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to answer your call or email.

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ACTION ON
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Different types of tinnitus – and what to do about them

THE FACTS

Different types of tinnitus – and what to do about them

This factsheet is part of our **Tinnitus** range. It is written for people who have tinnitus, their families, friends and the professionals who work with them.

Tinnitus is a medical term to describe noises that people can hear in one ear, both ears or in the head – such as ringing, buzzing or whistling. The sounds heard can vary from person to person, but the common link is that they do not have an external source.

This factsheet gives information about **musical hallucinations, pulsatile tinnitus** and **low frequency noise**.

Read on to find out:

- What are musical hallucinations?
- Who experiences musical hallucinations?
- What causes musical hallucinations?
- How can I deal with musical hallucinations?
- What is pulsatile tinnitus?
- What causes pulsatile tinnitus?
- How is pulsatile tinnitus diagnosed?
- How can I deal with pulsatile tinnitus?
- What is low frequency noise?
- Why are some people more aware of low frequency noise than others?
- What are the effects of low frequency noise?
- How do I tell the difference between low frequency noise and tinnitus?
- How can I deal with low frequency noise?
- Where can I buy products that may help?
- Where can I get further information?

If you would like this factsheet on audio tape, in Braille or in large print, please contact our helpline (see front page).

Medical disclaimer: the information given in this factsheet is not medical advice and by providing it neither Action on Hearing Loss nor our tinnitus and medical advisors undertake any responsibility for your medical care, nor accept you as a patient. Before acting on any of the information contained in this factsheet, or deciding on a course of treatment, you should discuss the matter with your GP (family doctor) or other medical professional who is treating you.

What are musical hallucinations?

Tinnitus sounds will usually fall within the categories of ringing, buzzing, whistling, hissing, whooshing or pulsing beats. However, some people hear their tinnitus as music or songs instead. These are called 'musical hallucinations' or 'auditory imagery'. They are less common than the usual tinnitus sounds. If you have musical hallucinations, you may find that the music or sound is often familiar. It can range from simple tones to songs or even orchestral music.

Who experiences musical hallucinations?

Musical hallucinations may be experienced by people who have had hearing loss and tinnitus for some time. People with normal hearing and people who have hyperacusis (increased sensitivity to sound) can also have musical hallucinations.

What causes musical hallucinations?

Your ears cannot generate musical hallucinations themselves. Instead, what may be happening is that conventional tinnitus is converted by your brain into more organised sound such as music or songs.

New medication can sometimes cause musical hallucinations – as it can cause other types of tinnitus – but it usually stops when the medication is stopped. If you think your medication has triggered your musical hallucinations, you should visit your GP for advice. See our factsheet **Drugs, stress and tinnitus** for more information.

Musical hallucinations can also be triggered by a stressful period in your life. However, they may start for no obvious reason at all, as with many other forms of tinnitus. Although this may seem frightening and worrying, you should be assured that they are very unlikely to be a sign of mental illness or other disorder.

How can I deal with musical hallucinations?

If you start to experience musical hallucinations, or are at all concerned about the noises in your head or ears, you should see your GP. Ask them to refer you to an ear, nose and throat (ENT) specialist. An ENT specialist will be able to check your ears to make sure there are no underlying medical problems with your ears. They will also be able to explain the condition, which you may find reassuring. The ENT specialist may refer you to the audiology department for specialist tinnitus advice with a hearing therapist or specialised audiologist. They will also be able to explain more about the condition, which you may find reassuring. Once people know more about their condition, they find it easier to accept and manage.

