

Department of Audiology and Neuro-otology

Vestibular Schwannoma Surgery:

Coping with Hearing Loss and Tinnitus

- Most people with a vestibular schwannoma (acoustic neuroma) have a hearing loss and other associated symptoms such as tinnitus (ringing in the ear) in the ear with the tumour.
- The most common surgical technique for removing an acoustic neuroma involves destroying the hearing mechanism in the affected ear, which results in complete hearing loss in this ear. In a smaller proportion of patients the hearing can be preserved, but this often depends on the location of the tumour in relation to the adjacent nerves.
- Patients who after surgery have complete hearing loss in the affected ear, often report that although they have lost all hearing on the affected side, their hearing actually improves because the affected ear may have caused unwanted distortion before the surgery.

Problems commonly associated with a unilateral loss (hearing in only one ear)

There are three main problems associated with a unilateral hearing loss:

- Hearing when there is background noise

To hear speech well when there is background noise it is necessary to have hearing in the high frequencies and to have two equally hearing ears.

- Sound localization

It is beneficial to have two equally hearing ears to detect where a sound is coming from.

- Difficulty hearing sounds on the poorer side.

This means that it is necessary to take care when crossing roads and working in factories. You may also have some challenges socially in meetings or groups.

Managing your unilateral hearing loss

There are two main types of hearing devices aimed at addressing the problems of a unilateral hearing loss:

Contralateral Routing Of the Signal (CROS)

A conventional aid will not work in an ear that has no usable hearing (either no measurable sound detection or very poor speech discrimination). The only type of hearing aid that can help with a unilateral loss is a CROS hearing aid.

A CROS aid looks like two hearing aids but is linked by a wire which goes around the back of the head. The "hearing aid" on the ear with no hearing is a microphone only. The "hearing aid" on the better hearing ear is a receiver only (and can also provide amplification if the better hearing ear has a hearing loss). Any sound on the poorer side is picked up and fed to the better ear.



The sound is fed via a wire to the better ear



Side view

Wireless CROS aids are currently not available on the NHS but can be obtained from private Audiology practitioners. Technology continues to improve in this area and devices are being developed to incorporate WiFi/Bluetooth.

Advantages of CROS aids

- CROS aids enable sounds and speech to be detected on the side with the poorer hearing ear.
- CROS hearing aids are most advantageous in specific situations; meetings, hearing whilst traveling the car and within the group setting.
- The fact that you are wearing a hearing aid can also make other people more aware of your hearing loss, which can help to improve their communication tactics.

Disadvantages of CROS aids

- CROS aids do not improve your ability to localize sound
- CROS aids do not improve hearing in background noise
- These devices can initially be found cumbersome (although this improves with practice)

If you would like to try a CROS aid, the audiologist at your pre-operative counseling session will arrange a post operative appointment at Addenbrookes hospital, or send a referral to your local audiology department.

Bone Anchored Hearing Aids (BAHAs)

A more invasive surgical method for gaining auditory information from the poorer hearing ear is the implantation of a BAHA. This device comprises a titanium fixture permanently implanted behind the ear, which transmits sound across via bone conduction. The advantages are that it is a permanent fixture and more discrete than a CROS aid as no wires are involved. Like a CROS aid, it can provide the user with auditory information from their 'bad' side, but it does not help with localisation as the sound is picked up and sent to the 'good' ear. It is important to keep the implant clean and is only suitable for people who are able to clean it themselves or have a carer who can help them with it. It is surgically implanted, which usually involves having a general anaesthetic. If appropriate, your ENT specialist will discuss this further with you at your post operative consultation. Although BAHAs are available on the NHS, they are not available at every hospital, as not every primary care trust (PCT) can fund them.

Hearing Therapy

Sometimes it can be beneficial to talk to an audiologist or hearing therapist about coping strategies. There are certain environmental conditions and ways of behaving that make coping with a hearing loss easier. For example, quiet well-lit rooms are easier to communicate in than noisy environments; it is easier to hear someone who is close to you, rather than trying to communicate over long distances. It can often be helpful to have a family member or friend with you when you come to one of these appointments, so that he or she can also listen to the information and, if necessary, think about his or her own communication tactics. We may also be able to give you information about local lip-reading classes. These can enhance your ability to use non-verbal communication, something that is especially important in noisy environments.

There can often be a grief reaction associated with hearing loss, and an appointment with a hearing therapist can also give you the opportunity to talk through these feelings. Many people find that this helps them to accept their hearing loss and allows them to adjust more easily to daily life.

Tinnitus

The experience of many people is that tinnitus does not change following Vestibular Schwannoma surgery. For some though it can cause problems following the operation. In such cases the uses of sound at night, delivered at the bedside or in a special pillow can be beneficial for sleep. Any agitation or irritability associated with the tinnitus can be helped with relaxation therapy. Occasionally the use of a sound generator in the better ear is indicated. Explanation of the tinnitus and support is able to make a marked benefit in the majority of cases. Tinnitus therapies are readily available on the NHS from Audiology Departments.

Useful Contacts

Audiology Department

Addenbrooke's NHS Trust, Box 94 Outpatients (level 2), Hills Road Cambridge CB2 2QQ

Telephone 01223 217797

Fax 01223 217 559

Minicom 01223 274494

www.addenbrookes-audiology.org.uk

www.addenbrookes.org.uk/serv/clin/surg/neurotol_skullbase1.html

Acoustic Neuroma and Meningioma Network (AMNET)

Email contact.amnet@btinternet.com

<http://www.amnet-charity.org.uk/>

The British Acoustic Neuroma Association (BANA)

Oak House, Ransom Wood Business Park, Southwell Road West, Mansfield, Nottinghamshire
NG21 0HJ

tel: 01623 632143

fax: 01623 635313

FREEPHONE NUMBER: 0800 652 3143

E-mail: admin@bana-uk.com

<http://www.bana-uk.com/>

Brain Tumour UK: <http://www.braintumouruk.org.uk>

British Tinnitus Association: <http://www.tinnitus.org.uk>

Changing Faces (this is a charity that offers support to people who have temporary or long-term facial disfigurement problems): <http://www.changingfaces.org.uk>

Meningioma UK: <http://www.meningiomauk.org>

Royal National Institute for the Deaf (RNID): <http://www.rnid.org.uk>

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We are currently working towards a smoke-free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS Stop Smoking helpline on 0800 169 0 169

Help with this leaflet:



If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or patient.information@addenbrookes.nhs.uk



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