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The MRI Neurosuite team

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Kyril Belle, Senior Biomedical Engineer

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Cameron Robertson, Senior MRI Radiographer

Kevin O'Hara, Senior Project Manager, GE Shaw

Toni Gwynn-Jones, Assistant Director of Nursing (Ag)



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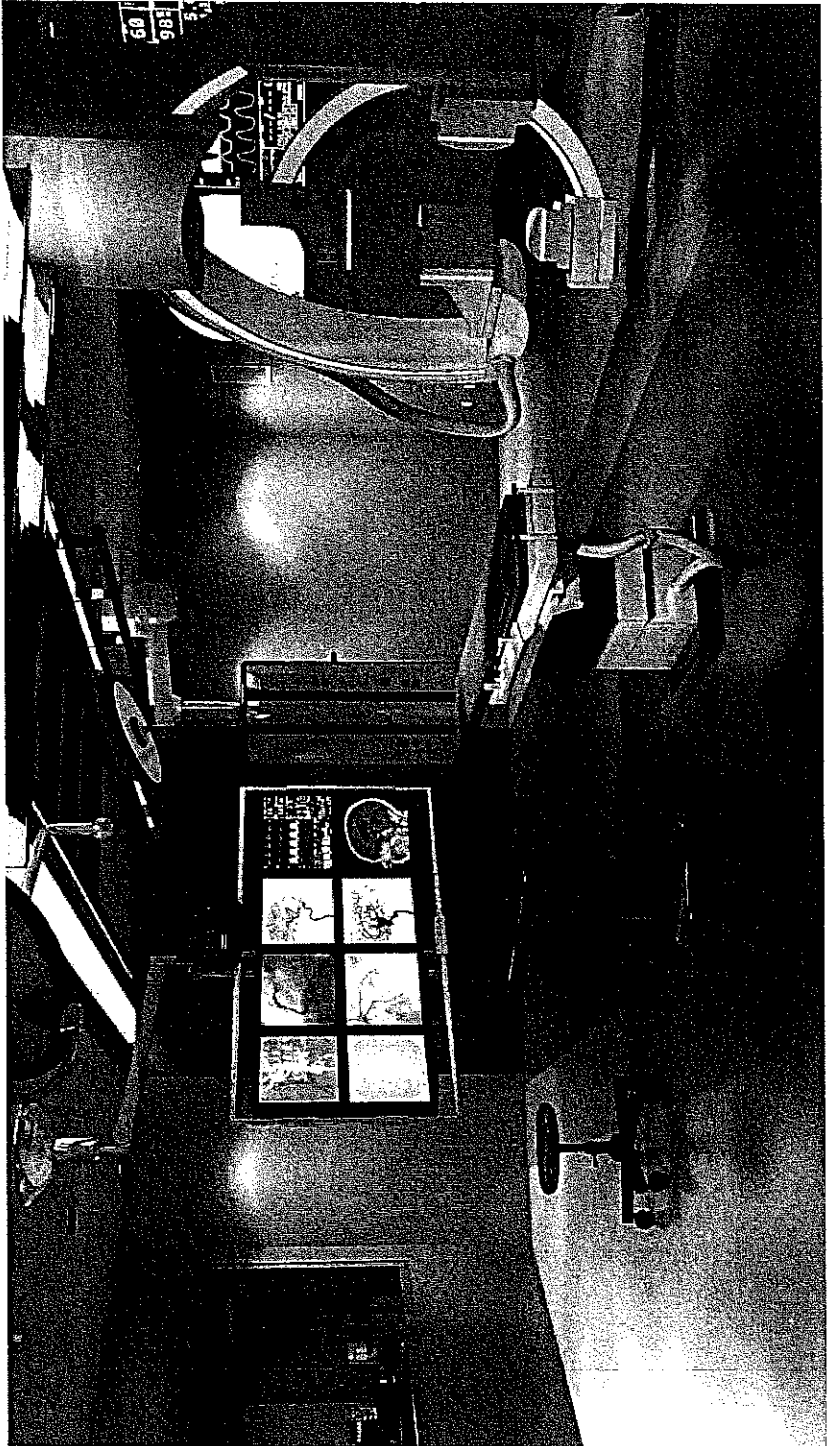
Today's meeting

- What
- How
- When
- Safety intro



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iMRI @ TCH operational Sept 2010

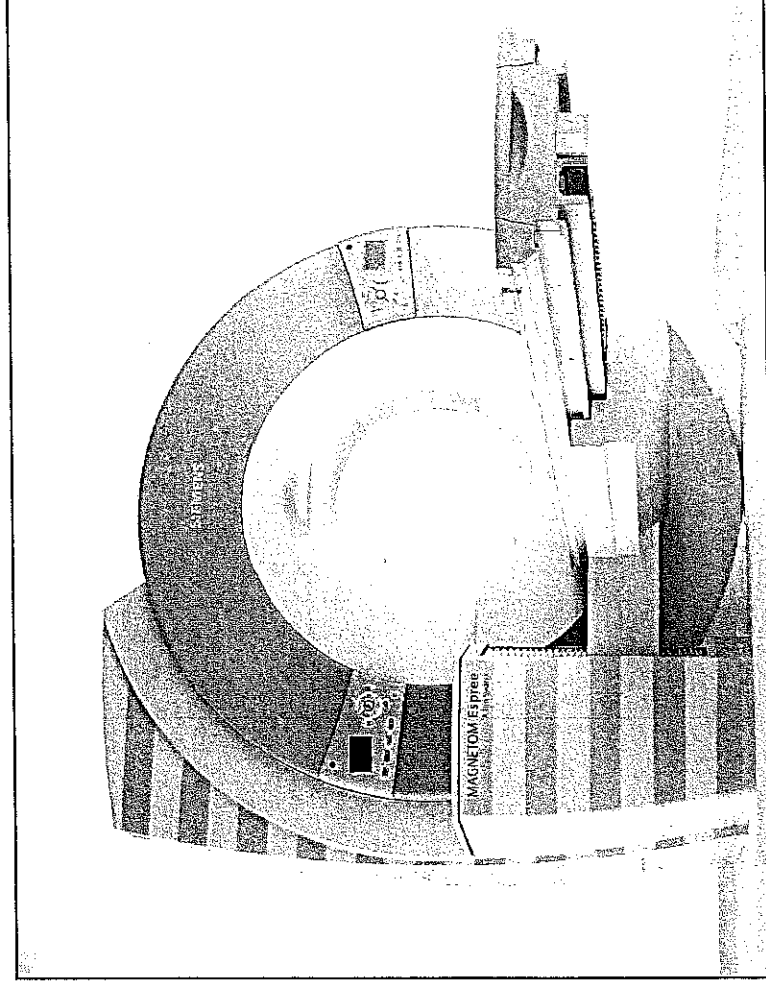




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The MRI scanner

- Very strong magnetic field (1.5 Tesla) – 25000 x the earth magnetic field
- Attracts metallic objects





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MRI Safety at all times

**The Magnetic field is ALWAYS on,
24hrs/day, 365 days/year. Even when
not in use!**



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Demonstration av det kraftfulla magnetfältet hos en klinisk 1,5 Tesla magnetkamera

Del II - Syrgasflaska

G. Starck, B. Vikhoff-Baaz, K. Lagerstrand,
E. Forsell-Aronsson och S. Ekholm



SAHLGRENKA
UNIVERSITETSSJUKHUSET

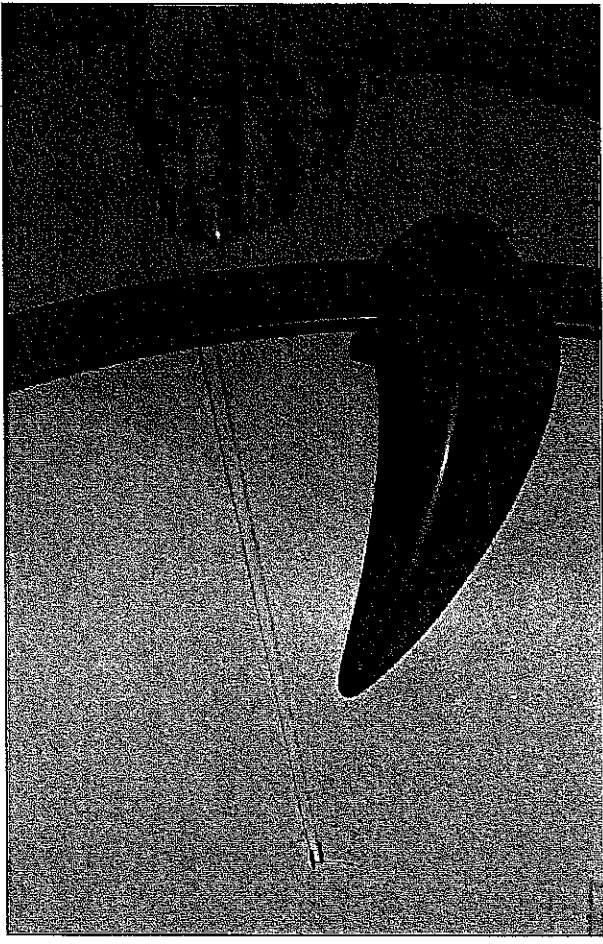
2004

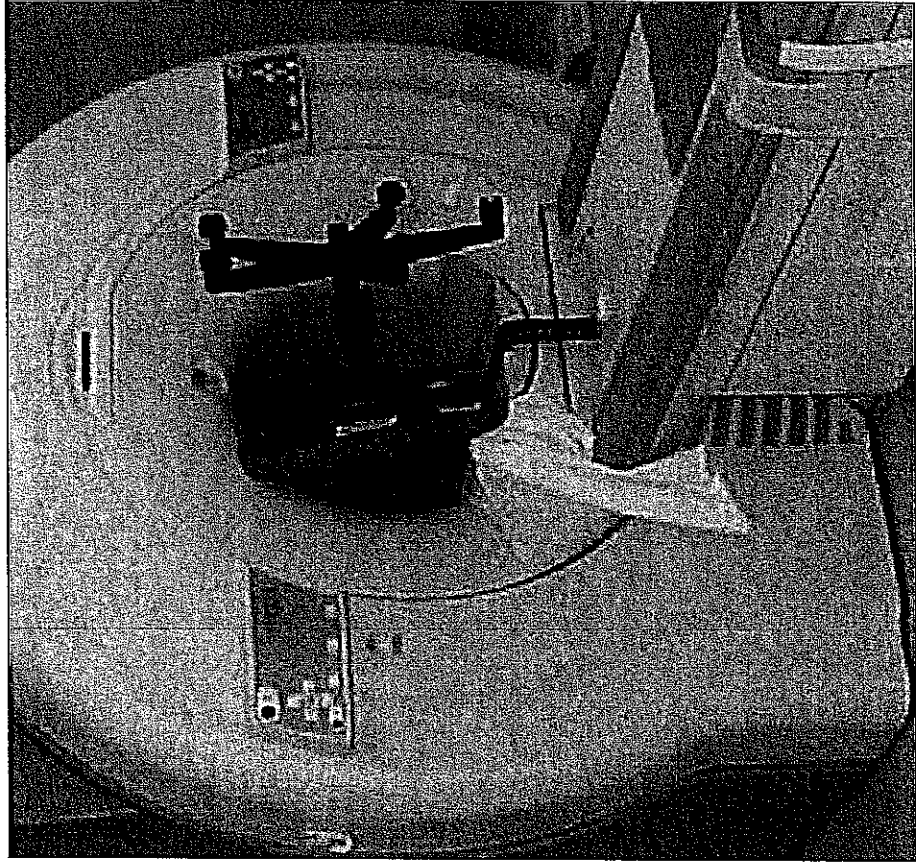
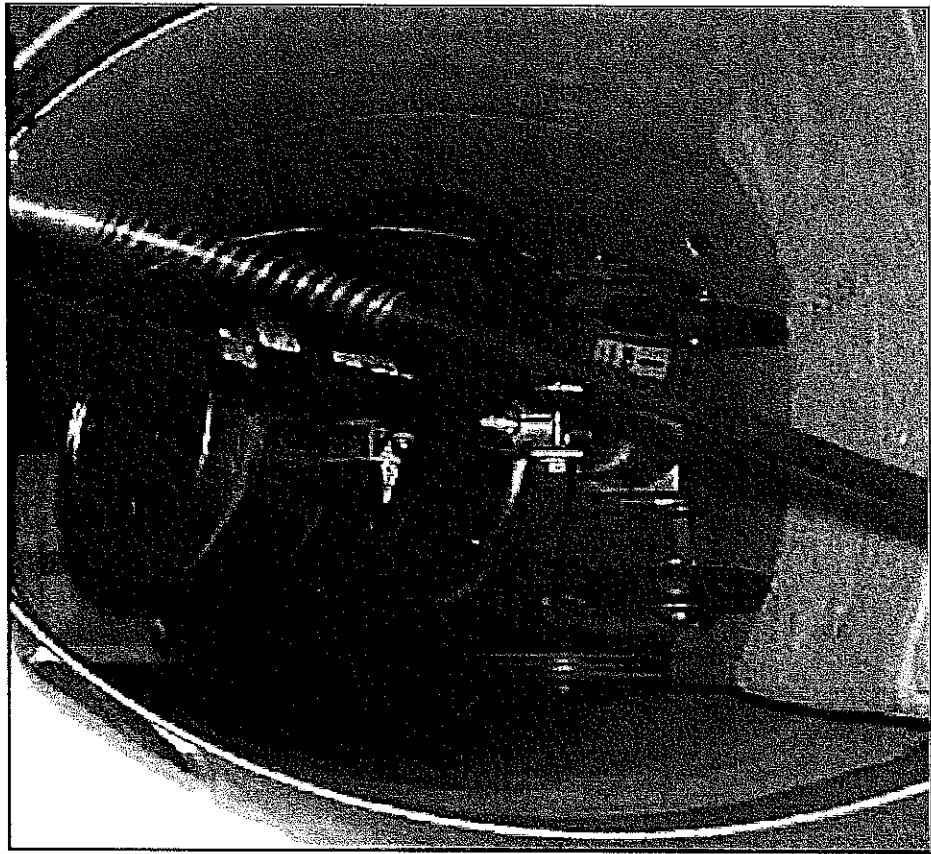


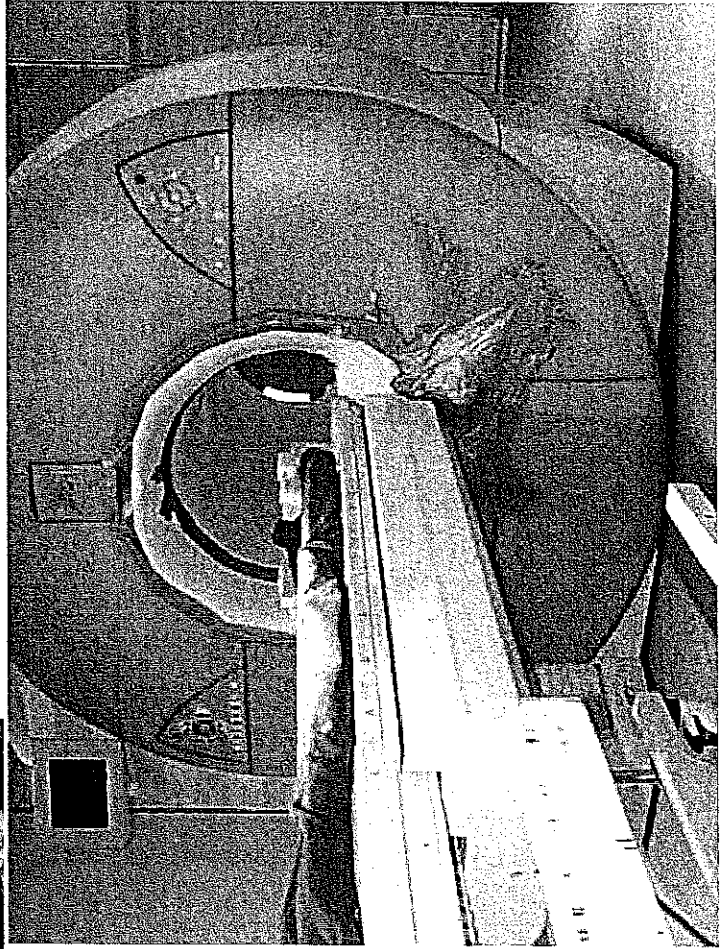
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Force gets stronger the closer you get

- An object that is “safe” at 2 meters from the scanner can become a lethal projectile at 1.9 meters from the scanner
- Force proportional to the mass of the object.







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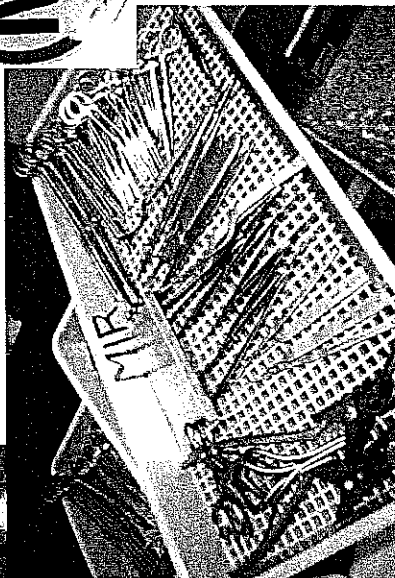
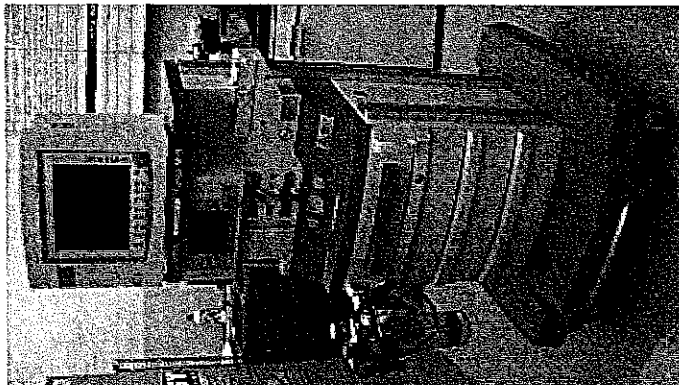
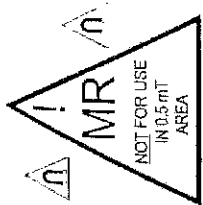
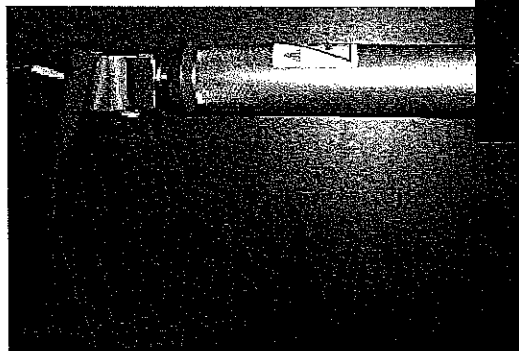
How do we do this?

- Equipment needs to be tested and labelled (Biomed and Medical Physics)
- Controlled access and strict procedures (Surgical and Medical Imaging)
- All staff will be educated in MRI Safety (Medical Physics and Medical Imaging)



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The equipment

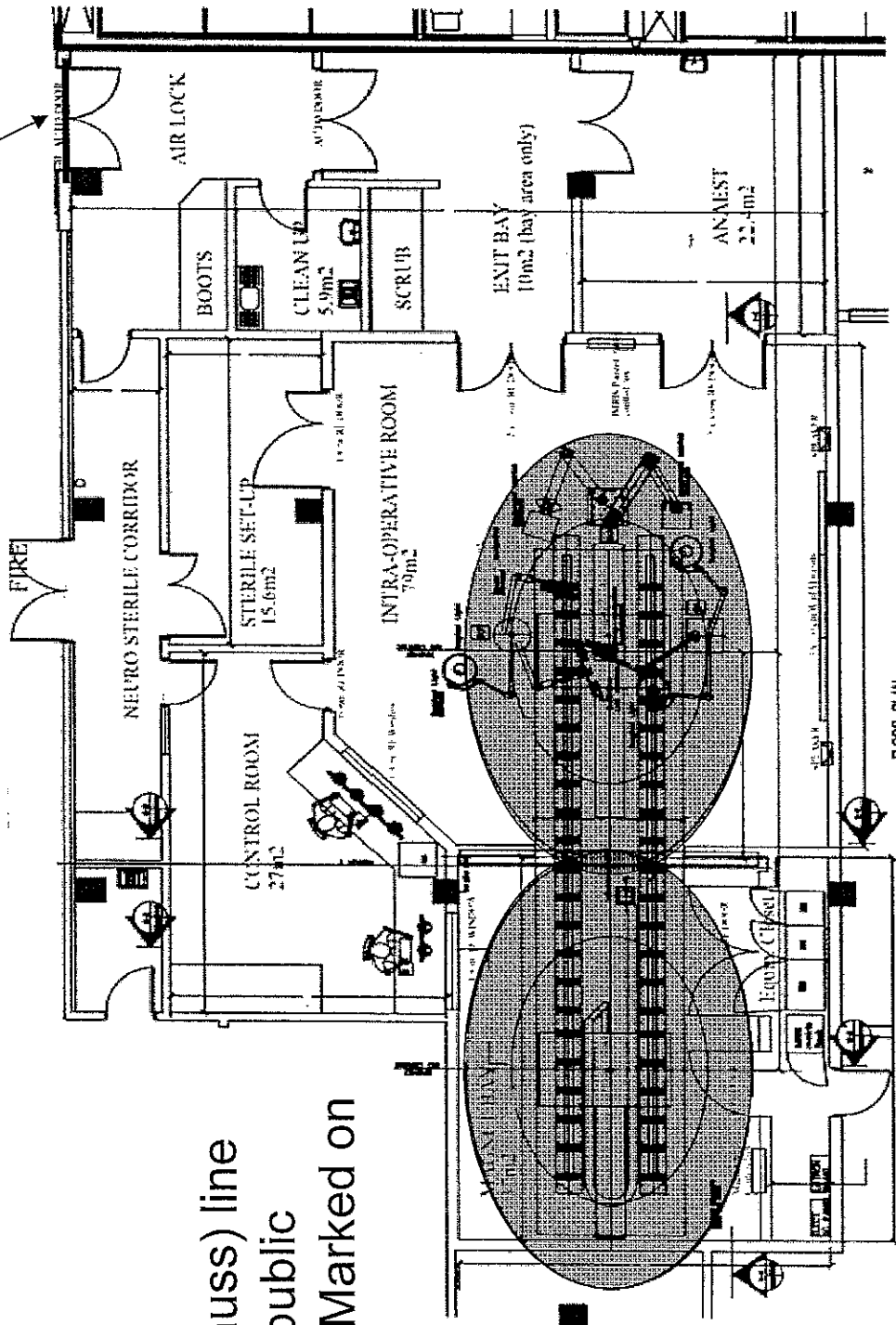




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Swipe card access

0.5 mT (5 gauss) line
important – public
access line. Marked on
the floor!



