



# Ear Health

This factsheet has been written for anybody who wants to keep their ears healthy and protect them from harm. It may also be useful for parents who want to keep their children's ears healthy. The factsheet covers the following topics:

- 10 top tips for healthy ears
- Earwax and earwax removal
- Caring for your hearing aid
- Otitis externa (itchy ears)
- Ear infections (otitis media)
- Protecting your ears from excessive noise

## 10 TOP TIPS FOR HEALTHY EARS

1. If you have problem ears, keep them dry!
2. Protect ears in the workplace from loud noise and dust with protective ear wear.
3. Protect ears from loud noise at concerts, nightclubs and from personal stereos or MP3 players with earplugs or by taking regular breaks from the music.
4. Discomfort in the ears while flying is almost universal. However this can be alleviated a number of ways including chewing gum, swallowing water or yawning while landing.
5. To keep your ears clean, wash the visible part of the ear and behind the ear with slightly soapy fingers. Then wipe the soap away with rinsed fingers and dry with a thin towel. Do not poke the corner of the towel or flannel into the entrance to the ear canal.
6. Don't put anything smaller than your elbow down your ear! This old adage should still be adhered to, and people should not try to remove wax using a cotton bud. The ear canal has a self-cleaning action. Some wax may appear on a cotton bud if one is used to clean the ear, but the majority of the wax will have been pushed from its normal position, backwards down the ear canal.
7. Rinse hair in fresh water when bathing. Lying down to rinse hair can cause an infection to develop as there are always body bacteria in the bath water and these can become trapped behind any wax in the ear canal.

8. If you think you might be losing your hearing, see your doctor as soon as possible. The earlier a hearing loss is diagnosed, the less impact it will have on your life.
9. Consult a doctor or nurse if you have constant or recurring pain in your ears.
10. Don't be afraid to discuss any concerns you might have about ear infections or hearing loss with a health professional. Talking it through with a doctor or nurse can dispel unnecessary fears, provide a clearer understanding about hearing or your ears, and will ensure you get appropriate treatment if necessary.

## **EARWAX**

### **What is earwax?**

Earwax is an oily substance produced by glands at the entrance to the ear canal, which it protects and lubricates. The skin which lines the ear canal moves outwards at the rate of 33mm a year and this natural movement encourages the wax to fall out of the ear in flakes or small crusts from time to time.

The amount of wax produced varies from person to person dependent on their lifestyle, diet, age, skin condition, anxiety levels and anatomy of the ear canal. There are two distinct forms of earwax: 'wet' and 'dry'. The type of wax a person has is probably genetically determined, and may vary by ethnicity. Most people in Britain have the 'wet' type of earwax. You are more likely to have excess wax if you have a high fat diet, if you are elderly or of an anxious disposition, if you have narrow ear canals, if your parents had excess wax problems, or if you try to remove wax using an object in the ear, such as a cotton bud (Roeser & Ballachandar 1997). As part of the ageing process the glands secrete less sebum (oily secretion), often causing wax to be drier and harder. This, together with the reduction in movement of the ear canal skin, means that older people are more likely to experience wax blockage.

### **DOES EARWAX NEED TO BE REMOVED?**

Healthy ears produce wax and it does not need to be removed unless it has caused dulled hearing, itchiness or discomfort, or the wax is obstructing the ear canal and a doctor or nurse is unable to examine the ear. The doctor or nurse will examine the ear with an otoscope, which is a bright white light with a very small end which rests at the entrance of the ear canal enabling the clinician to see the ear canal skin, any excess wax formation and the eardrum at the end of the ear canal. It is often possible to recognise some bones in the middle ear space behind the eardrum.

The ear canal has a self-cleaning action (this action is disrupted for people who have had a mastoid operation and they will require regular cleaning of the ear canal by a clinician). As wax is produced only at the entrance to the ear canal and the movement of the ear canal is outwards, some wax may appear on a cotton bud when it is removed from the ear, but the majority of the wax will have been pushed from the normal position, backwards down the ear canal. This can cause blockage

of the ear with wax and can damage the very delicate skin lining of the ear canal. The acid content in the wax can cause irritation of the skin further down the ear canal when it is pushed into the wrong place.

