

1. 8416-AABR-hearing screening



Coronavirus (COVID-19) Are you a patient, companion or visitor? Below you will find important information about your visit to Isala.

Your child's hearing was screened using the AABR method. This involves using soft sounds to test whether your child's hearing is normal.

Increased risk of hearing loss

A repeated unclear response (a REFER) for this hearing screening means that your child did not meet the requirements of the test at the time of screening. Your child may be too young, may have temporarily reduced hearing (e.g. due to water in the ear canal) or may have a serious hearing loss. An unclear test means a higher chance of hearing loss.

Testing

Additional testing is important

Research shows that the speech and language development of children with congenital hearing loss is best when treatment is started before they are 6 months old. Better than after discovery and treatment at a later age. Good speech and language development are important for children's development. Consider playing with other children or going to school. It is, therefore, important to know whether your child can hear well or not. If your child does not pass the screening, the next step is to determine whether your child has hearing loss. This is done at an audiological centre or at a specialised ENT (ear, nose and throat) department.

Audiological centre (AC)

An audiological centre is specialised in hearing tests. They can also provide multidisciplinary counselling if your child has hearing loss. Multidisciplinary counselling means that different experts can help your child in the case of hearing loss.

After referral, you will receive a questionnaire at home. This will help you prepare for the tests. You will be asked questions about things like the presence of hearing loss in your family.

Testing by the AC

To determine the nature and extent of any hearing loss, several tests are necessary. These tests are usually done one after the other in one morning or afternoon.

A short description of the tests:

- **Tympanometry**
This is a measurement of possible fluid in the middle ear (behind the eardrum). The ear may be examined beforehand to see whether it is blocked by earwax.
- **Otoacoustic emissions measurement**
After a short sound is played in the ear, a kind of echo returns if there is no hearing loss. Which also means there is no fluid behind the eardrum. The measurement is similar to the fluid measurement (tympanometry) because of the soft plug inserted into the ear canal. It takes 1-3 minutes per ear. Your child must lie very still and not make any noise.
- **ABR Auditory brainstem response test**
This is the same as an AABR screening, as done in the Neonatal Intensive Care Unit (NICU). The only difference is that it tests different sound intensities to determine the degree of hearing loss. The test can sometimes take up to an hour. For it to work properly, your child must be lying down, preferably asleep.
- **Observation audiometry**
This is the only test that requires your child to be wide awake. After a sound is played, small reactions are monitored, such

as adopting a listening position or raising an eyebrow. The sounds differ in pitch and strength. Young children (up to about 8 months) respond to higher sound levels than older children. The measurement is less suitable for determining hearing loss. However, it can be used to get an impression of any differences in the hearing response to low and high tones. Sometimes, the test has to be repeated to obtain sufficient certainty.

Preparation

Preparation for the tests

- Do not bath your child on the day of the tests.
- Bring extra food and feed your child just before the testing starts.
- Try to plan a time according to your child's sleep schedule in consultation with the AC.

Results

After the results are known

Has a hearing loss been diagnosed? Then you will probably have questions about the severity of the hearing loss, its consequences and treatment options. The AC can give you advice about what you can do to ensure that your child's development (speech and language) progresses as smoothly as possible. If necessary, the AC can also adjust hearing aids for young children.

Hearing impairment

There are three main types of hearing loss:

- The first is caused by fluid behind the eardrum. This is temporary or can be treated by an ENT specialist.
- The second is due to a defective hearing organ (the cochlea). Medical repair is unfortunately not possible. But a hearing aid could help.

- In the third form, the processing of (sound) signals by the auditory nerve and the brain is different than normal. This is rare.

More information

This brochure contains information about an unclear neonatal hearing screening and diagnostic testing at the AC or ENT specialist. If you would like more information on hearing impairment, please contact your paediatrician, the AC or visit www.fenac.nl or www.oorakel.nl.

What happens to your child's data?

Isala Zwolle is responsible for the national coordination of hearing screening at the NICUs and is the manager and owner of the central database. Isala Zwolle has engaged TNO (Child Health Department) to process the data. The registration includes the results of the screening and, in the case of unclear screening results, the results of any further testing by the audiologist and ENT doctor. The purpose of this registration is to monitor the progress of the research into hearing loss. Your child's data can also contribute to ensuring that this screening continues to function properly. The registered data may be used anonymously for scientific research. Your data will be handled with care. If you do not want your child's details to be registered, you can refuse. Please inform your paediatrician of your decision.

Contact

If you have any further questions, please call the department where your child is being treated.

Zwolle

Neonatale intensive care
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