FLOOR PLAN



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Who should know about MR Safety?

All personnel that have reason to enter the MR suite area should be trained in MR safety procedures:

- Level 1: have passed minimal safety education to ensure their own safety in the MRI environment.
- Level 2: have been extensively trained in broader aspects of MRI safety issues, can ensure the safety of themselves and others.



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Your safety

- There is no evidence for irreversible or harmful bioeffects in humans below 3.0 T
- Projectiles
 - If you are not absolutely sure – DON'T BRING IT INTO THE ROOM. Items may be tested for magnetic susceptibility with a hand-held magnet located at xxx.
- Implants
 - Have you had surgery, injuries?



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Absolute Contraindications

- Cardiac Pacemakers
- Cochlear (inner ear) implants
- Swan-Ganz (Pulmonary artery) catheters
- Ferromagnetic or unidentifiable aneurysm clips in the brain
- Implanted neuro stimulators
- Metal or unidentifiable foreign bodies in the eyes
- Shrapnel near a vital organ



Your safety - things that CANNOT go in the room

- Any (loose) metal: keys, jewellery (body piercing), dentures, hearing aid, eyeglasses, watch, mobile phone, safety pins, hair pins/elastics, belts, metal parts on clothing (e.g. buttons), coins, pens etc.
- Magnetic strip cards (credit cards, medicare card etc)



Pregnant?

- It is ok to be in the MRI environment – no harm to mother or baby
- Should not be in the room while scans are being performed
- Up to you – ok to say no!



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Safety training June/July 2010

~60 min session, quiz, sign off → swipe card access



Magnetic Resonance Imaging Staff Safety Checklist



Name:.....Date:.....

Contact information (phone number or e-mail):.....

Do you have/have you ever had (please circle yes or no):

- | | | |
|---|-----|----|
| <input type="checkbox"/> Any metal implants or prosthesis (including surgical clips, screws, plates, prosthetic limbs, heart valve prosthesis, vascular stents, etc)? | Yes | No |
| <input type="checkbox"/> A cardiac pacemaker? | Yes | No |
| <input type="checkbox"/> An implanted cardio defibrillator (ICD)? | Yes | No |
| <input type="checkbox"/> An electronic implant or device? | Yes | No |
| <input type="checkbox"/> A neurostimulator or spinal cord stimulator? | Yes | No |



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iMRIS training August 2010

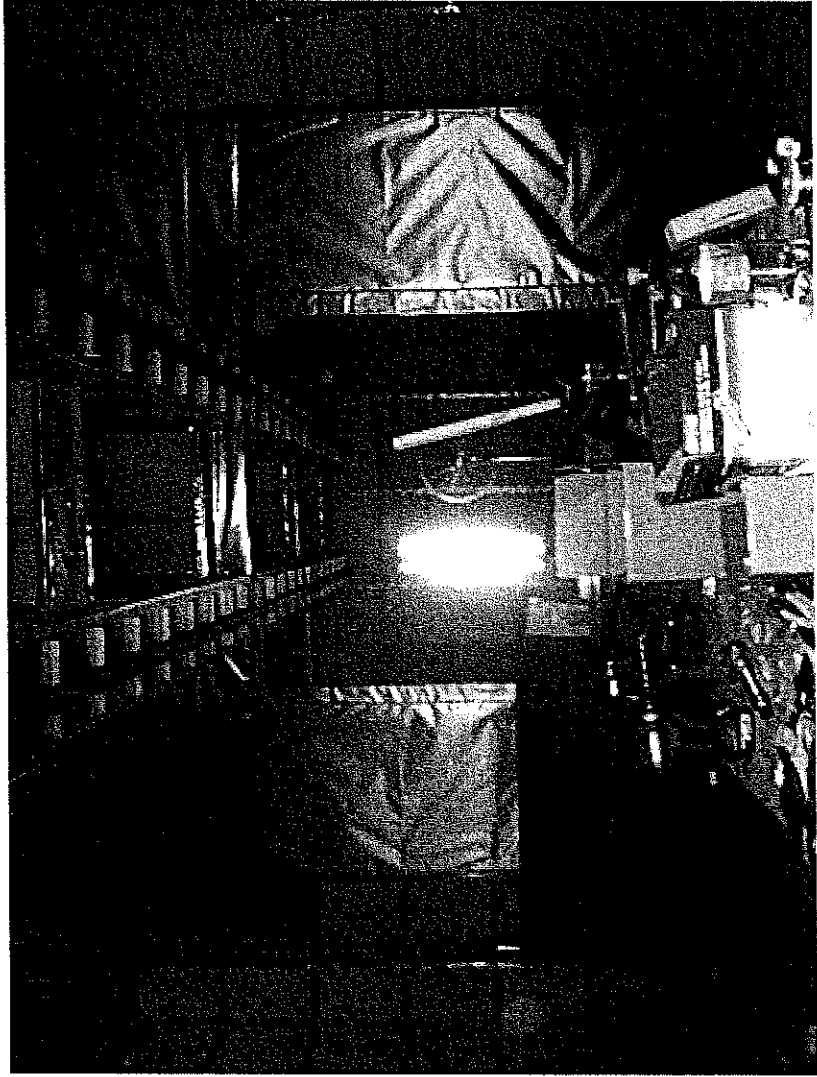
- classroom**
- hands on**
- mock cases**

First case September 2010!?



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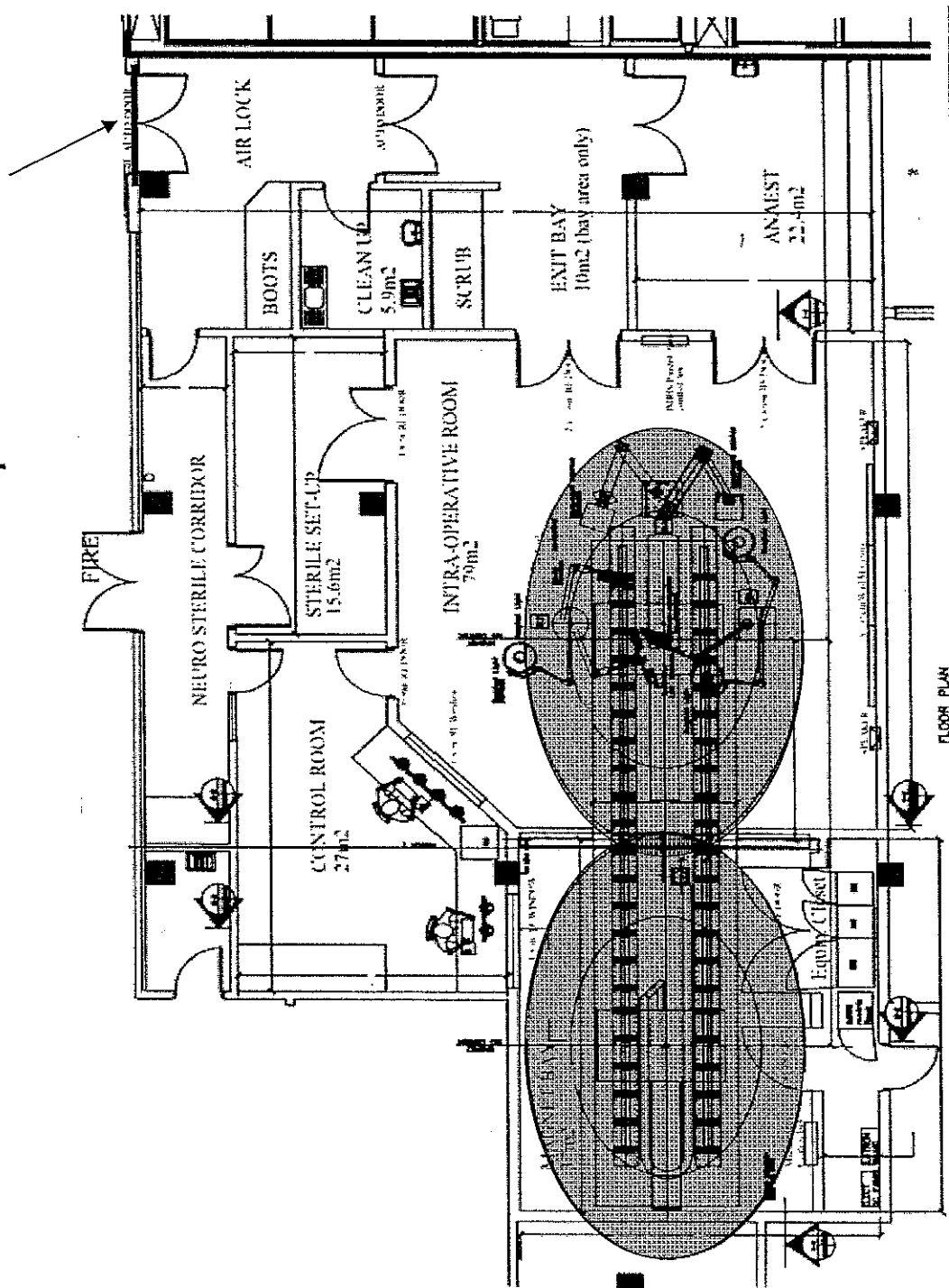
Update





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Swipe card access

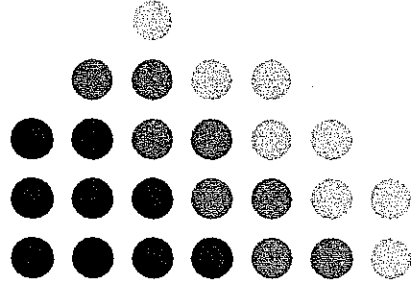


FLOOR PLAN

Questions?



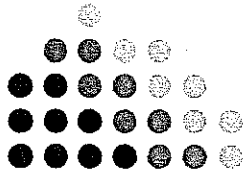
Magnetic Resonance Imaging Safety Training



Cameron Robertson
iMRI Section Manager
Medical Imaging

MRI Safety

Learning Objectives

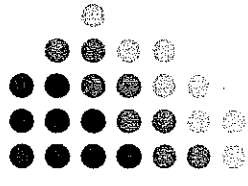


IDENTIFY

- RISKS
- SAFETY requirements

UNDERSTAND and DISCUSS

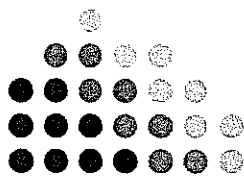
- ACCESS RULES for controlled Zones
- EMERGENCY PROCEDURES



ACT Health MRI Safety Policy

“The purpose of this policy is to ensure that staff in ACT Health who work in a Magnetic Resonance Imaging (MRI) environment, operate in a safe manner...ensuring the safety of patients, staff, researchers, study participants and students, as well as equipment.”

Who needs MR Safety Training?



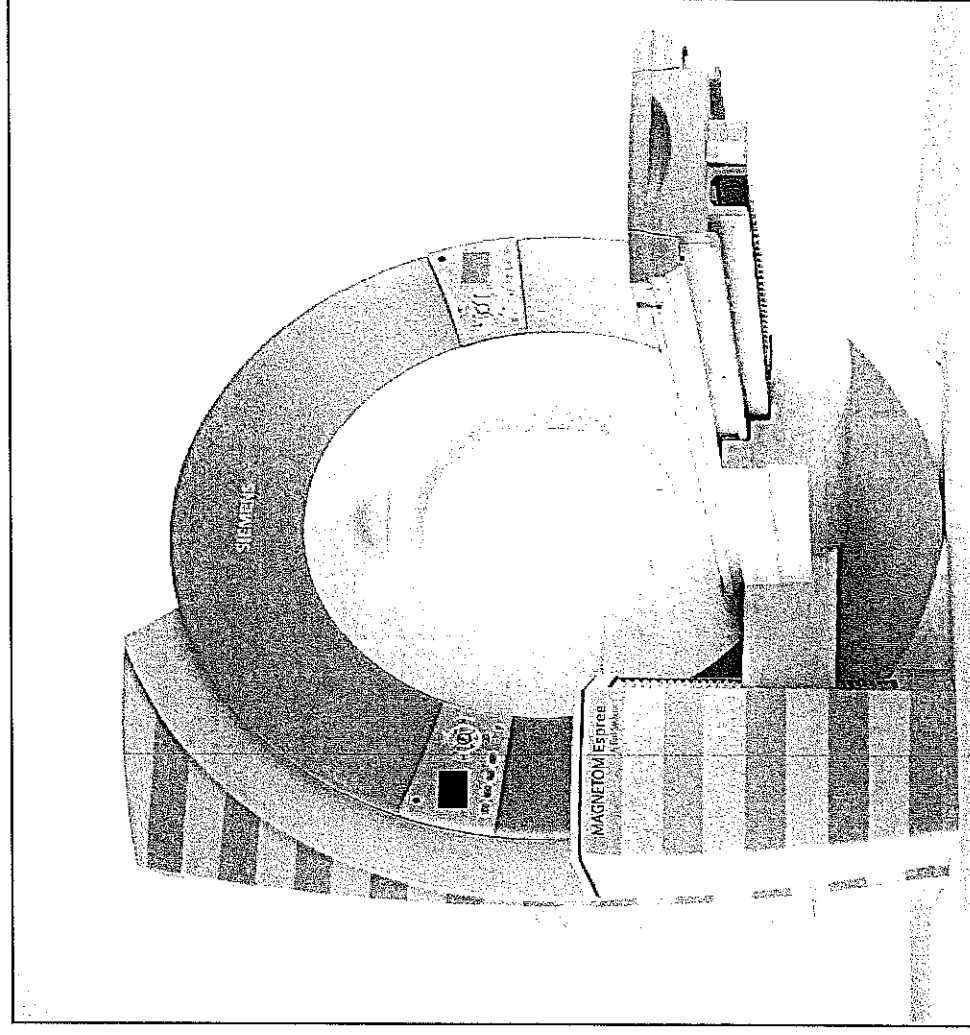
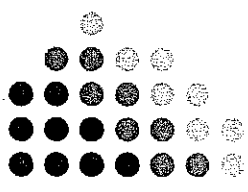
ALL STAFF that require access to the

MRI Suites at TCH

NEED TO ATTEND MANDATORY

MR Safety Training

The MR Scanner

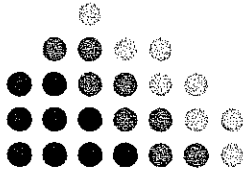


Takes images of soft tissue throughout the body

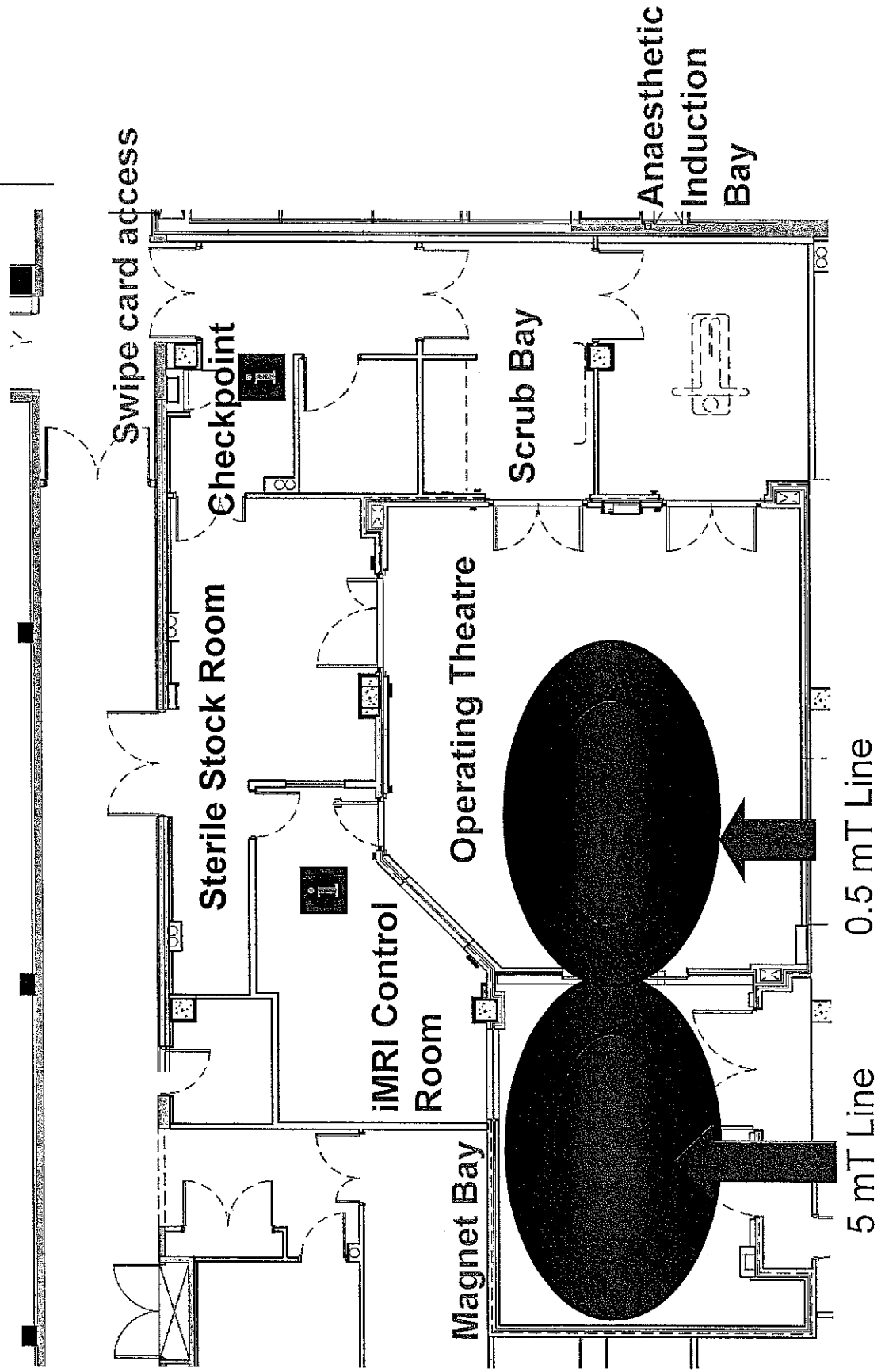
No radiation

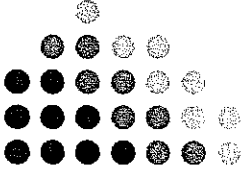
Very strong magnetic field

1.5 T ~ 30000 times stronger than the earth's magnetic field

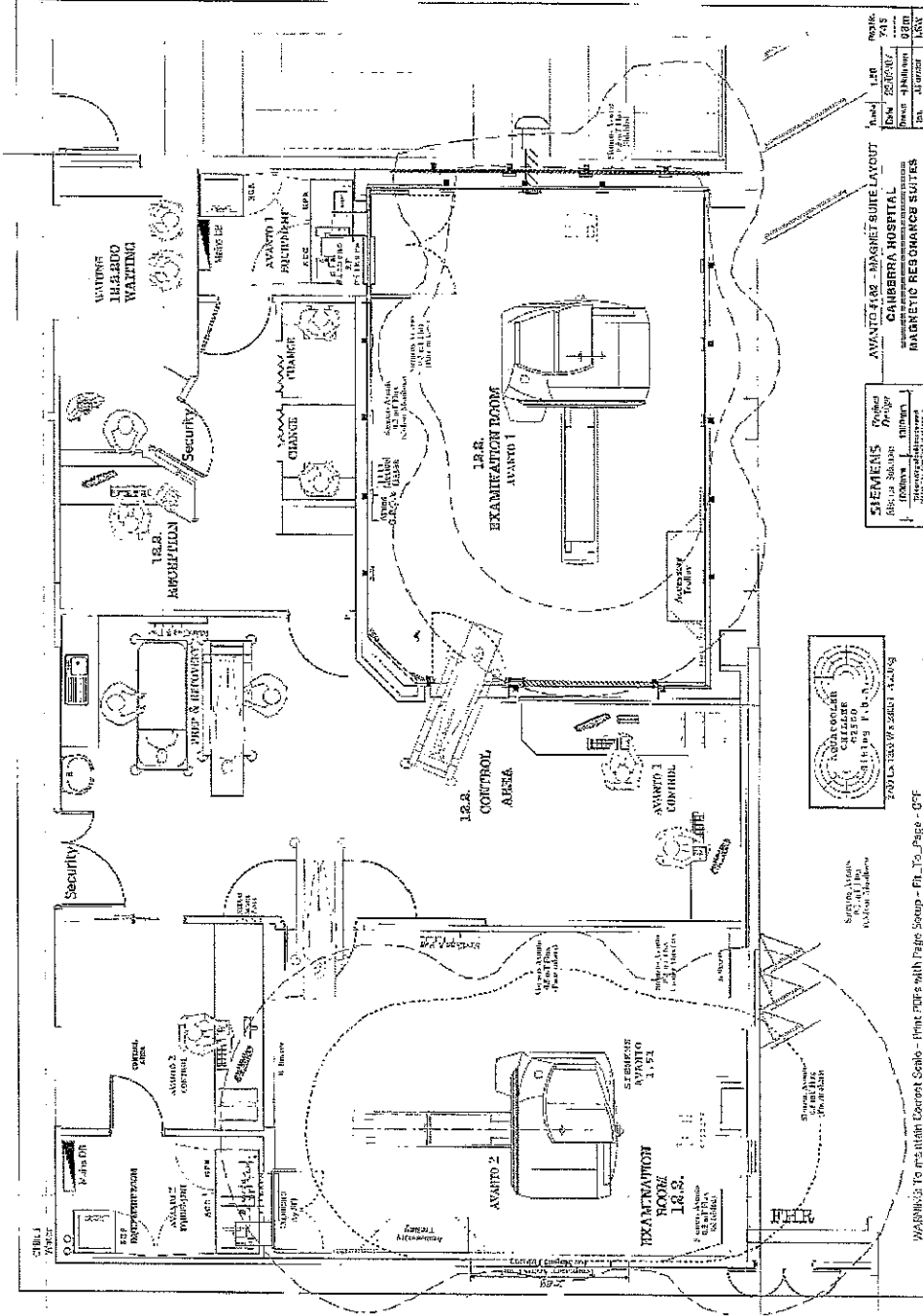


The Moveable Magnet



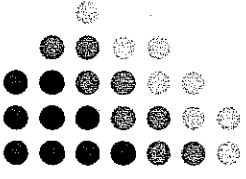
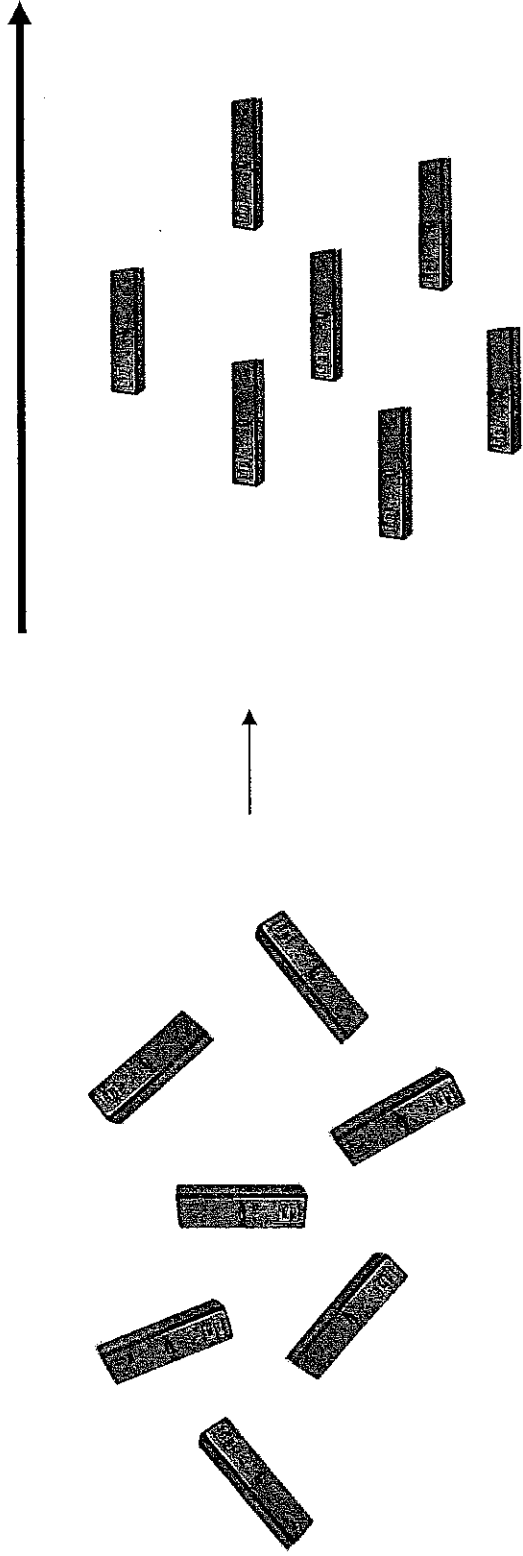


