

## **SENSITIVITY TO SOUND**

### **LOUDNESS RECRUITMENT, HYPERACUSIS, PHONOPHOBIA**

Most people dislike continuous loud noise, but some people are especially sensitive to ordinary levels of noise. This sensitivity, or reduced tolerance, can take different forms and be caused by different things.

#### **Loudness Recruitment**

Loudness Recruitment occurs in some ears that have high frequency hearing loss due to disease or damage to the cochlea (the inner ear). Loudness Recruitment refers to the rapid growth of loudness of certain sounds that are around the same pitch of a person's hearing loss. That is, with only small increases in intensity, sounds can be perceived as soft or too loud. People with Recruitment have hearing loss which means that they may not hear someone speak in a normal voice, but find a raised voice very loud.

#### **Hyperacusis**

For people with hyperacusis, all except the quietest of sounds are uncomfortably loud. Sudden loud sounds can seem explosively loud and cause physical discomfort for some people.

Most hyperacusis is the result of exposure to extreme loud noise, either continuously over a period of time or once only. The person with hyperacusis may find even low intensity sounds (such as the hum of a computer monitor or of a refrigerator) uncomfortably loud. For some people with hyperacusis, the sensitivity is made worse for up to a day following exposure to a loud sound.

Hyperacusis affects some patients with other health problems, such as Lyme's Disease, chronic fatigue syndrome, Bell's palsy, head injury and epilepsy. It is also a characteristic of autism; some autistic children find all sounds too loud.

A person with hyperacusis may have normal hearing or some degree of hearing loss and typically has tinnitus, too.

#### **Phonophobia**

Another form of sound sensitivity is phonophobia – fear that certain sounds or types of sounds will affect the hearing or make tinnitus worse, leading the person to avoid those sounds as much as possible. Sometimes phonophobia develops as a result of hyperacusis. The person becomes afraid of exposure to sounds which seem loud to them and which they think will damage their hearing.

#### **Sound Sensitivity and Tinnitus**

Tinnitus and hyperacusis occur together quite frequently because the same conditions of the auditory system and/or nervous system can underlie both problems, e.g. exposure to excessive noise, anxiety. Tinnitus DOES NOT cause hyperacusis, however, nor does hyperacusis cause tinnitus.

## MANAGEMENT OF SOUND SENSITIVITY

The management of sound sensitivity aims to return the person to a normal sound environment without experiencing discomfort. There are six components to the management of sound sensitivity:

- 1 Shielding from sounds that actually *are* loud by using effective individual hearing protection when in a noisy workplace or using noisy equipment (such as power tools, electrified musical instruments, firearms).
- 2 Discouragement of excessive hearing protection: the person must be 'weaned off' the use of hearing protection when the noise is not actually hazardous. If the person is experiencing severe discomfort in some moderately-noisy situations, this may be done by using specially constructed 'electronic' earplugs or sound processors which reduce the intensity of very loud sounds, only,
- 3 Information and counselling about the causes of hyperacusis to provide reassurance and allay anxiety,
- 4 Sound enrichment: the person with hyperacusis should avoid silence and, at all times, have low level, natural sound present in their environment. Useful aids include CDs or other devices which provide digitally-produced sounds of nature such as running water, bird calls, or the sound of rain falling,
- 5 The use of wearable noise generators: these help the person become desensitised to noise,
- 6 Progressive desensitisation: a person with severe phonophobia may need additional help to overcome their fear of particular sounds. This entails counselling to help them adjust to sounds which are progressively more like the sounds which trigger the strong response, e.g. sirens or telephone bells.

Tinnitus Retraining Therapy and the Neuromonics acoustic desensitisation protocol are both effective for managing sound sensitivity.

## MORE INFORMATION

International Tinnitus and Hyperacusis Society	<a href="http://www.iths.net">www.iths.net</a>
The Hyperacusis Network	<a href="http://www.hyperacusis.net">www.hyperacusis.net</a>
University of Maryland Tinnitus and Hyperacusis Centre	<a href="http://www.tinnitus-hyperacusis.com">www.tinnitus-hyperacusis.com</a>
Active Hearing Protection – Refuge Hyperacusis™	<a href="http://www.hearing-aid.com/refuge.htm">www.hearing-aid.com/refuge.htm</a>
The American Hyperacusis Association	<a href="http://www.americanhyperacusis.com/">www.americanhyperacusis.com/</a>
Tinnitus and Hyperacusis Centre, Emory University	<a href="http://www.tinnitus-pjj.com/">www.tinnitus-pjj.com/</a>
The Tinnitus and Hyperacusis Centre, London	<a href="http://www.tinnitus.org/">www.tinnitus.org/</a>
Phobias	<a href="http://www.counseling.com/DrMcCoy/mentalhelp.net/poc/center_index.php?id=1">www.counseling.com/DrMcCoy/mentalhelp.net/poc/center_index.php?id=1</a>
Hearing Loss Help	<a href="http://www.hearinglosshelp.com/recruitment.htm">www.hearinglosshelp.com/recruitment.htm</a>