

Patient information factsheet

Auditory brainstem response (ABR) testing (at home)

We have written this factsheet to explain what will happen at your child's auditory brainstem response (ABR) testing appointment, so that you know what to expect and can help prepare your child. We hope it will help to answer some of the questions you may have. If you have any further questions or concerns, please speak to a member of our team.

What is an auditory brainstem response (ABR) test?

An ABR test is a non-invasive test that uses electrodes (recording pads that measure brain activity) to measure how well sounds reach your child's brainstem. Your child's brain's response to sound will be measured via waveforms on a computer screen.

The test can only be completed when your child is asleep. This is because there is too much brain activity for us to record the hearing response when they are awake.

Why does my child need this test?

Your child has probably already been to the audiology department for a hearing test, but we were unable to get reliable results using the usual tests. ABR testing is used if a child cannot respond to sounds in a predictable way, such as pushing a button, playing a game or turning their head every time they hear a sound.

If your child is a good sleeper and sleeps at a regular time, we can do ABR testing at home when your child has fallen asleep in the evening or during a daytime nap.

How should I prepare for the test?

Before we arrive at your house, please make sure there is a quiet room available for your child to sleep in. For the test we will need two plug sockets. Please make sure that any other electrical equipment in the room is turned off. This is because the ABR test is very sensitive to electrical interference. We also ask that you switch off your home Wi-Fi before the test, as this can also interfere with the results.

In order to get good results, the sticky pads (electrodes) need to make good contact with your child's skin. Please bath your child before we arrive, making sure that you scrub their forehead and the area behind both of their ears well.

Are there any risks?

An ABR test is a safe and painless test.

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What happens during the test?

We will aim to arrive at your home at your child's bed or nap time. We will wait for your child to settle to sleep before we enter the room they are sleeping in. Once your child is asleep, we will attach the sticky pads to their forehead and behind their ears, and set up our equipment to begin testing. We will play sounds at different levels into your child's ear via a soft ear tip or headphone, and record their responses to sound on our computer screen. Once the testing is complete, we will gently remove the sticky pads and pack our equipment away before we leave.

How long will the test take?

Testing time may vary depending on how well your child sleeps and how good the recording conditions are. The test usually takes around an hour. We will ensure that we leave your house by 10pm if testing in the evening.

When will I receive the results?

We may be able to tell you the results on the day, but often we will need to analyse the results further. If this is the case, we will phone you and talk through the results.

What if my child does not sleep?

If your child does not sleep, we may decide to arrange a further ABR appointment at the hospital with you. To ensure that your child stays asleep for the test in hospital, we may give them a sedative (medication that makes you feel sleepy and relaxes you) or a general anaesthetic.

Contact us

If you have any questions or concerns, please contact us.

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