Ears and ear health

How to look after your ears and cope with tinnitus, dizziness and balance problems

RNID •
Changing the world for deaf and hard of hearing people
We’re RNID, the charity working to create a world where deafness or hearing loss do not limit or determine opportunity, and where people value their hearing.

www.rnid.org.uk
Ears and ear health

You should read this leaflet if you want to know about:

- how your ears work
- common problems that affect your ears or hearing
- balance problems
- tinnitus (noises in the ear or head)
- how to look after your ears.

If you are at all worried about your hearing or balance, you should see your GP.
Ears and ear health

How your ears work

Ears are your organs of hearing and balance. As you can see from the illustration on pages 6-7, our ears have three sections:

- the outer ear
- the middle ear
- the inner ear.

Sounds enter our outer ear (the pinna and external ear canal) and travel down the ear canal until they reach our eardrum. Once the sound reaches our eardrum, it vibrates, and is passed into the middle ear. Our middle ear is an air-filled cavity that links the outer ear with the inner ear. It is also connected to the back of the throat by a small passage called the Eustachian tube.

Within the middle ear there are three tiny bones stretching from the eardrum to the cochlea (our hearing organ within the inner ear). It is these three bones that mechanically conduct the soundwave through the middle ear to the inner ear.

The inner ear has two parts:

- the cochlea, responsible for hearing
- the vestibular system, responsible for balance.

The cochlea is a fluid-filled chamber that looks a bit like a snail shell. When the sound vibrations enter the cochlea, the fluid moves and hair-like sensory cells trigger an electrical pulse in the auditory nerve. Different hair cells pick up different frequencies of sound depending on where they are positioned in the cochlea. The auditory nerve then passes electrical impulses to your brain, which recognises them as sound.

The vestibular system is also filled with fluid and has three small sections. Each of these sections detects head movement in a different direction. When you move your head, the fluid within these sections moves. In a similar way to the hair-like cells in the cochlea, they turn the mechanical movement into an electrical signal and send the information to your brain. This information is used with your vision and sensors in your joints to help you maintain your balance.
Common ear problems

In the outer ear

Blockages in the external ear canal may affect your hearing. They are usually caused by wax. Your ear makes wax in order to clean itself. The wax normally comes out of the ear on its own. If it builds up too much, it can cause a blockage and you may need to visit your GP to have it removed.

Don’t try to remove wax from your ears yourself. Never push cotton buds, fingers or anything else into your ears, as you could push any wax there is onto your eardrum. This could cause pain, infection and deafness. Ask your GP to check your ears if you think wax has built up. See page 15 for more information.

Otitis externa

Otitis externa is when the skin of the ear canal becomes inflamed. This may happen if you have scratched your ear or if you have a skin condition such as eczema. Otitis externa may be painful and give you a watery discharge. There is usually little or no hearing loss. See your GP to get ear drops and try not to get your ear wet or scratch it.

Exostosis

Exostosis is an abnormal bone growth in the ear canal. It’s the body’s way of protecting the ear drum from cold water and wind caused by frequent exposure to it. It’s often found in surfers and will progressively get worse over the years with continual exposure. It can eventually cause infections, pain and hearing loss.
The ear

Ear canal:
Inflammation of the ear canal is called otitis externa. This and other problems, such as eczema or too much wax, may need treatment from a GP.

The ossicles:
- Malleus (hammer)
- Incus (anvil)

Pinna

Hairs

Outer ear
Middle ear
Inner ear
Stapes (stirrup):
The stapes fits into the oval window. If the stapes becomes fixed, this is called otosclerosis.

Vestibular system:
Problems here may cause vertigo (dizziness).

Vestibular nerve and auditory nerve:
These lead to your brain. Occasionally, a tumour here called an acoustic neuroma can cause sensorineural deafness.

Cochlea:
Damage here, caused by noise or ageing, also results in sensorineural deafness (see page 10).

Oval window

Round window

Eustachian tube:
If this stops opening, the aid pressure is not equal in both sides of the eardrum. This can cause the eardrum to become retracted and lead to earache. The middle ear can then fill with fluid, which can affect your hearing.
Common ear problems

In the middle ear

**Otitis media**

Otitis media is an infection or inflammation of the middle ear usually caused by a viral or bacterial infection. This can stop the eustachian tube from opening as it should, preventing air from reaching the middle ear. When this happens, the middle ear can fill up with fluid that can become thick, like glue. This problem is called glue ear or otitis media with effusion. The build-up of fluid in the middle ear reduces the movement of the eardrum and ossicles, and so causes a loss of hearing. The changes in pressure caused by the build-up of fluid can be painful.

