



Imaging Patient Education

Magnetic Resonance Imaging (MRI)





Imaging Patient Education

What you should know about your *Body MRI exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues.

MRI has been proven to be very valuable for the diagnosis of a broad range of conditions in many areas of the body. Organs of the chest, abdomen and pelvis including liver, kidney, spleen, pancreas and abdominal vessels can be examined in high detail with MRI enabling the diagnosis and evaluation of tumors and functional disorders.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown during the exam.
- Your valuables will be locked in a secure location during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs or headphones to listen to music for your comfort.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

If you have questions or need additional information,
please call Gettysburg Hospital's MRI Department:
(717) 338-3284



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What you should know about your *Brain MRI exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues.

MRI is the exam of choice for brain tumors, strokes and multiple sclerosis. In addition it is useful to see tiny areas of tissue abnormalities in patients with disease of the eyes or inner ear. It is commonly used for patients with dementia and disease of the pituitary gland.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown during the exam.
- Your valuables will be locked in a secure location during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs or headphones to listen to music for your comfort.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *MRA exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues.

MRA stands for magnetic resonance angiography. This type of study utilizes MRI technology to detect, diagnose and evaluate many blood vessel disorders by using non-invasive imaging techniques. Many MRA exams will require a contrast material to be used to visualize certain blood vessels.

MRA studies may be ordered for patients with a family history of arterial aneurysms, diseased intracranial arteries, carotid artery stenosis, and disease in the aorta and in blood vessels supplying the kidneys, lungs and legs.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown during the exam.
- Your valuables will be locked in a secure location during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs or headphones to listen to music for your comfort.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *Spine MRI exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues.

The MRI scan shows the anatomy of the vertebrae (bones) that make up the spine, as well as the spinal cord and the spaces between the vertebrae through which nerves pass. The most common reason for spinal MRI is to detect a bulging, degenerated or herniated intervertebral disk. MRI is frequently ordered to help aid in surgeries on the spine such as the decompression of a pinched nerve or spinal fusion. MRI performed after spinal surgery will show whether anything has changed and whether post-operative scarring or infection is present. If a patient has failed to improve as expected, MRI may show why. The exam can help to diagnose or rule out spinal infection or tumors that arise in, or have spread to, the spine; the common tumors include prostate, lung and breast cancers.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown during the exam.
- Your valuables will be locked in a secure location during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs or headphones to listen to music for your comfort.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *Upper and Lower Extremities MRI exam:*

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues.

Because MRI produces clear images of soft tissue structures near and around bones, it is usually the best choice for examination of the body's major joints and soft tissues of the extremities. MRI is widely used to diagnose sports-related injuries, as well as work-related disorders caused by repeated strain, vibration or forceful impact. The detailed images allow the radiologist to clearly see even very small tears and injuries to tendons, ligaments and muscles. In addition, MRI is used to detect degenerative disorders such as arthritis and deterioration of joint surfaces.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown during the exam.
- Your valuables will be locked in a secure location during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs or headphones to listen to music for your comfort.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *Breast MRI exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues. Research has demonstrated that MRI can detect some small breast lesions sometimes not seen by mammography. MRI can also help find breast cancer in women with breast implants and younger women with dense breast tissue, both of which are difficult to image using traditional mammography.

MRI of the breast is not a replacement for mammography or ultrasound imaging but another exam used for detecting and staging breast cancer and other breast abnormalities.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Tooth fillings usually are not affected by the magnetic field but they may blur the image quality when scanning the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to bring along any implant and/or medical device cards at the time of your appointment (example heart stents, eye/ear implants etc.)
- We will use these cards to verify the safety of your implant.
- If you do not have information about your implant it may cause a significant delay or cancellation in your exam.
- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If you have an implant or medical device that is thought to be unsafe for MRI, we will not be able to perform your exam. Your doctor may recommend a different exam.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You may be asked to remove some or all of your clothes and to wear a gown and/or scrub pants during the exam.
- Your valuables will be locked in a locker during your exam.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.
- You will be required to wear ear plugs or headphones to listen to music for your exam.
- A call bell will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- Depending on the exam your physician may order a contrast agent to brighten the image quality.
- A small needle is placed in an arm or hand vein that connects to plastic tubing. The contrast is then injected during the procedure.
- Additional images will be taken after the injection.
- The average exam lasts approximately 30 minutes.