MRI Department

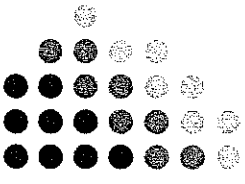


Principles of MRI

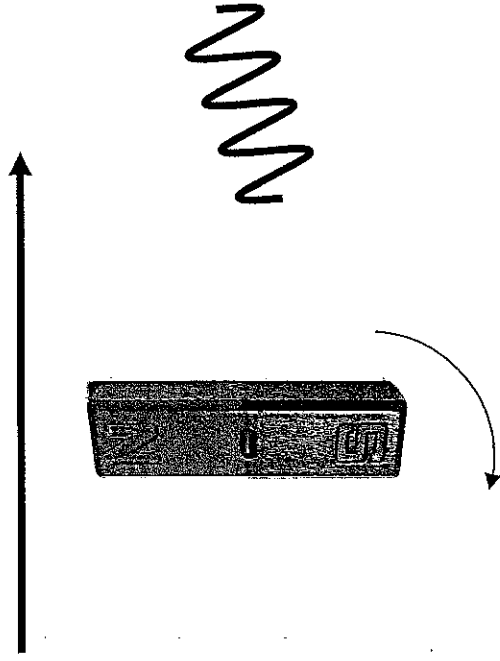
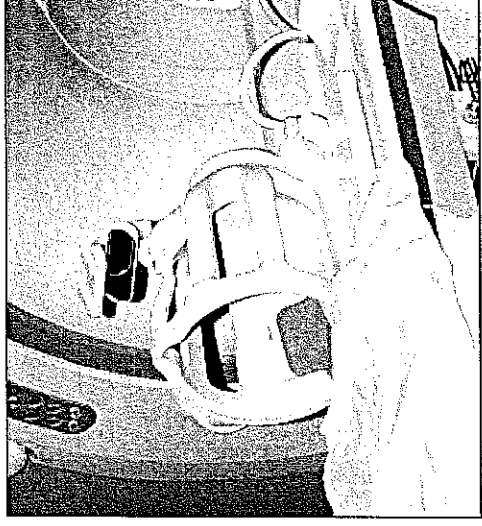
- The hydrogen nucleus has a property called *spin* which makes them magnetic. Because of this they will "line up" in a magnetic field.



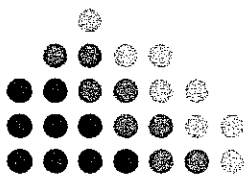
Principles of MRI



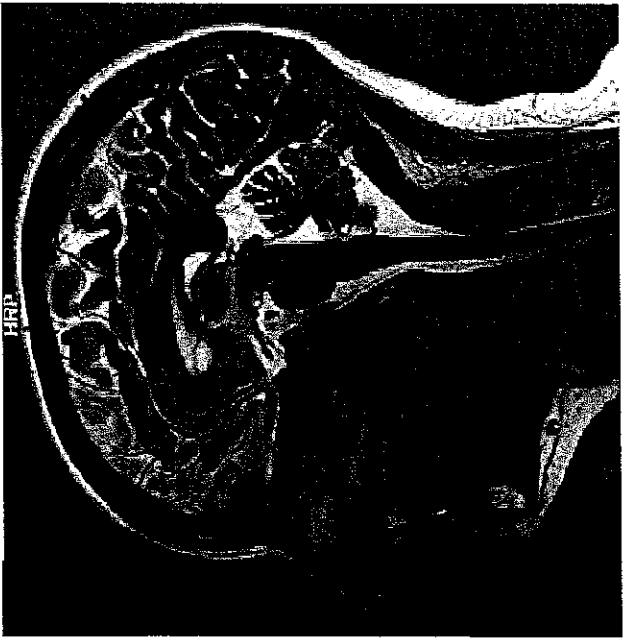
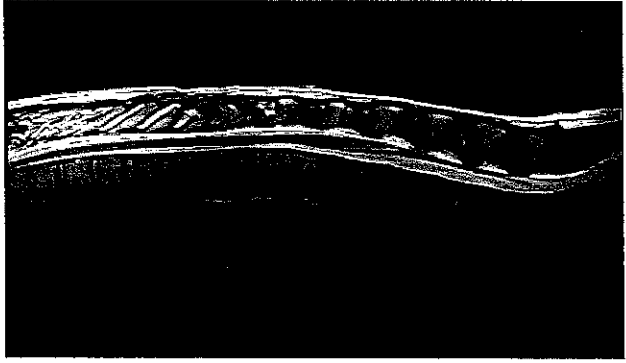
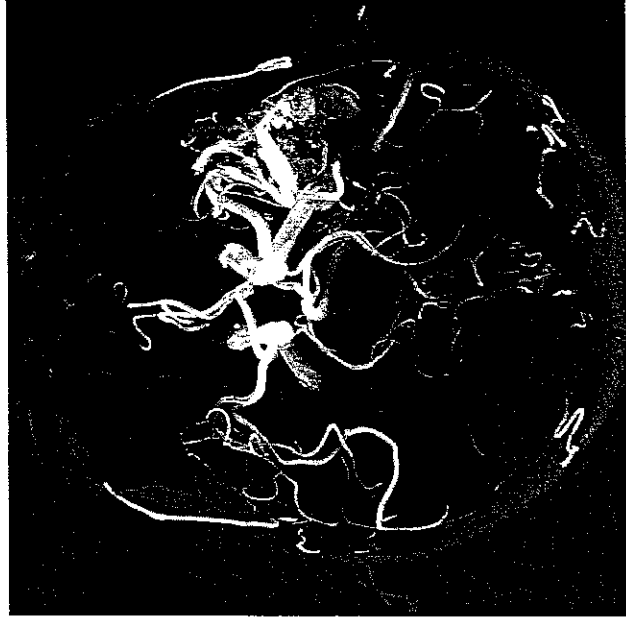
- Applying a radiofrequency field (RF-pulse) flips the hydrogen atoms to a plane perpendicular to the scanner's magnetic field where it rotates.
- A rotating magnet will generate a signal that can be detected using an antenna ('coil').

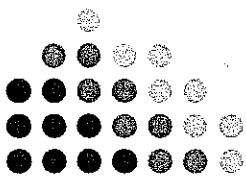


Principles of MRI



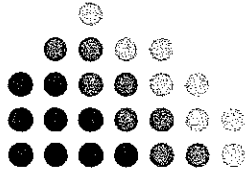
- The signal from hydrogen atoms in different environments (tissues) have different properties that can be picked up by the MRI to generate images.



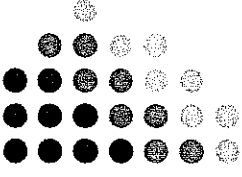


THE MAGNETIC FIELD IS ALWAYS ON

How do we ensure that Staff and patients are safe?



- 1. Staff Screening checklist**
- 2. Patient Screening form**
- 3. MR Safety Training**
- 4. COMPLIANCE**



Staff Safety Screening Checklist



Magnetic Resonance Imaging Staff Safety Checklist



Print Name: Date:
 Department: Title: Please number:

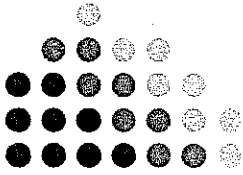
Do you have any of the following? (Please circle Yes or No):
 (ALL questions are required to be answered, please circle Yes if you are unsure so that a radiographer can discuss this further with you)

- | | | |
|---|-----|----|
| • Any metal implants or prostheses (including surgical clips, screws, plates, pins, nails, limbs, heart valve prosthesis, ventricular assist, etc)? | Yes | No |
| • A cardiac pacemaker? | Yes | No |
| • A implanted cardio defibrillator (ICD)? | Yes | No |
| • A electronic implant or device? | Yes | No |
| • A neurostimulator or spinal cord stimulator? | Yes | No |
| • A magnetically sensitive implant or device (e.g. prosthetic valve, dental implants, magnetic sphincter, magnetic stents, plugs, magnetic ocular implants, ophthalmic ferrous)? | Yes | No |
| • A cochlear or other ear implant? | Yes | No |
| • A neurostimulator? | Yes | No |
| • A implanted drug infusion device? | Yes | No |
| • A shrapnel or bullet injury? | Yes | No |
| • An injury to the eye involving a metallic object or fragment? | Yes | No |
| • Have you ever worked with metal turning, grinding, welding etc)? | Yes | No |
| • Have you had an MRI examination in the last 12 months? | Yes | No |
| • If you answered yes to any of the above, please provide details on the reverse of this form not made sure to fill out the contact information above, as we will need to contact you for more information. | | |
| • Have you read the Staff MRI Information Sheet? | Yes | No |

Staff Signature:
 Checked by (print): Signature: Date:
 Title (please circle): Radiographer / Radiologist / MRI Physician
 Magnetic Resonance Imaging
 University of Alberta Health Services
 University of Alberta
 Edmonton, Alberta T6G 2G1
 Created By: MRC and Physics Dept. TCU

Printed on: 14/07/2014
 Date: 27 July 2014

Patient Safety Screening Form



MAGNETIC RESONANCE (MR) PROCEDURE SCREENING FORM FOR PATIENTS

Date: _____ Patient Number: _____

Name: Last name _____ Middle initial _____ Age: _____ Height: _____ Weight: _____

Sex: Male Female Body Part to be Examined: _____

Date of Birth: month day year _____ Telephone (home) () - _____

Address: _____ Telephone (work) () - _____

City: _____ Zip Code: _____

State: _____

Reason for MRI and/or Symptoms: _____

Referring Physician: _____ Telephone: () - _____

1. Have you had prior surgery or an operation (e.g., arthroscopy, endoscopy, etc.) of any kind? No Yes
 If yes, please indicate the date and type of surgery:
 Date: _____ Type of surgery: _____

2. Have you had a prior diagnostic imaging study or examination (MRI, CT, Ultrasound, X-ray, etc.)? No Yes
 If yes, please list:
 MRI _____ Date: _____ Facility: _____
 CT/CAT Scan _____
 X-Ray _____
 Ultrasound _____
 Nuclear Medicine _____
 Other: _____

3. Have you experienced any problem related to a previous MRI examination or MR procedure?
 If yes, please describe: _____

4. Have you had an injury to the eye involving a metallic object or fragment (e.g., metallic slivers, shavings, foreign body, etc.)?
 If yes, please describe: _____

5. Have you ever been injured by a metallic object or foreign body (e.g., BB, bullet, shrapnel, etc.)?
 If yes, please describe: _____

6. Are you currently taking or have you recently taken any medication or drug?
 If yes, please list: _____

7. Are you allergic to any medication?
 If yes, please list: _____

8. Do you have a history of asthma, allergic reaction, respiratory disease, or reaction to a contrast medium or dye used for an MRI, CT, or X-ray examination?
 If yes, please describe: _____

9. Do you have anemia or any disease(s) that affects your blood, a history of renal (kidney) disease, or seizures?
 If yes, please describe: _____

For female patients:
 10. Date of last menstrual period: _____ Post menopausal? No Yes
 11. Are you pregnant or experiencing a late trimester period? No Yes
 12. Are you taking oral contraceptives or receiving hormonal treatment?
 13. Are you taking any type of fertility medication or having fertility treatment?
 If yes, please describe: _____
 14. Are you currently breastfeeding? No Yes

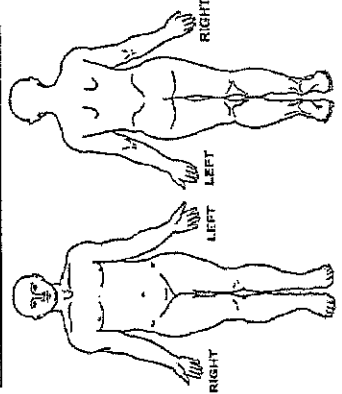


WARNING: Certain implants, devices, or objects may be hazardous to you and/or may interfere with the MR procedure (i.e., MRI, MR angiography, functional MRI, MR spectroscopy). Do not enter the MR system room or MR environment if you have any question or concern regarding an implant, device, or object. Consult the MRI Technologist or Radiologist BEFORE entering the MR system room. The MR system magnet is ALWAYS on.

Please indicate if you have any of the following:

- Yes No Anesthesia clip(s)
- Yes No Cardiac pacemaker
- Yes No Implanted cardioverter defibrillator (ICD)
- Yes No Electronic implant or device
- Yes No Magnetically-activated implant or device
- Yes No Neurostimulation system
- Yes No Spinal cord stimulator
- Yes No Internal electrodes or wires
- Yes No Bone growth/bone fusion stimulator
- Yes No Cochlear, otologic, or other ear implant
- Yes No Insulin or other infusion pump
- Yes No Implanted drug infusion device
- Yes No Any type of prosthesis (eyes, penile, etc.)
- Yes No Heart valve prosthesis
- Yes No Eyelid spring or wire
- Yes No Artificial or prosthetic limb
- Yes No Metallic stent, filter, or coil
- Yes No Shunt (spinal or intracranial)
- Yes No Vascular access port and/or catheter
- Yes No Radiation seeds or implants
- Yes No Swan-Ganz or thoracodilation catheter
- Yes No Medication patch (Nicotine, Nitroglycerine)
- Yes No Any metallic fragment or foreign body
- Yes No Wire mesh implant
- Yes No Tissue expander (e.g., breast)
- Yes No Surgical staples, clips, or metallic sutures
- Yes No Joint replacement (hip, knee, etc.)
- Yes No Bone/joint pins, screws, nail, wire, plate, etc.
- Yes No IUD, diaphragm, or pessary
- Yes No Dentures or partial plates
- Yes No Tattoos or permanent makeup
- Yes No Body piercing jewelry
- Yes No Hearing aid
- Yes No *(Remove before entering MR system room)*
- Yes No Other implant _____
- Yes No Breathing problem or motion disorder
- Yes No Claustrophobia

Please mark on the figure(s) below the location of any implant or metal inside of or on your body.



IMPORTANT INSTRUCTIONS

Before entering the MR environment or MR system room, you must remove all metallic objects including hearing aids, dentures, partial plates, keys, zipper, cell phone, eyeglasses, hair pins, barrettes, jewelry, body piercing jewelry, watch, safety pins, paperclips, money clips, credit cards, bank cards, magnetic strips cards, caps, pens, pocket knife, nail clipper, tools, clothing with metal fasteners, & clothing with metallic threads.

Please consult the MRI Technologist or Radiologist if you have any question or concern BEFORE you enter the MR system room.

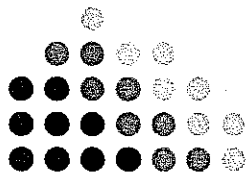
NOTE: You may be advised or required to wear earplugs or other hearing protection during the MR procedure to prevent possible problems or hazards related to acoustic noise.

I attest that the above information is correct to the best of my knowledge. I read and understood the contents of this form and had the opportunity to ask questions regarding the information on this form and regarding the MR procedure that I am about to undergo.

Signature of Person Completing Form: _____ Date: _____
 Signature: _____
 Form Completed By: Patient Relative Nurse _____ (Relating to patient)
 Form Information Reviewed By: _____
 Signature: _____
 MRI Technologist Nurse Radiologist Other: _____

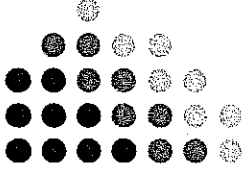
Figure 1. Example of an MR procedure screening form for patients. (Reprinted, with permission, from the Institute for Magnetic Resonance Safety, Education, and Research.)

MR Safety Training



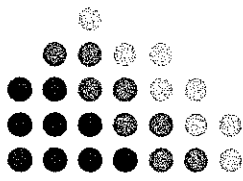
Types of Magnetic Fields :

1. Static magnetic field
2. Radiofrequency (RF) field
3. Gradient field



Risks around the magnetic field

- There is no evidence for irreversible bioeffects in humans exposed to a 1.5T static field
- Projectiles
 - If you are not absolutely sure – DON'T BRING IT INTO THE ROOM. Items may be tested for magnetic susceptibility with a hand-held magnet – ask iMRI Section Manager.
- Implants
 - Have you had surgery, injuries, worked with metal?



Static Magnetic Field

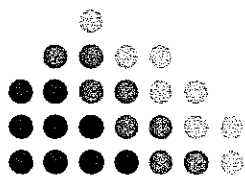
PROJECTILES - STOP

DON'T BRING AN OBJECT

INTO THE ROOM

IF YOU ARE NOT SURE

IT IS MR SAFE

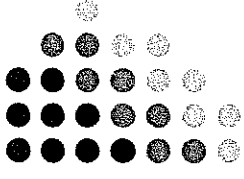


Static Magnetic Field

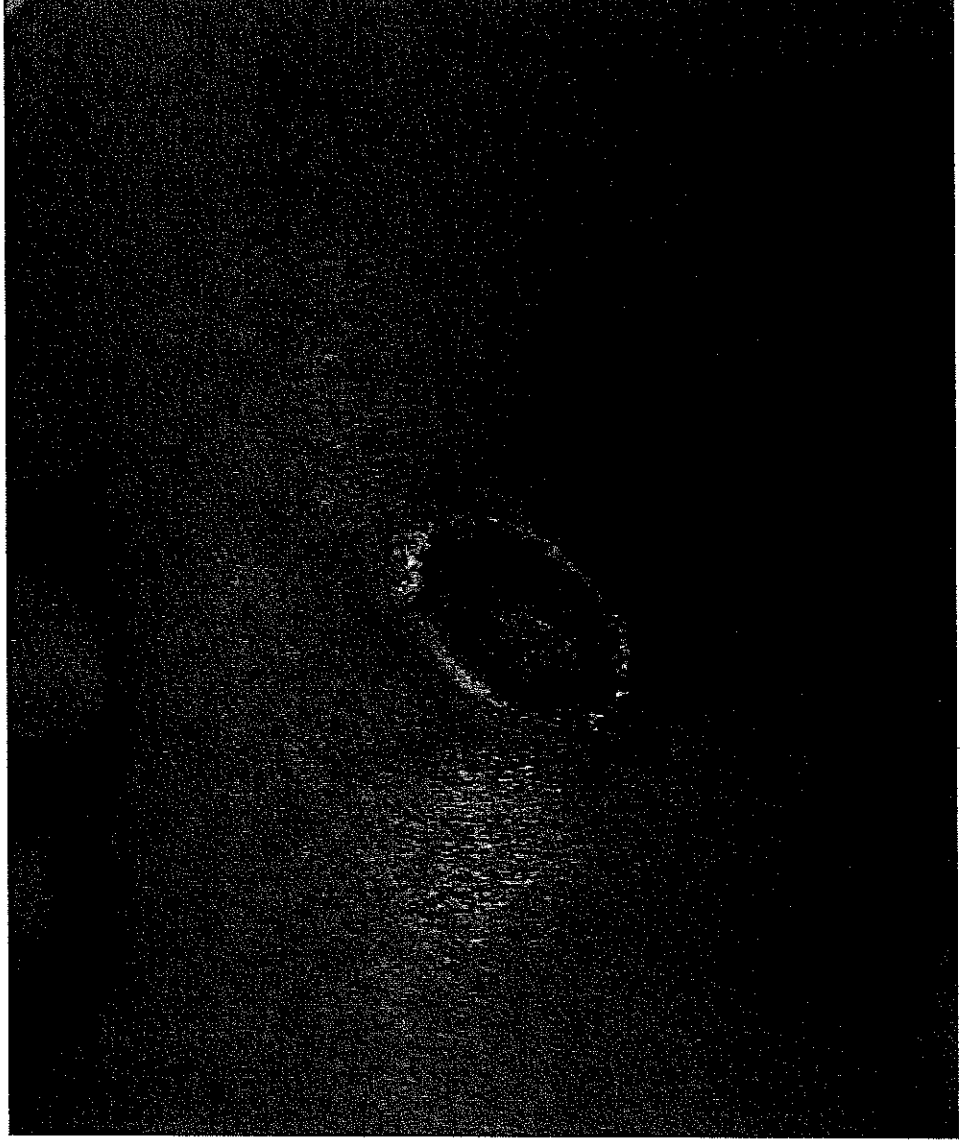
IMPLANTS

- Cardiac Pacemakers
- Cochlear implants
- Swan-Ganz catheters
- Implanted Neuro stimulators
- Aneurysm clips in the brain
- Metal foreign bodies in the eyes
- Shrapnel near a vital organ

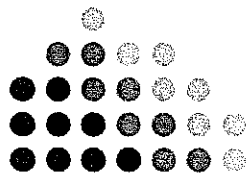
RadioFrequency Field



- The RF field causes direct heating of tissue or metals in or on the body, which can lead to increased body temperature and burns

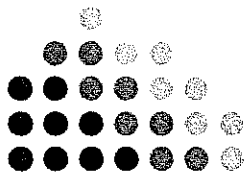


To Avoid RF Burns



- NO “looping” of limbs or leads
- **USE PADDING** if there is a point of contact with leads/cables and skin
- Cables/leads should run along the central axis of the bore

Anaesthetised patient’s can’t tell you if something is wrong!

