



GHADIALI

General Surgery

P R E S E N T S

Dr. Mufa T. Ghadiali is skilled in all aspects of General Surgery.
His General Surgery Services include:

- General Surgery
- Advanced Laparoscopic Surgery
- Surgical Oncology
- Gastrointestinal Surgery
- Hernia Surgery
- Endoscopy

Magnetic Resonance Imaging (MRI)

Multimedia Health Education

Disclaimer

This film is an educational resource only and should not be used to make a decision on **MRI**. All such decisions must be made in consultation with a physician or licensed healthcare provider.

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GHADIALI

MULTIMEDIA HEALTH EDUCATION MANUAL
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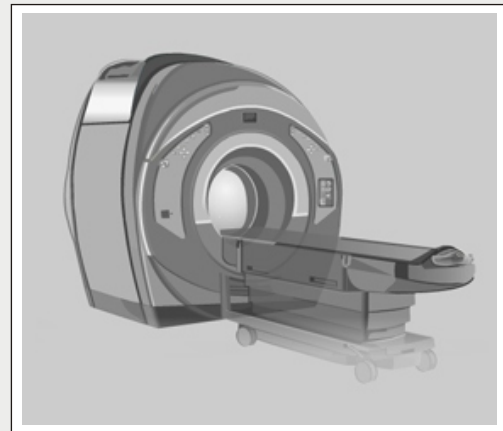
What is MRI?

MRI Stands for Magnetic Resonance Imaging. MRI is a way of getting pictures of various parts of your body without the use of X-rays. Unlike X-rays and computed tomographic (CT) scans, which use radiation, a MRI uses powerful magnets and radio waves.

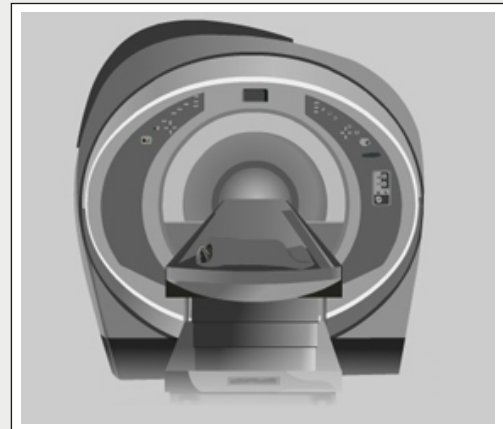
A radio wave antenna is used to send signals to the body and then receive signals back.

These returning signals are converted into pictures by a computer attached to the scanner. Pictures of almost any part of your body can be obtained at almost any particular angle.

(Refer fig. 1 & 2)



(Fig.1)



(Fig.2)

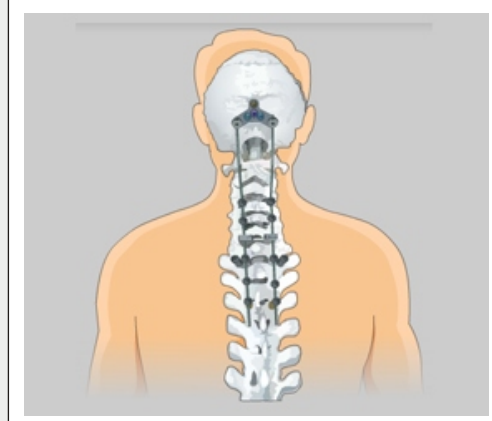
Is MRI Safe?

MRI is quite safe in the majority of patients. Certain patients may not be able to have an MRI.

These include people who get nervous in small spaces (claustrophobic) and those with implanted medical devices such as aneurysm clips in the brain, heart pacemakers and cochlear (inner ear) implants.

Also, people with pieces of metal close to or in an important organ (such as the eye) may not be scanned. There are a few additional safety considerations and some exceptions based on individual circumstances.

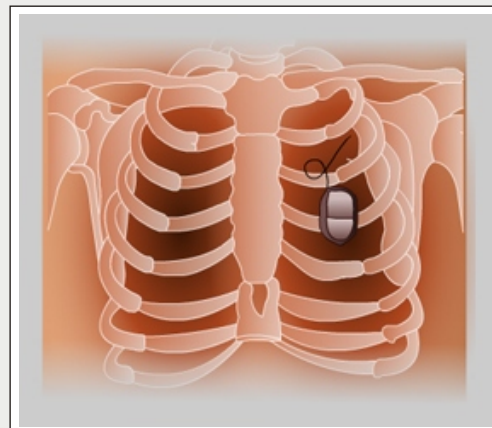
(Refer fig. 3 to 6)



(Fig.3)



(Fig.4)



(Fig.5)



(Fig.6)

Unit 2:

Purpose of MRI

Why is the MRI Test Performed?

This test may be used to diagnose or evaluate:

- Abnormal growths and tumors
- Blood flow
- Blood vessels
- Lymph nodes
- Organ function

(Refer fig. 7)



Combining MRIs with other imaging methods can often help the doctor make a more definitive diagnosis. MRI images taken after a special dye (contrast) is delivered into the body may provide additional information about the blood vessels. An abdominal MRI provides detailed pictures of the belly area from many different views.

