

Cochlear implant

Information for patients



Outstanding
Care for One+All

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Introduction

This guide provides essential information about cochlear implants, so you can understand the journey ahead and make an informed decision about your hearing health.

Most severe to profound deafness is due to damage to the tiny 'hair cells' in the cochlea that respond to sounds and send information about them along a hearing nerve to your brain. Hearing aids make sounds louder, but that does not always mean that the damaged hair cells can pick up the sound.

If part of your inner ear isn't working properly, a hearing aid may not be enough. If you have a severe to profound hearing loss, you may benefit from a cochlear implant. You can talk to your audiologist about having an assessment for a cochlear implant.



Hearing aid



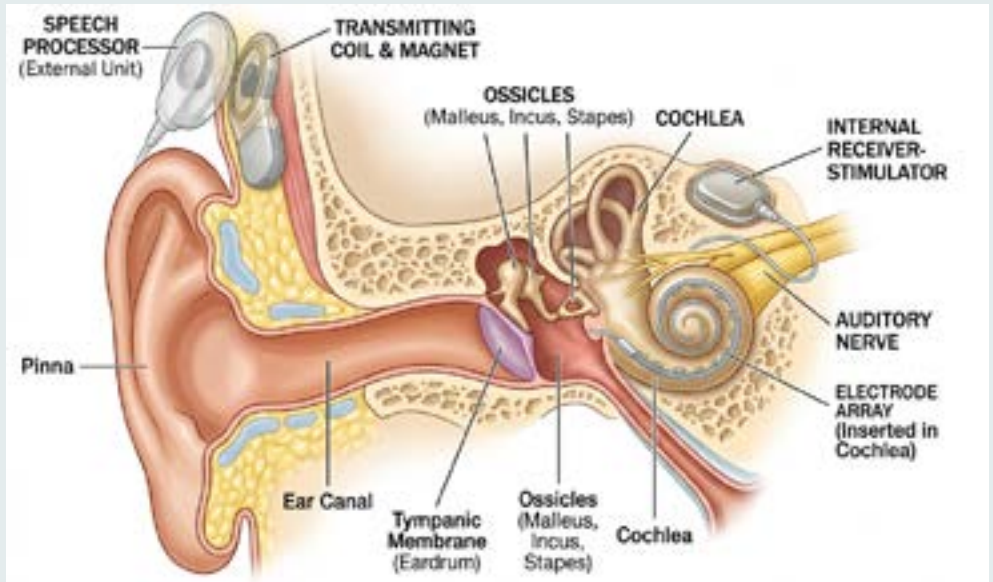
Cochlear implant

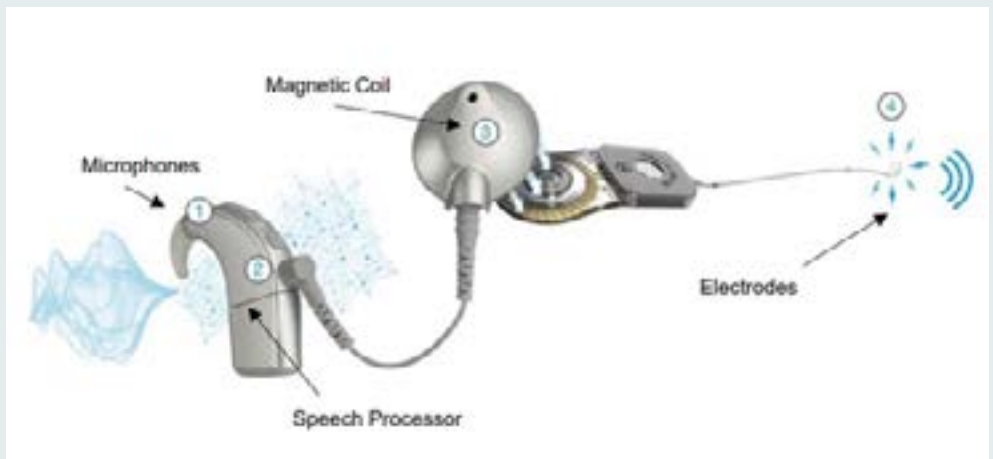
What is a cochlear implant?

This is an electronic device which may help children and adults who don't get enough benefit from hearing aids. Hearing aids work by making sounds louder. A cochlear implant works differently. It turns sounds into tiny electrical pulses, which are sent directly to the hearing nerve. This means it can get around the parts of the inner ear that are not working properly.

