TEST

# Ear examination

An ear examination uses a lighted instrument to inspect the ear canal and eardrum.

**WHAT IT MEASURES**
Appearance of the outer ear, ear canal, and eardrum

**SAMPLE**
None

**FASTING NEEDED?**
No

**HOW LONG IT TAKES**
Usually 5 to 10 minutes

**RESULTS IN**
Immediately after the examination

**USED FOR**
Diagnosis and monitoring of ear problems

**MAIN LIMITATION**
Wax or swelling can block the eardrum view

## Overview

An ear examination checks the visible parts of your ear. It usually includes looking at the outer ear and using an otoscope , a handheld instrument with a light and magnifying lens, to inspect the ear canal and eardrum.

The eardrum is a thin layer of tissue separating the ear canal from the middle ear. Its colour, position, surface, and movement can provide information about possible infection, fluid, injury, pressure changes, or a hole called a perforation.

An ear examination does not directly test hearing or fully examine the inner ear. If hearing loss, balance symptoms, or ringing in the ears is the main concern, you may need hearing tests or other assessments.

## Why the test is ordered

An ear examination helps investigate symptoms involving the ear or hearing. It may also be used to monitor an existing problem or check the ear after treatment.

Common reasons include:

The examination may be part of a routine assessment, particularly for young children or people who use hearing aids. However, an ear examination alone is not a complete hearing screening test.

- Ear pain, pressure, itching, or a blocked feeling
- Fluid, pus, or blood coming from the ear
- Reduced or changed hearing
- Ringing or other noises in the ear
- Dizziness or balance problems
- A possible object in the ear
- Wax that may be blocking the canal
- Follow-up after an ear infection, injury, or procedure

## Who should have the test

You may need an ear examination if you have new or persistent ear symptoms. Children with fever, irritability, sleep problems, hearing changes, or ear pulling may also have their ears examined, although these symptoms do not always mean there is an ear infection.

People with diabetes, reduced immunity, previous ear surgery, ventilation tubes, or repeated ear problems may need a more detailed examination or closer follow-up.

Tell the person performing the examination if you have had ear surgery, a known eardrum perforation, ventilation tubes, or severe pain. This can affect how the ear is examined.

A button battery or sharp object in the ear needs urgent medical assessment. Do not try to remove it yourself.

## How to prepare

No fasting or special preparation is usually needed. You can eat, drink, take your regular medicines, and continue normal activities unless you have received different instructions.

Do not put cotton buds, hairpins, or other objects into the ear before the examination. They can push wax deeper or injure the canal and eardrum.

If you use ear drops, tell the examiner what you used and when. Drops can leave fluid or

softened material in the canal, which may temporarily make the eardrum harder to see. Do not stop prescribed drops unless you have been told to do so.

Hearing aids, earbuds, and earrings near the opening of the ear may need to be removed briefly.

## What happens during the test

You will usually sit upright. A child may sit on a parent's or caregiver's lap so that their head can be held gently and safely.

The examiner first looks at the outer ear and the skin around it. They may gently move the ear or press the small flap of cartilage in front of the ear canal to check for tenderness.

A clean, cone-shaped tip called a speculum is placed on the otoscope. The outer ear is gently pulled to straighten the canal. The tip is then inserted a short distance into the canal without touching the eardrum.

The examiner looks for wax, swelling, redness, discharge, injury, skin changes, or an object. They then assess the eardrum, including whether it appears intact and whether it is bulging or pulled inward.

Sometimes a pneumatic otoscope is used. This sends a small puff of air toward the eardrum to see how well it moves. Reduced movement can suggest fluid behind the eardrum. This part may feel unusual but should be brief.

## Understanding your results

Results are usually explained immediately. There is no numerical result or universal laboratory reference range.

A clear canal and an intact eardrum with a typical position and appearance are generally reassuring. However, a normal-looking ear does not rule out every cause of pain, hearing loss, ringing, or dizziness.

Possible findings include:

No single visual feature always confirms an infection. For example, redness alone can occur after crying, fever, irritation, or examination.

Because this is not a laboratory test, laboratory ranges do not apply. Interpretation is shaped by age, symptoms, pregnancy-related congestion, medicines and ear drops, previous procedures, anatomy, and the wider clinical context. Sex usually has little direct effect on the

findings.

