
Please note: If there is a chance your child may be pregnant, tell a member of the care team before the test, so we can contact their doctor to see if the test still needs to be done.

What is a functional MRI (fMRI)?

An fMRI test measures brain activity. It makes a “map” of which parts of the brain are used for different tasks. An fMRI test:

- Takes pictures of the brain as it works. Your child may do certain tasks, such as reading, thinking or moving a body part.
- Checks both brain structure (areas that make up the brain) and brain function (how it works).
- Helps doctors learn where problems happen in the brain.
- Is most often used for children who have epilepsy (seizures) or who have brain masses that need surgery.

What do I do before the test?

1. Schedule a Neuropsychology visit for your child before the test. During your child’s visit, they will give your child something to read. This helps the care team to know your child’s usual reading level.
2. Please plan for the care of any brothers or sisters on the day of the test. You will want to focus on caring for the child who is having the test.
3. On the day of the test:
 - The care team will explain the fMRI test to you and your child.
 - You will need to complete a few safety screening forms before your child’s test.
 - The MRI scanner uses a very strong magnet to make pictures of the brain. If your child wears anything made of metal, it could cause harm.
 - Have your child remove all jewelry and other metal-containing objects. This includes things like braces and other dental hardware.
 - Your child will need to change into a hospital gown.
 - During the test, the care team will ask your child to do certain tasks, such as tapping their fingers. Your child will have time to practice these tasks before the test.

NOTE: Your child must be awake and able to follow directions during the test. If they are not able to follow directions, they will not be able to complete the test.

What will the test be like?

- The test will last about 60 minutes. The time depends on how many tasks your child will need to do during the test.

In case of an urgent concern or emergency, call 911 or go to the nearest emergency department right away.

Functional MRI, continued

- During the test, your child will:
 - Lie down on a narrow table that slides into the MRI scanner. They will stay inside the scanner until the test is done.
 - Hear loud noises as the scanner takes pictures of the brain but will wear earphones during the test to decrease the noise level.
 - Listen to commands through the earphones.
 - Lie still during the test and follow commands.
 - Press buttons on a small box when doing some tasks.
 - Do finger-tapping exercises when asked.
- Some people have a fear of small or tight spaces when inside the scanner. If this upsets your child, we will take them out of the scanner and stop the test.

Are there any risks?

- The fMRI test:
 - Is generally safe. You and your child must follow the safety guidelines given to you.
 - Does not use X-rays. This means your child will not be exposed to radiation.
- Your child may feel some discomfort from a fear of small or tight spaces, feel nervous or anxious, or feel dizzy due to the magnetic field. If your child has any signs of being uncomfortable, we will stop the test **right away**.

What happens after the test?

Our doctors will look at the test results. In about 3 days, they will send the results to the doctor who ordered your child's test.

- If your child has epilepsy, the test results may help your doctor find out more about the epilepsy and how to treat it.
- If your child has a brain mass, the test results may help your doctor find out more about the mass and how to remove it during surgery.

When do I get the results?

The doctor who ordered the test will call you or schedule a follow-up visit to talk with you about the results. Most often, this happens within 3 to 5 days. Please call your child's doctor if you have not heard from them after 1 week.

How should I prepare my child?

- It is important to be honest with school-age children. They may think something worse than what is really going to happen.

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Functional MRI, continued

- One or 2 days before the test, tell your child they are going to have some special “pictures” taken of their body.
- Use simple words, and be honest with your child. Try to tell them exactly what will happen.
- If it is going to be uncomfortable or painful to hold still in a certain position, talk with your child about it and let them know it is OK to cry.
- Let your child know that:
 - It is important for them to remain still while the pictures are being taken.
 - You will stay with them as much as possible during the test.
- Bring along a favorite book, toy or game.
- You may also bring along a snack for **after** the test.

This teaching sheet contains general information only. Talk with your child’s doctor or a member of your child’s healthcare team about specific care of your child.

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