**NHS ‘is failing babies by delaying ear implants’**

By Roger Highfield, Science Editor

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A surgeon who pioneered the use of cochlear implants in Britain has warned that the NHS is failing profoundly deaf babies because of delays in offering them the operation.

The earlier that the implant is carried out to restore hearing the better, according to John Graham, a consultant at the Portland and the Royal National Throat, Nose & Ear Hospital in London who conducted one of the first such operations in Britain in 1982.

Unlike hearing aids, which amplify sound, cochlear implants consist of two parts, using one to pick up sound through an external microphone located behind the ear and transmit sound as a radio signal across the skin to the second part, an implanted receiver that stimulates the auditory nerve.

Mr Graham said that the NHS sometimes left it too late for the implants to have most effect. "There are still children in which this process is not as quick as it should be. Ideally all children who need a cochlear implant should be referred to a cochlear implant team by the age of one."

George Barnes, aged eight months, was lucky that his deafness was detected soon after birth by the recently introduced screening test for the newborn (Universal Neonatal Hearing screening), a nationwide test.

But there can be delays because subsequent tests must follow to determine how deaf the child is, since the implants are only used on the profoundly deaf. Although the NHS pays for the implants, at least £30,000 for a child, there are still cases where children are referred relatively late.

George's parents, Brad and Katie Barnes, went private to ensure he had the operation early. "We are having some problems with primary care trusts in funding them," Mr Graham said. "Some have delayed the funding of children..."
which is very bad because it impacts on the whole of the child's life."

Although screening of newborns is improving, Philippa Palmer, director of health and community equipment services of the deaf charity, RNID, said: "Northern Ireland, for example, has not got anything in place." She added that "commissioning of services has not been good in relation to cochlear implants".

In the London area, "some hospitals have closed their books to kids", with the exception of children who lose their hearing due to meningitis. "For the first time, in the last year or so, we have seen some children having difficulty in getting access to the cochlear implants."

In the first four or five years of life, a baby's brain develops rapidly, laying down the nerve pathways that will be used during the rest of its life. If no information reaches the brain from the ear and nerve of hearing, the nerve pathway will not be formed.

A cochlear implant for a child born deaf should be provided before the child is four, if that child is to get the maximum benefit. The earlier the operation the better the result, as close to one year of age as possible.

Once implanted, the hearing pathways have to develop in the brain and success still depends a great deal of work by the team, including patient, parents, audiological scientist, speech therapist, teacher of the deaf, and others. It allows access to sound, but the patient has to learn to make use of the new sound.

Prof David Ryugo, of Johns Hopkins University in Baltimore, Maryland, said: "There is an optimal time window for implants if they are to avoid permanent rewiring of hearing stations in the brain and the long-term effects on language learning that can result." His research team recommends that the devices be installed by the age of two.