Does a positive hearing screening mean that your child is “certainly” hearing impaired?

No, but it does mean that your child’s hearing must be checked.

The first hearing screening was positive. What does this mean for my child?

A positive hearing screening does not necessarily mean that your child has a hearing impairment. For children with abnormal hearing, a further, detailed examination of the hearing system must be carried out so that the correct diagnosis can be made and therapy initiated as soon as possible. The Hearing Screening Central will be happy to advise you and provide you with addresses of clinics/doctors who can carry out these examinations. These are mainly ENT doctors and paediatric audiologists, so-called follow up 1 sites (FU 1). If this control examination is also positive, a pedaudiological confirmation diagnosis is carried out in a corresponding centre (FU 2).

Does my child have to participate in the hearing screening? Is the hearing test mandatory?

The participation in the newborn hearing screening as well as the transmission of the data to the Hearing Screening Central is highly recommended, but in principle voluntary.

Why is the hearing screening data sent to a Hearing Screening Central in Hesse?

After a positive hearing screening, the Hearing Screening Central supports the family in ensuring that the necessary control and clarification diagnostics are carried out as quickly as possible. If necessary, it contacts the parents by post or telephone and helps to find doctors or clinics that carry out the necessary examinations on request. In order to ensure the quality of the hearing screening program, the Hearing Screening Central receives the results of all follow-up findings to ensure that parents have not forgotten a follow-up examination. This ensures the high quality of the hearing screening program in Hesse. Various scientific studies have shown that without such supporting “tracking” measures, many positive test findings are insufficiently followed up or clarified.

| 1. Initial screening (TEOAE/AABR) | Maternity clinic |
| 2. Control examination | FU-1 site: ENT Doctor / Paedaudiology |
| 3. Pedaudiological confirmation diagnostics | FU-2 site: Specialised pedaudiology practice or pedaudiology clinic / department |

Privacy policy

All data provided to the Hearing Screening Central with your consent (measurement data, results of control and follow-up examinations, screening ID number, surname, first name, date of birth of the child and mother’s surname, address and telephone number) will be anonymised after the child reaches the age of 6. Of course, you can also request the deletion of all data about your child from the Hearing Screening Central at any time. The data stored within the Hearing Screening Central at the Hessian Children's Healthcare Centre cannot be viewed by third parties. The aim is to complete the diagnosis of all children suspected of having a unilateral or bilateral hearing disorder by the end of the third month of life at the latest.

It is the task of the Hearing Screening Central at the Hessian Children's Healthcare Centre to ensure that children with positive test findings take part in the control / follow-up examinations in order to detect and treat hearing disorders at an early stage and, if necessary, to prevent speech development disorders caused by them.

We wish all the best for your child in terms of hearing, speech and communication development and hope that the work of the Hearing Screening Central will contribute to this development.

University Professor Dr. med. M. Kieslich
Head of the Hessian Children's Healthcare Centre

Nicole Horn
Commissioner Division Management
Neonatal hearing screening

Hearing Screening Central in Hesse
Hessian Children's Healthcare Centre
at Frankfurt University Hospital

Gartenstraße 179
60569 Frankfurt

Tel: 069/6301-87801
Fax: 069/6301-87808

Email: nhs@kgu.de
Web: www.kgu.de/nhs

You will find information on the data protection declaration at: www.kgu.de/nhs under the heading Data Protection

editorial responsibility in terms of the German Press Law: Nicole Horn
Ref. No. NHS-003 dated 28/03/2019

English
Dear parents,

Most children are born healthy. However, there are rare, congenital diseases or disorders occurring around the time of birth which are not recognizable by external signs in newborn babies; these include, among others, congenital and treatable hearing disorders. Remaining hearing disorders occur in about 2 out of 1000 newborn babies. Undiagnosed and untreated, these hearing impairments can lead to disorders in the hearing and speech development. Since a disturbed speech development has many effects on the mental and social development of a child and thus also determines the emotional maturation as well as the educational and occupational opportunities, it is very important to recognize and treat hearing disorders as early as possible. For this reason, all newborns are offered an early detection examination (newborn hearing screening) to exclude hearing disorders. This is based on the Children’s Directive “Introduction of Newborn Hearing Screening” of the Joint Federal Committee (GBA) dated 19/06/2008 and the “Children’s Directive” dated 19/10/2017.