If you produce excessive earwax the problem can be prevented by a regular ear check-up with a nurse trained in ear health, who can just gently lift out excess wax with a little ring and leave minimal healthy wax to protect the ear canal skin. The nurse will wear a headlight so that there is a clear vision of the ear canal. This kind of ear check-up is a bit like a check-up you might have at the dentist's.

## **WHICH ARE THE BEST DROPS TO USE FOR WAX REMOVAL?**

There are many different types of drops sold over-the-counter but these may irritate the skin and cause soreness in some people. They should not be used where there is a perforated eardrum or previous otitis externa (outer ear infection). It is important to remember that the ear canal into which you are putting the drops may already be dry or itchy, and the skin lining may be thinning with age or may even have an infection in it and not just wax. There is a seawater ear spray on the market which is said to loosen hard wax in the ear canal but every person is an individual and this may also cause discomfort in some ears.

Olive oil is a gentle lubricant which lubricates both the skin and the wax plug so making it easier for the doctor or nurse to remove and causes no discomfort (unless there is a rare allergy to oil). If you are not sure which wax-removing drops are best for your skin visit your doctor or nurse to ask. They will be able to tell you what they can see in your ear and help you make the right choice.

Sometimes people have a recurring problem with wax build up particularly as they get older, due to excess, drier or harder wax. For people with this problem, one drop of oil inserted into each ear once a week maintains the gentle lubrication of both the skin and the wax, which encourages natural wax movement out of the ear canal. If wax removal becomes necessary this also helps the doctor or nurse to undertake the procedure more quickly.

## **WHAT IS THE BEST WAY TO USE EAR DROPS?**

### **Using antibiotic/anti-inflammatory ear drops**

- Tilt the head so that the infected ear is uppermost
- Pull the pinna (outer ear) backwards and upwards (just backwards in children)
- Drop the prescribed amount of drops into the affected ear and massage the tragus (the skin just in front of the entrance to the ear canal)
- Return the head to the upright position and wipe away any excess drops
- Do not put cotton wool into the ear after using drops as it will absorb the drops and they will be less effective
- Repeat procedure with the other ear if required.

### **Using olive oil drops**

- Lie down on your side with the ear requiring drops facing upwards
- Pull the pinna (outer ear) backwards and upwards (just backwards in children)

- Drop 2 or 3 drops of oil, at room temperature, into the ear canal and then massage the tragus (the skin just in front of the entrance to the ear canal) – this enables the oil to run down the ear canal more easily
- Stay lying down for 5 - 10 minutes and then get up and wipe away any excess oil with a tissue
- DO NOT put cotton wool in the ear following the drops as this absorbs the oil
- Repeat the procedure with the opposite ear if required.

This procedure repeated for several nights before attending an appointment for wax removal is usually sufficient to enable the doctor or nurse to remove the wax easily.

### **Other wax removal drops**

Many of the drops on the market which claim to remove wax do not live up to their advertising, and many irritate the skin in the ear. You should only use wax removal drops that have been prescribed by your doctor. If you have been prescribed such drops, make sure your doctor or pharmacist explains how to use them properly.

### **WHAT IS EAR IRRIGATION (SYRINGING)?**

This is the method of washing wax out of the ear canal once it is soft enough. Usually a nurse will perform this task. S/he wears a headlight and sits down next to the patient so that s/he is able to see into the ear canal while carrying out the irrigation. Warm water is placed into the reservoir of an electronic irrigator and a little white tip (a clean one for each patient) is placed on the end of the handle. It is through this tip that the water passes into the ear canal. The irrigator is turned on in advance to allow the water to run through the system and be warm on presentation to the patient. The patient holds a container below the ear to be irrigated, at the level of the neck. The little white tip is placed at the entrance to the ear canal and aimed towards the top of the back wall of the canal. A short flow of water enters the ear and the patient is asked if it is satisfactory. This is then repeated and if there are no problems or discomfort the water flow is continued along the ear canal wall. The action of the water flowing behind the wax will bring it out into the container. The doctor or nurse then inspects the ear canal to check that all the wax has been removed. If it has been, a probe covered with soft cotton wool is used to gently dry out the ear canal. This reduces the chances of an ear infection following the irrigation.