Although musical hallucinations cannot be medically treated, there are several things you can do to help you manage them:

- **Sound therapy.** People often notice their tinnitus more in quiet environments. Sound therapy helps to make tinnitus less noticeable by reducing the contrast between tinnitus sounds and background sounds. It also helps the hearing system to become less sensitive to tinnitus by distracting the brain with other sounds. Wearable sound generators, which produce a soothing *shh* sound, can be worn, such as in-the-ear (ITE) hearing aids. You could also try bedside sound generators – they are free-standing and have a built-in speaker: you can either plug in headphones or use a speaker that goes under your pillow. They give out a range of soothing sounds, such as rain, the ocean or birdsong. See our factsheet **Therapies to help with your tinnitus**.
- **Environmental sounds.** You can also try listening to sounds of nature on CDs. We produce a range of CDs specially designed to help with tinnitus: our **Tune out tinnitus** range. For more information, see page 9.
- **Hearing aids.** If you have hearing loss, using hearing aids may help your tinnitus. Hearing aids can help by compensating for your hearing loss and stopping your ears from straining. By picking up background sounds around you, they can increase the information going to your brain, helping distract you from your tinnitus.
- **Relaxation exercises.** Many people notice their tinnitus more when they are worried or tired – and this can make them more anxious or stressed. Learning to control your responses to stressful situations and staying calm by using relaxation exercises can be very helpful. For more information, see our factsheet, **Tinnitus, sleep and complementary therapies**.
- **Distraction techniques.** Try to keep yourself busy and try not to focus on the tinnitus – play a game, talk to someone, watch TV or read a book.

What is pulsatile tinnitus?

Pulsatile tinnitus is a type of tinnitus where you hear rhythmical noises that beat at the same rate as your heart. If you check your pulse while listening to the pulsatile tinnitus, you will notice that they beat at the same rate.

What causes pulsatile tinnitus?

Pulsatile tinnitus has two main causes:

- Changes in blood flow in the blood vessels near your ear.
- An increase in your awareness of the blood flow near your ears.

Only in exceptional cases is pulsatile tinnitus a sign of a more serious condition.

What is the relation between blood flow and pulsatile tinnitus?

If you have a localised increase in blood flow, which can happen if a blood vessel is narrower than usual, neighbouring blood vessels have to carry extra blood – this extra flow generates noise.

Turbulent blood flow can occur when your arteries harden (atherosclerosis). Atherosclerosis causes blood vessels to narrow and prevents blood from flowing smoothly. Blood flow then becomes noisy – in the same way that a smoothly running river becomes noisy when it reaches rocks or a waterfall.

What is the relation between increased awareness and pulsatile tinnitus?

Increased sensitivity in your hearing pathway can make your brain more aware of normal noises in your blood vessels. As with other forms of tinnitus, your brain will often 'listen' to the sound, as it mistakenly thinks that it has an important meaning.

If you have hearing loss or a hearing condition such as a perforated eardrum or glue ear, you may become more aware of the sounds inside your body because they are no longer 'masked' by external sounds.

How is pulsatile tinnitus diagnosed?

You need to see your GP first. They will refer you to a hospital consultant, who will take a detailed medical history and examine you. In particular, they will look at your eardrums and the blood vessels in your neck and skull. They will use a stethoscope to see if they can hear a pulsatile noise in your neck and skull – if so, this is called 'objective tinnitus' (because it can be heard by other people).

You will also have a series of hearing tests, which is usual for any type of tinnitus. Your consultant may use imaging techniques, such as ultrasound or magnetic resonance imaging (MRI), to look at how blood is flowing through your body. Such scans are routine and do **not** indicate that the consultant believes that there is something seriously wrong with you. Because MRI scanners can be noisy, always make sure you wear the ear protection provided.

How can I deal with pulsatile tinnitus?

If clinicians can find a specific cause of your pulsatile tinnitus – such as high blood pressure or glue ear – then they may be able to treat it. If they cannot, they will give you advice on how to manage it. You may be offered counselling, sound therapy, relaxation therapy and tinnitus retraining therapy (TRT). For more information, see our factsheet **Therapies to help with your tinnitus**.

What is low frequency noise?

Although low frequency noise is not a type of tinnitus it is often confused with tinnitus. This is because people are often not sure if the noise is coming from their own ears or head or from the external environment.

Low frequency noise corresponds to the lowest two octaves on a piano. When someone complains of hearing low frequency noise, they commonly describe it as humming, murmuring, rumbling or deep droning. Of all environmental noise, this type of noise seems to affect people most strongly.

There are many sources of low frequency noise. Most are external noises, for example:

- road, sea and air traffic
- water-pumping stations
- wind farms
- generators.