**Because children have smaller, more horizontal eustachian tubes they’re more likely than adults to get glue ear.** Most will get better without treatment and their hearing will return to normal. But get advice from your GP in any case. If your child has glue ear and it does not get better, an ENT (ear, nose and throat) surgeon may recommend an operation called a myringotomy where a tiny ventilation tube called a grommet is inserted temporarily into the eardrum. This allows air into the middle ear and prevents a build-up of fluid.

For more information, see our factsheet **Glue ear**.
Otosclerosis
Otosclerosis affects more women than men. It can run in families and often begins around the age of 30. It is caused by a bony overgrowth of the stapes – one of the three tiny bones (ossicles) that stretch across the middle ear. The stapes becomes rigid and sound vibrations cannot pass freely through the ossicles. If otosclerosis is not treated, it will continue to worsen and affect hearing more severely.

Hearing aids are very useful if you have otosclerosis. Most people can have an operation – a stapedectomy or stapedotomy. A tiny piston replaces the stapes so that sound can travel to the inner ear. This operation has a high success rate.

For more information, see our factsheet Middle ear conditions.

Damaged ossicles
The ossicles are tiny bones in the middle ear. Serious infections and head injuries can damage them, and occasionally babies are born with malformed ossicles.

Ossicles can be repaired or replaced by having an operation called an ossiculoplasty.

Perforated eardrums
Perforated eardrums can be caused by untreated otitis media, other serious ear infections, head injuries, explosions, or poking things in your ear. They normally heal by themselves and any hearing loss is only temporary. More serious damage can be treated by an operation called a myringoplasty, where a tissue graft is used to seal up the hole.
Common ear problems

In the inner ear

**Sensorineural deafness**

This is most often the result of damage to tiny hair cells in your cochlea. These hair cells can't be replaced and the hearing loss is permanent. This damage may happen:

- naturally, as you grow older. This is called presbyacusis (see opposite page)
- after long-term exposure to loud noise either at work or at leisure. By law, if you work somewhere very noisy you must be given earplugs or muffs to protect your hearing. It is also a good idea to use hearing protection for noisy leisure activities, such as going to nightclubs.
- if you have a disease such as mumps or meningitis
- if you have to take certain strong drugs, in particular, certain chemotherapy drugs or antibiotics
Ears and ear health

- if you have a serious head injury with a skull fracture
- before a baby is born, for example, if the mother has rubella (German measles) while pregnant, or to a baby following a premature birth or difficult labour.

Sensorineural deafness from birth may also be genetic. It is also common for members of the same family to have the same pattern of hearing loss as they get older.

For more information, see our factsheet **Genetics and deafness**.

People with sensorineural deafness usually find hearing aids very helpful. A cochlear implant may be an option for people who have become profoundly deaf through sensorineural deafness and who cannot get much help from hearing aids, or for children who are born deaf.

For more information, see our factsheets **Cochlear implants**.

**Presbyacusis**

Presbyacusis is the hearing loss that affects many people as they grow older. The tiny hair-like cells in the cochlea deteriorate over the years and are unable to vibrate as well as they should in response to sound. This means quiet sounds cannot be heard as well as they could before. Eventually, this also affects the hearing of louder sounds.

If you have presbyacusis, you probably find that people may appear to mumble and you often find it difficult to understand what they are saying, especially in noisy places. There are two reasons for this. First, high frequency sounds (which are important for understanding speech) are more likely to be affected than low frequency sounds. Second, your ear loses its ability to tell the difference between very similar sounds.

Hearing aids will usually be very helpful. Your GP can refer you for a full hearing assessment and advice.

For more information, see our leaflets **Is your hearing going?** and **Getting hearing aids**.
Ears and ear health

Sensorineural deafness can also be caused by damage to the auditory nerve.

- An **acoustic neuroma** is a rare benign (non-cancerous) tumour on the auditory nerve. They are usually slow growing, but it’s important that they’re investigated by a doctor and removed or monitored closely. They can cause hearing loss and sometimes tinnitus and balance problems.

**Balance problems**

There are many medical conditions that may make you feel dizzy. Few of them are serious, but it is a good idea to get the specific cause of your dizziness diagnosed and treated. Balance problems and dizziness can be treated in several ways, such as taking a course of prescribed drugs, or using a set of balance retraining exercises.

