

MRI: Functional Brain Scan

What to expect and how to prepare

This handout explains how a functional brain scan works, how to prepare, what to expect during the scan, and how to get your results..

What is an MRI scan?

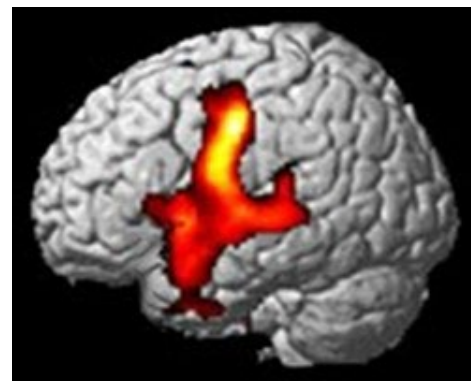
Magnetic resonance imaging (MRI) is a way to take pictures of the organs and tissues inside your body. MRI uses radio waves and a strong magnet to provide clear and detailed pictures. Different types of tissue in the same organ can easily be seen in an MRI image.

What is a functional brain MRI?

A *functional MRI (fMRI)* scan of the brain uses MRI to measure the quick, tiny changes that take place in active parts of the brain.

We know the basic areas of the brain that handle speech, sensation, memory, and other tasks. But the exact sites for these tasks vary from person to person. Other parts of the brain may also take over some tasks after injury or disease, such as a stroke or a brain tumor.

An fMRI scan lets us look closely at your brain. It helps us see exactly which part of your brain handles thought, speech, movement, sensation, and more. This tells us what areas to avoid when planning surgery, radiation therapy, or other treatments.



An MRI scan image showing brain activity.

MRI Screening

If you have any metal on or in your body, an MRI can harm you. The strong MRI magnet will pull on certain metals or implants. We also need to know certain things about your health.

To prevent a delay or cancellation of your exam, tell your MRI care team if you have **any** of the following:

- Pacemaker or defibrillator
- Cerebral (brain) aneurysm clip
- Cochlear or ear implant
- Orthopedic hardware or metal in the area we are scanning
- Implanted or external drug pump (including chemotherapy)
- Breast tissue expander
- Bullet or shrapnel in your body
- Neurostimulator



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- Dialysis or renal failure
- Allergy to gadolinium
- Continuous glucose monitor (CGM)
- Medication patches
- Iron IV medication (infusion)
- Penile implant
- Programmable shunt
- Tattoos placed within 2 weeks of your MRI appointment
- Tooth fillings or braces

How do I prepare?

- Please talk with your referring provider if you have any concerns about managing pain or anxiety during your MRI scan.
- Do **not** put on sunscreen or mineral lotions before your exam.
- Tell your provider if you are pregnant or breastfeeding, or if there is any chance you could be pregnant.

What will happen during my MRI appointment?

- We will give you an “MRI Patient Screening Form.” This form asks questions about your health and medical devices.
- We will give you a hospital gown and pants to change into before your exam.
- Jewelry and metal hair products **must be removed** before your exam.
- A *neuroscientist* (a doctor who specializes in the nervous system) will prepare you for the scan.
- You will lie on a sliding table. The technologist will help you get into position and then leave the room to take the images.
- You will be able to talk with the technologist through an intercom.
- You may feel warmth in the area where the images are taken. This is normal. If it bothers you, please tell the MRI technologist.
- You will hear loud tapping or knocking noises during the scan. We will provide earplugs and headphones with music to help block some of these sounds.
- The scan usually takes 45 to 60 minutes.

We will ask you to do certain tasks while we take MRI pictures, such as:

- Tapping the thumb of one hand against each of the fingers of that hand
- Rubbing a block of sandpaper
- Answering simple questions
- Reading short statements or viewing pictures on a screen

We will be able to see extra activity in the part of your brain that is in charge of the task you are doing. These physical signs show us that your brain is working normally. This brain activity includes:

- Blood vessels getting larger
- Chemical changes
- Extra oxygen going to that part of your brain

Who interprets the results and how do I get them?

- An MRI radiologist will review and interpret your MRI images. This radiologist will not talk with you about the results, but they will send a report to your primary care or referring provider. This provider will give you the results.
- You and your provider will then decide on the next step, such as treatment for a problem, as needed.
- You may also read your results on your MyChart page. If you need copies of your images on disc, call 206.598.6206.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

- **Harborview Imaging Services:** 206.744.3105
- **FHCC Imaging Services:** 206.606.1434
- **UWMC - Montlake Imaging Services:** 206.598.5800
- **UWMC - Northwest Imaging Services:** 206.598.5800