After the Test:

- If you received contrast the needle will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will escort you back to the reception area.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *Breast Biopsy MRI exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues. A Breast Biopsy MRI exam is performed to obtain a tissue sample of a questionable area in the breast using MRI guidance.

MRI of the breast is not a replacement for mammography or ultrasound imaging but another exam used for detecting and staging breast cancer and other breast abnormalities.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You will be asked to remove some or all of your clothes and to wear a gown and/or scrub pants during the exam.
- Your valuables will be locked in a locker during your exam.
- The radiologist will meet with you to explain procedure and answer any questions you may have.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to verify which breast is to be biopsied.
- A "yes" will be handwritten on the appropriate breast in ink.
- You will be asked to lie on a padded table.
- Cushions will be provided for your comfort.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- You will hear different sounds during your exam which is normal.

- You will be required to wear ear plugs or headphones to listen to music for your exam.
- A call button will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- The radiologist will start the biopsy exam.
- The radiologist will numb the skin using an injection of anesthetic.
- The area of interest is localized and tissue samples are taken.
- You may feel some discomfort and pressure during the biopsy procedure.
- Most all breast imaging requires a contrast agent.
- Prior to entering the room a small needle is placed in an arm that connects to plastic tubing. The contrast is then injected during the procedure.
- A clip will be placed and additional images will be taken to confirm the placement.
- The average exam lasts approximately 1 hour.

After the Test:

- You will be assisted to a sitting position where the technologist will clean and dress the area.
- The small needle in your arm will be removed prior to leaving the scanning room.
- You may gather your valuables.
- A staff member will take you to the next area to continue your procedure.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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What you should know about your *Breast Needle Localization exam*:

Purpose:

Magnetic Resonance Imaging (MRI) uses radio waves and a strong magnetic field to provide clear and detailed images of internal organs and tissues. The breast needle localization exam is performed to localize any abnormality in the breast by placing a needle into the area using MRI guidance.

Preparation:

- You will be asked to complete a medical history and screening form which will be reviewed with you by a staff member.
- You will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dentures.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices you may have in your body.
- It is important to tell a staff member if you are pregnant.
- While MRI does not use any ionizing radiation (x-rays), MRI must be used cautiously in the early stages of pregnancy.
- You will be asked to remove some or all of your clothes and to wear a gown and/or scrub pants during the exam.
- Your valuables will be locked in a locker during your exam.
- Most of all breast imaging requires a contrast agent.
- Prior to entering the room a small needle is placed in an arm that connects to plastic tubing. The contrast is injected during the procedure.

Procedure - What to Expect:

- We will verify your name, date of birth, and exam you will be having performed.
- Prior to entering the room a small needle is placed in an arm that connects to plastic tubing. The contrast is injected during the procedure.
- Once we determine you may safely enter the magnet, you will be taken to the scanning room.
- You will be asked to lie on your stomach with your breasts positioned through a special piece of equipment called a coil.
- Cushions will be provided for your comfort.
- You will be asked to verify which breast is to be biopsied.
- You will hear different sounds during your exam which is normal.
- You will be offered ear plugs for your exam.

- A call button will be placed in your hand to alert the technologist if you need assistance during the exam.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you.
- The radiologist will start the needle localization exam.
- When the abnormality is localized the radiologist will place the needle.
- You may feel some discomfort and pressure during placement of the needle.
- Some surgeons will require the radiologist to inject blue dye into the breast tissue using the wire that is already placed.
- This stains the tissue as a visual aid for the surgeon during the excision.
- Additional images will be taken to view the contrast agent and confirm the placement of the needle.
- The average exam lasts approximately one hour.

After the Test:

- You will be assisted to a sitting position where the technologist will clean and dress the area.
- The small needle in your arm will be removed prior to leaving the scanning room.
- You may gather your valuables.
- A staff member will take you to the next area to continue your procedure.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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