

# Labyrinthitis and vestibular neuritis

Labyrinthitis and vestibular neuritis are infections of the inner ear that cause symptoms including dizziness. Both conditions are caused by viral infections, but labyrinthitis can sometimes be caused by bacterial infections. In most cases, these conditions resolve by themselves within three weeks or so. In other cases, the symptoms linger. Treatment options include drugs and special exercises to improve the sense of balance.

## Symptoms

The symptoms of labyrinthitis and vestibular neuritis can include:

- Initially, constant dizziness and vertigo.
- With time, the dizziness is only triggered by head movements.
- Loss of balance.
- Nausea.
- Flickering of the eyes (nystagmus).
- Hearing changes, such as ringing in the ears (tinnitus) or hearing loss may be associated with labyrinthitis.

## The balance organ is within the inner ear

Inside the inner ear is a series of canals filled with fluid, called the labyrinth. These canals are at different angles. When the head is moved, the rolling of the fluid inside these canals tells the brain exactly how far, how fast and in what direction the head is moving. Information from these canals is passed along to the brain via the vestibular nerve, which lies next to the cochlear nerve. If the balance organs of one ear are inflamed, then the information sent to the brain conflicts with the information sent from the unaffected ear. It is this conflict that causes the dizziness.

## A range of causes

Some of the causes of labyrinthitis and vestibular neuritis include:

- Viral infection of the vestibular nerve (such as infection with the herpes virus)
- Middle ear infection (acute otitis media)
- Infection of the brain lining (meningitis).

## Possible complications

Some of the possible complications include:

- **Vestibular neuritis** - in most cases, vestibular neuritis is a self-limiting condition that only occurs once in a person's lifetime. However, some mild dizziness when moving the head may continue for several years following the infection. For the remaining five per cent or so of cases, the symptoms recur. The condition is then considered to be another type of balance disorder, such as Meniere's syndrome or benign paroxysmal positional vertigo (BPPV).
- **Labyrinthitis** - if bacterial infection was the cause, the risk of permanent hearing loss is high. The affected balance organ may never recover, but the brain compensates for the damage by learning to 'adjust' to the conflicting information it receives from both ears. If the labyrinthitis was caused by viral infection, a complete recovery is more likely. However, it is still possible to suffer permanent balance and hearing problems following a bout of viral labyrinthitis.

## Diagnosis methods

Dizziness and vertigo are common to a wide range of medical conditions, so careful diagnosis is important. Labyrinthitis and vestibular neuritis are diagnosed using a number of tests including:

- Physical examination

- Hearing tests
- Special eye tests including an electronystagmogram (to check for nystagmus)
- Scans, including MRI, to rule out other possible causes such as tumours or haemorrhage.

### **Treatment options**

Depending on the cause and severity, treatment options for labyrinthitis and vestibular neuritis can include:

- Anti-nausea medications
- Medications to dampen the sensations of dizziness
- Antibiotics, in the case of bacterial infection
- Antiviral drugs and corticosteroids, in the case of viral infection
- Balance exercises
- Hearing aid, if the hearing loss is permanent.

### **Where to get help**

- Your doctor
- Hearing and Balance Centre, St Vincent's Hospital Sydney Tel. 1300 134 327

### **Things to remember**

- Labyrinthitis and vestibular neuritis are infections of the inner ear that cause symptoms including dizziness.
- Both conditions are caused by viral infections, but labyrinthitis can sometimes be caused by bacterial infections.
- Complications of labyrinthitis include permanent balance problems and hearing loss.

**This page has been produced in consultation with, and approved by:**

Royal Victorian Eye and Ear Hospital (RVEEH)

**Copyright** © 1999/2009 State of Victoria. Reproduced from the Better Health Channel ([www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)) at no cost with permission of the Victorian Minister for Health. Unauthorised reproduction and other uses comprised in the copyright are prohibited without permission.

- This Better Health Channel fact sheet has passed through a rigorous approval process. For the latest updates and more information visit [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au).