

CARDIFF PAEDIATRIC COCHLEAR IMPLANT PROGRAMME

Listening through a cochlear implant



Penguin Outpatients, Ground Floor (Ocean)

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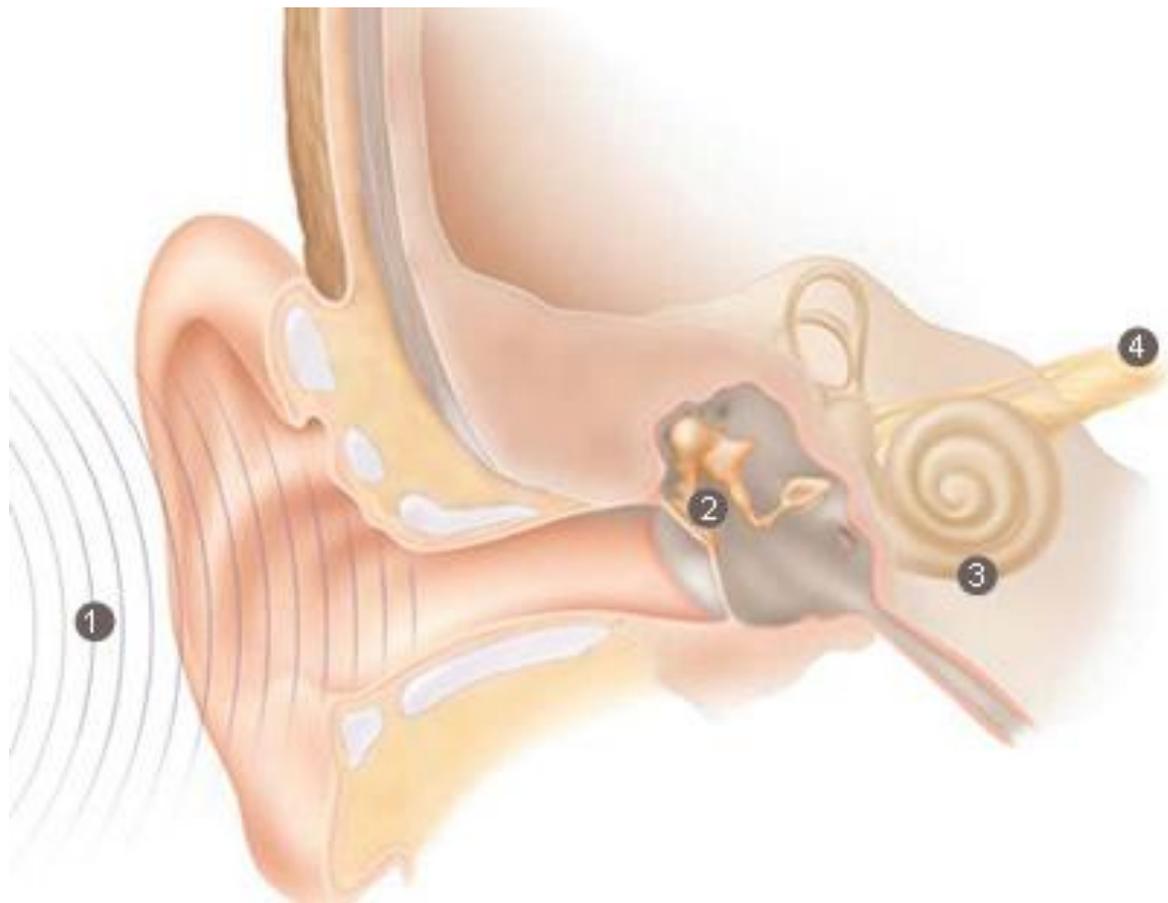
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Cochlear implants are a different sort of hearing aid for people who can't hear enough through an ordinary hearing aid. Hearing aids are used when there is a problem with your ears and you can't hear properly.



1. Sounds come into the ear through the bit that you can see and feel and travel down the ear canal to the ear drum. The sounds make the drum wobble and on the other side of the drum....

2. ...three little bones wobble into each other and make another bit of skin called the round window wobble too.