- Wax partly or completely blocking the canal
- Canal swelling, redness, discharge, or irritated skin
- An object in the ear
- Fluid or inflammation behind the eardrum
- An eardrum that is bulging or pulled inward
- A perforation or healing injury
- Scarring or changes from previous surgery
- A ventilation tube in place or blocked

## What affects the results

The main problem is an incomplete view. Wax, discharge, dried blood, swelling, or a narrow ear canal may hide part or all of the eardrum.

Other factors that can affect what is seen include:

In babies and young children, the canal is small and may be difficult to examine. More than one attempt may be needed, but repeated painful attempts should be avoided.

If wax blocks the view, it may need to be softened or removed before the examination can be completed. Removal should be planned carefully if you have had ear surgery, have a known perforation, or use ventilation tubes.

- Ear drops, water, or softened wax in the canal
- Sudden movement during the examination
- Poor lighting or an incorrectly sized otoscope tip
- Previous surgery, ventilation tubes, or eardrum scarring
- Recent cleaning or injury to the ear canal
- Crying, fever, or irritation, which can make the eardrum look red
- Differences in examiner training and experience

## Accuracy and limitations

An ear examination is useful for finding visible problems, but it is not perfect. It can miss a

condition when the view is blocked, the change is subtle, or the problem lies in the middle or inner ear.

It can also appear abnormal when there is no bacterial infection. Redness without bulging, reduced movement, or other supporting findings may be caused by crying, irritation, or fever. Symptoms and the full examination therefore matter.

Pneumatic otoscopy can provide more information than a standard visual examination when middle-ear fluid is suspected. Tympanometry , which measures how the eardrum responds to changes in air pressure, may be helpful when the view or eardrum movement is uncertain.

A hearing test is better for measuring how well you hear. Ear microscopy or endoscopy can provide a larger, clearer view when ordinary otoscopy is limited. Imaging is not routine but may be considered when a deeper injury, bone problem, growth, or complication is suspected.

A normal ear examination cannot rule out inner-ear hearing loss, some balance disorders, or pain referred from the teeth, jaw, throat, or neck.

## Risks and complications

An ear examination is generally low risk. You may feel brief pressure or discomfort, particularly if the canal is sore or swollen.

Rarely, the otoscope tip can scratch the canal and cause minor bleeding, especially if there is sudden movement. Tell the examiner immediately if the examination becomes painful or makes you very dizzy.

## What happens next

If the examination is normal and symptoms are mild, you may be advised to monitor them or have routine follow-up. Persistent hearing changes may lead to a formal hearing test even when the eardrum looks normal.

If wax blocks the view, the examination may be repeated after safe wax removal. Findings such as infection, skin inflammation, a perforation, or a foreign object may require treatment, follow-up, or referral to an ear, nose, and throat specialist.

Seek urgent medical assessment for sudden hearing loss developing over hours or a few days, a button battery in the ear, facial weakness, severe dizziness, or severe ear pain with swelling or redness behind the ear.

After a significant head injury, blood or clear fluid from the ear, confusion, loss of

consciousness, or new weakness requires emergency care.

## Common questions

Can I drink coffee or eat before an ear examination?

Yes. Food and drinks, including coffee, do not usually affect what the examiner can see.

Does the time of day matter?

Usually not. The examination can be performed at any time, although symptoms such as intermittent discharge may not always be present during the appointment.

Can I exercise beforehand?

Yes. Exercise does not normally change the findings. If swimming or heavy sweating leaves the ear canal wet, mention this before the examination.

Should I clean my ears first?

No. Do not use cotton buds or other objects. If wax is blocking the view, it can be managed using a method suitable for your ear history.

Can I have the test while wearing hearing aids?

Yes, but you will need to remove them briefly. Tell the examiner if the hearing aid has caused soreness, discharge, or feedback.

Will the examination hurt?

It should not normally hurt, although an inflamed or injured ear may be tender. Ask the examiner to stop if you have sharp pain or marked dizziness.

## Sources


- World Health Organization. Primary ear and hearing care training manual
- American Academy of Pediatrics. The Diagnosis and Management of Acute Otitis Media . Pediatrics. 2013;131(3):e964-e999
- American Academy of Otolaryngology-Head and Neck Surgery Foundation. Clinical Practice Guideline: Earwax (Cerumen Impaction) (Update) . 2017
- NICE. Otitis media (acute): antimicrobial prescribing . Guideline NG91
- NICE. Hearing loss in adults: assessment and management . Guideline NG98

- Merck Manual Professional Edition. How To Do Otoscopy