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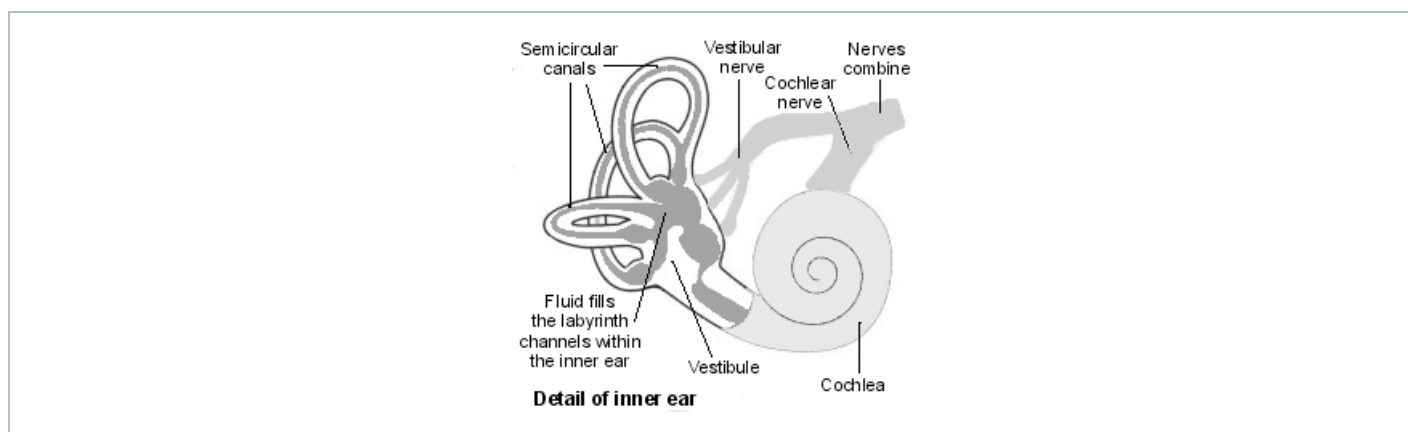
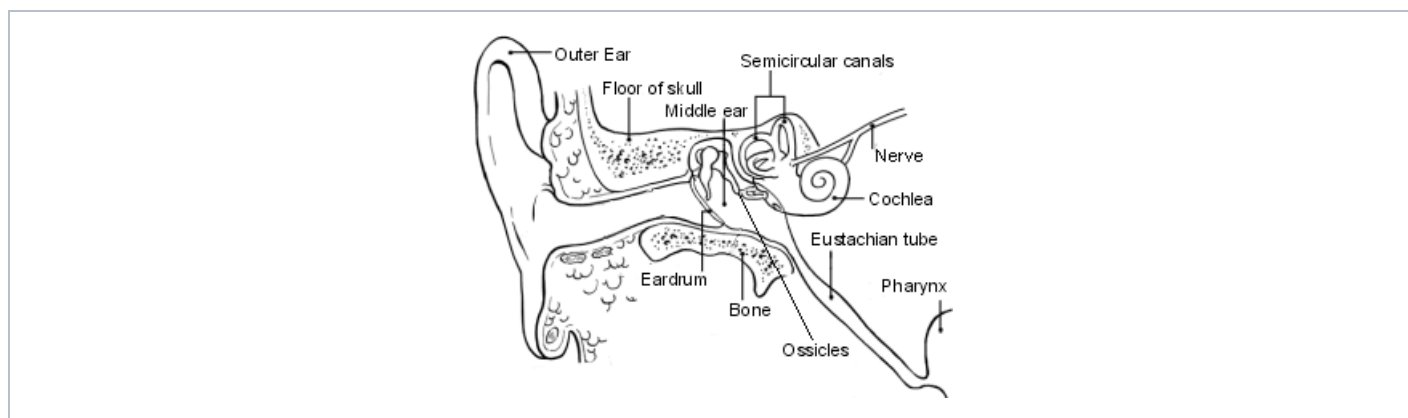
Vestibular Neuritis and Labyrinthitis

Vestibular neuritis and **labyrinthitis** are most commonly caused by infection with a germ (a viral infection) that affects the inner ear. These conditions typically cause vertigo, often with sickness (vomiting). Vertigo is the sensation that you or your surroundings are moving. In most cases the symptoms gradually ease and go within a few weeks as the infection clears. Medication may help to ease symptoms. There are some less common causes which may have a different outlook and treatment.

