limit further damage, while surgery or hearing devices may help when loss remains.

Can I swim with a perforated eardrum?

Water entering the middle ear may trigger drainage. Advice differs according to the size and location of the perforation, the type of water, and whether the ear is active or dry. Ask an ear clinician about swimming and suitable protection before putting the ear underwater.

Will I need surgery?

Not everyone does. Surgery may be considered for a perforation that does not heal, repeated infections, ongoing hearing loss, damaged hearing bones, or cholesteatoma. The expected benefits and limitations should be discussed before a decision is made.

Is a chronic ear infection contagious?

The chronic condition itself is not passed from person to person. Some viruses and bacteria that trigger respiratory or acute ear infections can spread, but contact with someone who has chronic drainage does not usually cause the same condition.

Sources

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