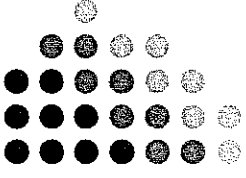


Gradient Field

Noise

- High level of noise >100 dB during scanning

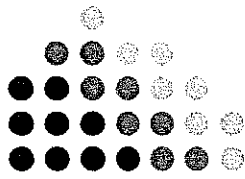
Earplugs must be used (if patient and staff are in the theatre/scan room during scanning earplugs are to be used)

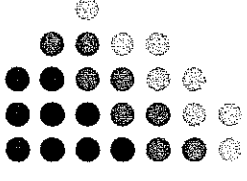


**THE MAGNETIC FIELD IS
ALWAYS
ON**

Pregnant Patients or Staff

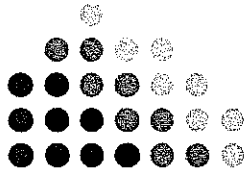
It is OK to be in the MR Environment



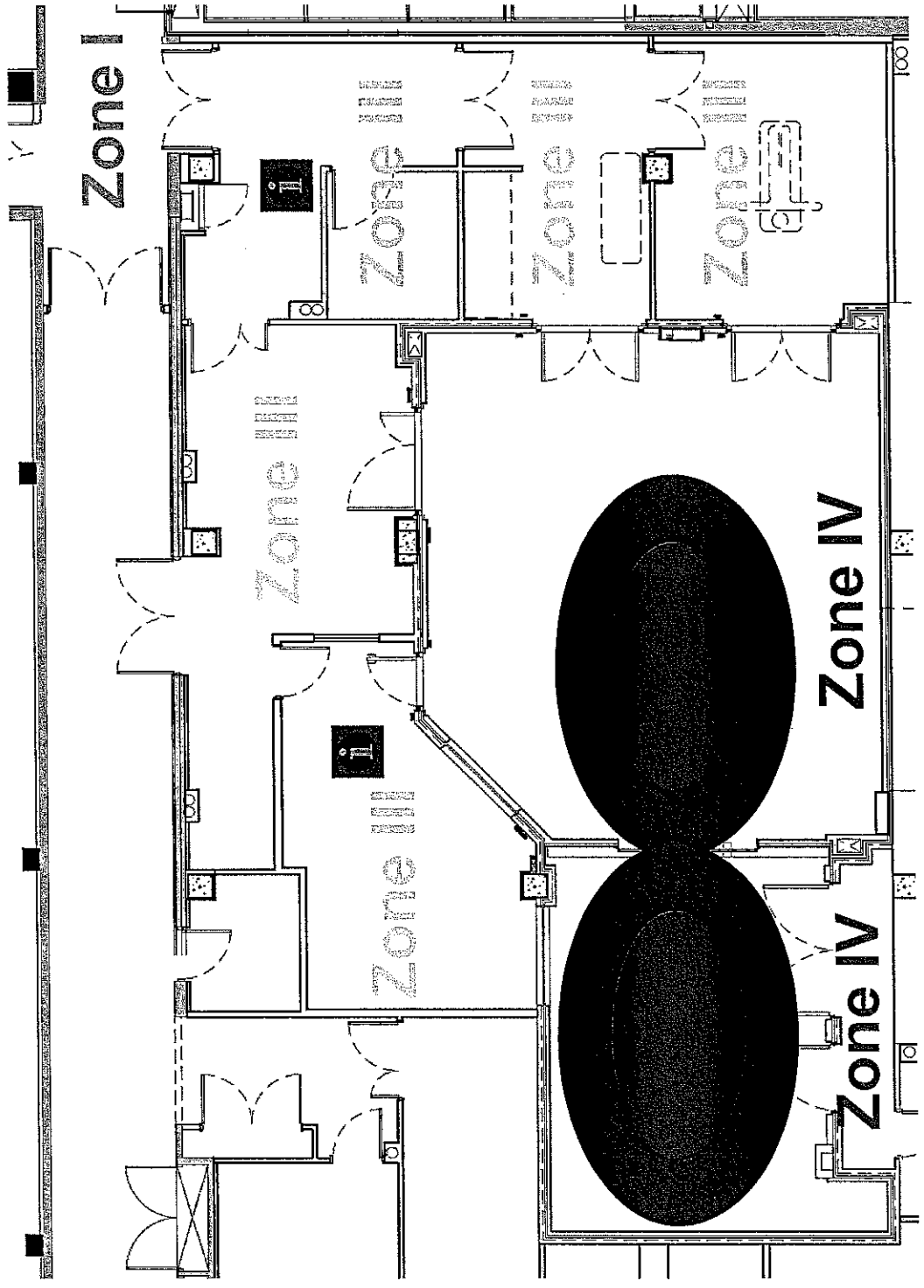


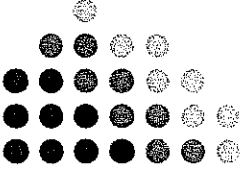
COMPLIANCE

- **All staff will be trained in MR Safety**
- **Controlled access**
- **Follow MRI Suite procedures**
- **Awareness of MR Safety Signage and Equipment labels**

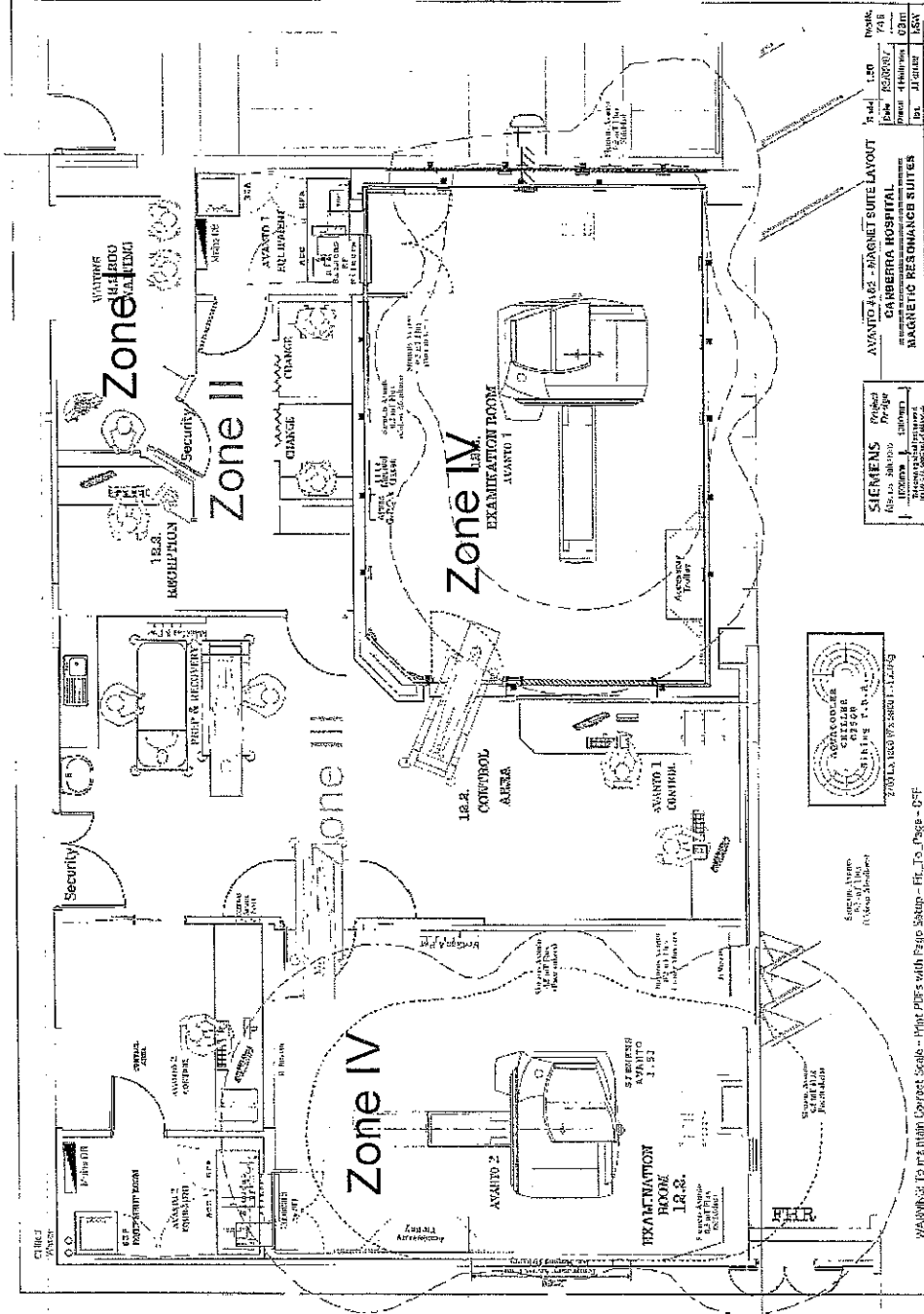


Zoning: Scanner in OR

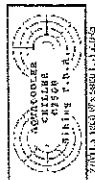




MRI Department Zoning

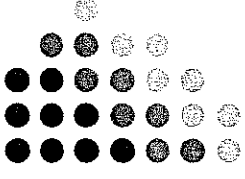


SIEMENS	Project	Page	Scale
AVANTO 4 62 - MAGNET SUITE LAYOUT	738	1	1/8" = 1'-0"
CARRERA HOSPITAL	738	1	1/8" = 1'-0"
MAGNETIC RESONANCE SUITES	738	1	1/8" = 1'-0"

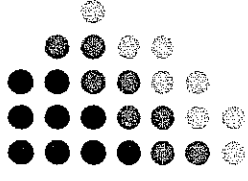
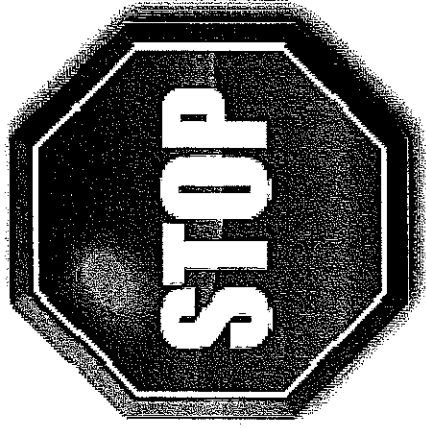


WARNING: To maintain correct scale - Print PDF's with Page Setup - Fit To Page - 65%

Neuro Suite Access SOP



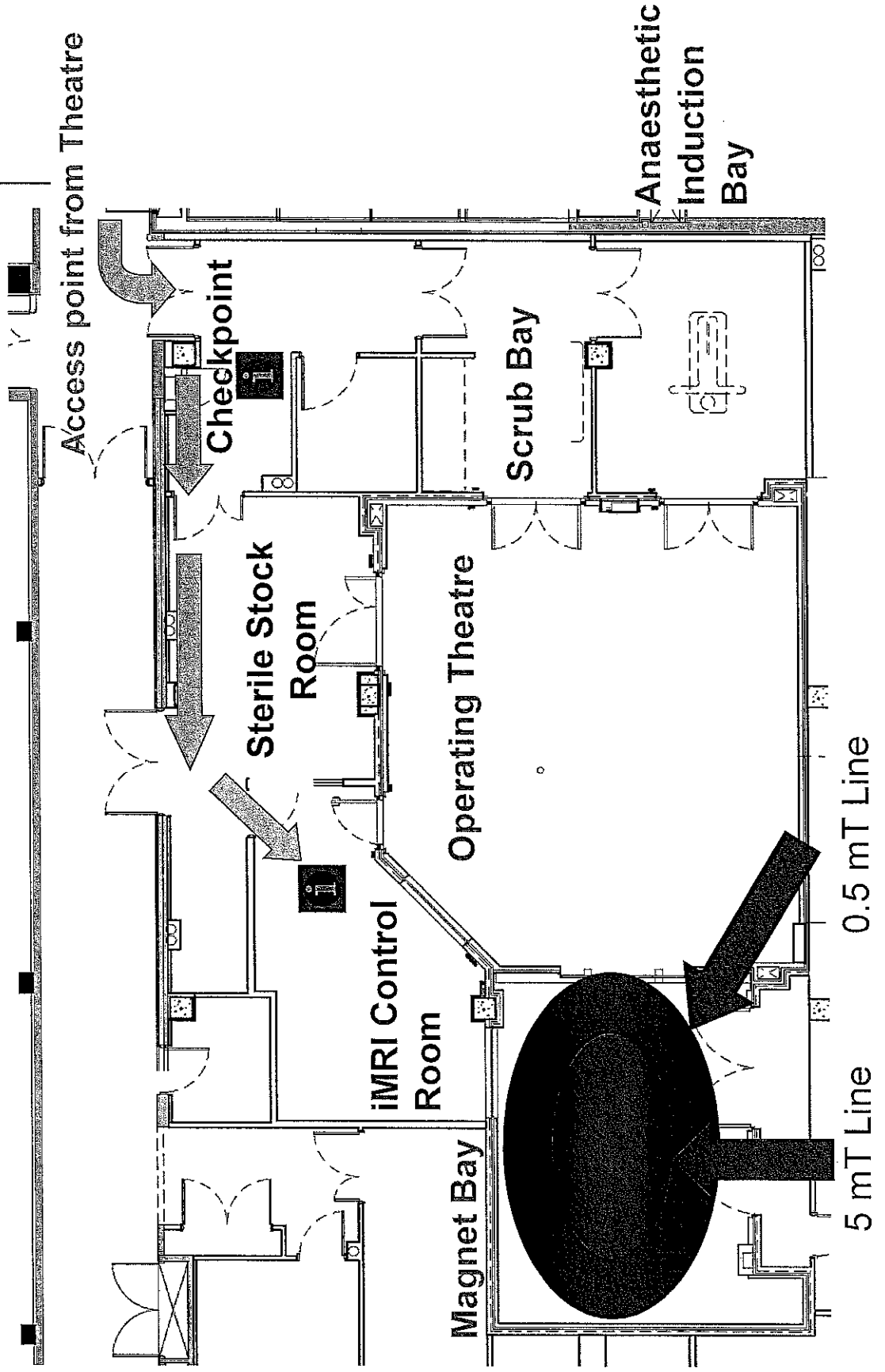
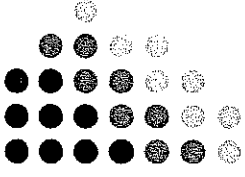
- **Must follow protocol**
- **Follow sign on wall at checkpoint**
- **Sign in with iMRI Section Manager at Checkpoint**

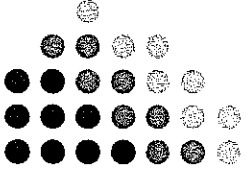


iMRI CHECKPOINT

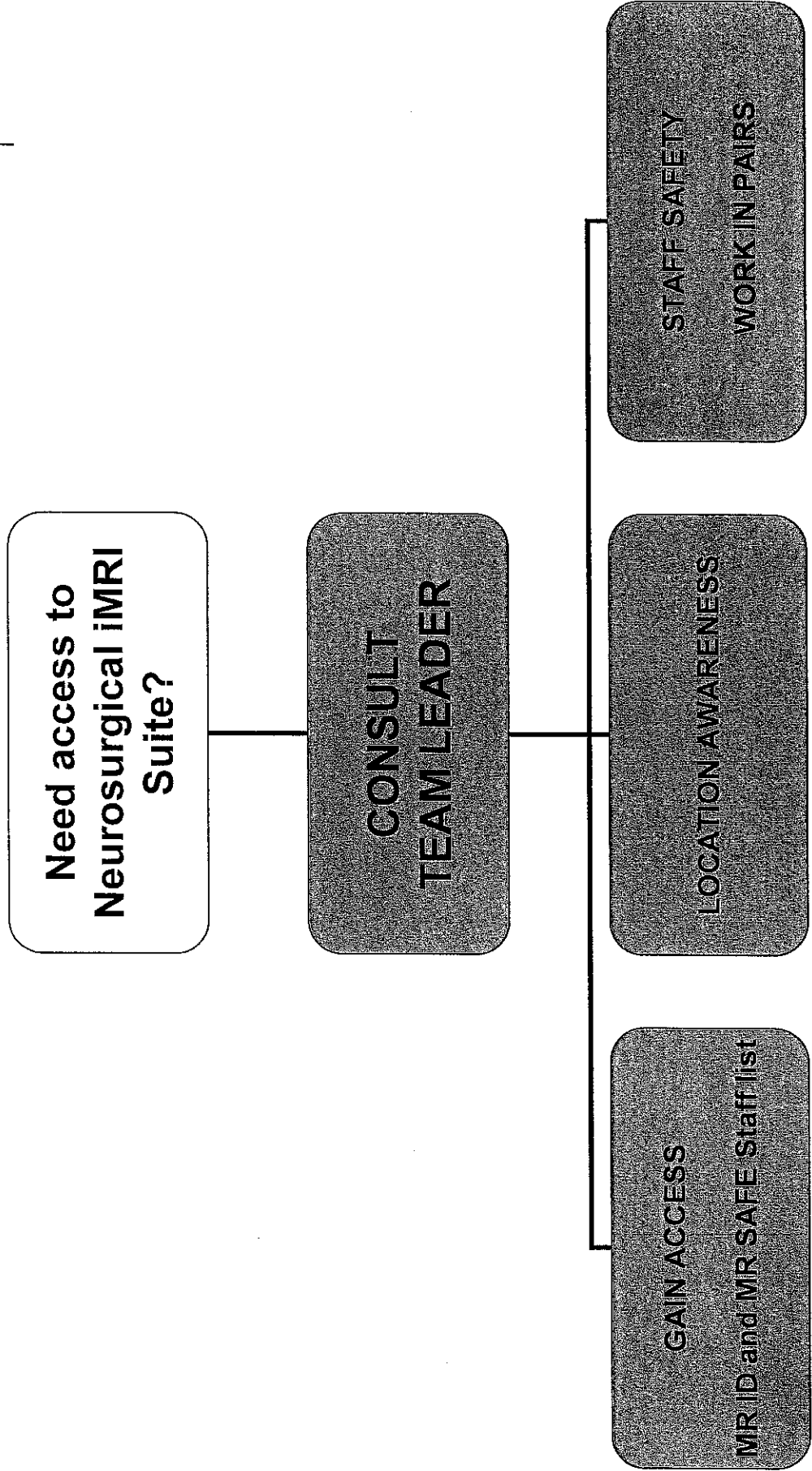
1. Place and secure all personal items in lockers provided
2. Pat yourself down
3. Ensure your wear theatre attire
4. Proceed directly to iMRI Section Manager
 - a. SIGN IN to Neurosurgical iMRI Suite
 - b. Hand over locker key

Access to iMRI







After hours Access SOP



Signage

10


MAGNETOM
MAGNETIC FIELD
RESTRICTED ACCESS

AVVERTENZE
Il presente segnale indica la presenza di un campo magnetico intenso.
È vietato l'uso di telefoni cellulari, di apparecchiature elettroniche e di altri dispositivi che possono essere danneggiati o interferire con il funzionamento dell'impianto.
È vietato l'accesso a persone con impianti metallici nel corpo e a persone con pacemaker o altri dispositivi medici.
È vietato l'accesso a persone con protesi metalliche, a meno che non siano state autorizzate dal medico curante.
È vietato l'accesso a persone con oggetti metallici in tasca o in possesso.
È vietato l'accesso a persone con animali domestici.
È vietato l'accesso a persone con oggetti ferrosi o magnetici.
È vietato l'accesso a persone con oggetti che possono essere attratti dal campo magnetico.

AVVERTENZE
Este sinal indica a presença de um campo magnético intenso.
É proibido o uso de telefones celulares, de equipamentos eletrônicos e de outros dispositivos que possam ser danificados ou interferir com o funcionamento do equipamento.
É proibido o acesso a pessoas com implantes metálicos no corpo e a pessoas com pacemakers ou outros dispositivos médicos.
É proibido o acesso a pessoas com próteses metálicas, a menos que tenham sido autorizadas pelo médico responsável.
É proibido o acesso a pessoas com objetos metálicos no bolso ou em posse.
É proibido o acesso a pessoas com animais domésticos.
É proibido o acesso a pessoas com objetos ferrosos ou magnéticos.
É proibido o acesso a pessoas com objetos que possam ser atraídos pelo campo magnético.