What is the labyrinth and what does it do?

The labyrinth is in the inner ear. The inner ear includes the cochlea, vestibule and semicircular canals. These are small shell-like structures in which there is a system of narrow fluid-filled channels called the labyrinth. The semicircular canals sense movement of your head and help to control balance and posture. The cochlea is concerned with hearing.

There are three semicircular canals (anterior, lateral and posterior). These are roughly at right angles to each other and sense movement in different directions - left-right, forward-back and up-down head movements. The semicircular canals are connected to a larger fluid-filled chamber called the vestibule which in turn is connected to the fluid-filled canal in the cochlea.



Head movements are sensed because when you move your head, the fluid in the labyrinth within the semicircular canals moves too. The movement of the fluid moves tiny hairs on the inside lining of the labyrinth.

When the hairs move, this triggers nerve messages to be sent to the brain via a nerve called the vestibular nerve. This gives the brain information about the movement and position of your head, even when your eyes are closed.

What you can see and nerve messages from the joints and muscles of the body, also help to tell your brain about your position and posture. However, a properly working labyrinth in each ear is needed for a good sense of posture and balance.

What is vestibular neuritis and labyrinthitis?

These names used to be used interchangeably but are now used more specifically:

- **Vestibular neuritis** (sometimes called vestibular neuronitis) means inflammation of the vestibular nerve. This is the nerve that comes from the inner ear and takes messages from the semicircular canals to the brain.
- **Labyrinthitis** is a condition that is due to inflammation of the labyrinth in the inner ear, although sometimes the vestibular nerve is also involved.

The causes and symptoms of vestibular neuritis and labyrinthitis are similar. It may not be possible to tell whether you have one or other or both of these conditions. However, if hearing is affected in addition to other symptoms listed below, then labyrinthitis is the cause. This is because inflammation of the labyrinth in the cochlea affects hearing. Inflammation of the vestibular nerve does not affect hearing.

What are the causes of vestibular neuritis and labyrinthitis?

Viral infection

The common cause of vestibular neuritis and labyrinthitis is infection with a germ (a viral infection). They are called viral vestibular neuritis and viral labyrinthitis. There are various viruses that can cause these problems. The infection may occur at the same time as, or just after, you have a common viral illness such as a **sore throat**, **glandular fever**, **flu**, or a **cold**. The **cold sore virus** may also be a cause. The virus that causes **shingles** can be a cause too. Sometimes you may not be aware of any other viral infection and just develop symptoms of vestibular neuritis and labyrinthitis.

Other causes

Other causes are uncommon. Strictly speaking, 'itis' at the end of a word means inflammation. However, the terms vestibular neuritis and labyrinthitis are sometimes used for any damage or inflammation to the vestibular nerve or labyrinth. For example, the following conditions will all have other symptoms and problems but may also cause vestibular neuritis and labyrinthitis as a complication:

- **Infection with a germ (bacterium) in the middle ear.** Most ear infections do not spread into the inner ear but a vestibular neuritis and labyrinthitis is an uncommon complication.
- **Meningitis:** the infection may spread from the brain to the inner ear.
- **Stroke:** blockage of the blood circulation to part of the brain.
- **Migraine:** a type of migraine called vestibular migraine is now thought to be a common cause of symptoms very similar to the symptoms you develop with vestibular neuritis and labyrinthitis.
- Injury to the ear.
- Tumours.
- An uncommon side-effect of some medicines.

What are the symptoms of vestibular neuritis and labyrinthitis?

Vertigo

The main symptom is vertigo. Vertigo is the sensation that you or your surroundings are moving. If you have vertigo you may feel as if the world is spinning around you and you feel very unsteady. Often you will also feel sick or be sick (vomit). Typically, if a viral infection is the cause (the common situation), you develop vertigo quite quickly. Vertigo occurs because the inflamed or damaged labyrinth or vestibular nerve sends conflicting signals to the brain compared with the normal ear. The brain becomes very confused about your head posture and reacts to cause vertigo.

The vertigo can become intense and constant for the first few days and you simply have to lie down until the symptoms ease. The vertigo may be less intense if you lie down and close your eyes but doesn't go away completely. It is often made worse by sitting up, moving your head, or moving around. In milder cases the vertigo is less intense but you feel unsteady when moving or walking around.