Even when a balance problem is taking a long time to improve, there is nearly always a course of treatment that will help.

For more information, see our factsheet **Dizziness and balance problems**.

Some common balance problems are described below.

**Migraine**

Migraine is thought to be a very common cause of dizziness, particularly in children, but it is also quite common in adults. Often the dizziness is severe and is accompanied by vomiting. It is important to understand that a migraine may make you feel dizzy whether or not you have a headache.
Benign paroxysmal positional vertigo
This is a specific balance disorder that can give you severe, short spells of dizziness, especially if you tip your head backwards – for example, if you look up at the sky, or when you first lie down in bed. It is thought that this condition is caused when small crystals become dislodged and float around in the fluid in the vestibular system. Your specialist can alleviate some if not all of the symptoms by using a particle repositioning procedure known as the Epley or Semont manoeuvre. The movements reposition the crystals into another part of the vestibular system where they do not cause the same symptoms.

Ménière’s disease
Ménière’s disease is thought to be caused by change in the pressure of the fluid in the inner ear, which leads to sudden attacks of severe dizziness. The attacks last between 30 minutes and several hours and are usually accompanied by nausea and vomiting, as well as hearing loss and tinnitus.

Ménière’s develops differently over time and between people. There are many different treatments for Ménière’s disease and most people can find one that works for them.

See our factsheet Ménière’s disease for more information.

Viral infections
Your balance can also be affected by a simple viral infection in your inner ear or in the nerve that takes information from your ear to your brain. Although your immune system removes the virus in a short period of time, your balance organs may have been damaged while you had the infection. You may feel dizzy until your brain can compensate for the damage. This sort of balance problem is usually helped by vestibular rehabilitation physiotherapy, which includes head and balance exercises.
Tinnitus

Tinnitus is the word for noises that some people hear in the ears or in the head – buzzing, ringing, whistling, hissing and other sounds. There are many different causes of tinnitus. It can be linked to exposure to loud noise, hearing loss, injuries to the ear or head, some diseases of the ear or emotional stress. It can also be a side effect of medication, or a combination of all these causes. Many people with tinnitus have never had any of these and don’t have a hearing loss.

Although there is no cure for tinnitus yet, there are many things you can do to help you manage and live with it. We sell a range of equipment and CDs featuring music and relaxation techniques that can help.

For more information, see our leaflet Tune out tinnitus. Or for confidential advice, contact our Tinnitus Helpline.

Telephone 0808 808 6666 (freephone)
Textphone 0808 808 0007 (freephone)
Fax 020 7296 8199

tinnitus@rnid.org.uk
www.tuneouttinnitus.org.uk
How to look after your ears

Never poke anything in your ears
If you think that you have an infection or blockage in one of your ears, see your GP. Unless your GP or ear specialist has prescribed eardrops, or you are using earplugs or a hearing aid, you should never put anything in your ear canal. This includes:

- fingers or towels, which may damage the delicate skin of your ear canal and carry infection
- cotton wool buds.

Only use a flannel to clean the surface of your pinna (the outside part of your ear). If you poke cotton buds into your ear canal, you may push wax down onto your eardrum where it can cause damage. In extreme cases, this may cause acute pain and deafness. By using cotton wool buds you may actually increase the amount of wax your ears produce. Cotton wool buds also leave tiny filaments in the ear canal and these can irritate the skin of your ear. The best thing is to leave the wax alone – it helps to keep your ears clean and healthy.

Be aware of the damaging effects of noise
Loud noises can damage your hearing. Unfortunately, the damage usually happens without you realising it. You may not notice any changes to your hearing until years later.

The louder the noise is and the longer you are exposed to it, the greater the risk of damage to your hearing. If you have to be in a very noisy situation, always protect your ears with ear protectors – earplugs or earmuffs – and get away from the noise as quickly or as often as you can.
Ears and ear health

Wherever you are, loud sounds can damage your hearing, especially if you listen to them for hours at a time. Try to avoid them at home, at work or when you go out. Loud noise is a feature of everyday life, so you will not be able to cut it out completely, but you can do some things to reduce the risk of noise damage:

• If you are experiencing noise at work, talk to your human resources (HR) department or your manager and ask for advice on reducing the noise and getting hearing protection.

• Always wear ear protectors if you are using noisy equipment such as power drills, saws, sanders or lawnmowers.

• Protect your ears if, for example, you go shooting. Explosive noises like this can damage your hearing instantly.