### **CAN I GET AN INFECTION FOLLOWING EAR IRRIGATION?**

An infection is more likely if a person has previously tried to clean their ear with a cotton bud, as this may have damaged the skin lining of the ear canal. If water is left in the ear, this may cause an infection to occur where the skin has been damaged with the cotton bud. If the water is too cool it can sometimes cause the patient to feel a little dizzy but this soon settles. The patient should never experience any pain but some people may feel a little discomfort. If the ear is itchy and uncomfortable after a few days it may be that an infection has occurred which will require an appointment with the doctor so that it can be treated with drops.

## **IS IT SAFE FOR EVERYONE TO HAVE EAR IRRIGATION?**

Earwax cannot be washed out of the ear canal where the person has:-

- had previous ear surgery;
- had problems with previous ear irrigations;
- had recent middle ear pain or infection; or has
- a perforated ear drum.

In cases where ear irrigation is not desirable or safe practice, it is frequently possible to lift the wax out with special instruments by a nurse who has been trained in this procedure. When neither of these ways is possible the wax can be sucked out in a hospital ENT department. A specialist doctor or nurse will use a microscope to look into the ear and a small suction tube to remove the wax. This procedure can be noisy and uncomfortable, depending on the position of the wax in the ear canal. If this method of removal is required, the GP will refer the patient, who must then wait for a hospital appointment.

Ear irrigation is only one way to remove wax from the ear. Ear specialist nurses can often clear ears without using water irrigation. In very rare cases, earwax can become so impacted that it must be removed by an ENT surgeon.

## **HEARING AIDS**

### **DOES EARWAX PREVENT HEARING AIDS PERFORMING EFFICIENTLY?**

80 per cent of hearing aid repairs are a result of excess wax production (Oliveira 1997). Some of the small 'in the ear' hearing aids have a tiny white ring (wax/cerumen filter) which fits into the microphone inlet. This is only a few tenths of a millimetre wide and helps prevent earwax from entering the instrument. These filters must be fitted correctly or they can fall into the ear canal and cause irritation, needing to be removed by a nurse or doctor. If the inlet of the aid is blocked by earwax, the volume may be reduced or even cut-off all together and a high pitched whistling noise frequently occurs.

### **WHAT IS THE BEST WAY TO CARE FOR MY HEARING AID?**

- Hearing aids should not be worn at night time (while asleep)
- Keep the mechanical part of the aid away from water, heat, hairspray or body sprays (allow the product to dry first before inserting the hearing aid)
- Turn the hearing aid off when not in use to save battery power
- Clean the hearing aid using a soft cloth and remove any accumulated earwax on the ear mould daily.

### **WHY DOES MY HEARING AID WHISTLE?**

- This problem can be caused by the following:-
- The hearing aid mould may not be inserted correctly

- If the ear mould has been in use for many years, it may no longer be creating a good seal in the ear entrance
- The ear canal may be blocked or contain excess wax
- The ear may be infected and the canal may be blocked with infective discharge
- The hearing aid may be faulty.

## **CAN I CLEAN THE EAR MOULD?**

In-the-ear aids should generally be cleaned using a soft cloth because the electronic part is integrated into the shell. Some in-the-ear aids come with a special wire loop and/or brush which can be used to clean them. If your aid comes with a wire loop or brush, ask your audiologist or hearing aid dispenser to show you how to use them so that you do not damage the aid in the process of cleaning it.

Behind-the-ear aids have a mould and tubing that can be disconnected (together) from the hearing aid. They can then be washed in warm soapy water and rinsed under a running tap. This is especially important to do if you notice the tubing is blocked. Shake the mould and tubing to remove excess water. Allow the mould and tubing to dry completely before reattaching it to the hearing aid. This will ensure that no moisture enters the electronic part of the hearing aid. To reattach the ear mould to the hearing aid, make sure the curve of the ear mould matches the curve of the instrument and then attach the tubing.

### **What should I do if problems persist?**

You should consult your audiologist or hearing aid centre if:-

- the ear mould causes pain or discomfort;
- earwax cannot be cleared from the ear mould; or
- the hearing aid whistles even after it has been cleaned and wax is not clogging the opening.