Cochlear implants give a sensation of hearing. They may work better than hearing aids if you are severely or profoundly deaf and meet certain criteria. A cochlear implant has two main parts:

- an internal part (the implant), which is under the skin
- an external part (the speech processor), which is worn on the outside of the body.





How a cochlear implant works

The external part looks a bit like a hearing aid. It has microphones (1) that pick up sounds around you. It passes these sounds to a tiny computer processor (2), which turns them into electronic signals.

These signals are then sent to a transmitter coil (3). This sits flat against the skin just above and behind your ear. The coil transmits the signals to the internal implant using a radio signal.

The implant part is placed under the skin during an operation. Thin wires called electrodes (4) are inserted into the inner ear. These send electrical signals to the hearing nerve, which then carries them to the brain.

Over time, and with regular practice, your brain learns to understand these signals as sounds and speech.

Who can benefit from a cochlear implant?

If you have had a recent hearing test and updated hearing aids, do you:

- have difficulty understanding conversations, especially when there is background noise?
- often ask people to repeat themselves?
- have trouble hearing on the telephone?
- increase the TV volume more than others in the room prefer?
- feel people often mumble when they talk?
- struggle to hear sounds of nature, such as birds chirping or rain falling?
- find yourself agreeing, smiling or nodding during conversations when you're not sure what's been said?
- withdraw from conversations because it's too difficult to understand?
- need to read lips to understand what people are saying?

If you answered 'yes' to any of these questions, a cochlear implant may help you to hear better.

Speak to your audiologist to find out more.

The assessment process: what to expect

If you are interested in having a cochlear implant, please contact the Audiology department using the details at the end of this leaflet. We can refer you to our Hearing Therapy team for a cochlear implant pre-assessment.

At the Hearing Therapy appointment, we will:

- ask about your medical history, general health, and daily life
- talk with you about cochlear implants
- carry out some tests, which may include speech testing.

1. Hearing Therapy pre-assessment

Following this assessment, we will discuss your results with you. If you meet the criteria for a cochlear implant and want to go ahead, we will refer you for a full assessment with the West of England Hearing Implant Program (WEHIP) in Bristol.

2. WEHIP assessment

The full assessment may include:

- **Speech and language tests** – to check how well you understand speech with hearing aids, and your own speech and communication skills
- **Scans (CT or MRI)** – to see the structure of your inner ear and cochlea, and check if surgery is possible
- **Balance and hearing tests**
- **Medical assessment**
- **Psychological assessment** – answering questions about your expectations, motivation, and understanding of cochlear implants
- **Promontory stimulation test** – to check if your hearing nerve is still working (not all people need this test).

3. Next steps

If the team think you will benefit from a cochlear implant, they will discuss the surgery with you and offer you the operation. If you choose to go ahead, you will be placed on a waiting list for surgery.

Surgery and recovery

Most adults have one ear fitted with a cochlear implant. The surgery is a routine procedure which takes about 2 hours. It is done under a general anaesthetic at Bristol Royal Infirmary by an experienced surgeon. Complications are rare.

Some people can come into hospital on the day of surgery and go home the same day. Others may need to stay overnight. If you live further away, you may need to come in the night before.

The WEHIP team will usually advise you to take 2 weeks off work to recover. You will not be able to hear anything from the implanted ear until the speech processor is activated by the audiologist at WEHIP about 3 to 4 weeks after your operation.

Activation and rehabilitation

Around four weeks after your operation, you will return to the hospital in Bristol for your 'switch-on'.

At your 'switch on' appointment:

1. The audiologist will carry out some tests.
2. They will set up (programme) your cochlear implant.
3. The speech processor will be switched on so you can start to hear through it.

At first, sounds may seem strange or unfamiliar. This is normal. Over the next few weeks and months, your brain will learn to interpret these new sounds.

The more you wear your speech processor, and the more you practice listening, the better it will sound. Some people adjust quite quickly and need fewer appointments. Others may need more time and support, with extra appointments for further programming and training.

Everyone's progress is different, and each person experiences sound in their own way.

Follow up care

Your progress will be checked at one month, six months and twelve months after switch on. You will then continue to be seen annually, either in Bristol or one of their outreach clinics in Cornwall. The WEHIP team will provide ongoing maintenance and support of your cochlear implant for life.

Contact us

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