AVVERTENZE
Questo segnale indica la presenza di un campo magnetico intenso.
È vietato l'uso di telefoni cellulari, di apparecchiature elettroniche e di altri dispositivi che possono essere danneggiati o interferire con il funzionamento dell'impianto.
È vietato l'accesso a persone con impianti metallici nel corpo e a persone con pacemaker o altri dispositivi medici.
È vietato l'accesso a persone con protesi metalliche, a meno che non siano state autorizzate dal medico curante.
È vietato l'accesso a persone con oggetti metallici in tasca o in possesso.
È vietato l'accesso a persone con animali domestici.
È vietato l'accesso a persone con oggetti ferrosi o magnetici.
È vietato l'accesso a persone con oggetti che possono essere attratti dal campo magnetico.

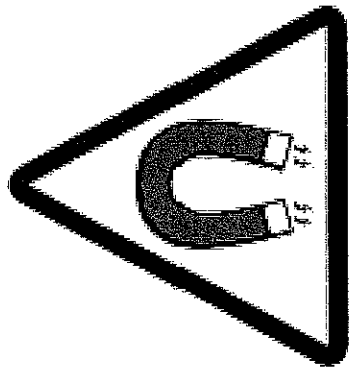


WARNING! Einfließen mit flüssigem Stickstoff und Helium
WARNING! Filling-up work with liquid nitrogen and helium
AVERTISSEMENT Travaux de remplissage d'azote liquide et d'hélium
Advertencia! Trabajos de llenado con nitrógeno y helio líquidos
Avvertenza! Lavoro di riempimento con azoto ed elio liquidi


Unerlaubtes Betreten verboten
Unauthorized approach/entry forbidden
Défense d'entrer sans autorisation
Pohibada la entrada sin permiso
Divieto di accesso senza autorizzazione




! DANGER
RESTRICTED ACCESS



STRONG MAGNETIC FIELD
The Magnet Is Always On!

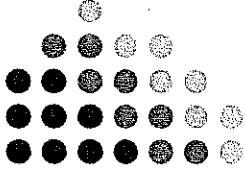


NO CARRYING INSTRUMENTS OR IMPLANTABLE CARDIOVERTER DEFIBRILLATORS (ICD)
Persons with certain metallic, electronic, magnetic, or mechanical implants, devices, or objects may not enter this area. Serious injury may result.
Do not enter this area if you have any questions regarding an implant, device, or object. Consult the MRI technologist or technologist.



NO LOOSE METAL OBJECTS
Objects made from ferrous materials may not be taken into this area. Serious injury or property damage may result. Electric objects such as hearing aids, cell phones, and beepers may also be damaged.

MR Labelling



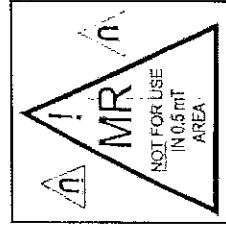
MR Unsafe:

Can not be used within the Tesla Lines



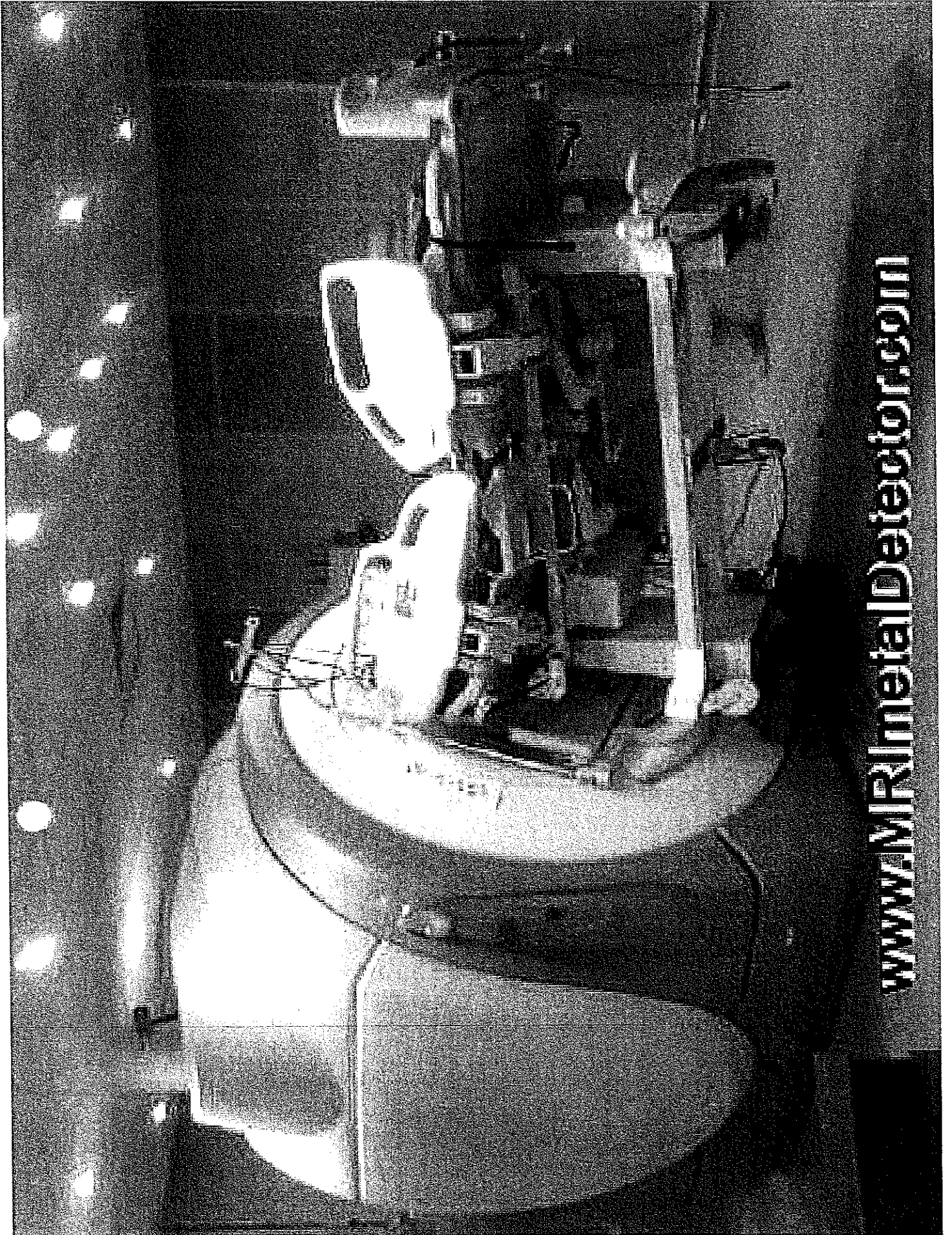
MR Safe:

Can be safely used within Tesla Lines



MRI Conditional:

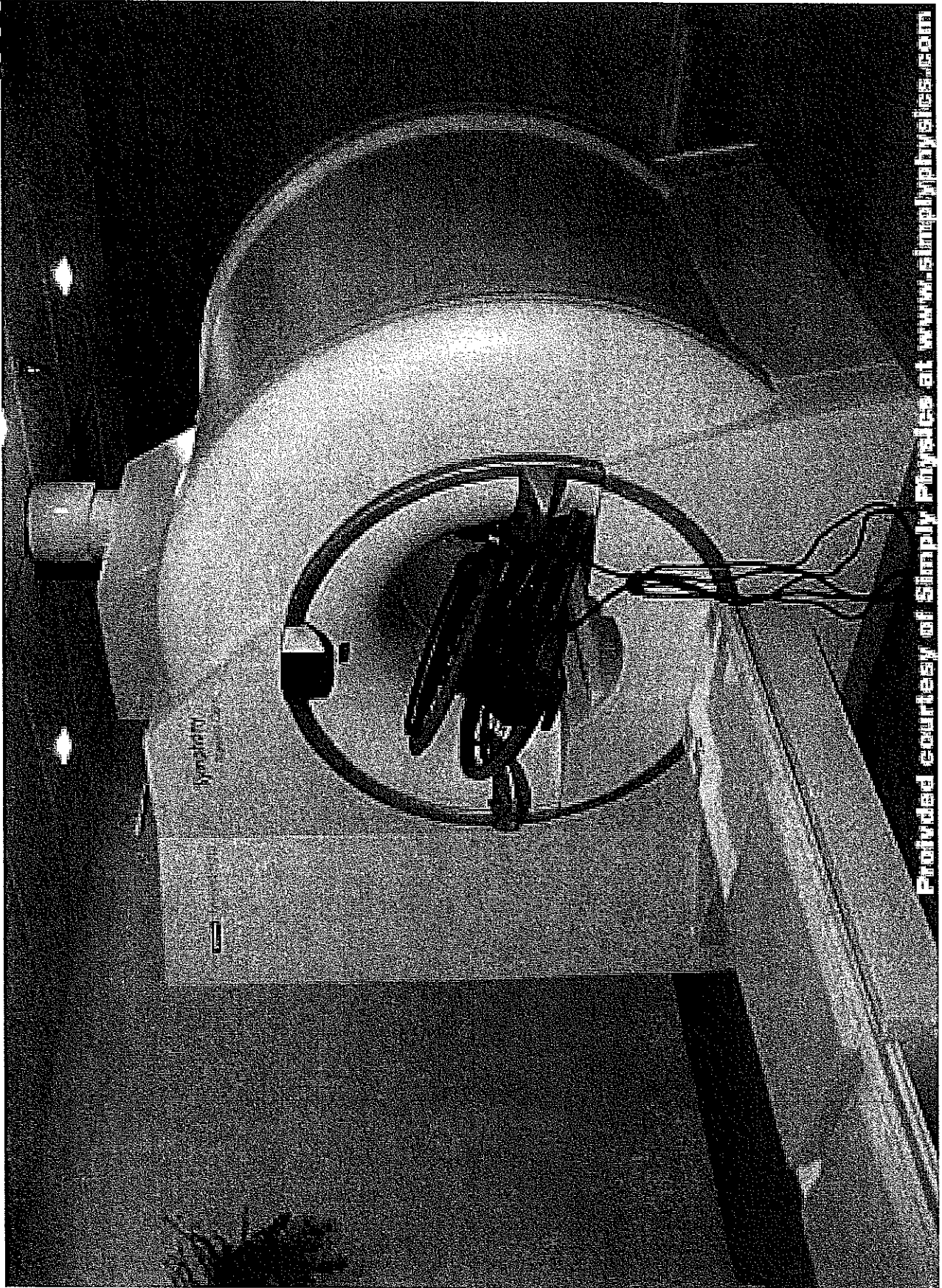
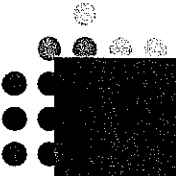
Can enter the MR environment under specific conditions



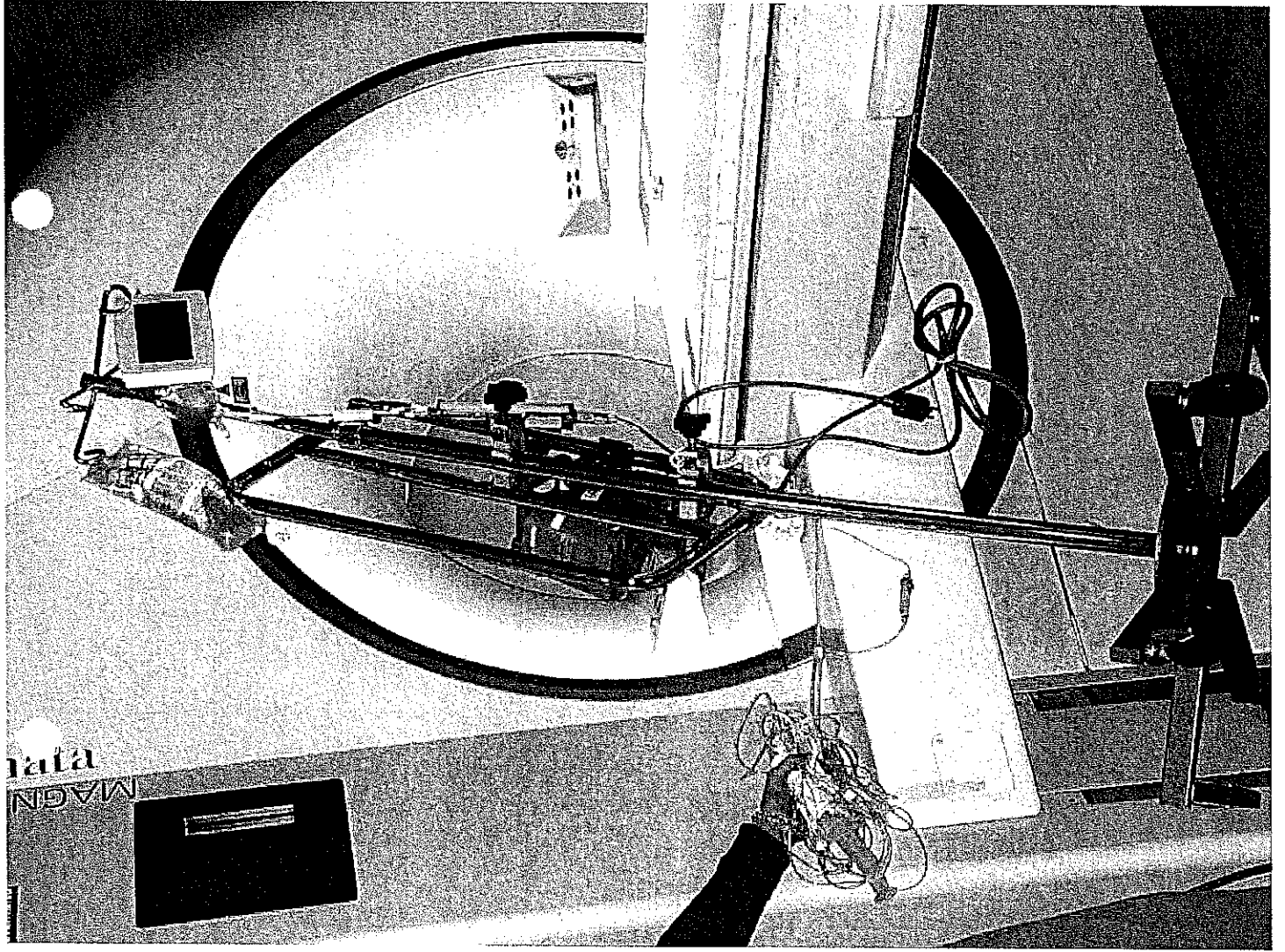
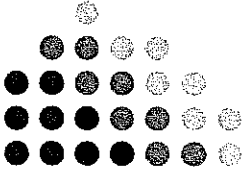
www.MRmetalDetector.com

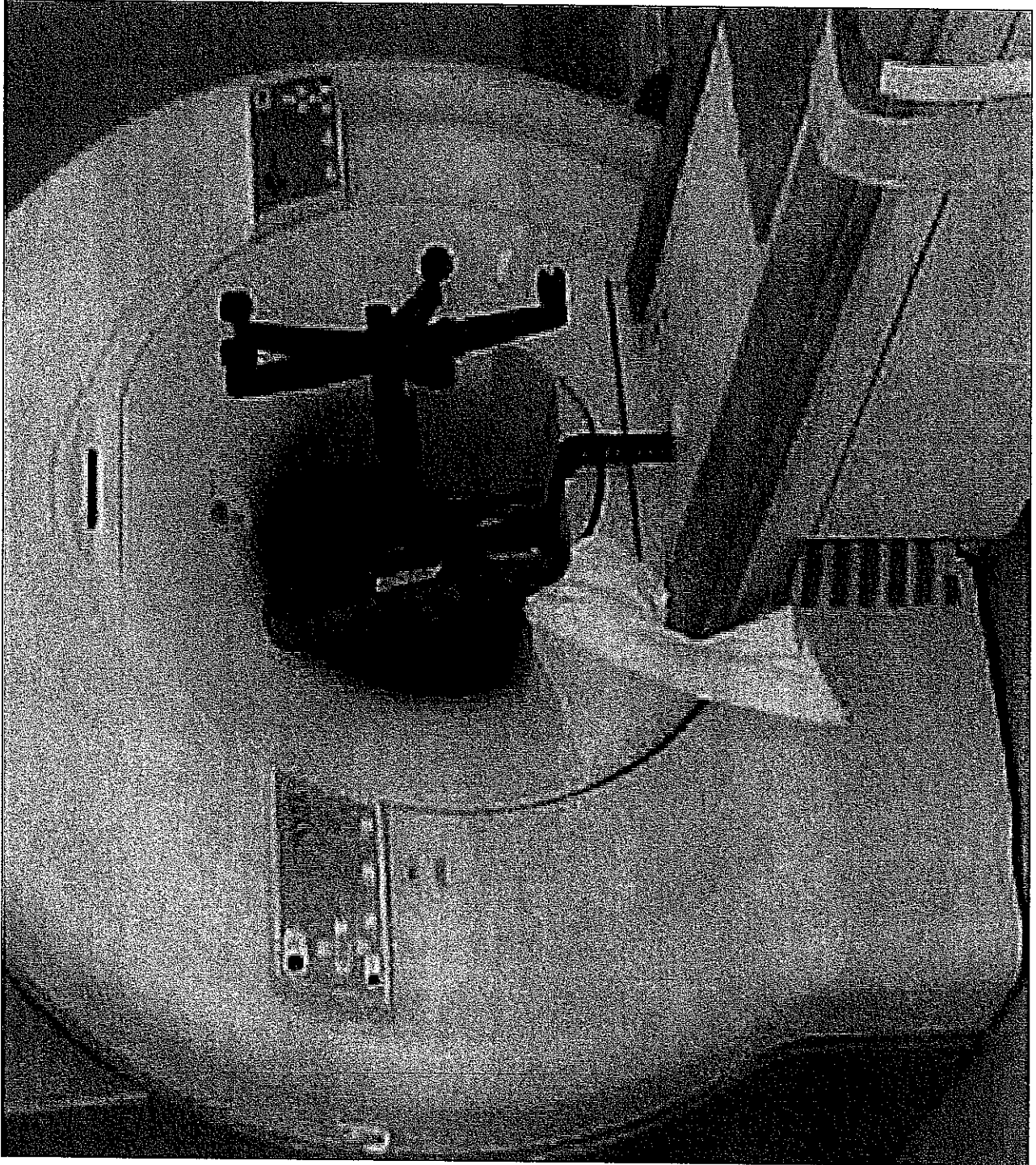
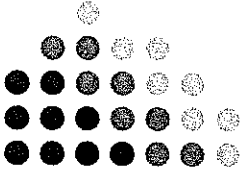


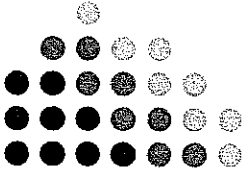
Provided courtesy of Simply Physics at www.simplyphysics.com

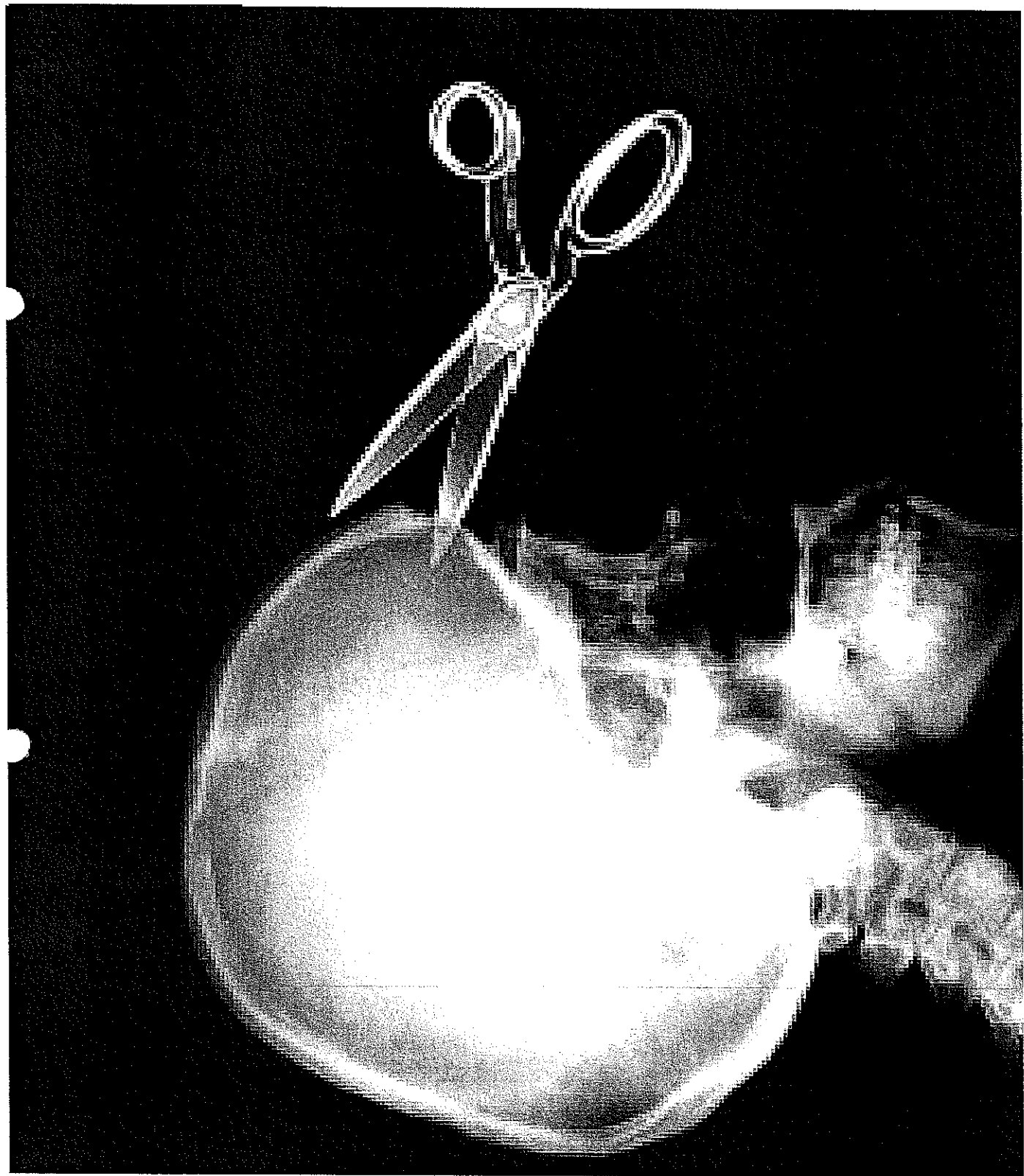
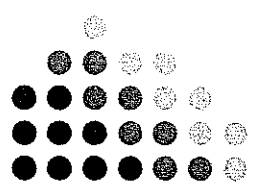


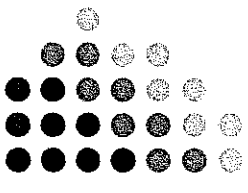
Provided courtesy of Simply Physics at www.simplyphysics.com











14-Oct-2009

MAUDE EVENT REPORT (FOI)
SORTED BY DATE OF EVENT

This output contains the medical device adverse event reports currently available to the public, in accordance with the Freedom of Information Act and the requested search criteria. Submission of a report does not constitute an admission that medical personnel, user facility, importer, manufacturer or product caused or contributed to the event.