Pipes and cables underground, such as the ones used to pump gas, can also be a source of low frequency noise. It can also come from inside your home, such as the noises made by fridges, fans, central heating and air-conditioning. There are also some natural sources, such as the wind, sea and thunder.

Why are some people more aware of low frequency noise than others?

Most people live with low frequency noise on an everyday basis and hardly notice it. However, for some people, low frequency noise can be so loud that it sounds like ‘an aeroplane engine roaring in the room’. Many people ‘feel’ the sound with their ears, but people can also feel vibrations in their head or body.

When someone is aware of low frequency noise, they are usually sensitive to lower noise in general – even at levels that don’t normally bother other people. Range of hearing varies from one person to another, so it’s often the case that low frequency noise can be heard by one person and not another. In turn, our reaction to the noise may vary, so it may annoy one person and not another.

People’s hearing also tends to worsen slowly with age. This is called presbycusis. Hearing generally deteriorates faster at the high and mid frequencies than at the low frequencies. This means that older people’s hearing tends to be better at low frequencies, meaning they hear these sounds well even if they have hearing loss.

What are the effects of low frequency noise?

If you’re sensitive to low frequency noise, you may find that at first you are only aware of it when it is quiet or when you are on your own. However, if you focus your attention on it, you are likely to notice it more and may even find yourself monitoring the sound. This may make you more aware of low frequency noise during your everyday activities. Some people will find this makes them more irritable, or less able to fall asleep or concentrate.

Because low frequency noise travels further than sound at higher frequencies, it can be harder to trace its exact source. In addition, low frequency noise sounds the same or even louder indoors. This is because it is not muffled by insulation or other sounds, such as traffic noise, in the same way that middle and higher frequency sound is.

Measuring and assessing low frequency noise

If you feel that you are being troubled by low frequency noise that is coming from outside your home, it can be helpful to contact your local environmental health officer from your local council to arrange for them to investigate.

However, a number of factors make measuring and assessing low frequency noise difficult. For example:

- People's sensitivity to low frequency noise can vary dramatically.
- It can be difficult to measure low frequency noises with conventional sound-measuring equipment. Ordinary sound level meters may not be able to detect low frequency noise on the decibel scale. Decibels (dB) are the unit of measurement for noise.
- Noise nuisance is determined by the level of noise on the decibel scale. In the case of low frequency noise, this scale is not appropriate, so it is often difficult to prove that it is a nuisance.
- Even when the nature of the low frequency noise has been identified it can be difficult to locate the source, as it could be quite a long way from where you live.

The government has now accepted that low frequency noise is a form of noise pollution. At the moment, however, there are no laws that allow councils to deal effectively with low frequency sounds that are causing a problem.

How do I tell the difference between low frequency noise and tinnitus?

If you can hear low frequency noise all the time, you may feel that it's not coming from your head or ears, but from external sources. You may feel that the source is in the house, in the street or in your neighbourhood.

Many people have difficulty deciding whether the noises they hear are coming from an external source or from inside their head (which would be categorised as tinnitus).

So how do you tell the difference? Asking yourself the following questions can help you work out what kind of noise you are experiencing:

- Can anyone else hear the noise?
- Can you hear the noise only in one place, or everywhere?
- Does the noise only happen at certain times?
- Have you recently been ill, or are you under stress?

Can anyone else hear the noise?

Ask friends or family if they can hear the noise too. If other people can hear the noise, then tinnitus is unlikely to be the cause.

Can you hear the noise only in one place, or everywhere?

If you hear the noise everywhere – for example, at home, in another house, or in another place – then it is probably tinnitus. Everyday sounds can mask mild tinnitus, so you may not notice it in the street but you may hear it when you're somewhere quiet. If you only hear the noise in one room, it may not be tinnitus.

Some tinnitus does seem to be related to how you are sitting or lying, so that you hear it when you are lying down, sitting, or turning your head. Pressure on your nerves, muscles or blood vessels, or changes in your blood flow after these kinds of movements or positions, might also affect your tinnitus.

Does the noise only happen at certain times?

You may only notice mild tinnitus if you are in a quiet place. You might find that your tinnitus is most noticeable when the background is quiet, such as when you are in bed or when you wake up in the morning. A more definite pattern to the noise may mean it is coming from an external source; for example, your central heating may be switched on at the same time each day.

