

# BAER and EOAE Hearing Tests Under Anesthesia

## Hearing tests done while your child sleeps

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### What kinds of hearing tests is my child having?

Your child is scheduled to have a Brainstem Auditory Evoked Response (BAER) test and an Evoked Otoacoustic Emissions (EOAE) test. These tests allow us to find out how your child hears without them having to respond to sounds. We use the BAER and EOAE hearing tests for babies under 6 months old and with older children whose hearing cannot be tested behaviorally in a sound booth.

### How are these tests done?

These two tests are often done together. Because the measurements we are taking are sensitive to noise and movement, your child needs to be asleep during the tests. Children over 6 months of age who need these tests will be given general anesthesia. This allows the child to be in a deep enough sleep for us to get the best results. General anesthesia can be given through an intravenous line (IV) tube that goes into a vein or by breathing in a gas. On the day of surgery, you will have a chance to talk with the anesthesiologist about the medicine they will give your child so they are fully asleep for the procedure. These tests are done in our Procedure Room/OR.

Your child will need other appointments before the day of the test to make sure they are healthy. We will help you make all of the appointments needed. If you are unable to attend all of the required pre-procedure appointments, your child's procedure will need to be rescheduled.

### About the BAER

After your child has fallen asleep, four sensors are placed on the skin behind the ears and on the forehead. A soft earphone is placed in the ear and different levels of click sounds and tones are presented. The response of your child's ear to these special sounds is recorded and stored in a computer.

We find out if responses are in the normal hearing range and if not, we find the quietest level your child's ear responds to.

### About the EOAE

Otoacoustic emissions are tiny sound waves (echoes) produced by the inner ear in response to special sounds. Our ears cannot hear these echoes when they are produced. A sound will be presented to your child's ear through a tiny earphone, and the emission (echo) will be recorded by a tiny microphone in the same earpiece. The emissions are recorded and stored in a computer. Each ear will be tested separately.

#### To Learn More

- Audiology  
206-987-5173
- Ask your child's healthcare provider
- [seattlechildrens.org](http://seattlechildrens.org)

#### Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

### What happens the day of the test?

A parent or legal guardian with medical decision-making rights must come with the child having the test or be immediately available by phone to give verbal consent.

You will not be able to stay with your child during the test. The tests will last for about 1½ hours. After the procedure, your child will be moved to the recovery room (also called the post-anesthesia care unit or PACU). The time spent in the recovery room will vary with each child depending on their procedure and their wake up time from the anesthesia medicines. The nursing staff will talk with you about when you can rejoin your child after their procedure.

The audiologist will share the results of the tests and any recommendations with you on the day of the test.

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### To cancel or change an appointment

If you have questions about the test or need to reschedule call Audiology at 206-987-5173. If your child is sick on the day of the test call the Surgery Center at 206-987-2045.