MFR Report No: 3003766277-2009-0061 Mfr Name: PHILIPS MEDICAL SYSTEMS NEDERLAND B.V. Date Received: 08-Jul-2009

Event Date (E3): 05-Jun-2009 Adverse Event (B1): Y Problem (B1): N
Report Date (B4): 17-Jun-2009 Event Report Type: INJURY
Report Date (F8): Reporter Occupation (E3): OTHER Event Outcome (B2): REQUIRED INTERVENTION
Date Mfr Rec'd (G4): 17-Jun-2008 Device Operator: HEALTH PROFESSIONAL Event Location (F12):
Report Source (G3): HEALTH PROFESSIONAL

Product Code: (RA)-SYSTEM, NUCLEAR MAGNETIC RESONANCE IMAGING (LNH)
Device Age (F9): Manufacture Date (H4): 01-Aug-2007
Expiration Date: Single Use (H5): N
Device Usage (H8): R

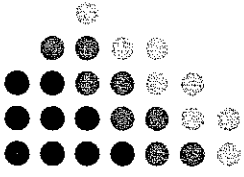
Event Description (E5):
Mfr 21-JUL-2009: THIS REPORT IS BEING FILED UPON NOTIFICATION FROM OUR MR MANUFACTURER IN OTHER COUNTRY, THE NETHERLANDS TO SUBMIT THIS INCIDENT THAT OCCURRED IN ANOTHER COUNTRY. PROBLEM: PT WAS BEING PREPARED BY THE MR TECHNICIAN FOR A MR SCAN. THE PT ATTENDANT ENTERED THE MR ROOM WITH SCISSORS IN HIS POCKET. WHEN HE WAS TRYING TO ASSIST WITH THE PT, THE SCISSORS FLEW FROM HIS POCKET INTO THE MR TECHNICIAN'S FOREHEAD. HE WAS IMMEDIATELY OPERATED ON AND THE SCISSORS WERE REMOVED FROM HIS HEAD.

Concomitant Medical Products:
NA
Mfr Name: PHILIPS MEDICAL SYSTEMS
Address: PO BOX 10.000
VEENPLUIS 4-6
BEST,
NETHERLANDS

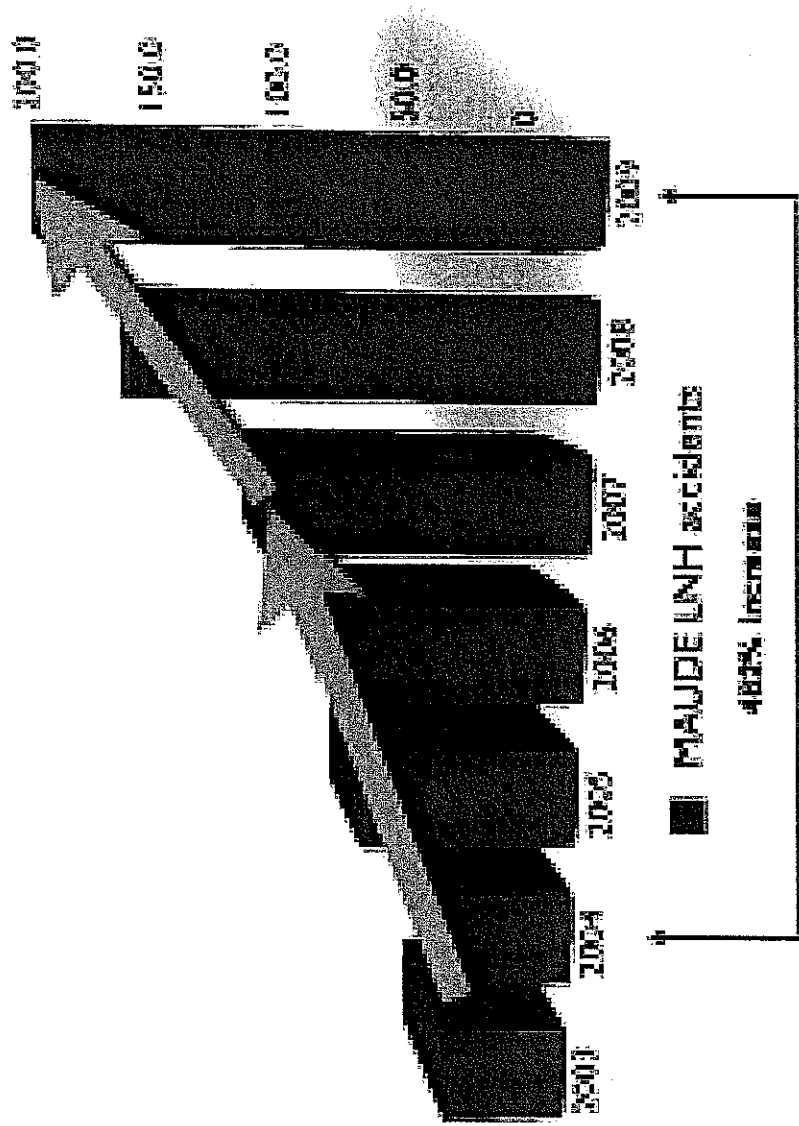
Device Available for Evaluation: Y
Device Evaluated by Manufacturer (H3): Yes

Remedial Action (H7):
Correction/Removal No (H9):

Additional Mfr Narrative (H10 & H11):
21-JUL-2009: (CONCLUSIONS) - (OTHER) - IT IS A KNOWN ISSUE THAT NO MAGNETIC MATERIALS SHOULD BE BROUGHT INTO THE MR EXAMINATION ROOM. THE INSTRUCTIONS FOR USE CONTAIN EXTENSIVE WARNING RELATED TO THIS ISSUE.



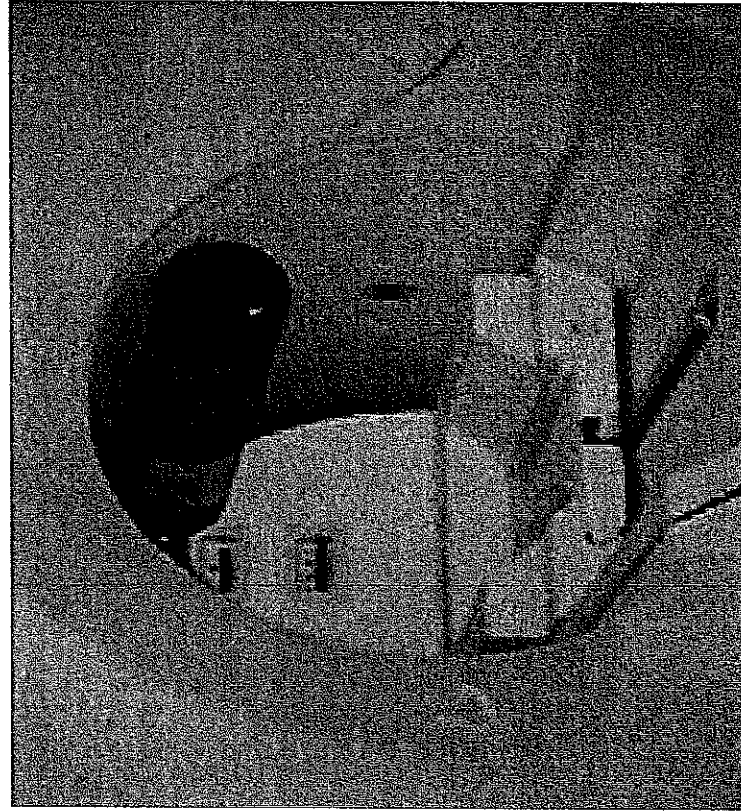
MRI Accident Rates



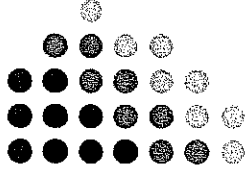
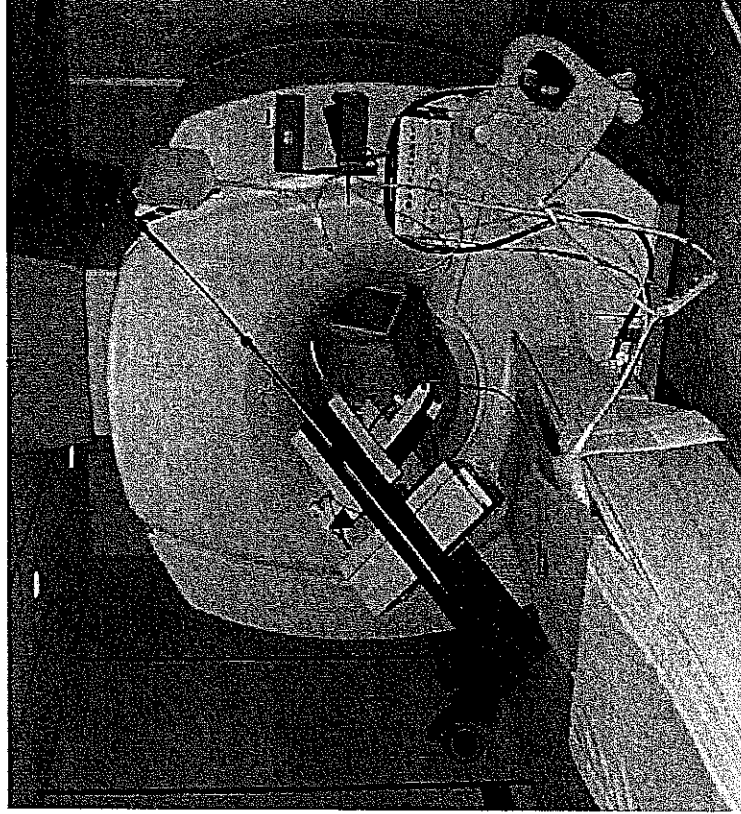
Accidents do happen

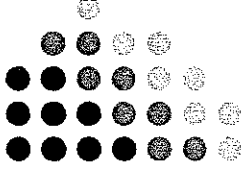
Never be complacent

Oxygen cylinder

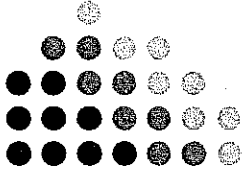


Infusion pump





THE MAGNETIC FIELD IS ALWAYS ON



Emergency buttons

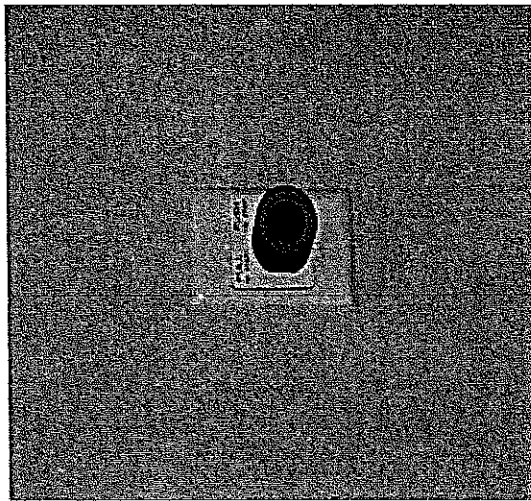
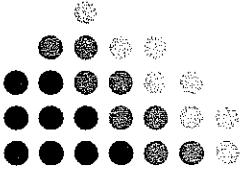
Two types of Emergency Buttons

- **Emergency Stop/Shut Off**
 - Turns off all incoming electrical power to the magnet equipment failure, sparks, noises etc)

MAGNETIC FIELD STAYS ON

- **Quench button**
 - Causes immediate deactivation of the magnetic field

Emergency Buttons

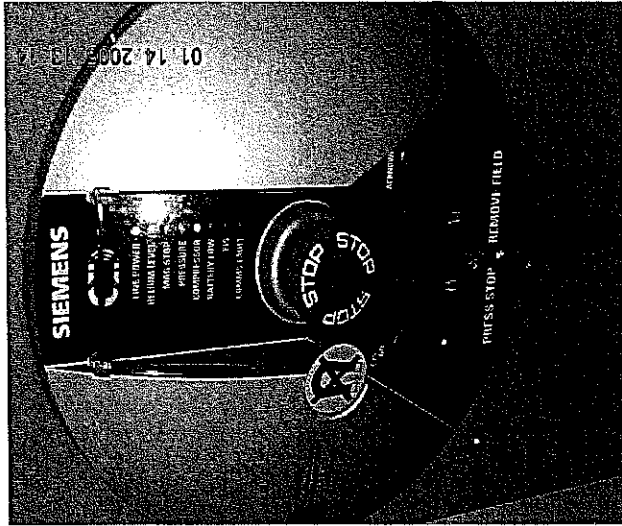


POWER OFF

Magnet Bay

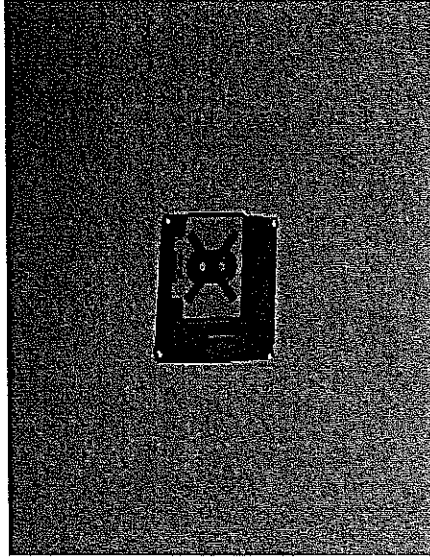
Theatre

MRI Control room



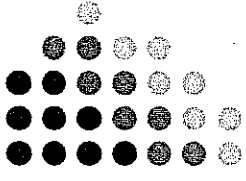
QUENCH

Control room



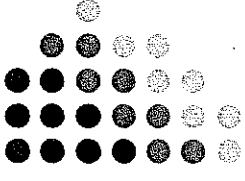
QUENCH

Magnet Bay



Quench

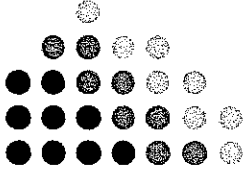
- Quenching = Deactivation of the magnetic field
- The cooling gas (helium) that is necessary to keep the magnet field is released
- Takes about 20 – 30 seconds, during which the helium will be released to the outside through vent
- Very costly **\$250K**
- If there is leakage of helium into the room:
 - Risk for cold burns
 - Risk of suffocation



Times to Quench

**When there is a RISK of
personal injury, loss of life OR fire**

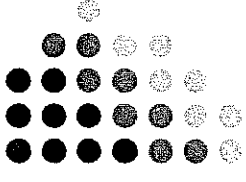




Quenching procedure

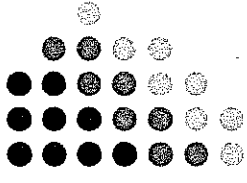
- Ensure staff and patients are evacuated from the MRI room
- Close the doors to the MRI room
- Activate the quench (only MRI Radiographer)
- Ensure no one re-enters the room

Emergency scenarios



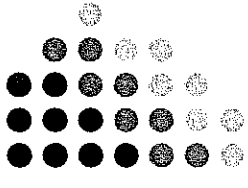
1. Something gets stuck on the scanner –
no risk for personal injury
2. Risk for personal injury or life
3. Fire
4. Medical emergency

Scenario 1 – no risk for personal injury



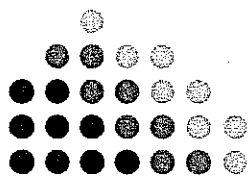
- Stop scan (MRI Radiographer)
- Do not attempt to pull magnetic objects from a magnet field. The object may re-align itself in the magnetic field and become a projectile, causing a serious or fatal injury.

Scenario 2 – risk for personal injury or life



- Quench
- Follow the medical emergency procedure

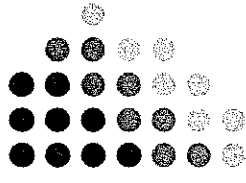
Scenario 3 - Fire



Follow the RACE procedure:

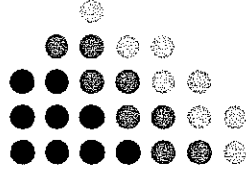
- **Remove** patients in immediate danger.
- **Alert.** Dial 8 and call code RED. Notify nearby staff and the fire warden
- **Close** windows and doors to prevent the spread of smoke and fire.
- **Extinguish** or control the fire. Do not take unnecessary risks. **ONLY** use appropriate MRI Safe labelled extinguishers or fire blankets to extinguish or contain the fire.

Scenario 3 - Fire



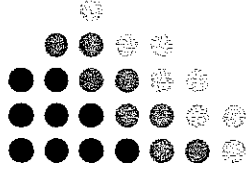
- **If the fire cannot be extinguished:**
 - Quench
 - Ensure that fire personnel do not enter the room before it has been confirmed by the MRI Radiographer that the magnetic field is deactivated.

Scenario 4 – Medical Emergency in Neurosurgical iMRI Suite

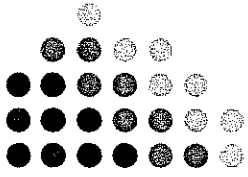


- Follow standard procedures to alert the Medical Emergency Team (MET)
- The iMRI Section Manager retracts the scanner to the Magnet Bay
- Only allow the MET access to the operating room once it is confirmed by the iMRI Section Manager that the scanner is retracted.

Scenario 4 – Medical Emergency MRI MI Department

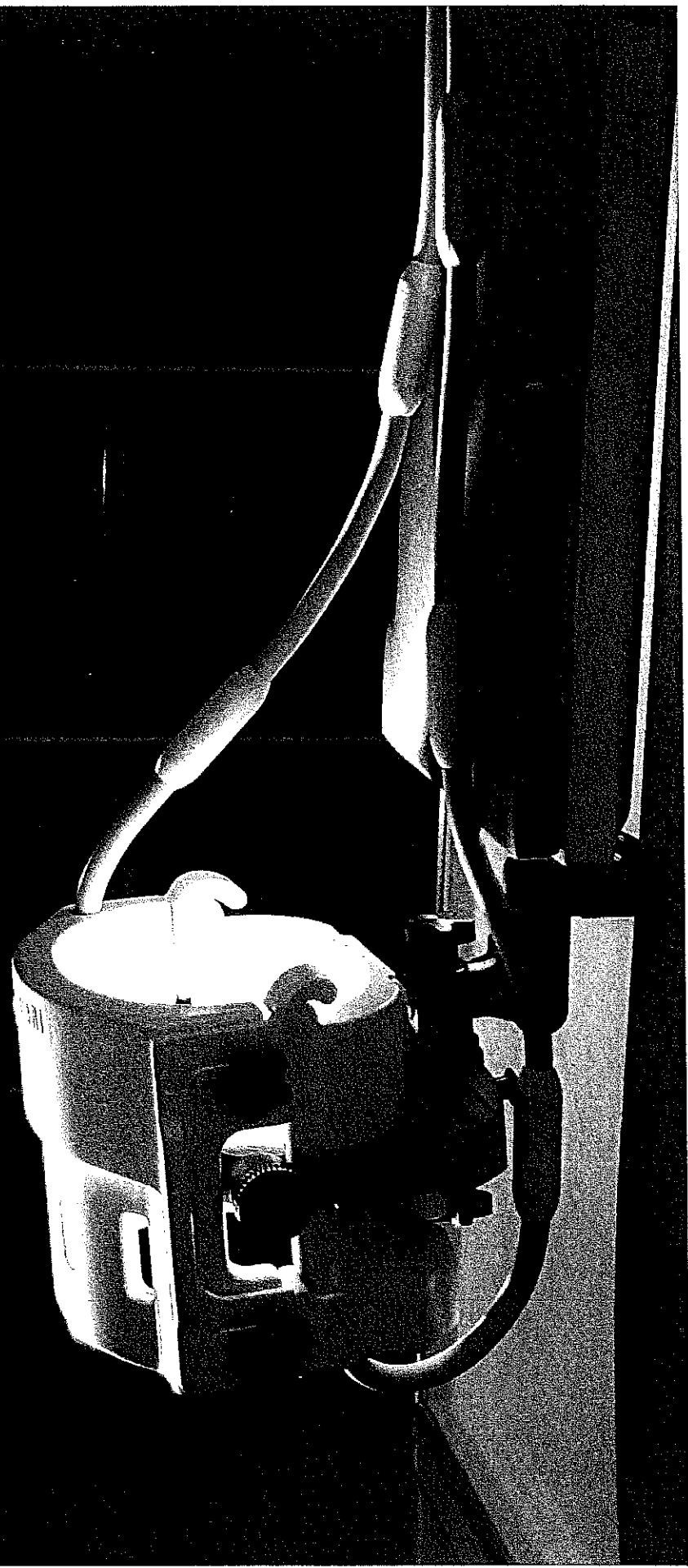
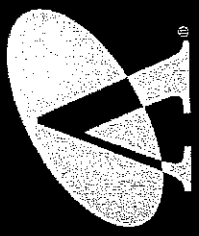


- Follow standard procedures to alert the Medical Emergency Team (MET)
- MRI radiographer removes patient from MR scan room
- MRI nurse opens doors and allows MET team to enter MR department
- Patient is treated in Preparation/Recovery area. No treatment to be provided in MR scan room