Why is a newborn hearing screening advisable and important?

In newborn babies, unilateral and bilateral hearing disorders can be detected by hearing screening shortly after birth. This means that hearing disorders can also be treated at an early stage. If the treatment of a hearing disorder starts too late, the hearing system, which includes the nerve tracts and special brain areas, cannot develop sufficiently. The consequences are impairments in speech development and in other important brain functions.

Without newborn hearing screening, early childhood hearing disorders are usually detected too late. Even hearing impaired children can react to their parents’ speech creating thereby the impression of intact hearing. However, the reactions of the children are then increasingly traced back to recognition with the eyes.

When is the newborn hearing screening performed?

The hearing screening is carried out in the first days of the child’s life (usually after the 24th hour of life) at the maternity clinic. Parents with children born early or on outpatient care who have not yet undergone hearing screening should contact the Hearing Screening Central or their paediatrician for further information. If an abnormal initial finding with TEOAE (see below) is detected, a check-up with AABR (see below) will be carried out at the maternity clinic before discharge. Screening works best while your child is asleep, especially after feeding.

How is the hearing screening performed?

Here, two methods are possible to choose from: the measurement of the “transitory evoked otoacoustic emissions” (TEOAE) and brainstem audiometry (AABR).

What are “transitory evoked otoacoustic emissions” (TEOAE) and how are they measured?

The measurement of TEOAE is based on the fact that a normal inner ear cannot only receive sound waves (i.e. sounds and tones), but can also emit a “sound” (emissions) itself in response to the sound. For measurement, an earplug with a small probe is carefully inserted into the outer ear canal. This emits a quiet “click” sound to which the sensory cells in the inner ear react with vibrations. The resulting noise is measured with a tiny microphone located on the probe. If this response signal is weak or absent altogether, it may indicate a disturbed inner ear function or a sound transmission disturbance. A positive measurement result can also emerge from other causes such as background noise that is too loud or a restless child.

How does automated auditory brainstem response (AABR) work?

This examination measures the response of the brain to the signals sent. For this measurement, either small electrodes (metal plates) are glued to the scalp of the child, or these are integrated in headphones. As with the TEOAE procedure, soft click sounds are then sent into the ear. The electrodes measure whether the sound waves are transmitted as electrical impulses to the brain and processed. With this method, sound processing from the auditory canal via the middle ear and the cochlea to the brain stem can be recorded. This test also requires a quiet environment and is best performed on a sleeping or quiet child. The examination takes only a few seconds and is not stressful for the child.

Is the hearing test harmful or does it hurt your child?

No, hearing screening is completely painless and harmless for your child.

Can hearing disorders in newborn babies be treated?

Hearing impairment cannot be cured in most cases, but it can be treated so effectively that a largely normal development, especially speech development, of the child can be expected. Depending on the severity of the hearing disorder, one or two hearing aids may be required, sometimes an operation on the middle ear or a cochlear implant (CI). In the case of a proven early childhood hearing disorder, appropriate therapy should be initiated by the end of the 6th month of life.

What does the test result for hearing screening mean?

A negative test result means that a hearing disorder is largely excluded. However, there are hearing disorders that may occur later in your child's development, e.g. due to frequent middle ear infections during infancy. In these cases, it is important to know the results of the initial hearing screening. This allows you to assess whether a hearing disorder was congenital or has occurred later. In any case, you should also monitor your child’s “hearing ability” after a negative hearing screening test result.