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A WORLD LEADER
IN SUPPORT AND ADVICE

Hyperacusis and other forms of altered sound tolerance

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This leaflet has been written to explain what hyperacusis - the sensitivity to everyday sounds is - and how it can be managed.

Introduction

The term **hyperacusis** is generally applied to people who experience the sounds of everyday life as intrusively loud, uncomfortable, and sometimes painful. Some people notice an increase in sensitivity after they have had a difficult life event, for example, bereavement. In many people, though, there is no clear reason why hyperacusis started.

Hyperacusis affects people in different ways. For some people, it is a minor annoyance but other people find it really difficult to live with. Some people with hyperacusis withdraw from social and professional activities and become isolated; this can make the problem worse as they become fearful and anxious. Therapy often involves addressing these fears and anxieties.

The management of hyperacusis usually involves the treatment of any medical conditions associated with the condition, counselling, and often the use of sound therapy.

If you are concerned about your tolerance to noise, we recommend that you discuss this with your GP, who can refer you for an appropriate specialist opinion.

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How common is hyperacusis?

There is very little reliable information about the numbers of people with troublesome hyperacusis. An internet study has suggested that the figure may be as high as 9% of adults, but most professionals working in the field feel that this is too high. A more conservative estimate suggests that about 2% of the adult population have some degree of hyperacusis. The number of people who are severely affected is a small proportion of this total.

What are the effects of hyperacusis?

Some people say that they feel more sensitive to sound but that it doesn't impact too much on their everyday life. Other people might report that sounds make it difficult for them to concentrate and they may feel tension or even anger. Some people with hyperacusis become so afraid of sounds that they withdraw from normal daily activities and try to avoid sound altogether, which can actually lead to the auditory system becoming even more sensitive.

Sound tolerance

The human auditory system has an extraordinary range: we are able to hear tiny sounds such as the gentle rustling of leaves, and yet we are still able to tolerate extremely loud sounds such as music in a club. There is a level of sound that will generate physical pain in anyone. This occurs at a level of

approximately 120dB (the volume of a jet plane taking off). However, we generally reach a point where we feel that sound is too loud long before we reach the threshold of pain. This point of maximum comfortable loudness varies from person to person and also varies according to the person's mood and the context of the sound.

You may have noticed that some sounds, eg a radio in the background, will be quite pleasant one day, yet on another day the same sound will be quite intrusive. This reduced tolerance is especially likely to happen if we are tired or stressed.

As well as having a maximum comfortable sound level, most people have noticed that there are particular sounds that they find unpleasant, regardless of the loudness of the sound. Think of fingernails on a chalkboard, or a tap dripping, or a pen being tapped against a desk. These are all normal variations of sound intolerance. However, there are some people whose ability to tolerate sound is altered to the point that it can impact on their ability to live a normal life.

Types of altered sound tolerance

The vocabulary around hypersensitivity of hearing is confusing. The word **hyperacusis** is often used to refer to all types of altered sound tolerance. This describes the experience of some people for whom even quite modest environmental sounds appear loud, intrusive and sometimes painful.

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Where the sensitivity is specific to a particular sound or sounds, and people then have an aversion or anxiety related to those sounds, then the term **phonophobia** can be applied. A new word, **misophonia**, has been coined to describe the intense dislike or even repulsion that some people with hyperacusis experience to a particular sound. The sound is often one generated by other people, for example, someone chewing.

Recruitment is a specific form of altered sound tolerance in people who have a hearing loss. When people speak to someone who has recruitment, the person may say, "Speak up a bit, I can't hear what you're saying." The speaker will then raise their voice slightly, only to be told, "Don't shout! I'm not deaf." In recruitment, the auditory system goes from too little to too much very quickly.

What causes hyperacusis?

There are a few medical conditions that have hyperacusis as a symptom so it is important to get a medical opinion. Medical conditions that are on occasion associated with altered sound tolerance include migraine, post head injury syndrome, Lyme disease, William's syndrome and Bell's palsy. People who find it difficult to process sensory information (eg those with autistic spectrum disorder) can also find hyperacusis a problem. Sometimes people experience hyperacusis after certain types of ear surgery. Exposure to sudden loud noise can sometimes trigger hyperacusis. For some, a

negative life event appears to be associated with the onset, but for many people no clear reason can be identified.

There are several theories about the mechanisms that underlie hyperacusis. What they share in common is that hyperacusis is usually associated with increased sensitivity (or auditory gain) in the central auditory system (the hearing pathways in the brain). This sensitivity can be influenced by mood.