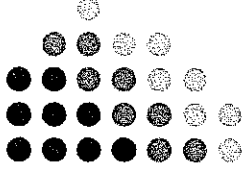


THE MAGNETIC FIELD IS ALWAYS ON

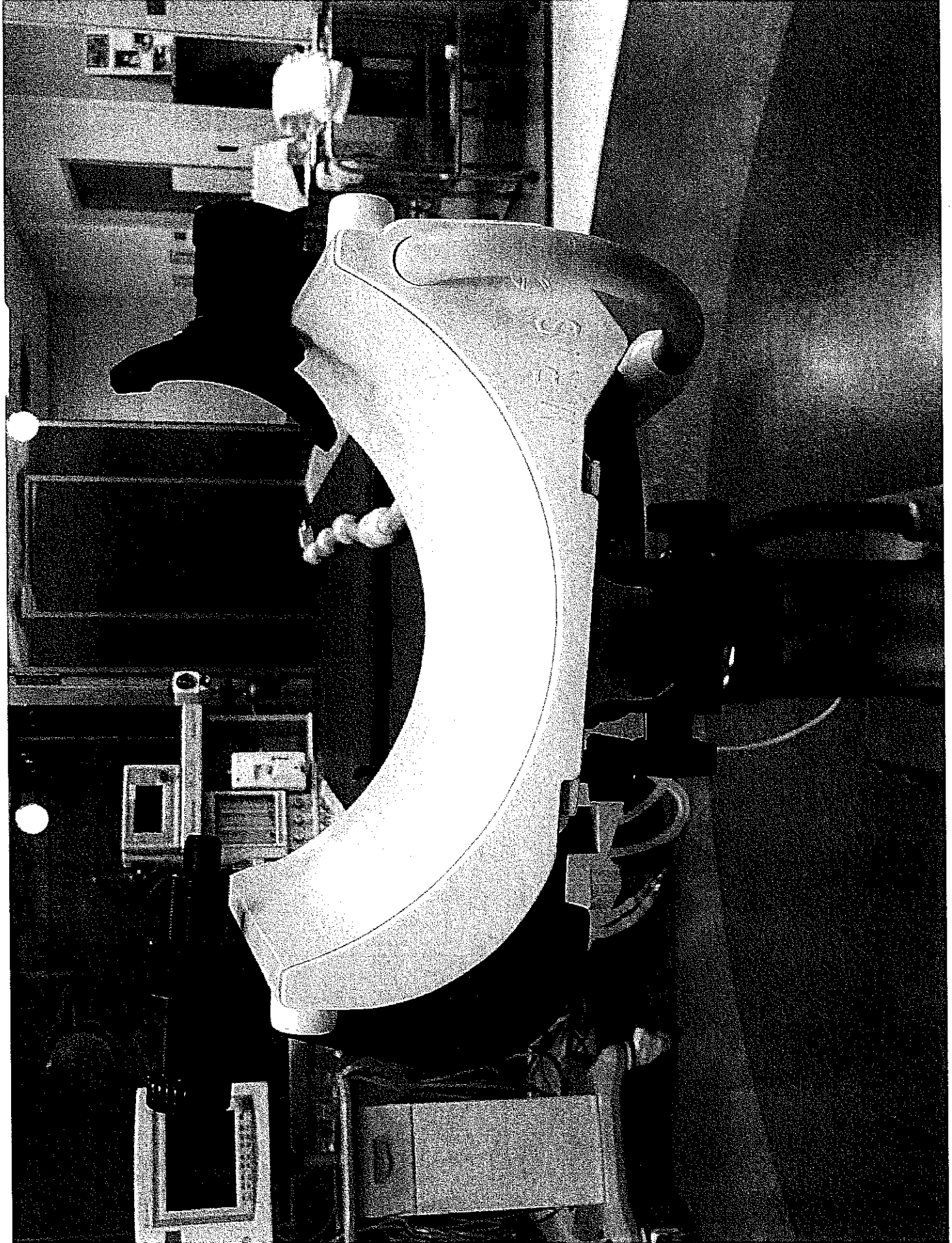
ABBOTT
NORTHWESTERN
HOSPITAL
Allina Hospitals & Clinics



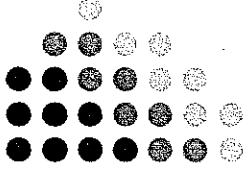
Head Coil



- The bottom piece of the head coil will remain in place throughout the entire operation
- The top piece will be placed over the head and removed as required
- Anaesthetist will check tube patency once coil is in place
- Coils are very costly and sensitive
- iMRI radiographers are the only people to move and place the coil

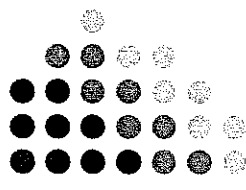


Magnet Movement into Theatre SOP

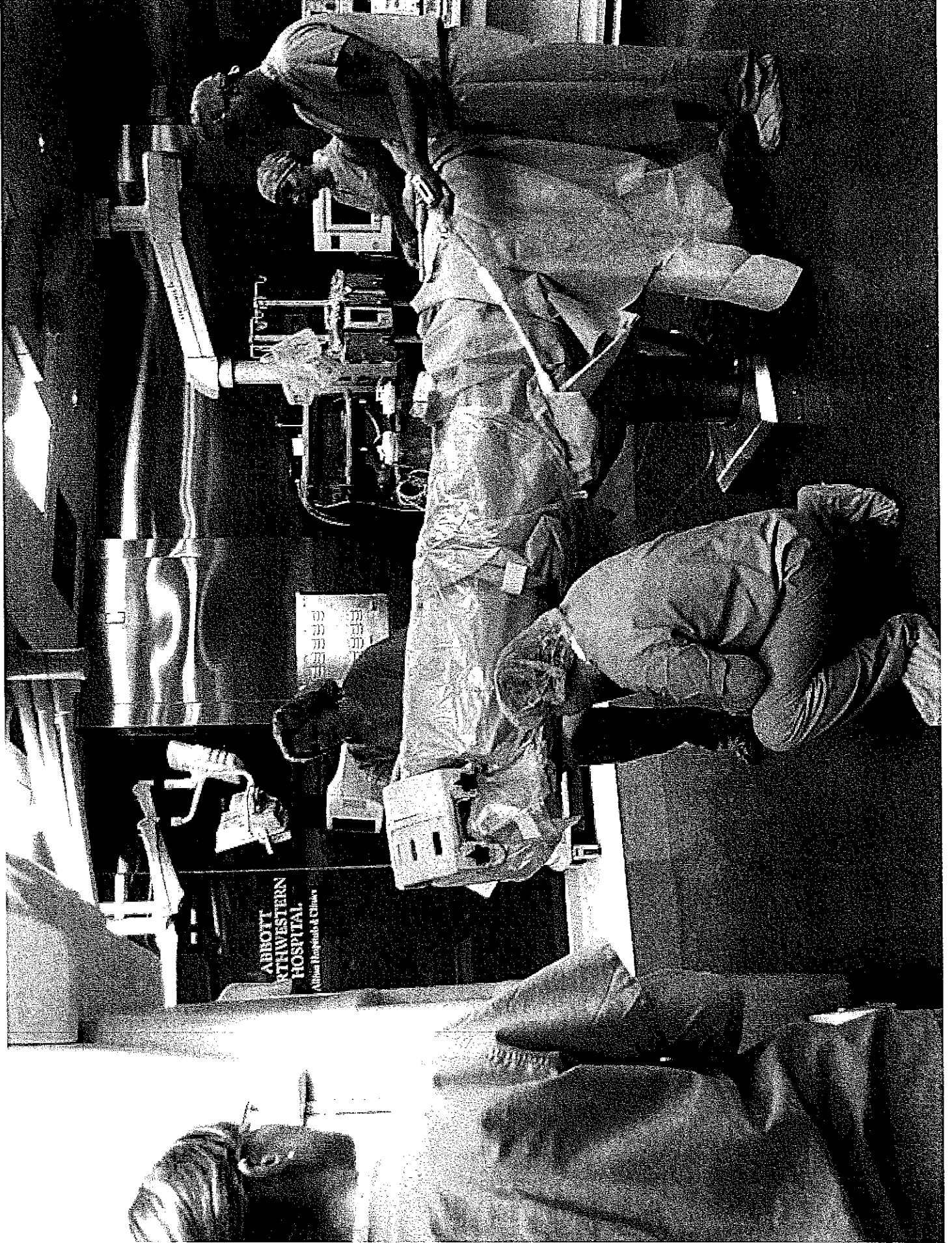


- Second scout nurse to remove as many MR unsafe items as possible
- Checklist to be completed by second scout nurse and anaesthetic nurse
- Scrub and primary scout nurse to remove sterile setup
- Complete checklist (second scout and scrub nurse)

Magnet Movement into Theatre SOP

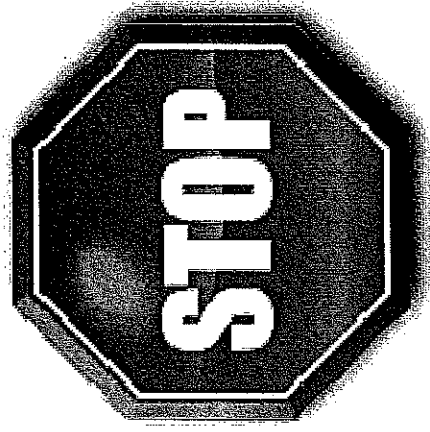
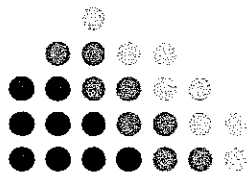


- Visual inspections to be performed
- Second scout nurse signs checklist and gives it to iMRI Section Manager
- iMRI Section Manager does a visual inspection and then signs the checklist
- Neurosurgeon gives OK to proceed
- Magnet comes into theatre

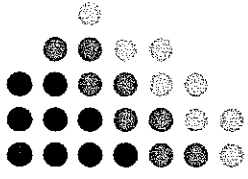


ABBOTT
NORTHWESTERN
HOSPITAL
Abbott Northwestern Clinic

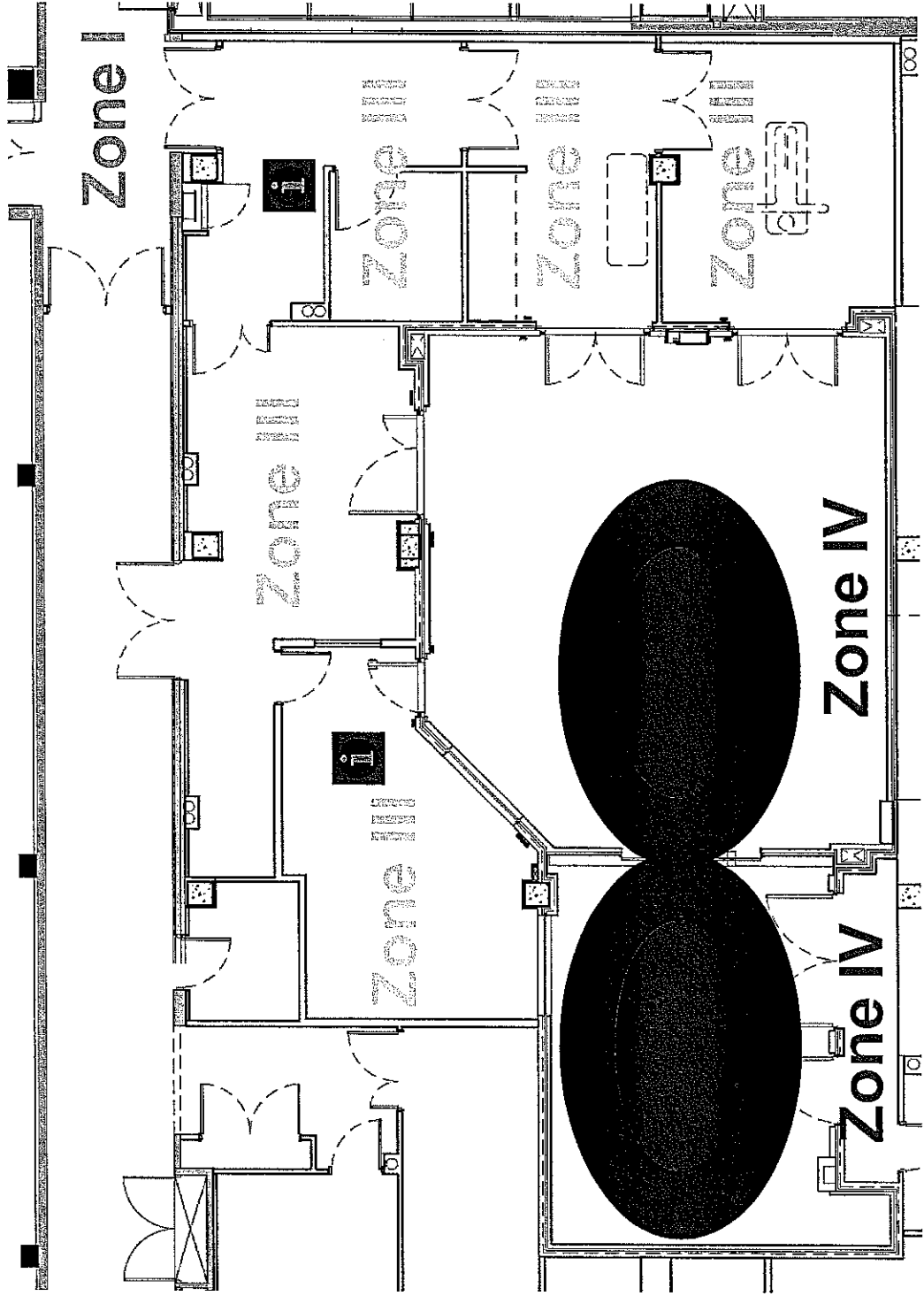
Magnet Movement out of Theatre SOP

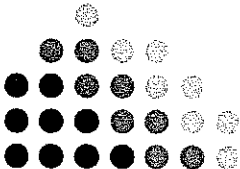


- iMRI Section Manager to move magnet into magnet bay
- All staff are to remain in the control room or sterile setup until iMRI Section Manager gives "All Clear"

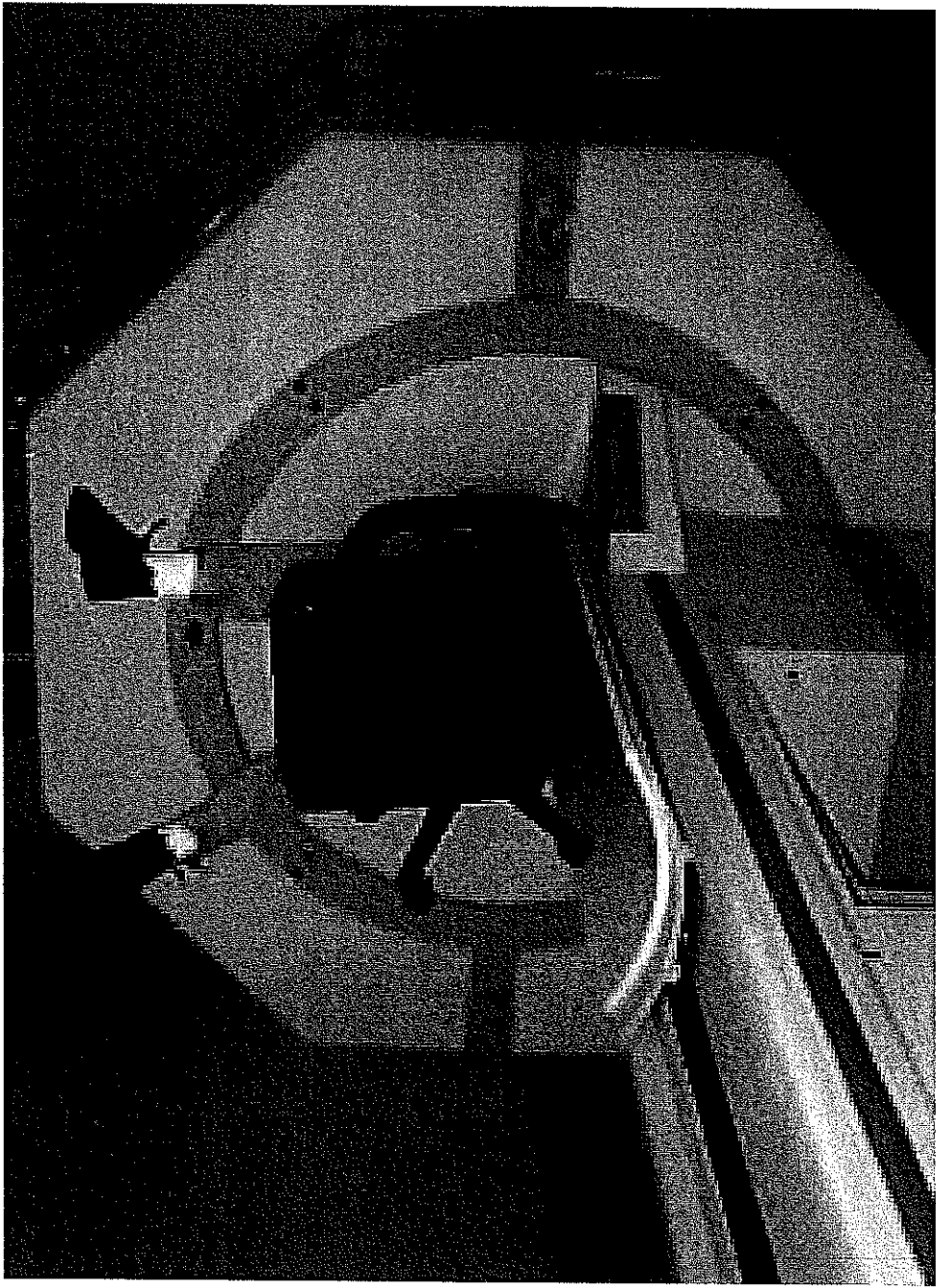


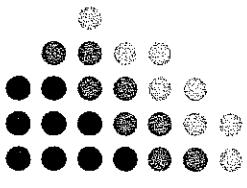
Zoning: Scanner in OR





This Could be You!





References

- RANZCR – MRI Safety Guidelines, 2007, <http://www.ranzcr.edu.au/documents/>
- Kanal et al, ACR Guidance Document for Safe MR Practices, AJR 2007
- Shellock FG, Reference Manual for Magnetic Resonance Safety, Implants and Devices: 2010 Edition
- ACT Health Magnetic Resonance Imaging Safety Policy

Neurosurgical MRI Suite
Training Schedule
Core Staff

DATE Staff Medical Screening Checklist verified	DATE Staff attending MR SAFETY training	DATE Staff COMPLETED MR SAFETY training QUIZ	DATE SECURITY ACCESS GIVEN	Date Id Pass Provided
NEUROSURGEONS				
John Fuller	27.07.10	27.07.10	31.08.10	
David McDowell	20.07.10	27.07.10	8.9.10	
Stephen Halcrow	27.07.10	27.07.10	8.9.10	
Nada Chandran	27.07.10	27.07.10	14.1.11	
Prashanth Rao	14.1.11	14.1.11	14.1.11	
Margaret Wilson	14.1.11	14.1.11	14.1.11	
Alan Biribo	14.1.11	14.1.11	14.1.11	
Roy Kwan	27.07.10	27.07.10	31.08.10	
All Rizvi	20.07.10	27.07.10	1.09.10	
Able Devadass	27.07.10	27.07.10	8.9.10	
Neilan Nandapalan	28.09.10	28.09.10	28.10.10	
Sam Roberts-Thompson	29.7.11	29.7.11	29.7.11	
Chris Huang	29.7.11	29.7.11	29.7.11	
Neha Jain	29.7.11	29.7.11	29.7.11	
Scott Brennan	27.07.10	27.07.10		
ENT				
DATE Staff Medical Screening Checklist verified	DATE Staff attending MR SAFETY training	DATE Staff COMPLETED MR SAFETY training QUIZ	DATE SECURITY ACCESS GIVEN	
Safi ALBEKAA	24.2.11	24.2.11		
Tuan PHAM	28.07.10	28.07.10		
Natalie Rafter	24.2.11	24.2.11		
Fardin EGHEDARI	15.4.11	15.4.11	15.4.11	
ANAESETHETISTS				
DATE Staff Medical Screening Checklist verified	DATE Staff attending MR SAFETY training	DATE Staff COMPLETED MR SAFETY training QUIZ	DATE SECURITY ACCESS GIVEN	
Andrew Hehir	17.1.11	17.1.11	24.8.11	
Andrew Watson	28.07.10	28.07.10	7.3.11	
Bernie Kwan				
Bruce Adendorff	16.07.10	26.07.10	7.3.11	
Carmel McInerney	6.09.10	26.07.10		
Caroline Fahey	6.09.10	26.07.10		
Catherine Muggerdige				
Cliff Peady				
Colin Gillmore	06.07.10	26.07.10		
David Duke	16.07.10	26.07.10	1.09.10	

Neurosurgical MRI Suite
Training Schedule
Core Staff

Derek Potgieter	22.07.10	23.07.10	22.07.10	2.09.10						
Don Lu										
Elaine Lee	22.07.10	27.07.10	23.07.10							
Frank Lah		05.07.10	26.07.10	29.10.10						
Girish Painikar	27.07.10	15.08.10	19.08.10							
Grant Devine	14.07.10	06.07.10	26.07.10	2.09.10						
Guy Buchanan										
Imran ALI	16.07.10	06.07.10	26.07.10	16.1.11						
James French	13.08.10	05.07.10	26.07.10							
Jenny Major										
Jason Kwon	20.10.11	14.07.10	20.10.11							
John Ellingham	16.07.10	06.07.10	26.07.10							
Ken Downes										
Labuschagne										
Lanie Stephens	16.07.10	20.07.10	21.07.10							
Lisa Zuccherelli	06.07.10	23.07.10	27.07.10	1.09.10						
Mark Skacel										
Michael Wilson										
Natalie Marshall	14.10.11	20.07.10	20.10.11							
Nick Melhuish	16.07.10	05.07.10	26.07.10	9.3.11						
Nickolas Gemmill-Smith	6.09.10	06.07.10	26.07.10							
Nicola Mearns										
Paul Burt	06.07.10	06.07.10	26.07.10	7.9.11						
Paul Holz	14.07.10	06.07.10	16.07.10							
Phil Morrissey	6.09.10	05.07.10	26.07.10							
Phil Rylands										
Prof. Thomas Brussell	27.07.10	26.07.10	27.07.10	1.09.10						
Ross Hanrahan	06.07.10	05.07.10	26.07.10							
Ross Peake	19.08.10	16.08.10	19.08.10							
Senthon Ponniah										
Simon Robertson	13.08.10	30.07.10	15.08.10							
Stephen Davies										
Steve Brazner	16.07.10									
Vaughn Oerder	06.07.10	06.07.10	26.07.10	3.09.10						
Victoria Fletcher		06.07.10	26.07.10							
Robert Lang	27.07.10	18.08.10	19.08.10							