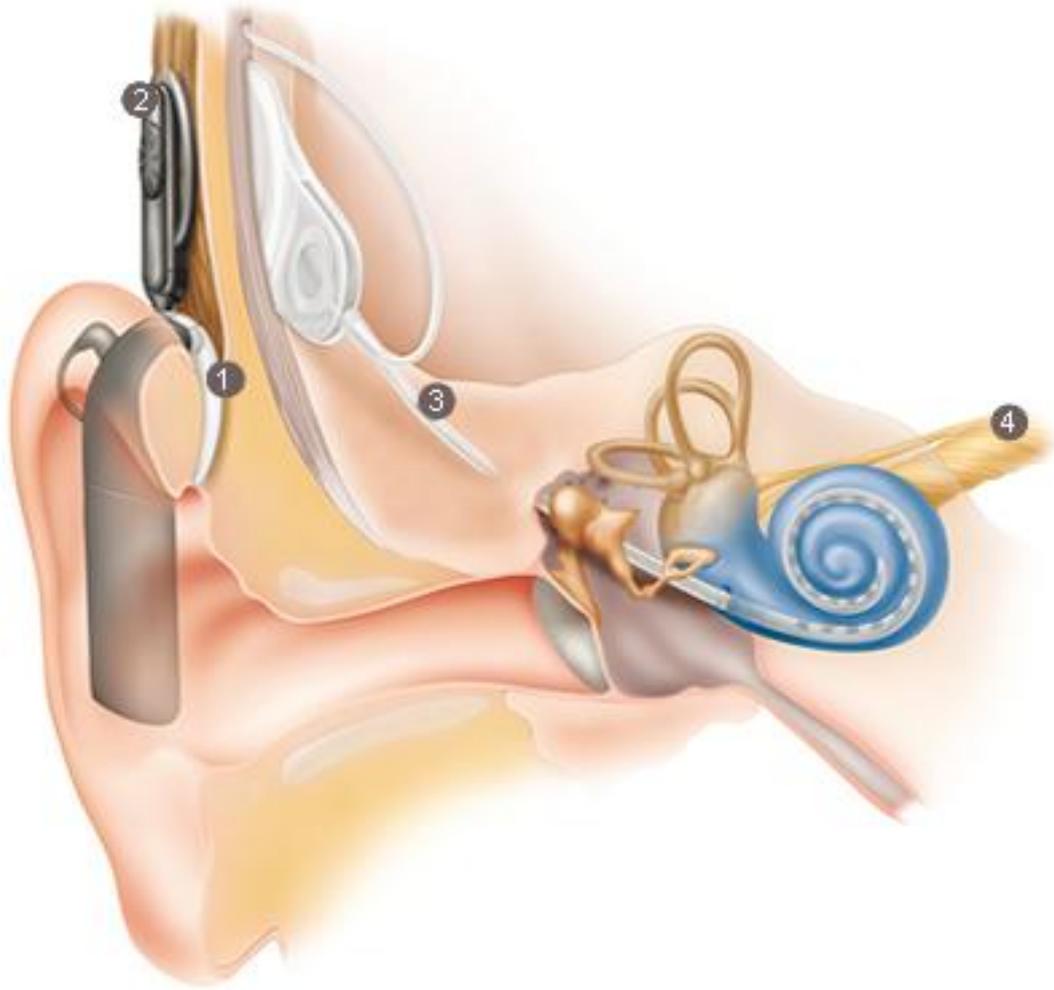
3. The round window is at the end of a long curled up tube. The tube looks a bit like a snail. It is called the cochlea. Inside the cochlea tube is a liquid and millions of little wobbling hairs. It looks a bit like grass growing in the bottom of a tube of water.

Sound waves wobbling the round window make the liquid in the tube vibrate and the hairs shake. The hairs turn the shaking information into electric information and send it.....

4. along the nerve to the brain. The brain works out what the sound is.

If someone has a hearing problem that won't get better, it is usually because the little hairs are broken or missing.

Ordinary hearing aids make the sounds louder, but a cochlear implant doesn't use the first parts of the ear, it goes straight to the cochlea.



1. The processor hears the sounds through the microphones and changes them into radio waves.
2. The radio waves go to the coil and through the skin to a receiver coil. The two coils stick together with magnets.
3. The radio waves are turned into electric information so they can go down the wire in the cochlear and....
4. ...straight to the brain to be heard as sounds.

The inside part of a cochlear implant has to be put into the inside part of the ear by a surgeon in an operating theatre in a hospital. It takes a long time and the person has to be asleep because the surgeon has to make a hole in their head.



This is Wil a few weeks after his operation and then a few months later. The hole was closed straight away and the scar quickly gets better.



Wil has a black processor and is learning how to listen through it. He likes to use his extra microphone to listen to his computer.

Learning to listen can take a long time, but we try to make it fun.

