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 <u>radiation</u>.
- •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



MAGNETIS 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:

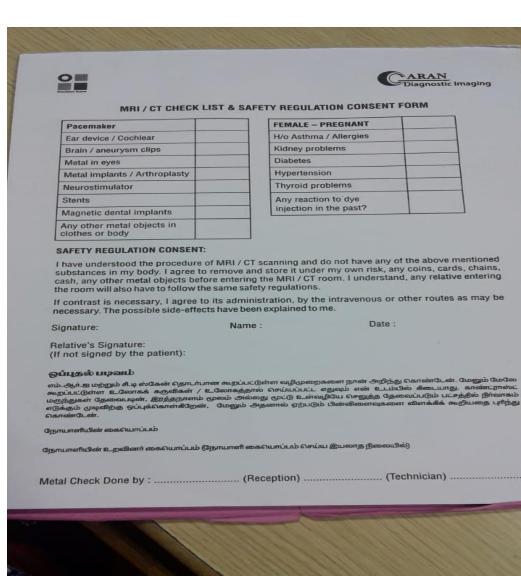
a. The Patient

If the patient cannot fill it out:

b. Family Members

If there are no family members:

c. Referring MD



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 Results (in) Injury