Other symptoms

You may also have:

- Some mild hearing loss on the affected side if you have labyrinthitis.
- Nystagmus. This is a 'shaking' of the eyes from side to side or in a rotating movement. You may not notice this but a doctor will look for it as it is often present. (Vestibular neuritis and labyrinthitis are both causes of nystagmus. There are other causes.)
- Other symptoms of a viral infection such as a sore throat, flu symptoms or a cold.
- Pain in an ear. However, this is not normally a feature of a viral vestibular neuritis or viral labyrinthitis. If you have ear pain it may indicate that you have an infection with a germ (bacterium) in your middle ear that has spread to the inner ear. Or it may be due to having shingles in your ear.

Symptoms of a viral vestibular neuritis or viral labyrinthitis can last anything from a few days to several weeks. A typical case is for symptoms to be bad for 2-3 weeks and then gradually to settle down over several days. There may be some slight unsteadiness for 2-3 months before symptoms clear completely.

However, in a small number of cases, symptoms can persist for months or years. In these cases, the viral infection will have gone but the inflammation and damage caused by the infection may cause persisting symptoms.

Do I need any tests?

If you have a typical episode of vestibular neuritis or labyrinthitis due to infection with a germ (a viral infection) then your doctor will usually be able to diagnose this on the basis of your symptoms and the examination. Tests are not usually needed or helpful.

However, you may be referred for tests such as a scan, hearing tests, balance tests, etc, if you have symptoms that suggest anything other than a viral infection, or if symptoms are not settling within 3-4 weeks.

What is the treatment for vestibular neuritis and labyrinthitis?

If you have a sudden attack of vertigo **accompanied by deafness in one ear** you should seek urgent medical help, as this could be a sign of blockage of the blood vessels to part of the brain and you may need urgent treatment.

Treatment if a viral infection is the cause

No treatment will completely take away the symptoms - especially the main symptom of vertigo. You may simply have to accept that you will be dizzy and may need to stay in bed until the vertigo runs its course and the worst of the symptoms subside.

A doctor may prescribe **anti-sickness medication** if you are troubled with being sick (vomiting). Some medicines also help to quieten the nerve messages from the inner ear and may ease vertigo - for example, **prochlorperazine**. If you need to take medication, only take it for a few days. Taking medication for longer seems to stop the body from recovering from the vertigo as quickly as it would if you don't take the medication. It is also important to get up and about as soon as you can, even if it makes you dizzy. This is for the same reason.

Occasionally, some people become so lacking in fluid in the body (dehydrated) due to the vomiting that goes with vertigo that they need to be admitted to hospital. In hospital, a 'drip' (fluid through a vein) can be put in place until the vomiting stops.

If symptoms do not clear within a few weeks then you may be referred to an ear specialist who may recommend treatment called vestibular rehabilitation therapy (VRT). This therapy uses physical and occupational therapy techniques to treat vertigo and balance disorders.

Treatment of other causes

Treatment of other less common causes depends on the cause. Your doctor will advise. For example, if you have an infection with a germ (bacterium) in your middle ear you may be prescribed antibiotic medication.

What is the outcome (prognosis)?

A bout of vestibular neuritis or labyrinthitis can make you feel very unwell and you may have to go to bed. In most cases, the cause is infection with a germ (a viral infection) and this usually clears up on its own. Therefore, symptoms in most cases clear completely but this may take several weeks. Some cases are milder and you just feel a bit unsteady on your feet for a short time.

In a small number of cases, symptoms following a viral vestibular neuritis or viral labyrinthitis can persist for months or years. Also, there are more serious causes of vestibular neuritis and labyrinthitis but these are much less common. Therefore, tell your doctor if you do not improve, or if you develop other symptoms.

Further reading & references

- [Vertigo](#); NICE CKS, April 2010 (UK access only)
- [Vestibular neuronitis](#); NICE CKS, February 2011 (UK access only)
- [Newman-Toker DE, Edlow JA; TiTrATE: A Novel, Evidence-Based Approach to Diagnosing Acute Dizziness and Vertigo. Neurol Clin. 2015 Aug;33\(3\):577-99, viii. doi: 10.1016/j.ncl.2015.04.011.](#)

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