

TINNITUS AND SEVERE- PROFOUND HEARING LOSS

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This information has been written for people with tinnitus and severe-profound hearing loss.

What is tinnitus?

Tinnitus is the term used to describe the perception of sound in the absence of a corresponding external sound.

Tinnitus is common and is reported in all age groups, even young children. 10-15% of adults experience tinnitus at some point in their lives.

It is more common in people who have hearing loss or other ear problems, although some people with normal hearing also experience tinnitus. It is estimated that 80% of people with severe-profound hearing loss experience tinnitus.

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Hearing loss and tinnitus

Tinnitus is a symptom rather than a disease or illness. The onset can be related to a change in hearing, trauma, illness, stress, surgery or medication but in most cases the cause is unknown.

Hearing connects us to people and the world around us, allowing us to communicate with others and provides awareness of sounds in the environment.

Specialist cells in the cochlea of each ear convert sound into nerve impulses, which travel along the hearing nerve to the brain. The brain is responsible for making sense of the sound by filtering out any unnecessary nerve activity and background sounds, such as clocks ticking.

The hearing centres of our brain connect to the autonomic and sympathetic nervous systems, which regulate our mood and bodily functions such as heart and breathing rate. These connections help us respond appropriately to sounds around us such as quick reactions to a fire alarm or relaxing while listening to music.

Changes in our hearing, physical health or mental health may influence the way our brain filters, processes and reacts to sound.

Some people become aware of tinnitus following a change in hearing. Deterioration in hearing reduces the amount of information being sent to the hearing centres of the brain. The brain responds by trying to get more information from the ear, like turning up the volume control. As well as increasing detection of external sounds, it can increase the detection of spontaneous activity in the hearing pathway.

Some people become aware of tinnitus following a stressful or emotional event. Emotional stress stimulates the sympathetic nervous system, which increases nerve activity in the brain and indirectly increases the tinnitus.

What can help?

There is currently no known cure for tinnitus however there are lots of management strategies that can help.

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Although little research has been carried out specifically on tinnitus treatments for people with severe-profound hearing loss, there are some things that have been proven to help manage tinnitus.

Talking to someone

Talk to a professional. Your GP and hearing aid dispenser/audiologist will be able to offer support and advice. Many audiology services have an audiologist or hearing therapist, specialising in tinnitus management.

Talk to your family and friends. People around you may not be able to give you the support you need if they do not understand what tinnitus is or how it is affecting you.

Talk to others. It can be helpful to talk to someone who has experience of tinnitus. There are Tinnitus Support Groups around the country where you can pick up tips from others and gain (and give) support simply by sharing your story. Hearing in groups and social situations can be challenging with a severe-profound hearing loss. You may need to use assistive hearing devices such as remote/personal microphones, a communication partner and communication tactics to help you in this challenging environment.

The British Tinnitus Association (BTA) offers support via a confidential tinnitus telephone helpline. Tell the Tinnitus Support Team adviser if you are having difficulty hearing them and let them know what will help you to hear them better. If you struggle to use the telephone, there is a chat function on their website.

Hearing aids

Most people find they hear their tinnitus less when their hearing aids are switched on. If your hearing aids are not helping with your tinnitus, it is important to speak to your audiologist as they may need to review your settings.

Hearing aid settings typically focus on helping you hear speech and making sure loud sounds are not uncomfortably loud. This can mean, even with appropriately fitted hearing aids, people with severe-profound hearing loss will often struggle to detect softer environmental sounds, such as bird song. Your audiologist may be able

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Figure 1: A digital hearing aid.

(Image: Starkey Hearing Technologies)

to give you an extra setting on your hearing aid which focuses on amplifying soft sounds, which can be used when it is quiet.

Depending on the degree and configuration of your hearing loss there may be a suitable combination device. This contains both a hearing aid and a sound generator. If you can wear a combination device you should be mindful of the volume and length of time the noise component is used to avoid damaging your hearing.

People with severe-profound hearing loss often struggle to hear in noisy environments. The extra listening-effort needed to hear in noisy or busy social situations can be tiring and lead to frustration and social isolation, all of which can have a negative effect on tinnitus. Speak to your audiologist about hearing aid settings, assistive listening devices and communication tactics to help you hear as

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Figure 2: An adult wearing a cochlear implant.

(Image: British Cochlear Implant Group)

well as possible in these situations.

In order to give you the best possible hearing it is important that your hearing aid is regularly serviced and that your hearing is regularly reviewed.

Hearing implants

The term “hearing implants” covers a variety of devices, including bone conduction, middle ear, cochlear and auditory brainstem implants.

Hearing implants may be appropriate if you are not able to use a conventional hearing aid or when you do not get sufficient benefit from your hearing aids. The most common hearing implant for those with severe-profound hearing loss is

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a cochlear implant. A cochlear implant is a small electronic device that turns sound into tiny electrical pulses, which are sent directly to the nerve of hearing. The implant can therefore bypass some of the inner ear structures which are not working.

The improvements in hearing and quality of life from a cochlear implant are well documented. Many published studies also report cochlear implants can help reduce tinnitus. Despite the clear benefits, it is estimated that currently less than 7% of eligible adults have a cochlear implant. You can find out more information about cochlear implants from the British Cochlear Implant Group (BCIG) website bcig.org.uk.