## **OTITIS EXTERNA (ITCHY EARS)**

### **What is Otitis externa?**

Otitis externa is an inflammation and possible infection of the skin of the outer ear canal. It is very common. Symptoms include itching, ear discharge, temporarily dulled hearing, and pain. There are two different types. Acute otitis externa will often seem to occur just 'overnight' for no specific reason, but it may be related to a swimming event. Chronic otitis externa occurs when the otitis externa persists for several weeks and then recurs at intervals after that.

There is also a rare, severe form of otitis externa that can occur in people of any age who have problems with their immune system, but it tends to be experienced by older people with diabetes. If you are one of these people and have severe ear pain and discharge it is important to see your doctor at the earliest opportunity to prevent it becoming worse.

## **What causes acute otitis externa?**

Generally, outer ear infections are caused by a bacterial infection of the skin of the canal, although occasionally it may be due to a fungus or yeast. The skin can become so swollen that the ear canal closes, causing temporary deafness, and there can be some discharge from the ear. It occurs commonly in people who suffer from skin problems such as eczema, psoriasis or dermatitis but also in people with narrow ear canals or who swim a great deal.

One of the most common causes of this condition is swimming in pools which have not been maintained to a high standard or have a higher percentage of chlorine in the water than is advisable. Another cause is a hot humid climate when the ear canal perspires more, causing a damp condition in which bacteria breed easily. The use of hairsprays, shampoo or some soaps can cause irritation of the skin and some people seem more prone to this problem than others. If your ear canal is itchy and you scratch it, you may damage the skin which is more likely to become infected if there is static water in the ear canal. Rubbing the skin causes inflammation which in turn can become infected. When the ear requires irrigating (syndring), if damage to the skin has occurred through attempts at self-cleaning or scratching, it is more likely that an infection or inflammation will occur following this procedure.

Another type of acute otitis externa is a boil (an infected hair follicle) at the entrance to the ear canal known as a furuncle. This can occur for no reason like other spots on the skin or can occur where skin has been damaged with a cotton bud, fingernail or any other object.

The main symptom of a furuncle is severe pain with no discharge. The outer ear may be too painful to touch but the spot in the ear may actually be very small. A small infective spot is likely to recover without treatment but if the pain is severe it may require antibiotic capsules. Pain-reducing tablets will be required and sometimes a warm cloth held against the ear helps to relieve the pain. If the boil 'bursts' there may be a sudden discharge of smelly pus from the ear and then the pain will subside and the ear will recover.

## **How can Otitis externa be treated?**

The first line of treatment is to gently remove all the discharge and debris (results of the infection) lying in the ear canal. This may be done by a doctor or nurse who may irrigate or wipe the ear with a cotton-covered instrument. If your ear is dry, itchy or inflamed (but not infected) your doctor may use steroid drops to treat the otitis externa. If your ear is infected, an antibiotic treatment may be used. A dressing covered in antibiotic ointment may be inserted into the ear to remain in place for two days. This allows the antibiotic to be in constant contact with the whole ear canal. The dressing may be inserted soaked in the steroid drops for the same reason.

Alternatively, you may be prescribed a short course of ear drops or an ear spray. These usually contain an antibiotic to clear the bacteria and a steroid to reduce the inflammation. If the bacteria in the ear are sensitive to the antibiotic in the ear spray/drops/ointment, the infection should clear by the end of the treatment. If there is little change after three days' treatment it may require a different antibiotic drop to remove the bacteria as they could be resistant to the first treatment. At this stage the doctor or nurse will take a sample of the discharge on a cotton swab and send it to

the laboratory to find out which bacteria are causing the infection and which antibiotic will remove it.

If the infection is very painful and affecting the face and scalp around the ear, antibiotic tablets or medicine may also be prescribed. Pain relieving tablets may also be required.

### **WHY MIGHT OTITIS EXTERNA PERSIST DESPITE TREATMENT?**

The infection will persist despite treatment if the cause of the problem is not removed. For example, some people are more sensitive to certain shampoos, hair sprays and soap. Washing the hair by lying down in the bath with the head under water can also cause re-infection if the bath water becomes trapped behind the wax in the ear canal. Scratching or poking the ear can also re-infect the canal. Inserting ear plugs with dirty hands and reusing ear plugs encourages repeat infections. People with skin disorders elsewhere (e.g. eczema or psoriasis) may experience the same symptoms in the ear canal when the skin disorders flare up from time to time. This is not necessarily an infection; it could just be an episode of the known skin disorder.

