

Magnetic Resonance Imaging (MRI) – Head

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Magnetic resonance imaging (MRI) of the top uses a strong magnetic flux , radio waves and a computer to supply detailed pictures of the brain and other cranial structures that are clearer and more detailed than other imaging methods. This exam doesn't use radiation and should require an injection of a contrast medium called gadolinium, which is a smaller amount likely to cause an allergy than iodinated contrast material.

Magnetic resonance imaging (MRI) may be a noninvasive test wont to diagnose medical conditions.MRI uses a strong magnetic flux , radio waves and a computer to supply detailed pictures of internal body structures. MRI does not use radiation (x-rays).

Detailed MR images allow doctors to look at the body and detect disease. The images can be reviewed on a computer monitor. They may even be sent electronically, printed or copied to a CD, or uploaded to a digital cloud server.Currently, MRI is that the most sensitive imaging test of the top (particularly the brain) in routine clinical practice.

MR imaging of the top is performed for variety of abrupt onset or long-standing symptoms. It can help diagnose conditions such as: developmental anomalies,hydrocephalus — dilatation of fluid spaces within the brain (ventricles), causes of epilepsy (seizure), infections,stroke, brain tumors, certain chronic conditions, such as multiple sclerosis, hemorrhage in selected trauma patients, disorders of the eye and inner ear, disorders of pituitary gland, vascular problems, such as an aneurysm (a bubble-like expansion of the vessel), arterial occlusion (blockage) or phlebothrombosis (a grume within a vein)

MRI does not use radiation. Instead, radio waves re-align hydrogen atoms that naturally exist within the body. This doesn't cause any chemical changes within the tissues. As the hydrogen atoms return to their usual alignment, they emit different amounts of energy counting on the sort of body tissue they're in. The scanner captures this energy and creates an image using this information.

MRI is in a position to inform the difference between diseased tissue and normal tissue better than x-ray, CT and ultrasound. When the exam is complete, you'll be asked to attend while the radiologist checks the pictures just in case more are needed.Your IV line are going to be removed after the exam is over.The entire examination is typically completed within 45 minutes.

MR spectroscopy, which provides additional information on the chemicals present within the body's cells, can also be performed during the MRI exam. This may add about 15 minutes to the total exam time.

Most MRI exams are painless. However, some patients find it uncomfortable to stay still. Others may feel closed-in (claustrophobic) while within the MRI scanner. The scanner can be noisy. Sedation could also be arranged for anxious patients, but fewer than one in 20 require it.

It is normal for the world of your body being imaged to feel slightly warm. If it bothers you, tell the radiologist or technologist. It is important that you simply remain perfectly still while the pictures are being taken. This is typically only a few seconds to a few minutes at a time. You will know when images are being recorded because you'll hear and feel loud tapping or thumping sounds. These are made when the coils that generate the radio waves are activated. You will be given earplugs or headphones to scale back the sounds made by the scanner. You may be ready to relax between imaging sequences. However, you'll be asked to stay an equivalent position without moving the maximum amount as possible.

You will usually be alone within the exam room. However, the technologist are going to be ready to see, hear and speak with you in the least times employing a two-way intercom. Many facilities allow a lover or parent to remain within the room if they need also been screened for safety.

Children are going to be given appropriately sized earplugs or headphones during the exam. MRI scanners are air-conditioned and well-lit. Music could also be played through the headphones to assist pass the time.

In some cases, IV injection of contrast medium could also be given before the pictures are obtained. The IV needle may cause you some discomfort and you'll experience some bruising. There is also a really small chance of skin irritation at the location of the IV tube insertion. Some patients may have a short lived metallic taste in their mouth after the contrast injection.

A radiologist, a doctor trained to supervise and interpret radiology exams, will analyze the pictures . The radiologist will send a signed report back to your medical care or referring physician, who will share the results with you.

High-quality images depend upon your ability to stay perfectly still and follow breath-holding instructions while the pictures are being recorded. If you're anxious, confused or in severe pain, you'll find it difficult to lie still during imaging.

A person who is extremely large might not fit into certain sorts of MRI machines. There are weight limits on the scanners. Implants and other metallic objects can make it difficult to get clear images. Patient movement can have the same effect. A very irregular heartbeat may affect the quality of images. This is because some techniques time the imaging supported the electrical activity of the guts .

MRI is usually not recommended for seriously injured patients. However, this decision is based on clinical judgment. This is because traction devices and life support equipment may distort the MR images. As a result, they must be kept away from the area to be imaged. Some trauma patients, however, may need MRI.

Although there's no reason to believe that MRI harms the fetus, pregnant women shouldn't have an MRI exam during their trimester unless medically necessary. MRI might not always distinguish between cancer tissue and fluid, referred to as edema. MRI typically costs more and should take longer to perform than other imaging methods. Talk to your insurance provider if you've got concerns about the value of MRI.