

MRI: Gadolinium Contrast

What you need to know

This handout explains gadolinium contrast. You may receive this chemical when you have a magnetic resonance imaging (MRI) scan. The handout also describes the health risks linked to gadolinium.

What is an MRI scan?

Magnetic resonance imaging (MRI) is a way to take pictures of your internal organs and tissues. It uses radio waves and a strong magnet to create clear and detailed pictures. Even different types of tissue within the same organ can easily be seen in an MRI image.

What is gadolinium contrast?

Gadolinium contrast is a chemical used in some MRI scans. It is also called an *MRI medium, agent or dye*.

Why do I need an MRI scan with gadolinium contrast?

Your provider believes that an MRI scan will help doctors diagnose your health condition. When gadolinium contrast is injected into your body, it improves the clarity of MRI images. It makes it easier for us to see inflammation, tumors, and other problems.

Is gadolinium safe for me?

Before your MRI scan, we will ask if you have any conditions that might mean a gadolinium injection would not be a good option for you. These include:

- Pregnancy
- Allergy to contrast
- Severe kidney disease

You are receiving this handout because we know that you have some problems with your kidneys.



Talk with your provider if you have any questions about gadolinium contrast.

This means you may have a higher risk of a disease called *nephrogenic systemic fibrosis* (NSF) after getting gadolinium contrast. (See “What is NSF?” below.)

The risk of NSF seems to be higher when more gadolinium contrast is given. If you decide to have the injection, our radiologist will give you the **smallest possible dose of gadolinium** that will still give us clear MRI images.

Do I need to have the gadolinium injection?

As with any procedure, you have the right to say “no” to having a gadolinium injection. Depending on your kidney health, we may ask you to sign a consent form before we give you the injection.

What can I expect?

During the scan, the technologist will inject the contrast into your vein. After the scan, your kidneys will filter the contrast from your blood and excrete it from your body in urine.

What if I am on hemodialysis?

If you are on hemodialysis (HD):

- We will arrange for you to have an HD session right after the MRI scan is done.
- Your *nephrologist* (kidney doctor) will decide if you should have an extra HD session the next day, too.

What is NSF?

Nephrogenic systemic fibrosis (NSF) has occurred in some kidney patients after they received gadolinium contrast. Almost all people with NSF have 2 things in common:

- They have severe or end-stage kidney disease
- They had been given at least 1 gadolinium contrast agent before getting NSF

NSF can cause thickening, tightening, and scarring of the skin. This usually occurs on the arms or legs, but it can occur on the trunk of the body. The scarring may also occur inside the body. It can affect the diaphragm, heart, lungs, and muscles.

Some people respond well to treatment, but there is no cure for NSF. Rarely, the disease gets worse and can even cause death.

What other risks are linked to gadolinium?

These rare problems can occur with gadolinium:

Allergic Reaction

Symptoms of gadolinium allergy include:

- Large, hive-like swellings in the mouth or throat
- Confusion, dizziness, or headache
- Problems breathing or lack of breathing

If you have any of these symptoms after your MRI, you may need extra medical treatment.

Contrast Infiltration

Rarely, the gadolinium contrast leaks out of the vein and enters other body tissues. This is called *contrast infiltration*. It can cause discomfort, pain, burning, numbness, pressure at the injection site, lack of mobility in the affected limb, and more.

Contrast infiltration is treated with hot or cold packs, and keeping the arm or leg elevated. This problem usually resolves by itself over time.

Questions?

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

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