

Group :3 MRI & Safety Protocols



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- Magnetic resonance imaging or MRI scanning uses magnetism, radio waves, and a computer to produce images of body structures.
- MRI scanning is painless, non invasive and does not involve x-ray [radiation](#).
- Patients with heart pacemakers, metal implants, or metal chips cannot be scanned.

- 1) License – not required since it doesn't emit radiation.
- 2) General consent for procedure not required, but safety consent has to be taken from patient .

SAFETY ,SIDE EFFECTS & PATIENT MANAGEMENT



THE MAGNET IS ALWAYS ON!!!!

24 hours a day, 7 days a week, 365 days a year!!
The magnet **NEVER** shuts off!!

EMPLOYEE SAFETY

- ❖ All employees must be screened to work in a magnetic field environment just like the patients.
- ❖ No exceptions.

MRI Screening Sheet

All Patients will need
this form filled out
before an MRI can be done.

Ideally, the form should be
filled out by:

a. The Patient

If the patient cannot fill it out:

b. Family Members

If there are no family members:

c. Referring MD

 **ARAN**
Diagnostic Imaging

MRI / CT CHECK LIST & SAFETY REGULATION CONSENT FORM

Pacemaker	
Ear device / Cochlear	
Brain / aneurysm clips	
Metal in eyes	
Metal implants / Arthroplasty	
Neurostimulator	
Stents	
Magnetic dental implants	
Any other metal objects in clothes or body	

FEMALE – PREGNANT	
H/o Asthma / Allergies	
Kidney problems	
Diabetes	
Hypertension	
Thyroid problems	
Any reaction to dye injection in the past?	

SAFETY REGULATION CONSENT:

I have understood the procedure of MRI / CT scanning and do not have any of the above mentioned substances in my body. I agree to remove and store it under my own risk, any coins, cards, chains, cash, any other metal objects before entering the MRI / CT room. I understand, any relative entering the room will also have to follow the same safety regulations.

If contrast is necessary, I agree to its administration, by the intravenous or other routes as may be necessary. The possible side-effects have been explained to me.

Signature: _____ Name : _____ Date : _____

Relative's Signature: _____
(If not signed by the patient):

ஒப்புதல் படிவம்

எம்.ஆர்.ஐ மற்றும் சி.டி.ஸ்கேன் தொடர்பான கூறப்பட்டுள்ள வழிமுறைகளை நான் அறிந்து கொண்டேன். மேலும் மேலே கூறப்பட்டுள்ள உலோகக் கருவிகள் / உலோகத்தால் செய்யப்பட்ட எதுவும் என் உடம்பில் கிடையாது. காண்டிராஸ்ட் மருந்துகள் தேவைபடின, இரத்தநாளம் மூலம் அல்லது மூட்டு உள்வழியே செலுத்த தேவைப்படும் பட்சத்தில் நிர்வாகம் எடுக்கும் முடிவிற்கு ஒப்புக்கொள்கிறேன். மேலும் அதனால் ஏற்படும் பின்விளைவுகளை விளக்கிக் கூறியதை புரிந்து கொண்டேன்.

நோயாளியின் கையொப்பம்

நோயாளியின் உறவினர் கையொப்பம் (நோயாளி கையொப்பம் செய்ய இயலாத நிலையில்)

Metal Check Done by : (Reception) (Technician)

What can you take into a magnetic field?

- Only items that are MRI compatible. *Such as...*
 - Brass
 - Aluminum
 - Plastic
- **if you are not sure if an object is MRI safe...don't take it into the room. ask a technologist!!!!!!!**



Items NOT permitted in scanner:



- Purse, wallet, money clip, credit cards, cards with magnetic strips
- Electronic devices such as beepers or cell phones
- Hearing aids
- Metal jewelry, watches
- Pens, paper clips, keys, coins
- Hair barrettes, hairpins
- Any article of clothing that has a metal zipper, buttons, snaps, hooks, underwire, or metal threads

Site Access Restriction: Screening

- All patients presenting for a scan must be screened.
- A detailed history on possible implants or metallic objects must be obtained in writing and signed by appropriate medical licensed personnel.
- Do not rely on verbal history alone.

MRI – SIDE EFFECTS

- 1) To date there is no clear and convincing evidence that exposure to high magnetic forces in the MR environment increases the risk of cancer.
- 2) However the contrast dye given may cause adverse drug reaction
- 3) claustrophobia(fear of enclosed spaces) – concerned patients can be given mild sedatives, since it takes 20 – 60 mins.
- 4) Loud Noise – ear plugs/ noise cancelling head phones
- 5) Burns



Burns



- MRI will generate heat at a very fast rate
- Remove before the scan to reduce the risk of burns:
 - Medication patches
 - EKG patches
 - Pulse Ox sensors
 - All metallic clothing
 - Jewelry
- Burns can be caused by any of the above items

Pregnant Patients or Personnel:

- Pregnant patients regardless of trimester are only scanned if the results of the study will change the care of the patient.
- Pregnant MR personnel are encouraged not to stay in the room during the scanning process.

PATIENT MANAGEMENT INSIDE MR ROOM

- 1) Shifting Patients – Aluminum Trolley and wheel chair.
- 2) Oxygen – Cylinder outside room connected inside by plastic tube/ MRI compatible
- 3) ECG and Pulsoximeter – MRI compatible
- 4) Ventilated Patients – Manual ambulance.
- 5) Crash Cart – Shift Patient outside/ PVC MRI compatible
- 6) Defibrillator – Shift Patient Outside / MRI Compatible
- 7) Children – Adult Can be allowed



Remember In Memory:

MRI =

Metal **R**esults (in) **I**njury