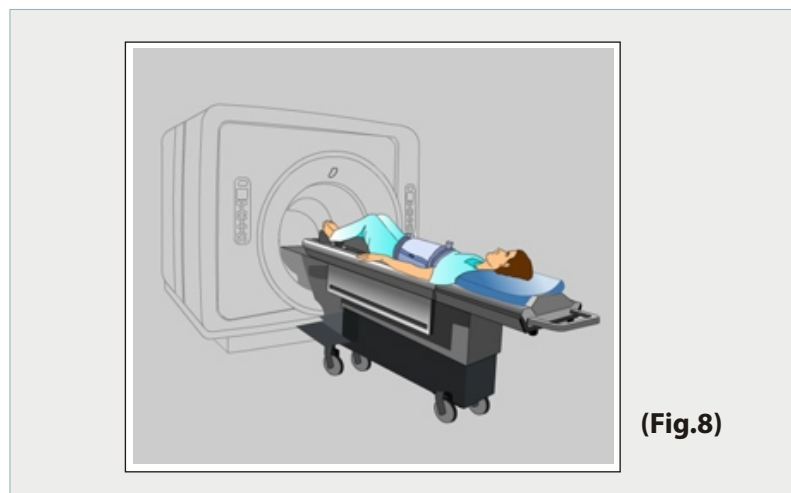
It is often used to clarify findings from previous X-rays or CT scans. A pad is placed on the patient's abdomen to help make the pictures clearer. MRI can distinguish tumors from normal tissues and can help the doctor determine the tumor's size, severity, and spread. This is called staging.

Advantages & Dis-Advantages

Advantages of MRI include diagnosing:

- Strokes in their earliest stages
- Brain and pituitary tumors
- Spine, or joint infections
- Visualizing torn ligaments in the wrist, knee, and ankle
- Visualizing shoulder injuries
- Herniated discs in the spine

(Refer fig. 8)



MRI also has disadvantages. These include:

- People with pacemakers cannot have MRIs.
- Patients who are morbidly obese may not fit into an MRI system.
- Claustrophobic patients often cannot make it through a MRI. These patients may require sedatives or an Open MRI which is an MRI system that is not completely closed around the patient.

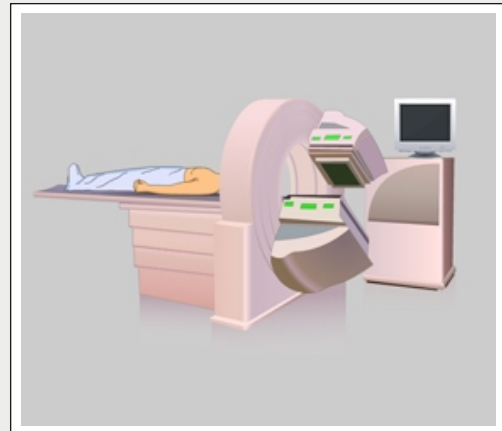
- The MRI machine makes a tremendous amount of noise during a scan. The noise sounds like a continual, rapid hammering. The noise is due to the rising electrical current in the wires of the gradient magnets being opposed by the main magnetic field. The stronger the main field, the louder the gradient noise. Patients are given earplugs or stereo headphones to muffle the noise.
- MRI scans require patients to hold still for extended periods of time. MRI exams can range in length from 20 minutes to 90 minutes or more.
- MRI systems are very expensive. Therefore the exams are also very expensive.
- Lastly, people with kidney disease, dialysis patients, or people who didn't know they had kidney disease are at high risk to develop an incurable condition called Nephrogenic Systemic Fibrosis (NSF) from the MRI dye injection gadolinium. NSF causes a hardening or stiffening of the skin and joints.

Preparation for MRI Test

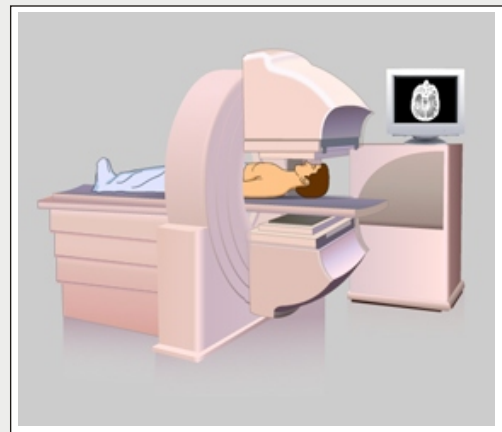
Before your MRI test, tell your health professional and the MRI technologist if you:

- Are allergic to any medicines.
- If you are or might be pregnant.
- If you wear any jewelry, eyeglasses, hearing aids, hairpins, removable dental work or other objects that may interfere with the procedure.
- Have any other health conditions, such as kidney problems that may prevent you from having an MRI using contrast material.
- Had recent surgery on a blood vessel. In some cases you may not be able to have the MRI test.
- Wear any medication patches. The MRI may cause a burn at the patch site.
- For an MRI of the abdomen, you may be asked not to eat or drink for several hours before the test.

(Refer fig. 9 & 10)



(Fig.9)



(Fig.10)

Although every effort is made to educate you on **Magnetic Resonance Imaging (MRI)** and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about **Magnetic Resonance Imaging (MRI)**.

YOUR SURGERY DATE

READ YOUR BOOK AND MATERIAL

VIEW YOUR VIDEO /CD / DVD / WEBSITE

PRE - HABILITATION

ARRANGE FOR BLOOD

MEDICAL CHECK UP

ADVANCE MEDICAL DIRECTIVE

PRE - ADMISSION TESTING

FAMILY SUPPORT REVIEW

Physician's Name : _____

Patient's Name : _____

Physician's Signature: _____

Patient's Signature: _____

Date : _____

Date : _____