Is there a link with tinnitus?

Quite a few people who have tinnitus also have hyperacusis and, looking at the figures the other way round, most people with significant hyperacusis also have tinnitus. There are also quite a few people who have one and not the other. Just because people have one, that certainly doesn't mean that they are going to develop the other.

Investigation of hyperacusis

Because significant hyperacusis in adults is an unusual condition, most GPs will have only some understanding of it. A formal investigation would usually be carried out by an Ear, Nose and Throat (ENT) Surgeon or Audiovestibular Physician.

The specialist will talk to you about your difficulty with sound tolerance, and will want to know when and how it started. They will ask about other illnesses or circumstances at the time of it starting. You can expect questions about how you manage day to

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day, as well as how things have changed since it started. Usually, you'll be asked about hearing loss, noise exposure and tinnitus.

You may also be asked to complete questionnaires regarding your general mood, hyperacusis and quality of life. These questionnaires are very helpful for providing some clarity regarding your situation, and are usually used to guide therapy and monitor how well it's working.

Your ears will be examined and you'll most likely have a hearing test. Some doctors might request other special tests, and these will be explained to you at the time of the examination. If you are at all concerned about the tests, talk to your specialist about them.

Treatment of hyperacusis

For most people, hyperacusis is not troublesome and after explanation and reassurance will be able to manage their condition successfully. For some though, this is not the case and they might be referred for therapy for hyperacusis. This is usually delivered within an audiology clinic and the person usually also works with people who have tinnitus. If hyperacusis is the symptom of a specific medical condition, this condition will be treated in parallel.

The person that you see for therapy will want to find out how the hyperacusis affects you, and should spend some time identifying what you can do differently to try to reduce the impact of hyperacusis on your day to

day life.

Because many people with hyperacusis have cut themselves off from sound, most therapists feel that it is important to slowly and gently reintroduce sound into the person's life so that they can start to resume the activities they have been avoiding. This is called **sound therapy** and you may be offered the option of an ear level device or a bedside sound generator. The most commonly used sound is white noise, which effectively sounds like a rushing or "shhhh" type of sound.

An alternative approach is the use of **Cognitive Behavioural Therapy (CBT)**. The idea behind using CBT is to recognise what is helpful and/or unhelpful in your everyday life when it comes to living with hyperacusis. You can then work with your therapist to find more helpful ways of managing your hyperacusis, thereby reducing the impact it has on you.

Ear protection

One common feature of people with altered sound tolerance is that they try to avoid loud sounds. Although this may seem like a commonsense precaution, it can turn out to be counter productive and can make you even more sensitive to sound. As people avoid sound their environment becomes quieter and the auditory system becomes more sensitive to sound because of this lack of sound input.

Ear protection should not be used for normal day-to-day activities. Whilst it is understandable that people may wish to

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use ear plugs or ear muffs when doing something such as emptying a dishwasher or driving a car, it will not help with learning to manage hyperacusis in the long term. Of course, it is sensible to use ear protection measures when doing something really noisy such as using DIY tools.

If ear protection is currently being used for everyday situations, it is important to discuss strategies for reducing their use with the hyperacusis therapist. They will have some useful suggestions and be able to provide support through what can seem like a daunting time. For advice on appropriate ear protection measures, see the BTA leaflet *Noise and the ear*.

Further information

The Hyperacusis Network www.hyperacusis.net is a self help resource with much useful and up-to-date information, forums and the opportunity to purchase sound therapy CDs for hyperacusis.

Living with Tinnitus and Hyperacusis (McKenna, Baguley and McFerran, 2010, Sheldon Press ISBN 978 1847090836) is a very helpful book, aimed at people who have tinnitus and hyperacusis. It is available from the BTA.

Hyperacusis: diagnosis, mechanisms and therapies (Baguley and Andersson, 2007, Plural Publishers ISBN 978 1597561044) is aimed at the professional community but can be accessed by people with hyperacusis. It summarises present scientific and clinical information.

Alternative formats

This publication is available in large print and audio formats on request.

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.

Leaflets for adults:

- All about tinnitus
- Balance and 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
- Musical hallucination (musical tinnitus)
- Noise and the ear
- Otosclerosis
- Pulsatile tinnitus
- Relaxation

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- Self help for tinnitus
- Sound therapy (enrichment)
- Sources of mutual support for tinnitus
- Supporting a child with tinnitus in the classroom
- Supporting someone with tinnitus
- Taming tinnitus
- Tinnitus and disorders of the temporomandibular joint (TMJ) and neck
- 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)

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