• Don’t turn your television or sound system up too loud.

• If a film soundtrack at the cinema is uncomfortably loud, or you are in a place where the background noise is so loud you have to shout to be heard, complain to the manager.

• Reduce the time you spend in places with very loud music or wear earplugs.

• Don’t listen to your personal music player at very high volumes.

For more information, see our factsheet Noise exposure.

For more information about our campaign, Don’t Lose the Music, to make people aware of the effects of loud music on hearing, go to www.dontlosethemusic.com or contact our Information Line.
Want to know more?

Are you affected by hearing loss or tinnitus? Joining RNID is a great way to keep updated on developments, the new products that can help, details of accessible entertainment in your region, latest information and advice, and much more. You’ll also be able to share your experiences of hearing loss with other members.

As a member we’ll update you six times a year, through our award-winning membership magazine, *One in Seven*.

If you’re retired, membership costs just £15 a year.

How to join

Complete the form on reverse and send to our Freepost address.

Alternatively:

- visit [www.rnid.org.uk/leafletjoin](http://www.rnid.org.uk/leafletjoin) or
- call 0845 634 0679 (tel/textphone) or
- email [membership@rnid.org.uk](mailto:membership@rnid.org.uk).

Contact us for more information:

Membership Team
RNID
19-23 Featherstone Street
London EC1Y 8SL

Tel/textphone 0845 634 0679
[membership@rnid.org.uk](mailto:membership@rnid.org.uk)
[www.rnid.org.uk/leafletjoin](http://www.rnid.org.uk/leafletjoin)
Yes, I want to join RNID

Title (Mr/Mrs/Ms/Miss) __________ First name _______________________
Surname ________________________________________________________
Address __________________________________________________________________
________________________________________________________________________
Postcode __________________ Email ________________________________
Telephone _________________________ Textphone _______________________

Please accept my membership payment: (tick relevant boxes)
☐ £22 standard rate ☐ £15 if you are retired, unwaged or a full-time student

☐ In addition, I would like to make a donation of £ __________

Payment method:
☐ I enclose a cheque/PO made payable to RNID (delete as appropriate)
☐ I prefer to pay by credit card/debit card/CharityCard (delete as appropriate)

Card number: _______________________________________________________
Start date: ___/___/____ Expiry date: ___/___/____
Issue number (if present): ___ ___ Security number: ___ ___
(last 3 digits on signature strip)
Signature: __________________________

Please return this form to:
RNID, FREEPOST LON13186, London EC1B 1AL

Please tick here if you would like to receive emails from us including your membership email every two months.

Occasionally, we may want to let you know about the work we are doing.
If you would prefer not to be contacted in this way, please tick this box.

Occasionally, we will allow other organisations to contact you, but if you would prefer not to be contacted, please tick this box.
Where can I get further information?

You might find some of our other factsheets or leaflets useful. Please contact the Information Line for free copies:

- Communication support services (leaflet)
- Products to make life easier (leaflet)
- Getting hearing aids (leaflet)
- Is your hearing going? (leaflet)
- Tune out tinnitus (leaflet)
- Acoustic neuroma (factsheet)
- Dizziness and balance problems (factsheet)
- Cochlear implants (leaflet)
- Drugs and hearing loss (factsheet)
- Ear syringing (factsheet)
- Flying and the ear (factsheet)
- Genetics and deafness (factsheet)
- Glue ear (factsheet)
- Hyperacusis (factsheet)
- Ménière’s disease (factsheet)
- Middle ear conditions (factsheet)
- Noise exposure (factsheet)
- Losing your hearing suddenly (factsheet)

Please contact the Information Line (see back page) for free copies of these. And let us know if you would like any of them – or this leaflet – in Braille, large print or audio format.

If you think you have tinnitus, or have just been diagnosed with it, our book Understanding tinnitus – managing the noises in your ears or in your head will help you understand more about it. Contact the Information Line or go to www.rnid.org.uk/shop to buy a copy.
We’re RNID, the charity working to create a world where deafness or hearing loss do not limit or determine opportunity, and where people value their hearing.

There are a number of ways to support us. To find out more:

Go to
www.rnid.org.uk

Information line
Telephone 0808 808 0123
Textphone 0808 808 9000
SMS 0780 0000 360
(costs vary depending on your network)

Or write to us
informationline@rnid.org.uk

19-23 Featherstone Street
London EC1Y 8SL
Fax 020 7296 8199