

Understanding MRI

What is an MRI?

Magnetic Resonance Imaging (MRI) is a painless, non-invasive diagnostic procedure that produces detailed images of the organs and tissues within your body by using a powerful magnetic field, radio frequencies, and an advanced computer. Most MRI scanners are large, tube-shaped magnets.

When you lie inside an MRI machine, the magnetic field temporarily realigns hydrogen atoms in your body. Radio waves cause these aligned atoms to produce very faint signals, which are used to create cross-sectional MRI images — like slices in a loaf of bread. The MRI machine can also be used to produce 3-D images that may be viewed from many different angles. MRI uses no radiation and has no side effects.

MRI Safety

All MRI patients must complete a specific MRI Health Screening Form. These forms are available in the PCI Imaging department and also on our website, www.pcofiowa.com, if you'd like to complete it ahead of time and bring it with you the day of your MRI scan.

Certain medical devices pose a health risk for patients in an MRI environment. Please contact your provider immediately to discuss an alternative diagnostic test if you fall into either of the following categories.

Patients may NOT have an MRI if they have:

- A pacemaker
- Implantable cardio-verter defibrillator device (ICD.)
- Aneurysm clips
- Vascular stents less than 3 months old

Patients may have potential problems with the following:

- Permanent make-up or tattoos
- Dentures or dental implants with magnets
- Cosmetic contact lenses
- Implanted infusion ports/devices
- Medication patches
- Shrapnel / bullet fragments
- Patients with a history of metal shavings in their eyes (even if removed)

Please bring any surgically implanted metal device information cards (joint replacement, vascular implants, etc) with you to your appointment.



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The strong magnetic field of the MRI scanner is always "ON." For your safety, and the safety of the MRI staff, you must remove all loose metal objects which will be secured in a private dressing room during your exam.

Some metal objects include, but are not limited to the following:

- cell phones
- gaming devices
- laptops and tablets
- jewelry including body piercings
- belt buckles
- watches
- hearing aids
- coins and wallets * bank cards and credit cards' magnetic strips will erase

Depending on the body part being imaged, it may also be necessary to change you into a patient gown and /or scrub pants for your exam. Before entering into the MRI scanner suite you will walk through a metal detector screening system to help ensure there are no metal foreign objects remaining.

If you have any concerns or questions as it relates to MRI safety, please discuss those with your MRI technologist before entering the MRI scanner suite.

MRI Contrast Exams

If you have a known history of contrast allergies, especially Gadolinium (MRI) contrast, you should inform your provider before presenting for your MRI scan.

Prior to the MRI scan, an intravenous (I.V.) catheter is placed in a vein in your arm and a contrast agent is administered during the procedure, as requested by your ordering provider. It may be administered by either the technologist or by a special contrast injector device.

If you have a history of any of the following conditions:

- High blood pressure (hypertension, even treated with medication)
- Renal failure or poor renal function
- Diabetes
- 60 years of age or older

It will be necessary to do a blood test prior to your MRI scan to ensure your kidneys are healthy enough to process the I.V. contrast agent. For your convenience the MRI staff will draw your labs when they start your I.V.

Female Patients: You should inform your provider if you are pregnant or if there is any possibility that you may be pregnant. It's possible an alternate diagnostic test may be a better choice for you.

Breast Feeding: There is no evidence to show that the tiny amount of gadolinium contrast found in breast milk would cause toxic effects if ingested by a breast-feeding infant. However, breast feeding mothers may choose to express and discard their breast milk for a 24 hour period following a gadolinium contrast injection.

Breast MRI Exams: If you have a menstrual cycle, certain breast MRI exams can only be performed between days 7 and 12 of your monthly cycle. Please count the first day you start your cycle as day 1. If you will not be within this time frame at the time of your MRI appointment please contact your provider or our MRI Team to determine if you may proceed with the specific scheduled exam.

Preparing for Your MRI Exam

Caring for You: Our technologists are dedicated to providing customized quality care to you throughout your exam to yield optimal diagnostic test results for your provider. Please be aware the technologists are not able to provide supervision for young children or other dependents during your exam, nor may we allow non-medical staff to accompany you into the MRI scanner suite.

Medications: Take your medication as you normally do, unless otherwise directed by your provider.

You do not need to fast for your MRI exam, unless otherwise directed by your provider.

If you have claustrophobia (fear of enclosed spaces), anxiety or a chronic pain condition, please talk to your provider about prescribing some medication to relax you before your MRI exam.

The MRI staff cannot prescribe, administer or fill prescription medication orders.

Do not take these prescribed medications until all screening paperwork has been completed and a member of the MRI team instructs you to do so. Be aware, you must also make arrangements for transportation after your MRI exam if relaxation medication is taken.

During Your MRI Exam

The MRI machine looks like a large tube that is open on both ends with an exam table running through the opening. Your MRI technologist will help you onto the scanner table and make sure you are comfortable. You will need to lie down on your back, or sometimes on your stomach, for the entire exam. To produce high quality diagnostic images, you must remain as still as possible for the duration of the exam.

A device called a coil will be placed around the body part to be imaged. You will be moved into the scanner until the area of interest is in the center of the scanner. This is where the magnetic strength is the most concentrated and will produce the best image quality. If you are having an MRI of your chest or abdomen, you will need to follow the breathing instructions given by the technologist.

You will be provided with hearing protection and a cord with a “squeeze ball” device which will notify the technologist that you are in need of assistance when “squeezed.” The technologist will leave the room after positioning you, but will continue to visually monitor you and communicate with you throughout the exam.

As the exam begins, you will hear a loud thumping or humming sound from the MRI scanner. Most MRI exams take between 30-60 minutes to complete; however, depending on the exam(s) ordered by your provider, it may take up to 2 hours.

After Your MRI Exam

You will be able to return to your normal daily activities. Most results are available after two business days and your provider will determine how you will receive your test results. Some patients may have an appointment to meet with their providers to discuss the test results in the office, while others may get a telephone call from the provider’s nurse.

Insurance Plans

Our PCI Imaging Center is an often a more cost effective choice for most insurance plans.

Please confirm with your referring provider’s office that any pre-certification required by your insurance has been completed before your MRI appointment.

If you have had a change in your insurance plan since the MRI was originally scheduled, please contact your provider’s office or PCI Imaging with your new insurance information before presenting for your MRI scan, as plan coverage and pre-authorization requirements vary from carrier to carrier.

PCI Imaging

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