



# Deafness in Later Life

This factsheet has been written for anyone who is interested in the way ageing affects hearing. It may be particularly useful if you think you might be affected by age-related hearing loss. The factsheet covers the following topics:

- Causes of age-related hearing loss
- Recruitment
- What to do if you are affected
- What help is available
- Research into age-related hearing loss

## WHAT CAUSES AGE-RELATED HEARING LOSS?

Gradual deterioration of the ear means that for most people, deafness is an unwelcome feature of later life. Although the degree of disability will vary, and some people adjust quite well to the slow decline in their hearing, for many it can cause frustration, loneliness and depression.

Known as presbycusis, it occurs in both ears and affects more than half of all people over 60 years old, making it the second most common disability in older people behind mobility problems.

The most common form of hearing loss associated with ageing results from degeneration of a part of the inner ear which contains microscopic blood vessels. While this degeneration does not disproportionately affect an individual's ability to hear and understand speech other changes, including the loss of tiny 'hair' cells in the inner ear, have a more serious effect.

With presbycusis, the higher pitched consonants which give intelligibility to speech are either missing or distorted and, for this reason, many people first experience difficulty in understanding women and children, with lower pitched male voices being easier to hear and comprehend. As hearing deteriorates it becomes more difficult to understand speech, especially in noisy surroundings.

Alongside ageing there are other factors that might make people susceptible. Some may have a genetic predisposition to presbycusis, whilst diet and lifestyle may have a role to play. Exposure to noise in earlier life may also hasten the onset of noticeable hearing loss, and a history of middle ear disease could contribute. Other factors could include medication frequently prescribed in later life (such as certain strong antibiotics), and osteoporosis.

Research has shown that hearing deterioration tends to halt at around the age of 70.

## **WHAT IS 'RECRUITMENT'?**

A common phenomenon associated with presbycusis is recruitment. This is a form of reduced sound tolerance where the auditory system can be said to go from too little to too much very quickly<sup>1</sup>. A person may ask someone to speak up a bit because they cannot hear, but then as they raise their voice slightly it will seem as if they are shouting.

A person with recruitment may experience increased difficulty understanding speech if there is more than one speaker, or if they are in a noisy environment. Moderately loud noise may also be physically uncomfortable, even painful.

## **WHAT IF I SUSPECT I AM AFFECTED?**

If you are over sixty and have problems hearing conversations, the television, music or the telephone at volumes others find comfortable, you may be experiencing presbycusis.

Although it affects the majority of older people, a significant number find it difficult to seek advice and information about hearing loss. Sometimes this is because it is difficult to accept there is a problem. In other cases people believe nothing can be done to help them. However, while presbycusis is incurable, it can be managed, with the possibility of hearing aids to offer a significant improvement to hearing. The first step towards experiencing improvements is to accept there may be a problem and visit your family doctor.

Your family doctor will check your ears for wax build up and may carry out some basic tests. If it is suspected you have an age-related hearing loss, you may be referred directly to an audiologist for a hearing test.

## **WHAT HELP IS AVAILABLE?**

The development of digital hearing aids and other technological advances mean that modern hearing aids can match your hearing loss more closely than older aids.

Alongside hearing aids, lipreading classes can be extremely beneficial. This is because with age-related hearing loss it is easy to misinterpret what is being said, and this can erode a person's self confidence. As a result, people may begin to avoid social contact, which can lead to feelings of isolation and depression. Lipreading classes can be invaluable because not only do they help to develop an important skill, they also provide the chance to meet others who have similar problems with their hearing, enabling people to share experiences and compare coping strategies.

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<sup>1</sup> [www.tinnitus.org.uk/index.php?q=node/48](http://www.tinnitus.org.uk/index.php?q=node/48)

Assistive devices can also help. These include loop systems (many public places have these to help your hearing aid work better), TV listening devices, amplified telephones, telephones that use text instead of sound, and flashing or vibrating alarm clocks and doorbells. Some of these devices are used in conjunction with a hearing aid, whilst others are used on their own.

