



York Teaching Hospital
NHS Foundation Trust

Implantable Bone Conduction Hearing Aids

Information for patients, relatives and carers

① For more information, please contact:

Audiology Department

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Caring with pride

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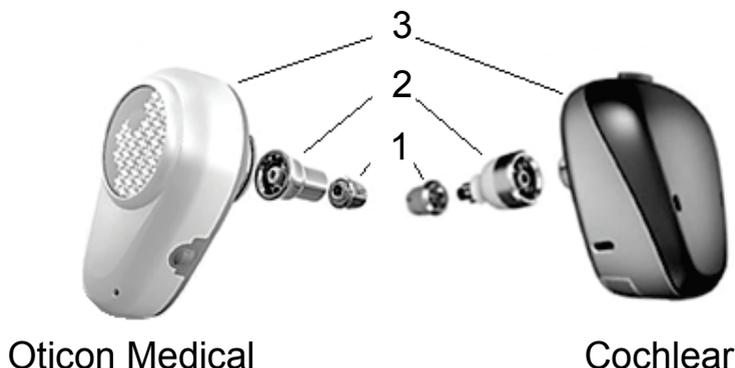
This leaflet is intended to explain a little about implantable bone conduction hearing aids and the steps involved in the assessment, fitting and aftercare.

What is an Implantable Bone Conduction Hearing Aid?

Often referred to as a 'Bone Anchored Hearing Aid', a traditional implantable bone conduction hearing aid is similar to other hearing aids but instead of being inserted into the ear canal or held behind the ear, it is fixed to an implant in the skull.

It comes in three parts:

- A small titanium implant (1)
- An external abutment (2)
- A sound processor (hearing aid) (3)



This can be trialled on a headband or softband prior to having one fitted.

If your inner ear hearing function is very good you may be suitable for a magnetic system which avoids having an abutment protruding through the skin. This can be discussed with your Audiologist.

Who is candidate for an Implantable Bone Conduction Hearing Aid?

Suitability depends on your type of hearing loss and whether an ENT Consultant has recommended it as the best course of management.

Conductive or mixed hearing loss

Ideally they are suited to patients with a conductive or mixed hearing loss; including those with ear canal atresia (where the canal has not developed), chronic ear infections or very narrow canals. The aid allows the sound to bypass the ear canal and middle ear as it works by conducting the sound by vibration, through the bone of the skull, to the inner ear.

Single-sided Deafness (SSD)

This type of hearing loss can be due to several causes such as trauma, a tumour on the hearing nerve or some people are born with hearing just on one side.

When the implantable bone conduction hearing aid is placed on the deaf side, it picks up the sound and transmits it through the bone of the skull to the inner ear on the hearing side. The good ear still hears sound through air conduction as it normally would but now it also receives sound direct to the cochlear from the deaf side. This means that people with SSD, using an implantable bone conduction hearing aid, become more aware of the surrounding sound, including people talking to them when they are positioned on their deaf side.

Assessment appointment

Once you have been referred to be assessed for an implantable bone conduction hearing aid you will be sent an appointment that will take approximately 45 minutes.

You may be asked some questions about any problems you experience regarding your hearing and you may also have further hearing tests which help determine how much benefit you would get from an implantable bone conduction hearing aid.

There may also be a questionnaire to complete to help us evaluate the benefit you would be likely to get from an implantable bone conduction hearing aid.

Information will be given about:

- How the implantable bone conduction hearing aid works.
- How it is fitted.
- The surgery that is required.
- Cleaning and maintenance techniques that will be needed.
- The advantages/disadvantages of having an implantable bone conduction hearing aid.

You will also be shown the types of aids which are available and given the opportunity to trial one on a headband at home for a minimum of two weeks. This trial is important as it can give you an indication of what the aid would sound like once it is fitted. We will also give you a home trial log book to complete to record your experiences with the implantable bone conduction hearing aid. We will then see you in Audiology again to do further testing with the trial device to assess its benefit, as well as completing follow up questionnaires.

If after the trial you feel you would be interested in proceeding with the operation then an appointment will be arranged for you to see the Consultant to discuss surgery in detail. If you decide against it a report is sent to your GP and they may see you again to discuss other options.

Are there any the risks from surgery?

Healing time following surgery is usually around seven days. The risks associated with surgery are low; however, the following may occur:

- Pain and irritation around the abutment (around 10 - 17 in 100 people)
- Infection and bleeding (around 11 in 100 people)
- Numbness (around 22 in 100 people)
- Skin overgrowth (less than 5 in 100 people)

(Johansson et al, 2014)

Following Surgery: Fitting of the aid (sound processor)

The implant and abutment (see picture on page 5) will be secure enough to attach the sound processor approximately six weeks after surgery in adults and approximately eight to ten weeks in children.

You will be sent an appointment which takes 45 minutes to have the aid fitted and adjusted to suit personal requirements. Use of the aid will be discussed and you will be shown how to work and maintain it as well as being given some written instructions.

A follow up appointment will be arranged for approximately two months for any fine tuning that is required. Following this you are able to contact the department regarding further appointments if you are having any problems or require further support.

Reference

Johansson, M., Holmberg, M. and Hultcrantz, M. 2014. Bone anchored hearing implant surgery with tissue preservation - A systematic literature review. Oticon Medical Review.

Contacts for Implantable Bone Conduction Hearing Aid Queries

Christy Davidson
Senior Audiologist (Adults) 01904 726741

Stacey Gurnell
Senior Audiologist (Paediatrics) 01904 725454

Or email hearingaidrepairs@york.nhs.uk and leave a message for one of us to get back to you.

Useful Information

Cochlear

Manufacturer of Hearing Aids and Implants.
www.cochlear.com/uk

Cochlear also produce an App for smart phones which is free to download from the App Store or Android Market. It was created to provide information and assistance to implantable bone conduction hearing aid recipients.

Oticon Medical

Manufacturer of Hearing Aids and Implants.
www.oticonmedical.com

Action on Hearing Loss

www.actiononhearingloss.org.uk

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:

Audiology Department, The York Hospital, Wigginton Road, York, YO31 8HE, telephone 01904 726741 or email hearingaidrepairs@york.nhs.uk.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email pals@york.nhs.uk.

An answer phone is available out of hours.

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