

What is a MRI Scan and how it works?

MRI technology is based on a safest imaging technique and is not harmful to the human body when proper procedure is adopted. MRI is greatly used to get details of muscles, brain, cartilages, nerves and vital internal organs. Before undergoing an MRI scan you should be aware of the safety guidelines that are to be necessarily followed, as strong magnet is used in the scan procedure.

You have to enlighten the staff in the scanning department if you have undergone any procedures such as implant of artificial heart valve or pacemaker, and surgery on spine or head, metallic implants like joint replacement, metal in eyes like metal work or welding.

While the MRI scan process is on it is better to keep off the personal belongings like jewelry, keys, coins, watch, credit cards or any other metal objects which may affect the magnetic field. When the magnetic field is affected, the resulting picture will have a blurred image and hence the whole procedure has to be repeated.

If you understand the basics of a MRI scan, you can have a clear idea about the do’s and don’ts. The water molecules present in your body contains hydrogen atoms, which are pulled by a power magnet of an MRI scanner in the direction of magnetic field. Radio waves are sent by scanner towards your body and make the hydrogen atoms to change their direction.

The magnetic field of hydrogen atoms goes back when radio waves are off. A radio receiver of MRI scanner picks up the radio signals given by the atoms. Body tissues differ with each other in water contents as also in number of hydrogen atoms. This indicates variance in radio signals by different body tissues.

Based on location and strength of radio signals of your body, a detailed image is created by MRI computer. MRI scans are very useful in producing images of any part of your body from different angles. MRI scans are widely deployed in finding structures of soft tissues like cartilage, ligaments and organs like heart, eyes and brain.

An MRI scan is considered much superior to X rays as the MRI scan can offer details of soft tissue study the differences of various tissues, blood vessels, blood flow, cross section as well as three dimensional images, inflammation and swelling. After a report is generated, a radiologist, who has undergone a special training in interpretation of MRI and other scans will be able to tell you the results or will further report to the doctor who referred the case.

For taking a MRI scan, you have to approach a Radiologist, well trained in the interpretation of scans. The scanning department consists of Radiographers and Radiology nurses who receive special training to use and operate the scanning equipment. MRI scan is considered the most suitable technology for all people except few who had undergone rare surgeries.

If your occupation involves welding or any other metalwork there are chances that your body may contain metal fragments. However, you can make an X-ray to clear your doubts. As radio waves and magnetic field are used in MRI, Pregnant women are advised to avoid the scan unless otherwise it is absolutely necessary.

Also, the friend or relative accompanying the patient into the scan room should also remove the metallic objects from their clothes and they also have to inform the staff about any surgery performed on them which involves implant of metal objects.

About the Author

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