

Patient Education
Magnetic Resonance Imaging (MRI)



A service of York Hospital



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 the 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.



Body MRI continued

Procedure: What to Expect

- You 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 on your back.
- 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 squeeze ball 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 if needed.
- 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 45 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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Brain Exam continued

- 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 squeeze ball 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 if needed.
- 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 to view the injection.
- The average exam lasts approximately 45 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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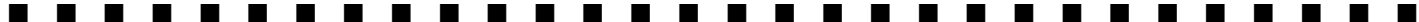
Breast Biopsy MRI continued

- You will be offered ear plugs or headphones to listen to music for your comfort.
- A squeeze ball 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.
- Compression will be applied firmly to your breast during positioning. During the compression, you may let the technologist know if the compression becomes uncomfortable.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you if needed.
- 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.
- Almost 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.
- A clip will be placed and additional images will be taken to confirm the placement.
- The average exam lasts approximately one hour.

After the Test:

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

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Breast Needle Localization continued

- 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 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 squeeze ball will be placed in your hand to alert the technologist if you need assistance during the study.
- You will be instructed to hold very still.
- Movement during the exam may cause blurred images that may need to be repeated.
- Compression will be applied firmly to your breast during positioning. During the compression, you may let the technologist know if the compression becomes uncomfortable.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you if needed.
- The radiologist will start the needle localization exam.
- The radiologist will numb the skin using an injection of anesthetic.
- When the abnormality is localized the radiologist will place the needle.
- You may feel some discomfort and pressure during the 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 nurse will clean and dress the area.
- The small needle in your arm will be removed prior to leaving the scanning room.
- You may change into your clothing and gather your valuables.
- A staff member will take you to the next area to continue your procedure, if required.
- Your exam will be evaluated by a radiologist and the report will be sent to your physician.

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MRI Arthrogram continued

- You will 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

- You 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 on your back.
- 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 squeeze ball will be placed in your hand to alert the technologist if you need assistance during the study.
- You will be instructed to hold very still.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you if needed.
- Movement during the exam may cause blurred images that may need to be repeated.
- Depending on the exam, your physician may order a contrast agent to brighten the images.
- If contrast is required, 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 45 minutes.

After the Test:

- 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 *Sedated Pediatric 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.

An MRI scan may be recommended in order to detect a wide range of abnormalities or diseases in any part of your child's body. Among the more common reasons for requesting an MRI scan are spinal cord abnormalities, Arnold Chiari, spina bifida, cerebral palsy, seizures, hydrocephalus, head injuries and developmental delay.

Because the patient must remain completely still during an MRI exam, conscious sedation may be necessary when performing pediatric MRI. The purpose of the sedation is to assure patient safety and comfort, reduce parental anxiety and stress and to achieve high quality outcomes with diagnostic imaging. The referring physician will make scheduling arrangements with the nursing staff and physician when sedation is required.

Preparation:

- Your child will be scheduled for the MRI study to include sedation.
- The imaging nursing staff will contact you one week prior to the MRI study to obtain medical history.
- You will receive in the mail confirmation of your appointment along with instructions from the imaging nursing department to explain the MRI study with sedation.
- The nursing staff will review the guidelines for food and liquids prior to the MRI study.
- Your child should wear loose clothing with no metal snaps/buckles.
- Bring an extra diaper or spare clothes (if new to potty training).
- Upon arrival the day of your appointment you will be asked to complete a medical history and screening form on your child which will be reviewed by an MRI staff member.
- Your child will be asked to remove anything that might decrease the quality of the MR images including hairpins, jewelry, eyeglasses, hearing aids and any removable dental work.
- Tooth fillings usually are not affected by the magnetic field but they may blur image quality of the brain.
- Since the MRI scanner is a very large magnet, it is important for us to know of any metal implants/devices that your child may have in his/her body.
- It is important to bring along any implant and/or medical device cards at the time of the appointment (example heart stents, eye/ear implants, etc.)
- We will use these cards to verify the safety of your child's implant.
- If you do not have information about your child's implant this may cause a significant delay in the exam.



Sedated Pediatric continued

- Be aware there are some implants, such as pacemakers, that are not MRI safe.
- If your child has an implant or medical device that is thought to be unsafe, we will not be able to perform the exam. Your doctor may recommend a different exam.
- An IV will be started before the procedure, in order to give sedation.
- The parent/guardian will accompany the child back to the MRI suite and stay with the child until they fall asleep.
- The parent/guardian will then be escorted to a waiting room.
- A pediatrician and nurse will be with the child at all times.
- The parent/guardian will be with the child during recovery time.

Procedure: What to Expect

- You will verify your child's name, date of birth and exam that will be performed.
- Your child may bring along to their appointment a favorite stuffed animal or blanket. The stuffed animal must be MRI safe before allowing it into the room. Please make sure the stuffed animal does not have a music box or any batteries inside.
- Once your child is MRI safe we will precede with the sedation procedure.
- A special piece of equipment called a coil will be placed over the area to be scanned.
- Your child will be given ear plugs or headphones for ear protection during the scan.
- Depending on the exam your doctor has ordered, some patients will be given a contrast agent to brighten the image quality.
- Additional images will be taken to view the contrast agent.
- The average exam lasts approximately 45 minutes.

After the Test:

- Your child must be able to eat and drink before discharge. We will supply a juice box/small snack item.
- Feel free to bring along the child's favorite snack if you wish.
- Bottle-fed children will need a bottle of milk or juice.
- Once the sedation team feels your child is ready for discharge, you will be allowed to go home.
- Your child's exam will be evaluated by a radiologist and the report will be sent to your child's physician.

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Spine MRI continued

- Your valuables will be locked in a secure location during your exam.

Procedure: What to Expect

- You 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 on your back.
- 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 squeeze ball will be placed in your hand to alert the technologist if you need assistance during the study.
- 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 if needed.
- Depending on the exam, your physician may order a contrast agent to brighten the image quality.
- If necessary, 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 45 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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Upper-Lower Extremities MRI continued

Procedure: What to Expect

- You 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 on your back.
- 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 squeeze ball will be placed in your hand to alert the technologist if you need assistance during the study.
- You will be instructed to hold very still.
- Even though the technologist will be in another room during the scan, he/she will be able to hear you and speak to you if needed.
- Movement during the exam may cause blurred images that may need to be repeated.
- Depending on the exam, your physician may order a contrast agent to brighten the images.
- If necessary, 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 45 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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