Your GP, audiologist or ENT doctor can refer you for a hearing implant assessment. During a comprehensive assessment, the hearing implant team will discuss your hearing difficulties, test your hearing, and review your hearing aid settings.

The criteria for cochlear implants are set by the National Institute for Health and Care Excellence (NICE). The assessment process may be stopped at any time if you or the hearing implant team feel that it is not appropriate to continue. Please see the BTA/BCIG leaflet 'Tinnitus and cochlear implants' for more information.

Sound enrichment

A lot of people find that additional background sound (known as sound enrichment) helps to make their tinnitus less intrusive.

Sound enrichment can be provided in several ways including:

CD, MP3 download or the radio

Smartphone apps

Bedside/table-top sound generator

Wearable sound generator

The use of sound enrichment can be more challenging with a severe-profound hearing loss and you may need to experiment to find the best solution for you.

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Figure 3: A bedside sound generator.

(Image: SoundOasis)

When thinking about sound enrichment the following points are useful to consider:

Severe-profound hearing loss means you will often struggle with clarity of sound, not just lack of volume. You may find some sounds via CD, MP3, radio, or smartphone apps have poor sound quality. Try a range of sounds to find one that is pleasant.

When you remove your hearing device at night you are unlikely to be able to hear a bedside or tabletop sound generator. Some people choose to sleep wearing their hearing aid/hearing implant sound processor to be able to hear a bedside sound generator. However, this should only be done after talking to your audiologist.

If your hearing aid/hearing implant has a direct audio input or wireless function, you could play therapy sounds directly through your device.

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Relaxation

Stress is often linked to tinnitus. By relaxing more you may feel less stressed and so notice your tinnitus less. Relaxing your body (even if you do not feel tense) often helps with sleep and tension caused by the tinnitus.

There are lots of relaxation activities that can be done with and without sound. For further advice read the BTA leaflets on stress, ideas for relaxation, and relaxation without sound.

If you have significant anxiety, depression, or other mental health problems alongside the tinnitus, or are extremely troubled by the tinnitus you may benefit from further support in the form of psychology or counselling. Your audiology service may be able to refer you directly, your GP can refer you, or you can self-refer via your local Wellbeing Service.

Addressing sleep problems

Sleep disturbance affects most of us at some stage of our lives. There are various techniques to help when you have tinnitus and sleep disturbance.

When you take your hearing aids out or hearing implant sound processor off you may struggle to hear. Feeling anxious about not hearing at night can increase awareness of tinnitus. If you are anxious about missing sounds, such as hearing a child, there are various alerting systems available which may help.

You may notice your tinnitus more at night when it is quieter because of the shift from a relatively noisy daytime environment to the quietness of the bedroom. Having some background sound (known as sound enrichment) may help make your tinnitus less intrusive and allow you to sleep better.

Alternative formats

This publication is available in standard print on request.

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For further information

The BTA Tinnitus Support Team can answer your questions on any tinnitus related topics:

Telephone: **0800 018 0527**
Web chat: **tinnitus.org.uk**
Email: **helpline@tinnitus.org.uk**
Text/SMS: **07537 416841**

You may also find the website **takeontinnitus.co.uk** helpful.

You can find out more about cochlear implants from the BCIG website **bcig.org.uk**.

BTA publications

Our information leaflets are written by leading tinnitus professionals and provide accurate, reliable and authoritative information which is updated regularly. Please contact us if you would like to receive a copy of any of our information leaflets listed below, or they can be downloaded from our website.

*available in Easy Read

All about tinnitus*

Complementary therapy for tinnitus: an opinion

Drugs and tinnitus

Ear wax removal and tinnitus

Flying and the ear

Food, drink and tinnitus

Hearing aids and tinnitus*

Hyperacusis

Ideas for relaxation without sound

Information for musicians

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Mindfulness for tinnitus

Musical hallucination (musical tinnitus)

Noise and the ear

Otosclerosis

Pulsatile tinnitus

Relaxation

Self help for tinnitus*

Sound therapy

Sources of mutual support for tinnitus

Supporting someone with tinnitus

Taming tinnitus

Tinnitus: a parent's guide

Tinnitus: a teacher's guide

Tinnitus and cochlear implants

Tinnitus and disorders of the temporo-mandibular joint (TMJ) and neck

Tinnitus and severe-profound hearing loss

Tinnitus and sleep disturbance

Tinnitus and stress

Tinnitus services*

Leaflets for children:

Ellie, Leila and Jack have tinnitus (for under 8s)

Tinnitus (for 8-11 year olds)

Tinnitus (for 11-16 year olds)

Ellie, Leila and Jack have tinnitus activity book (for under 8s)

Tinnitus activity book (for 8-11 year olds)

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British Cochlear Implant Group

c/o Helen Peebles, Yorkshire Auditory Implant Service, Listening for Life Centre, Bradford Royal Infirmary, Duckworth Lane, Bradford BD9 6RJ

Email: info@bcig.org.uk

Telephone: **01274 364853**

Website: bcig.org.uk

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British Tinnitus Association

British Tinnitus Association

Ground Floor, Unit 5, Acorn Business Park, Woodseats Close, Sheffield S8 0TB

Email: helpline@tinnitus.org.uk

Helpline: **0800 018 0527**

Website: tinnitus.org.uk

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