

Patient information from BMJ

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Labyrinthitis

Labyrinthitis is swelling of the inner ear, which often happens after an infection. It causes severe dizziness and sometimes hearing loss, although this is often temporary.

Depending on what has caused your labyrinthitis, it can often be treated easily with few or no long-term effects. You can use our information to talk to your doctor about the best treatments for you.

What is labyrinthitis?

Most ear infections happen in the **middle part of the ear**. These are common in children and usually clear up by themselves.

But labyrinthitis is an infection of the **inner ear**. This part of the ear plays an important part in balance. So swelling in this area can make you feel dizzy and unsteady.

Labyrinthitis can happen at any age. In adults it is usually caused by a **virus**, while in very young children the infection is often caused by **bacteria**. Viral labyrinthitis is the most common kind.

Viral labyrinthitis

Labyrinthitis is usually caused by infection with a virus. **Viral labyrinthitis** is the most common type of labyrinthitis and the easiest to treat. It's sometimes called **serous labyrinthitis**. It often happens after you have had an infection of the upper airways (chest or throat).

Although viral labyrinthitis can cause hearing loss, it is usually less severe than the hearing loss caused by other types of labyrinthitis, and your hearing usually recovers.

Other causes of labyrinthitis

Bacterial labyrinthitis (also called **suppurative labyrinthitis**) is much less common than the viral kind. It usually only affects one ear. The hearing loss that happens with this kind of labyrinthitis is usually permanent.

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Meningogenic labyrinthitis happens when someone has **meningitis**. Fortunately, meningitis is rare these days, and many countries have vaccination programmes to prevent it. As with bacterial labyrinthitis, any hearing loss is usually permanent.

Autoimmune labyrinthitis is a rare condition that happens when the body's **immune system** attacks the inner ear by mistake. It can sometimes be treated, but in some people it can cause permanent hearing loss.

Syphilitic labyrinthitis is a rare complication of syphilis that can happen many years after someone is first infected.

HIV-associated labyrinthitis is one of many infections that can happen to people with HIV and AIDS.

What are the symptoms?

The main symptoms of labyrinthitis are:

- vertigo. This means that you feel dizzy, as if everything around you is spinning. People with labyrinthitis often struggle to walk in a straight line
- nausea and vomiting
- hearing loss, which is often on one side only, and
- tinnitus (ringing in the affected ear or ears).

If your doctor thinks that you might have labyrinthitis they will probably ask you questions about your symptoms.

These questions can help your doctor to tell if you have labyrinthitis or a different problem: for example, labyrinthitis is often confused with another, less serious ear condition called **vestibular neuritis**. Your doctor might ask:

- Can you describe your dizziness? Does the room spin, or is it more like floating or being light headed?
- What happened during your first episode of vertigo? How long did it last?
- How long do your dizzy spells last now?
- Have you ever had dizzy spells before?
- Do you have any other symptoms apart from dizziness: for example, hearing loss, ringing in your ears, or a feeling of fullness in your ears?
- Does your dizziness get better or worse if you change position: for example, if you lie down?
- Do you have any history of headaches or migraines?
- Have you started any new (or changed any) medications? Some medications can cause dizziness.
- What makes your dizziness better or worse?
- Have you recently had an upper respiratory tract infection (chest or throat infection)?

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Tests for labyrinthitis

Your doctor might suggest some tests to check how severe your vertigo and any hearing loss are. For example, they might suggest checking your balance by:

- seeing how well you walk in a straight line, and
- whether you can stand steadily with your eyes closed.

Your doctor might suggest testing your hearing by:

- holding a tuning fork near your ears, to see which is most affected, and
- doing a general hearing exam.

If your doctor thinks that your labyrinthitis has been caused by meningitis, you will need other tests, and you are likely to need emergency care to treat the meningitis. But this type of labyrinthitis is rare.

What treatments are available?

Viral labyrinthitis is usually treated with medications that help to relieve the symptoms. For example:

- **Vertigo** (dizziness) can be treated with various medications. Some of these can cause side effects, so you will usually only be given them for short periods. Your doctor should discuss any possible side effects with you. Most people find that vertigo symptoms get better within about three days.
- **Nausea** can be treated with medications called **anti-emetics**. These medications help to reduce the feeling of nausea. You might also need to have fluids given directly into a vein if you have been vomiting a lot, because vomiting can make you dehydrated.
- **Hearing loss**, if it occurs, can be treated with a short course of corticosteroid pills. **Corticosteroids** are powerful anti-inflammatories, which help to reduce the inflammation (swelling) in your inner ear so that you can hear properly again. These drugs can cause side effects in some people, but these usually only happen when you take them for a long time. Your doctor should explain the possible side effects to you.

Bacterial labyrinthitis can be treated with the same medications as viral labyrinthitis. But you will also need treatment with **antibiotics** to kill the bacterial infection.

Autoimmune labyrinthitis is also often treated with corticosteroids and with medications that reduce vertigo.

Syphilitic labyrinthitis needs treatment with antibiotics. You will probably also be referred to a specialist.

Rehabilitation for persistent vertigo

Vertigo symptoms usually clear up within a few days. But some people find that they take much longer to go away, or that they don't seem to go away at all.

For these people, rehabilitation can often help. This rehabilitation can involve:

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- physical therapy, to help you manage with walking and general movement, and
- occupational therapy, to help you manage the normal activities of everyday life.

What to expect in the future?

Most people with viral labyrinthitis recover well, and many will recover their hearing.

But recovery from bacterial labyrinthitis, and from labyrinthitis caused by meningitis, can be more difficult. For example, even with treatment, the hearing loss caused by bacterial labyrinthitis is usually permanent.

Some people don't recover well from **tinnitus** (ringing in the ears). Tinnitus might sound like a minor complaint, but it can be extremely stressful. Some people find that it affects their quality of life and leads to depression.

If you struggle with tinnitus, talk to your doctor. There are many treatments for tinnitus these days, and your doctor can help you find what works best for you.

For more information on treatments that can help, see our leaflet: *Tinnitus*.

Some people with viral labyrinthitis find that they have repeat episodes of **vertigo**. If this happens, talk to your doctor, as you might need more treatment.

If you have had labyrinthitis after meningitis your doctor should follow up regularly with you, to check that you don't have further problems with your ears.

There are various support groups and charities that help people affected by labyrinthitis. Your doctor might be able to help you find a group near you, or you could easily search online.

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