Have you recently been ill, or are you under stress?

A recent cold, ear infection, or change in your hearing can sometimes be a trigger for tinnitus, which may or may not be temporary. You may also find that significant noise exposure, or having your ears syringed, can trigger tinnitus.

Stress may trigger your awareness of tinnitus, or make your existing tinnitus seem worse. Research has also shown that there is a link between sensitivity to noise and depression. Low frequency noise can become annoying if you are under stress, whether or not you have tinnitus.

How can I deal with low frequency noise?

Many of the strategies used for managing tinnitus can be helpful in coping with low frequency noise. Try these tips:

- If you are worried about your hearing, talk to your GP and ask them to refer you to your local audiology department to have a hearing test. They may be able to refer you on to a tinnitus clinic where you can get help to develop coping strategies for living with low frequency noise or tinnitus.
- Keep yourself busy during the day. This will help distract you from focusing on the sound and give it a chance to 'fade into the background'.
- Use background sounds such as music or the radio. Switching on a fan, or just keeping the window open to let in natural noises, can also help.
- You may find that CDs playing rain, ocean or birdsong sounds can help. See our factsheet **Therapies to help with your tinnitus** for more information.

- Relaxation techniques can help you break the 'circle of stress' that can build up when you are annoyed or irritated about hearing the sound. See our factsheet **Tinnitus, sleep and complementary therapies** for more information.
- You can also try contacting a local tinnitus support group (see page 10). Talking to others who have had similar experiences can help you realise you are not alone.

Where can I buy products that may help?

We sell a range of equipment for people with hearing loss and tinnitus. Visit our online shop to see our range of products. Or you can request a copy of the *Solutions* catalogue by contacting us directly.

1 Haddonbrook Business Centre, Orton Southgate, Peterborough PE2 6YX

Telephone 01733 361199

Textphone 01733 238020

Fax 01733 361161

solutions@hearingloss.org.uk

www.actiononhearingloss.org.uk/shop

Tune out tinnitus CDs

We produce a range of specially designed CDs to help with tinnitus: the **Tune out tinnitus** range.

CDs in the range include:

Water sounds

Nature sounds

Abstract sounds

Everyday sounds.

To find out about these CDs, please contact us using the details given above.

Our website

We also have a dedicated section on our website for information on managing tinnitus, including everyday tips and a forum to share experiences:

www.actiononhearingloss.org.uk/tinnitus

Where can I get further information?

British Tinnitus Association (BTA)

Campaigns for better services for people with tinnitus. It supports a network of local tinnitus groups around the UK, has a range of publications and produces a quarterly magazine, *Quiet*.

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

Telephone 0800 018 0527

Fax 0114 258 2279

Textphone 0114 258 5694

info@tinnitus.org.uk

www.tinnitus.org.uk

Department for Environment, Food and Rural Affairs (DEFRA)

Can give you advice and information on low frequency noise.

Customer Contact Unit, Nobel House, 17 Smith Square, London SW1P 3JR

Telephone 0845 933 5577

Textphone 0845 300 1998

Fax 020 7238 6951

Hush

The Hull tinnitus self-help group, who run a helpline and produce information and CDs for people with tinnitus.

109 Southella Way, Kirkella, Hull HU10 7LZ

Telephone 01482 656033

hush@bbhoward.karoo.co.uk

www.tinnitusexplained.org

UK Noise Association (UKNA)

Campaigns about noise issues.

PO Box 551, Chatham, Kent ME4 9AJ

Telephone 01634 863852

info@ukna.org.uk www.ukna.org.uk

Contact a local group

You could contact a local tinnitus support group, if you think it would help you to share your experiences. They are set up and run by people with the condition or by professionals who work with tinnitus patients. The type of support and help they are able to offer varies between groups. The BTA has a list of local support groups on its website (see page 9).

Further information from Action on Hearing Loss

Our helpline offers a wide range of information on many aspects of hearing loss. You can contact us for further copies of this factsheet and our full range of factsheets and leaflets – see the cover page for contact details.

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