

Paediatric Hearing Implant Programme: Cochlear implant device activation (switch-on)

The aim of this information sheet is to answer some of the questions you may have about the activation of your child's cochlear implant device. If you have any further questions or concerns, please speak to a member of the team.

When will my child's cochlear implant device be activated?

After the surgery, you will be visited at home by a member of the team to set your child up with their speech processors or a 'dummy' processor. The processors will not be working, but they will allow your child time to get used to wearing them.

About four to six weeks after surgery you will then return to St Thomas' Hospital for the external speech processors to be activated (switched on).

What do I need to bring to the switch-on appointment?

Please bring the speech processors or dummy processors with you.

What can I do to prepare for the switch-on?

Children who have already been practising with the headpiece on a toy with an implant, and tried wearing their own device or a dummy before the appointment, are more likely to wear the equipment at their appointment.

How long will the appointment last?

The appointment can last up to two hours, and you will also be expected to return the following day for another two-hour appointment.

Why do we need to come two days in a row?

It takes time for the audiologist to set up programmes for your child (see below) and there is a great deal of information to take in. So splitting the appointment over two days will stop the appointments from being too overwhelming.

What will happen at the first activation appointment?

Your child's speech processors will be linked, by a cable, to a computer so the audiologist can start building a programme into each speech processor (pictured overleaf).



An audiologist putting a programme into a speech processor



Child playing while the channels on the speech processor are programmed

Your child will then put the headpiece on and another member of the team will play with your child. There are a number of channels to be programmed. Beeping sounds, which are produced at carefully measured levels by the computer, are then delivered through the implant.

At first your child won't hear anything, because the sounds start very quietly. Slowly they get louder. Some children notice these sounds easily. Others find them easy to ignore! The readings carried out in theatre, which show at what current of electrical stimulation the auditory nerve responds/fires, will give the audiologist an idea of the levels of electrical stimulation that should be heard by your child, even if they do not respond.

If there is no response from your child, don't worry that the device is not working. We look for subtle, almost invisible signs that let us know the sound has been heard.

Once we have identified that a sound has been heard it is set as the threshold sound (the quietest one) on the first group of channels. The other channels are measured in the same way.

Then the audiologist has to set the most comfortable loud sounds on all those channels.

Older children who have a fairly good awareness of sound can tell the audiologist when the sound is loud enough.

Younger children have a low level set at this early stage, so that no sounds will be loud enough to upset them.

Now the programme is changed so that the sounds are received through the external microphone. The audiologist might say "now we are going live".

At this point, children can respond differently:

- Some ignore everything.
- Some smile briefly, then ignore everything.
- Some enjoy playing with the musical instruments.
- A few children turn towards people who are talking.
- Children who have been able to hear voice before don't always like the changes in sound at first.

Once we know your child has a comfortable programme in the processor the audiologist will disconnect the device from the computer and it will be placed in the child's pouch, harness or behind their ear (depending on the device they are using).



Child playing after the sound processor has been switched on and placed in its pouch

At this point we will explain the function of the various lights and switches. You will also be shown how to recharge the batteries.

What will happen at the second activation appointment?

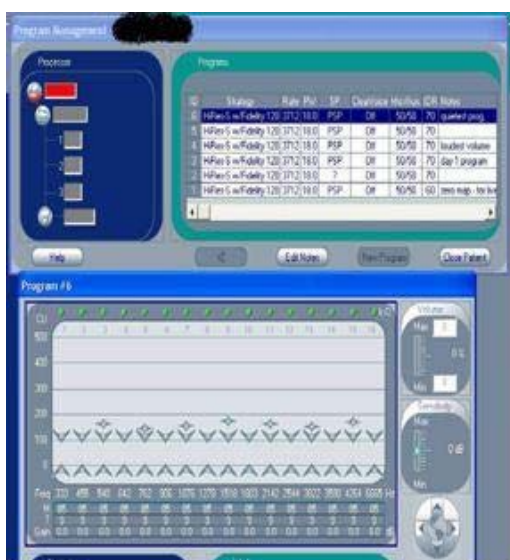
As you will have spent some time out and about, we will ask you to let us know which sounds, if any, your child seemed to notice and whether they liked or disliked them.

By now your child will have already become a little more familiar with the sounds on the speech processor, but may still not give any obvious response to sounds.

The audiologist checks the levels of response on the electrodes and amends the 'programme' on the speech processor (pictured left). Over many sessions we aim to make the electrical range on each channel as wide as possible. This will help your child to be able to discriminate differences between sounds.

In order to make sure that your child has the sort of programme that will really enable them to make sense of sound, we need to check the levels of response on the channels frequently.

This means return trips to the clinic after a couple of weeks, again after a month, and after two months. It may well require even more visits than this in the first three months. After that, visits usually settle into a pattern of once every six months.



What the programme, which is then downloaded on to the speech processor, looks like on the computer.

On returning home, try and become more aware of sounds yourself so that you can help your child to gradually untangle all the new and incomprehensible signals being received.

The Teachers of the Deaf and Speech and Language Therapists will work with you and local professionals at home and school to suggest ideas and games you can play to help develop your child's listening (see our leaflets about supporting early listening, early communication, and early language and speech).

Contacting the team

If you are having problems with your equipment (and are not on Partnering Support with Advanced Bionics, the implant company) please call the main team phone number 020 7188 6245 or email auditoryimplants@gstt.nhs.uk

For other queries (such as appointments) also phone 020 7188 6245 or email aiadmin@gstt.nhs.uk

If the phone is not answered straight away **please do leave a message**. The phone is checked at regular intervals throughout the day and we will act on your message as appropriate. Both email addresses are also checked throughout the day and we will act on your email as appropriate. If you are requesting batteries or equipment these will be sent to you but you may not be called back.

Please note that some members of staff work part-time so unless your query is for a specific person don't leave your message for a named person, otherwise there may be a delay in response.

Contact us

If you have any questions or concerns please contact the auditory implant programme on 020 7188 6245 between 9am and 5pm.

Patient Advice and Liaison Service (PALS)

To make comments or raise concerns about the Trust's services, please contact PALS. Ask a member of staff to direct you to the PALS office or:

e: 020 7188 8801 at St Thomas' **t:** 020 7188 8803 at Guy's **e:** pals@gstt.nhs.uk

Knowledge & Information Centre (KIC)

For more information about health conditions, support groups and local services, or to search the internet and send emails, please visit the KIC on the Ground Floor, North Wing, St Thomas' Hospital.

t: 020 7188 3416

Language support services

If you need an interpreter or information about your care in a different language or format, please get in touch using the following contact details.

t: 020 7188 8815 **fax:** 020 7188 5953

NHS 111

Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

t: 111

NHS Choices

Provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

w: www.nhs.uk

Become a member of your local hospitals, and help shape our future

Membership is free and it is completely up to you how much you get involved. To become a member of our Foundation Trust, you need to be 18 years of age or over, live in Lambeth, Southwark, Lewisham, Wandsworth or Westminster or have been a patient at either hospital in the last five years. To join:

t: 0848 143 4017 **e:** members@gstt.nhs.uk **w:** www.guysandstthomas.nhs.uk