

Patient information factsheet

Auditory brainstem response (ABR) testing (melatonin)

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.

Melatonin

We can only perform an ABR test when a child is asleep. This is because there is too much brain activity for us to clearly record a child's hearing response when they are awake.

To help your child fall into a settled sleep for this test, we will give them a medicine called melatonin. Melatonin is a natural substance (hormone and nutrient) produced by the body to help prepare the brain for sleep. It acts like a sedative and encourages relaxation and natural sleep. It is widely used in the UK as a prescribed medicine to induce sleep in children for an electroencephalogram (a test that records the electrical activity of the brain). This is an off-label use of melatonin, meaning that it is being used in a different way to its original intended use.

An ear, nose and throat (ENT) consultant will check your child's notes to make sure it is safe for them to receive melatonin before their test.

Why does my child need this test?

Your child has already been to our audiology department for a hearing test, but we were unable to get reliable results using our usual tests. An ABR test is usually recommended if a child is unable to respond to sounds in a predictable way, such as pushing a button, playing a game or turning their head when they hear a sound.

During your child's first appointment, we explored other options for assessing their hearing before agreeing with you that testing under sedation was likely to be the most successful option. However, if you have any further questions about this, please contact us using the details at the end of this factsheet.

The test will help us to determine your child's hearing ability, which will help us to decide whether any treatment is needed.

Where will the test be performed?

We will perform the test in our audiology department, which is on level A at Royal South Hants Hospital. We will send you the details of your child's appointment in the post.

Testing will usually take place in a room with a large armchair, where your child can fall asleep on your lap. If your child usually falls asleep in their pushchair or wheelchair, we can also test from there.

How will the melatonin be given?

The melatonin for this test comes in tablet form. We will crush the tablet and mix it with water to make a solution. We will then draw this solution up into a syringe to directly administer it into your child's mouth.

Please contact us before your child's test if you think that they may find it difficult to swallow the melatonin solution from a syringe, so we can discuss alternative options with you.

How should I prepare for the test?

Sleeping

Melatonin works best if your child is tired. To help ensure your child is tired for their test, please:

- keep them awake for longer than usual the day before their test
- limit how long they sleep for the night before their test (they must not have a full night's sleep)
- try to avoid letting them fall asleep in the car on the way to the hospital

Eating and drinking

To help ensure your child is tired for their test, please avoid giving them any food or drinks containing caffeine on the day of their test, such as chocolate, tea, coffee, energy drinks and Coca-Cola.

Washing

Before coming into hospital for your child's test, please wash their face well, especially their forehead and behind their ears. This will ensure the electrodes stick well to your child's skin during their test.

Items to bring with you

Please bring:

- a favourite toy or special comforter to help your child feel more relaxed
- a pushchair (especially if your child often naps in a pushchair)
- snacks or drinks for your child when they wake up from the melatonin

What will happen before the test?

When you arrive at our department, we will greet you and answer any questions you may have. If you are happy for your child to proceed with the test, we will ask you to sign a consent form.

We will then crush the melatonin tablet and mix it with water to make a solution. We will then syringe this solution into your child's mouth, giving them time to swallow it. If your child is reluctant to swallow the solution, we may ask you to give them the solution instead.

The melatonin usually takes 20 to 30 minutes to take effect. After giving your child the melatonin, we will turn off the lights in the room to help them fall asleep.

What will happen during the test?

Once your child is asleep, we will attach some electrodes to their forehead and behind their ears and set up our equipment to begin testing. We will then play sounds at different levels into your child's ear via a soft ear tip or headphone and record their brain's responses to these sounds on our special computer. Once the test is finished, we will gently remove the electrodes and pack our equipment away.

How long will the test take?

An ABR test usually takes around an hour but depending on how well your child sleeps and how good the recording conditions are, it can take longer.

What will happen after the test?

You will need to stay in our department until your child has woken up from the melatonin. Children usually wake up within a few hours from melatonin-induced sleep, with less lasting sleepiness than other sleep-inducing medications.

Once your child is awake, you will be able to go home, and they will be able to return to their normal activities.

Are there any risks or side effects?

An ABR test is a safe and painless test.

Most children will not experience any side effects from taking melatonin for this test. However, some children may experience:

- fatigue (extreme tiredness)
- dizziness
- headache
- hyperactivity
- vertigo (the feeling that you, or the environment around you, is moving or spinning)
- tummy pain

If your child seems unwell after the test, please contact your GP or call NHS **111** for advice.

When will I receive my child's results?

We may be able to give you your child's results on the day. If we are unable to, we will give you a call once we have analysed the results to talk through what we found and arrange any further appointments if necessary.

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Contact us

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

Audiology and hearing therapy department
Level A
Royal South Hants Hospital
Brintons Terrace
Southampton
Hampshire
SO14 0YG

Telephone: **023 8120 2997**

Email: rshaudiology@uhs.nhs.uk

Useful links

www.nhs.uk/medicines/melatonin

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