As explained above, resistant bacteria may require more than one type of antibiotic drop or dressing or there may be a fungal infection in addition to the bacteria. The swab sent to the laboratory will identify the cause of the repeated infection.

A fungal infection is identified by the type of discharge in the ear canal and the intense itching which it causes. A fungus is a spore which is not killed by antibiotics and it lies dormant for three weeks before recurring. The ear canal has to be cleaned meticulously and treated with antifungal ointment or drops for three weeks after all symptoms have gone. This type of infection may be suspected if the otitis externa does not improve with the above treatment.

Persistent otitis externa may occur because there is disease in the middle ear and the discharge from this runs out into the ear canal. This usually requires ENT consultant advice. This disease is evident once all the discharge has been cleared from the ear canal and the doctor will refer you to the hospital for specialist advice. Meanwhile it is best to continue keeping the ear clear and treating with the prescribed drops.

### **What can I do to prevent an external ear canal infection?**

There is an ear spray obtainable over-the-counter from a pharmacy which provides an acid environment in the ear canal, which deters bacteria. If you are susceptible to ear canal infections, it might be a good idea to keep such a spray in a First Aid kit to be used at the first sign of infection, to prevent the ear becoming worse until it is possible to consult a doctor.

If you have an ear infection, it is advisable to keep the ear out of water for at least two weeks during treatment, to rest the ear until the infection has been resolved. It is then less likely to recur. Keep all water out of the ear by filling the outside of the ear with cotton wool smeared with petroleum jelly (to waterproof the cotton wool) before you wash your hair or have a shower. When swimming, wear silicone ear

plugs. Please note that if the ear plugs have been used when the ear is infected they must be replaced with new ear plugs or there is a risk of re-infecting the ear.

A good rule to follow is: if you tend to have problems with your ears, keep them dry. Keep dirty hands, bath water, sub-standard swimming pool water and hair sprays away from ears. If ear plugs are part of safety equipment at work, ensure a clean pair is used every day. Allow earwax to protect the ear canal – do not use cotton buds to push it into the wrong place.

If the ear has started to discharge it is best not to clean it with a cotton bud, as this may damage the skin. Also do not leave cotton wool at the entrance of the ear canal as this stops the discharge running out of the ear and may cause the infection to get worse. If the discharge gets worse, wipe it away with a tissue from time to time but allow air to enter the canal and seek medical advice as soon as possible.

## **EAR INFECTIONS (ACUTE OTITIS MEDIA)**

### **What are the symptoms?**

A middle ear infection occurs when the eardrum or middle ear space (containing the three tiny bones) becomes inflamed or sore due to an infection of bacteria or a virus caught from other people. The germs spread up the back of the throat, along the connecting tube (Eustachian tube) and into the middle ear space. The medical name for a middle ear infection is acute otitis media.

Ear infections can affect anyone, but are particularly common and distressing in children; eight out of ten will have had an ear infection by the time they are three years old. They tend to be very painful as the eardrum becomes swollen from the pressure of the infection in the middle ear, and can cause a fever and dulled hearing. Children with ear infections may feel sick or vomit.

If the infection causes the eardrum to burst (perforate), the outer ear canal may become itchy and weepy from the discharge of fluid, and the severe pain will stop. As long as you have had medical advice, you do not need to do anything except keep the ear dry, but you may wish to mop out only the part of the ear that you can see, gently with a tissue.

Sometimes, after the ear infection has cleared up, fluid remains in the middle ear because it is unable to drain away. It can cause hearing difficulties which, in children, can be serious enough to affect long-term behaviour and development. The condition is called glue ear and it is important to alert your doctor to the symptoms.

