

# MRI SAFETY PROTOCOLS

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# EMPLOYEE SAFETY

**ALL EMPLOYEES MUST BE SCREENED  
TO WORK IN A MAGNETIC FIELD  
ENVIRONMENT JUST LIKE THE  
PATIENTS.**

**NO EXCEPTIONS.**



# MRI PERSONAL SCREENING

- PRE-EMPLOYMENT SCREENING
- REPORTING OF THE EVENTS LIKE TRAUMA, SURGERY ETC.





# HISTORY TAKING BEFORE MRI SCAN

## INTERVIEW THE PATIENT

- H/O MEDICAL DISEASE.
- H/O SURGERY , CANCER TREATMENT (RADIATION SEEDS).
- H/O TRAUMA, WAR INJURY, OCCUPATIONAL HISTORY, TATTOO
- ALLERGY OR PROBLEM DURING PREVIOUS MRI
- HISTORY OF PREGNANCY AND BREAST FEEDING, LMP
- CLAUSTROPHOBIA AND ANXIETY





# Device and Object Screening

- As part of the Zone III site restriction and equipment testing and clearing responsibilities, all sites should have ready access to a strong handheld magnet (1000-Gauss) and/or a handheld ferromagnetic detection device.





# INSTRUCTIONS FOR THE PATIENTS BEFORE MRI

# INSTRUCTIONS TO THE PATIENT

1. YOU ARE URGED TO USE THE EAR PLUGS OR HEADPHONES THAT WE SUPPLY FOR USE DURING YOUR MRI EXAMINATION
2. REMOVE ALL MAKE UP AND JEWELRY (E.G., NECKLACES, PINS, RINGS).
3. REMOVE ALL DENTURES, FALSE TEETH, PARTIAL DENTAL PLATES.
4. REMOVE HEARING AIDS.
5. REMOVE EYEGASSES.
6. REMOVE YOUR WATCH, CELL PHONE, CREDIT AND BANK CARDS AND ALL OTHER CARDS WITH A MAGNETIC STRIP.
7. USE GOWN, IF PROVIDED, OR REMOVE ALL CLOTHING WITH METAL FASTENERS, ZIPPERS, ETC.
8. SQUEEZE BULB IS GIVEN TO THE PATIENT FOR EMERGENCY PURPOSES





# Auditory damage

- Always apply hearing protection for patients





# COMPATIBLE AND NON COMPATIBLE DEVICES

# Usually MRI compatible

## **Cardiac**

- **Sternal wires**
- **Heart valves & annuloplasty rings**
- **Coronary stents**
- **Epicardial wires (cut short and taped)**
- **Other vascular stents, coils and filters**

## **Other**

- **Orthopaedic implants**
- **Contraceptive devices**
- **Dental implants**

- ONLY METALS THAT ARE MRI COMPATIBLE *SUCH AS...*



TITANIUM



ALUMINUM



BRASS

- **IF YOU ARE NOT SURE IF AN OBJECT IS MRI SAFE...DON'T TAKE IT INTO THE ROOM. ASK A TECHNOLOGIST!!!!!!!**



# Implants and metal

NOT COMPATIBLE



Cerebral aneurysm



Metallic foreign body in the eye



Shrapnel, bullets (In critical area)



Metallic Ocular Implants



Pacemakers



Pacing wires



Neurostimulators



Cochlear Implants

Electrical devices



**CAUTION**

Do not enter with following items.  
कृपया निम्नलिखित चीजों के साथ प्रवेश न करें

**सावधान**

 Painkiller दर्दनाशक	 Bone Implant हड्डी की हड्डी	 Key, Watch, Jewellery, Etc. कड़ी, घड़ी, अंगूठे इत्यादी	 Patient Trolley सुंघरा	 Mobile सैलफोन
 Gun बंदूक	 Silk Clothes सिल्क (रेशमी) कपड़े	 Fire Extinguisher आगनिरोधक	 Oxygen Cylinder ऑक्सीजन सिलिंडर	 Wheelchair सैरिडर कुर्सी
 Credit Card क्रेडिट कार्ड	 Tools इस्त्रियाए	 Match Stick सॉपिक	 Vacuum Cleaner सिक्कू क्लिअर	 Electrical Equipments इलेक्ट्रिक उपकरण

Please note: Patients and their attendants will be screened before entering the MRI room.  
कृपया ध्यान दें: रोगी और उनके साथियों को प्रवेश से पूर्व, मशीन के अंदर प्रवेश करने से पहले स्क्रीन किया जाएगा।

Few Signs Regarding safety.....



MRI SAFE



MRI Conditional



MRI Unsafe

# MAGNETOM



**MR - Magnetom**  
MR - Magnetom Feld  
Clasa de câmpuri RF  
Clasa de câmpuri RF  
Clasa de câmpuri RF

**1.5T**



**Radiofrecvență**  
High Frequency Field  
Clasa de câmpuri RF  
Clasa de câmpuri RF  
Clasa de câmpuri RF

**Interdicții:**  
Este interzisă introducerea în camera de scanare a următoarelor obiecte:  
- Obiecte feromagnetice  
- Obiecte metalice  
- Obiecte cu părți metalice

**Proceduri speciale (Drept):**  
Este posibil să apară efecte secundare, cum ar fi: căldură, senzații de furnicături, senzații de greutate, senzații de amorțeală, senzații de tărășniță.

**Proceduri speciale:**  
Este posibil să apară efecte secundare, cum ar fi: căldură, senzații de furnicături, senzații de greutate, senzații de amorțeală, senzații de tărășniță.

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# HOW DO WE HANDLE EMERGENCY SITUATIONS



## HANDLING EMERGENCY SITUATIONS

- **In the event of an emergency, you should first remove the subject from the MRI scan room**
- **Stand near the doors to the scan room to insure no unauthorized emergency personnel can enter**
- **NO CODE OR CODE LIKE PROCEDURES WILL BE RUN IN THE MRI ROOM**





# QUENCH

Quench is done in an emergency ,to run magnetic field ZERO in order to remove projectile /patient from the scanner in

An emergency

If these done Cryogenes

( Helium and Nitrogen ) BOIL OFF and DEACTIVATE the magnet



# Emergency stopper button

**EMERGENCY STOP BUTTON DOES NOT  
QUENCH THE MAGNET THIS TURN OFF MOST  
ELECTRICAL POWER IN THE SCANNER ROOM  
AND OPERATOR AREA**

Stop button



# FIRE AND SAFETY

MRI Compatible Fire Extinguisher





THANK YOU