## **WHAT RESEARCH IS BEING CONDUCTED INTO AGE-RELATED HEARING LOSS?**

### **Hair cells**

One of the main focuses of Deafness Research UK is to look at factors that may allow the regeneration of hair cells that detect sound in the inner ear. When these hair cells are damaged they cannot be replaced in mammals, which leads to progressive age-related hearing loss.

However, it has been shown that birds possess the ability to replace these damaged hair cells. The task now being undertaken by Deafness Research UK is to try and understand why birds are capable of regenerating hair cells, and what prevents this occurring in mammals. This will hopefully lead to the future development of treatments to induce hair cell regeneration in humans in order to restore lost hearing.

### **Genetic factors**

Noise, drugs and infections can damage hearing, but there is also a strong genetic element leading to hearing loss. Researchers from Deafness Research UK are working on identifying and understanding how deafness genes work.

This information will be valuable as it will help with the development of measures to prevent the onset of hearing loss, and even measures to reverse that which has already occurred whatever the cause. It will also allow definitive diagnosis of the cause of hearing loss and enable genetic counselling to be given to other family members where appropriate.

### **Hearing Aids**

Deafness Research UK is currently working to develop better clinical methods to diagnose hearing loss for more effective prescription and tuning of hearing aids. These new methods will help accurately identify 'dead regions' in the inner ear. In these regions the hair cells that detect sound are completely non-functioning, therefore even if noises detected by those regions are amplified, no sound can be heard. This improved diagnosis of hearing loss will avoid amplifying sounds detected by the dead regions, which further impairs speech discrimination.

## **FURTHER INFORMATION**

Contact the Deafness Research UK Information Service for further information about research into age-related hearing loss.

If any of your questions concerning age-related hearing loss have not been answered by reading this factsheet, contact the Deafness Research UK Information Service for further assistance. Our Information team will either answer your enquiry directly or refer it to one of our scientific or medical advisers.

Open: 9.00 a.m. to 5.00 p.m., Monday to Friday (a message can be left at other times).

Freephone: 0808 808 2222

Textphone: 020 7915 1412

E-mail: [info@deafnessresearch.org.uk](mailto:info@deafnessresearch.org.uk)

or click the 'ask question' option from our website homepage:

[www.deafnessresearch.org.uk](http://www.deafnessresearch.org.uk)

You can also get information from other organisations including:

### **Association of Teachers of Lipreading to Adults (ATLA)**

C/o Hearing Concern LINK, 19 Hartfield Road, Eastbourne, East Sussex, BN21 2AR

Website: [www.lipreading.org.uk](http://www.lipreading.org.uk) Email: [ATLA@lipreading.org.uk](mailto:ATLA@lipreading.org.uk)

### **Hearing Concern LINK**

19 Hartfield Road, Eastbourne, East Sussex, BN21 2AR

Tel: 01323 638230 / Textphone: 01323 739998

Website: [hearingconcernlink.org](http://hearingconcernlink.org) Email: [info@hearingconcernlink.org](mailto:info@hearingconcernlink.org)

### **Royal National Institute for Deaf People (RNID)**

19-23 Featherstone Street, London, EC1Y 8SL

Tel: 0808 808 0123 / Textphone: 0808 808 9000

Website: [www.rnid.org.uk](http://www.rnid.org.uk) Email: [informationline@rnid.org.uk](mailto:informationline@rnid.org.uk)

Deafness Research UK is the only national medical research charity dedicated to helping people with deafness, tinnitus or other hearing problems.

Scientists are now predicting that within the next ten to fifteen years there could be a cure for some forms of deafness and much more effective treatments for tinnitus. Deafness Research UK is at the forefront of this work.

You can support us by making a donation or joining the Deafness Research UK League of Friends. For more information call us on 0207833 1733 or write to:

Deafness Research UK, 330-332 Gray's Inn Rd, London WC1X8EE  
Charity no. 326915

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