## **HOW CAN EAR INFECTIONS BE TREATED?**

In the majority of cases, an ear infection will get better naturally. However, it is important to seek medical treatment promptly as, whilst rare, complications from ear infection can be serious. Seeing a doctor is especially important if symptoms include:

- A high fever (above 39<sup>o</sup> C)
- A new rash, extreme floppiness/drowsiness, or intolerance to bright light
- No improvement in symptoms in a child under two after 48 hours
- No improvement in symptoms in a child over two, or adult, by four days

On the first visit, the doctor may prescribe pain relief, but not antibiotics. This is because overuse is causing bacteria to become resistant to the main antibiotics.

However, antibiotics may be prescribed if there has been no improvement after several days or if the child or adult is very unwell, or has complications. If they are prescribed, it is important to take the entire course.

If you do not have pain relief on prescription, paracetamol or ibuprofen are effective and can be purchased from a pharmacy.

It can also help to sit with a warm towel pressed gently against the painful ear or to put several drops of room temperature olive oil into the ear. However, keep water out and put nothing in the ear if a discharge suggests there may be a hole in the eardrum.

For more information you may like to order a copy of the Deafness Research UK leaflet, *Ear infections and glue ear in children*.

## **NOISE**

### **How can I protect my ears from excessive noise?**

Some noise levels to which we are exposed in modern life have the potential to damage our hearing permanently. If a sound is extremely loud, for example if we were close to an explosion, the damage could be immediate. However, damage is more likely to occur gradually. The impact on our ears will be determined by how loud the noise source is, how much space surrounds us and how long we are exposed to the noise. Evidence of hearing damage is usually not immediate because up to 30 per cent of the ear's 15,000 hair (hearing) cells will be lost before hearing impairment becomes apparent. For many, tinnitus (ringing or other sounds in the ear) is the first sign of damage.

It is generally accepted that the ear can tolerate sounds of up to 80 dB (decibels) without risk of damage; this is equivalent to a noisy urban street.

Examples of other noise sources are as follows:

|         |  |
|---------|--|
| 50 dBA  | Quiet office                                 |
| 70 dBA  | Noisy restaurant                             |
| 90 dBA  | Power tool                                   |
| 100 dBA | Motor cycle engine / classical music concert |
| 110 dBA | Nightclubs / rock concerts                   |

Top tips for minimising risk to hearing from noisy situations or events:

- Give your ears time to recover after exposure to excessive noise. Exposure to a 100 dBA sound for around two hours requires at least 16 hours of rest for the ears if the hearing loss is not to become permanent. A minority of people are more sensitive and a longer period of rest may be required.
- Use earplugs. Earplugs can be unobtrusive and will not block out the sound of music or conversation. In fact, by blocking the excess noise, they can improve your ability to make out conversation and appreciate music. If worn correctly, earplugs can reduce sound levels by between 15 and 35 dBA. Special earplugs are available for musicians.
- Adopt the 60:60 rule - only use your MP3 player at 60% of its maximum volume for 60 minutes a day. It matters not just how loud your music is, but how long you listen.
- Take regular breaks from the music or other noise source. Aim for at least ten minutes' break every hour.
- When choosing headphones, remember that the ear bud type are less efficient at drowning out background noise so it's tempting to turn up the volume. Use older muff-type or noise cancelling headphones instead.
- Avoid standing too close to the speakers or other noise source.
- Make less frequent visits to noisy events.
- Give the same consideration to the hearing of children and babies as you would to your own. It is a mistaken belief that babies, seemingly asleep and oblivious, are not affected by loud noise
- If you work in a noisy environment, including the music or leisure industry, check out the Noise at Work regulations: <http://www.hse.gov.uk/noise/index.htm>
- If you do suspect your hearing is not as good as it was, make an appointment to see your family doctor immediately. Usually, your doctor will refer you to an audiologist or ENT specialist who will carry out a hearing test.

For more information about noise induced hearing loss, see the Deafness Research UK factsheets on:

- *Noise at work*
- *Noise in everyday life*
- *Noise and the younger generation*

If you have other questions about ear problems which have not been answered in the factsheets or by your doctor or nurse, contact Deafness Research UK as we can refer your enquiry to an ear care specialist.

## FURTHER INFORMATION

If any of your questions concerning ear health 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)

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PRODIGY Patient Information: <http://www.prodigy.nhs.uk/PatientInformation>

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 0207 833 1733 or write to:

Deafness Research UK, 330-332 Gray's Inn Rd, London WC1X8EE  
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