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff completing MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training	DATE SECURITY ACCESS GIVEN						
ANAESTHETIC REGS										
Adam Eslick	13.08.10	29.07.10	3.08.10							
Alida Lombard	13.08.10	10.08.10	13.08.10							
Amal Tadros										
Andrew Deacon	13.08.10	30.07.10	13.08.10							
Babu Shankar										
Ben Brabin	13.08.10	29.07.10	13.08.10							
Brett Chandler	06.07.10	03.07.10	13.08.10							
Candida Marone	17.5.11	13.5.11	17.5.11							
David Leung	16.07.10	06.07.10	16.07.10	6.4.11						
David Neale										
David Wright	06.07.10	30.07.10	13.08.10	1.3.11						
Dilip Nithyanandam	06.07.10	30.07.10	13.08.10							
Dinuk Jayamanne	13.08.10	30.07.10	13.08.10							
Ed Coxon	13.08.10	29.07.10	13.08.10							
Elizabeth Kremer	17.5.11	15.5.11	17.5.11							
Elizabeth Merenda	06.07.10	06.07.10	13.08.10	3.09.10						
Heman Tse	13.08.10	30.07.10	13.08.10	24.2.11						
Jane Trevenen	13.08.10	30.07.10	13.08.10							
Jennifer Myers	13.08.10	30.07.10	13.08.10	9.12.10						
Jill Van Acker	13.08.10	30.07.10	13.08.10							
Louise Eliard										
Lyndal Russell	06.07.10	30.07.10	13.08.10							
Melinda Ford	13.08.10	06.07.10	13.08.10							
Michael Tripet										
Mike Adams										
Nathan Oates										
Peter Flynn	06.07.10	06.07.10	29.7.10							
Suzanne Smallbone	13.08.10	29.07.10	13.08.10							
Steven Sit	13.08.10	30.07.10	13.08.10	14.1.11						
Will Mathiesson	19.08.10	13.08.10	19.08.10	7.3.11						
Zain Upton	14.07.10	30.07.10	14.07.10							

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff Attending MRI SAFETY Training	DATE Staff COMPLETED MRI SAFETY Training	DATE SECURITY ACCESS GIVEN					
PERIOPERATIVE STAFF (SCRUB/ANAES)	21.07.10								
AARON, DALTON	22.07.10			8.09.10					
ABRAHAM, ROSAMMA									
AJI, MATHEW									
ALEXANDER, JAMIESON									
AILEEN KIM	8.3.11								
Alisa Stevenson	31.8.11								
ALEXANDER, MILLER									
ALISON, BATEMAN									
ALISON, HALL									
ALISON, SCHOFIELD									
Amanda Chase	14.07.10			15.10.10					
AMANDA, KEOGH									
ANA, PERALTA									
ANDERSON, MARY									
ANDREA, BAGULEY	22.07.10								
ANDREA, BARON									
Angela Leverett	14.07.10			24.2.11					
ANGELA, COLEMAN	27.07.10			25.5.11					
ANGELA, GOODRIDGE	13.08.10			3.11.10					
ANNETTE P, SULLIVAN	17.5.11			24.5.11					
ANNIE ZHENG	16.07.10			3.12.10					
ANTHONY ZARB									
AUGUSTINE, MAZHINDU									
AVRIL, GREEF	14.07.10			31.08.10					
AVRIL, MOUSLEY									
BARBARA, O'BRIEN									
Belinda Manners	14.07.10			17.5.11					
Belinda Payne	14.07.10			3.12.10					
BELINDA, HART	28.07.10								
BEN, LOLLBACK	14.07.10			31.08.10					
BINDU MATHEW	27.07.10								
BIMALA VAIDYA	17.6.11								
BRENDAN, LENTELLI	13.08.10			22.2.11					
CARLA, BLANDFORD	14.07.10			3.12.10					
CAROL, CAI									
CAROLYN, PLEVY									
CASSANDRA, SCHMIDT	27.07.10			25.2.11					
Cassandra Heffernan	14.10.11								
CATE, KENNEDY									
Cathy Burns	21.07.10			31.08.10					
CELIA, COTTON									

Neurosurgical MRI Suite
Training Schedule
Core Staff

LEANNE, LUBKE	27.07.10	27.07.10	27.07.10	6.09.10					
LEE, LYONS									
LEENA, WARD									
LEILANI, MEJIA									
LINDY, RITZEN	27.07.10	27.07.10	27.07.10	24.2.11					
LISA, CASTLE-BURNS	13.5.11	13.5.11	13.5.11						
LOREVIC TAN	8.3.11	8.3.11	8.3.11						
Lorraine French	17.5.11	17.5.11	17.5.11						
LORRAINE, THOMPSON	14.07.10	14.07.10	14.07.10	24.2.11					
LOTHLORIAN, FOGG	27.07.10	27.07.10	27.07.10	3.2.11					
Louise Burgess	20.07.10	20.07.10	20.07.10						
LOUISE, MCEWEN									
LOUISE, TURNER									
LOUISE, WHITE									
LUCY MAY ZHU									
Ludmyla Popowycz	31.8.11	31.8.11	31.8.11						
LYNNE, HOWELL	17.6.11	17.6.11	17.6.11	17.6.11					
MARGARET, CARGILL	27.07.10	27.07.10	27.07.10	24.2.11					
MARGARET, LEPPER	27.07.10	27.07.10	27.07.10						
MARGARET, PISASALE	27.07.10	27.07.10	27.07.10						
MARGARET, SMITH	20.07.10	20.07.10	20.07.10						
MARIA(ETHEL), BROPHY	11.3.11	11.3.11	11.3.11	25.5.11					
MARIA, HARMAN									
MARIA, HART	1.11.10	1.11.10	1.11.10						
MARILYN, WALLACE									
MARION, SHELDRIK	22.07.10	22.07.10	22.07.10						
Marc Thomas	11.4.11	11.4.11	11.4.11	19.5.11					
MARY ANN, ENRIQUEZ	27.07.10	27.07.10	27.07.10	1.11.10					
MARY, HOWELL									
MATTHEW, KUNNATH-JOHN									
MAUREEN, FERRIS									
MELANIE, CALLAGHAN	13.08.10	13.08.10	13.08.10						
MELANIE DYER	8.3.11	8.3.11	8.3.11						
Melodie Raisin	17.5.11	17.5.11	17.5.11	25.5.11					
MEG BURN	27.07.10	27.07.10	27.07.10						
MELINDA, KAISER									
MERLENE, CARSLA	14.07.10	14.07.10	14.07.10	6.09.10					
MICHAEL, GOWER	22.07.10	22.07.10	22.07.10	8.3.11					
MICHELLE, BURNS									
MICHELLE, COPEMAN									
MICHELLE, DUNN	17.5.11	17.5.11	17.5.11	25.5.11					
MICHELLE, MULQUINEY	27.07.10	27.07.10	27.07.10						
MICHELLE, PADULLA	14.07.10	14.07.10	14.07.10	3.11.10					
MICHELLE, WRIGHT									
Nadia Durrant	31.8.11	31.8.11	31.8.11						
NIRACRES, BENDEBEL	27.07.10	27.07.10	27.07.10						
PAMELA, MCPHERSON	14.07.10	14.07.10	14.07.10	31.08.10					

Neurosurgical MRI Suite
Training Schedule
Core Staff

PATRICIA, PHILLIPS	22.07.10	23.07.10	22.07.10																	
PAUL, CHICCHIO	13.08.10	30.07.10	13.08.10																	
Pauline WOODS	14.07.10	30.07.10	13.08.10							6.09.10										
PETRIE, LEANNE																				
RACHAEL, HARRIS																				
REBECCA, POLLOCK																				
RHONA JASONSMITH	9.09.10	27.09.10	23.09.10							28.09.10										
RHONDA, BRANZ	10.08.10	10.08.10	10.08.10							3.09.10										
RHONDA, HOSKING	14.07.10	13.07.10	22.07.10							31.08.10										
Robert Lyons	14.07.10	29.07.10	13.08.10							6.09.10										
ROBYN, BONDIETTI																				
ROCHELLE, WOOLF	14.07.10	21.07.10	21.07.10							31.08.10										
RHONA JASONSMITH	28.09.10	24.09.10	23.09.10							29.08.10										
RONALD, CAWTHRON	22.07.10	30.07.10	13.08.10							2.09.10										
ROSALIND, BIRCH																				
ROSEL, ROBERTSON	16.07.10	23.07.10	27.07.10							6.09.10										
ROWENA, KING																				
SANDRA, FARRELL	27.07.10	22.07.10	27.07.10							24.2.11										
SANDRA, PILLONI																				
SARAH, WALTON																				
SEUNG (ROSA), LEE																				
SHAN, EDDES																				
SHANE, GUY	13.08.10	23.07.10	13.08.10							3.09.10										
SHARON, JOCIC	13.07.10	21.07.10	13.08.10							25.5.11										
SHARON, MOUNTAIN																				
SHARRON, MILLS-THOM	20.07.10	9.07.10	3.08.10																	
SHARYN, SYMES																				
SHIRLEY, BRIGGS	14.07.10	22.07.10	21.07.10							3.12.10										
SHIRYNNIE, COWAN																				
SONIA, WELLS	27.07.10	26.07.10	27.07.10																	
STEPHEN, CARR																				
STEPHANIE SHORLAND	8.3.11	9.3.11	3.08.10							17.5.11										
SUE, BARNETSON																				
SUELLEN, SAALS	11.3.11	27.07.10	13.08.10																	
SUSAN, BLACK	14.07.10	22.07.10	27.07.10							3.2.11										
SUSAN, GRANT	27.07.10	22.07.10	27.07.10																	
Susan Jacob	14.10.11	20.10.11	13.08.10																	
SUSAN, OLNEY																				
SZE WAN, YEUNG	13.08.10	22.07.10	13.08.10																	
TINA, YU	27.07.10	26.07.10	27.07.10																	
Toni Gwynn-Jones	16.08.10	30.07.10	13.08.10																	
ULRIKE KOLB	3.3.11	13.08.10	13.08.10							3.3.11										
VICTOR, MAKOVETSKY																				
Wai Lin Yik	20.07.10	14.07.10	27.07.10																	

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE STARTING MRI SAFETY TRAINING	DATE COMPLETED MRI SAFETY TRAINING	DATE SECURITY ACCESS GIVEN					
WARD NURSES									
Brenda Robertson (ward 9B)	17.6.11	10.6.11	17.6.11	17.6.11					
Radhika Mahadevan (9B)	9.9.11	20.9.11	20.9.11	20.9.11					
Adam Vines (ward 9B)	14.2.11	11.2.11	14.2.11						
Lili Zhu (ward 9b)	14.10.11	14.10.11	14.10.11	20.10.11					
Ian Pujilin (9A)	13.12.11	9.12.11	13.12.11	13.12.11					
Elsa Aguanta(PACU)	13.12.11	9.12.11	13.12.11	13.12.11					
Maria Ocana (PACU)	13.12.11	9.12.11	13.12.11	13.12.11					
Rebecca Pollock (PACU)	13.12.11	11.11.11	13.12.11	13.12.11					
Barb O'Brien	15.2.12	13.1.12	13.1.12	15.2.12					
Xiaoli Zhi	15.2.12	13.1.12	15.2.12	15.2.12					
Yang-Suk Stratton (ward 7B)	11.3.11	21.3.11	11.3.11						

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Start Training MRI SAFETY	DATE Start COMPLETED MRI SAFETY training - Quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID					
WARDSMEN PERSONNEL										
Arishton Dujguime	14.07.10	14.07.10	21.07.10	19.11.10						
B. Tasic	13.08.10	13.08.10	13.08.10	2.2.11						
Callum Frank	19.08.10	19.08.10	19.08.10	6.09.10						
Callum McKinnon	20.07.10	19.07.10	21.07.10	1.09.10						
D. Labelle	20.07.10	20.07.10	20.07.10							
D. Lutomski	22.07.10	22.07.10	22.07.10		X					
TECHNICALS										
Dave Jones	NS	20.07.10	21.07.10							
Greg Ciszek		26.07.10	23.08.10	15.2.11						
James Chapman	14.2.11	11.12.10	15.2.11	14.2.11						
Kenneth Press	14.07.10	21.07.10	21.07.10	6.09.10						
M. Burns	20.07.10	26.07.10	23.08.10		X					
Nathan Brown	20.07.10	20.07.10	21.07.10	6.09.10						
Nathan Lloyd	21.08.10	10.08.10	10.08.10	6.09.10						
O. Polglase	20.07.10	20.07.10	20.07.10							
RECEPTIONISTS										
Phang Philavahn	14.07.10	20.07.10	23.08.10	12.1.11						
Richard Taylor	20.07.10	20.07.10	20.07.10							
Rick James	12.11.10	12.11.10	12.11.10	12.11.10						
Rick Lyons	20.07.10									
Robert Seimes										
S. Mitchell	14.07.10	20.07.10	27.07.10	1.09.10						
Steven Lyons	14.2.11	14.2.11	14.2.11	14.2.11						
Thomas Goldrick	20.10.11	14.10.11	20.10.11							
Stephen Post	20.10.11	21.10.11	21.10.11							
Craig Thurbon	20.10.11	14.10.11	14.10.11							
Timothy Olney	20.07.10	20.07.10	20.07.10							
David Hosie	16.09.10	16.09.10	16.09.10							
John Villatobas	16.08.10	12.07.10	25.07.10							
Z. Pulvera	20.07.10	23.07.10	27.07.10	19.11.10						
THEATRE WARD CLERKS										
Robyn Hewett	17.1.11	14.1.11	17.1.11	9.2.11						

Neurosurgical MRI Suite
 Training Schedule
 Core Staff

DATE	DATE Staff Medical Screening Checklist verified	DATE Staff completing MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY TRAINING QUIZ	DATE SECURITY ACCESS GIVEN						
RESOURCE PERSONNEL & MIDDLE ROOM										
David Potter	14.07.10	14.07.10	26.07.10	3.09.10						
Eivira Fragiacommo	13.07.10	13.07.10	26.07.10	3.09.10						
Gavin Odell	28.09.10	24.09.10	25.09.10	15.10.10						
Jamie Duguayme	16.08.10	15.07.10	26.07.10	15.10.10						
Lynne Nicholas	27.07.10	26.07.10	27.07.10	9.09.10						
Milan Raduovic	20.07.10	20.07.10	18.08.10	1.09.10						
Ron Hammond	13.7.10	13.07.10	26.07.10							

Neurosurgical MRI Suite
 Training Schedule
 Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff Completed MRI Safety Training	DATE Staff Completed MRI Safety Training	DATE SECURITY ACCESS GIVEN						
BIOMEDICAL										
Claire - yuin inn ee	21.07.10	15.07.10	23.07.10	15.09.10						
Horace Williams	21.07.10	16.07.10	23.07.10	15.09.10						
Kyri Belle	21.07.10	21.07.10	23.07.10	15.09.10						
Maurice Sommariva	21.07.10	16.07.10	23.07.10	15.09.10						
Steve Saker	14.07.10	16.07.10	23.07.10	1.09.10						

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff attending MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training quiz	DATE SECURITY ACCESS GIVEN						
ISS CLEANERS										
Ahmed Mohamed	13.07.10	26.07.10	28.07.10	23.09.10						
Brad Elliss	17.5.11	16.5.11	17.5.11	17.5.11						
Bill Dobbin	3.09.10	10.09.10	15.09.10							
Barnaba Bol	13.07.10	08.09.10	09.09.10	6.09.10						
Carol Andread	13.07.10	13.07.10	23.07.10	1.09.10						
Toombs Janene	13.07.10	13.07.10	23.07.10	6.09.10						
Leo Mendez	17.1.11	14.1.11	14.1.11	17.5.11						
Jeff Fuller	13.07.10	27.07.10	28.07.10	6.09.10						
Luz Karsten	13.07.10	27.07.10	28.07.10	17.5.11						
Mohamed Tqawfik	13.07.10	27.07.10	28.07.10	6.09.10						
Nicole Wharton	17.1.11	14.1.11	14.1.11	23.09.10						
Nora Thompson	13.07.10	13.07.10	23.07.10	17.5.11						
Rathnayake Altanayake	13.07.10	28.07.10	28.07.10	3.09.10						
Raymond Graham	16.08.10	15.07.10	25.07.10	28.09.10						
Richard Reid	27.07.10	13.07.10	28.07.10	1.09.10						
Robert Sansum	23.07.10	23.07.10	27.07.10	Not Suitable						
Sergio Arellameda	17.1.11	15.1.11	17.1.11	17.5.11						
SHIBUJI										
Solipo Mark	17.1.11	14.1.11	17.1.11	17.5.11						
Danielle Fox	11.4.11	8.4.11	8.4.11	11.4.11						
Priscilla Tron	13.12.11	11.11.11	13.12.11	13.12.11						
Peter Pommer	13.12.11	11.11.11	13.12.11	13.12.11						
Gyan Vikash Nand	13.12.11	11.11.11	13.12.11	13.12.11						
Kerry Fisher	13.12.11	11.11.11	13.12.11	13.12.11						
Matthew Dixon	13.12.11	11.11.11	13.12.11	13.12.11						
Victor (nights)	13.07.10	23.07.10								

Neurosurgical MRI Suite
Training Schedule
Core Staff

HA's	DATE Staff Medical Screening Checklist verified	DATE Staff attending MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training quiz	DATE SECURITY ACCESS GIVEN						
B. Muniandy	16.08.10	15.07.10	23.07.10	3.09.10						
Billie-Genie Murphy	13.07.10	13.07.10	23.07.10	15.10.10						
C. Cornwall	16.07.10	13.07.10	23.07.10	15.10.10						
Dora Machado	22.07.10	21.07.10	23.07.10	15.10.10						
Emily Taylor	13.09.10	12.07.10	23.07.10	13.09.10						
Felicity Dulgume	13.7.10	17.07.10	23.07.10	15.10.10						
J. Rich	13.7.10	13.07.10	23.07.10	15.10.10						
K. Banjavic	16.08.10	10.07.10	17.07.10	17.6.11						
Mandy Dukoski	16.07.10	13.07.10	23.07.10	3.09.10						
Maureen Thomppson	13.7.10	12.07.10	23.07.10	15.10.10						
N. Barrett	22.07.10	21.07.10	12.11.10	12.11.10						
Noel Uriarte	13.7.10	16.07.10	23.07.10	3.09.10						
R. McMaster	13.7.10	12.07.10	23.07.10	15.10.10						
Rachel Douglas	13.07.10	12.07.10	23.07.10	15.10.10						
S. Fuseini	16.08.10	12.07.10	23.07.10	15.10.10						
Snezzana (Suz) Milosavljevic	13.7.10	12.07.10	23.07.10	15.10.10						
Steven Ashcroft	13.7.10	15.07.10	23.07.10	15.10.10						
T. Prieto										
T. Tzafaris										

Neurosurgical MRI Suite
 Training Schedule
 Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Standards MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training quiz	DATE SECURITY ACCESS GIVEN						
CONTRACTORS										
Nicholas Arnold (Draeger Sales Rep)		26.07.10								
Aleksander Trojancanec (Draeger Site Engineer)		26.07.10								
Rao Gattapati (Draeger Site Engineer)		26.07.10								
Tracey Ross (Synthes)	26.07.10	26.07.10	26.07.10							
Edem Zevon (Synthes)	9.9.11	20.9.11	20.9.11							
Andrew Szydzik (Synthes)	27.07.10	27.07.10	26.07.10							

Neurosurgical MRI Suite
 Training Schedule
 Core Staff

PATHOLOGY	DATE Staff Medical Screening Checklist verified	DATE Outstanding MRI SAFETY Training	DATE Staff COMPLETED MRI SAFETY Training	DATE SECURITY ACCESS GIVEN						
Corrina Newman	21.07.10	16.07.10	26.07.10	28.10.10						
Dianne Talsma	16.07.10	28.07.10	28.07.10	28.10.10						
Elizabeth Cole	16.08.10	15.07.10	25.07.10							
Erin Moore										
Heather Robins	16.07.10	12.07.10	28.07.10	28.10.10						
Natasha Ilvovska	21.07.10	16.07.10	26.07.10							
Peter Talsma	16.08.10	15.07.10	26.07.10							
Valentina Jorceski	16.08.10	15.07.10	26.07.10							

Neurosurgical MRI Suite
Training Schedule
Core Staff

MET TEAM	DATE Staff Medical Screening Checklist verified	DATE Staff completing MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training Quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID							
Leitha Scott	21.07.10	16.07.10	23.07.10	X	X							
Nicole Slafer	16.07.10	12.07.10	23.07.10	X	X							
Rebecca York	16.07.10	12.07.10	23.07.10	X	X							
Claire Williams	29.7.11	8.7.11	8.7.11		8.7.11							
Sarah Mamoolic	21.07.10	16.07.10	23.07.10	X	X							
	DATE Staff Medical Screening Checklist verified	DATE Staff completing MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training Quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID							
INTACT												
Adam Davies	13.07.10	13.07.10	23.07.10		X							
Andrew Kondakis	16.08.10	16.08.10	23.07.10		X							
David Richards	16.08.10	16.08.10	23.07.10									
David Richards	13.08.10											
Ian Flynn	26.06.10											
James Lamech	16.07.10	13.07.10	23.07.10		X							
Jon Naughton	16.08.10	13.08.10	23.07.10		X							
Keegan Bateman	31.8.11	2.8.11	2.8.11									
Andrew Dunbar	31.8.11	2.8.11	2.8.11									
Leon Gerlich	16.08.10	16.08.10	23.07.10		X							
Lucy Martinello	13.08.10	13.08.10	23.07.10									
Luke Cox	11.4.11	8.4.11	8.4.11						11.4.11			
Paul St Ledger	13.08.10	13.08.10	23.07.10		X							
Peter Moore	25.06.10											
Rhys Allen	11.4.11	8.4.11	8.4.11						11.4.11			
Richard Pannett	16.08.10											
Robert Marsic	25.06.10											
Robert Torley	16.08.10	13.08.10	23.07.10		X							
Rodney Chalker	13.08.10	13.08.10	23.07.10		X							
Samantha Logan	16.08.10	13.08.10	23.07.10		X							
	DATE Staff Medical Screening Checklist verified	DATE Staff completing MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training Quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID							
HR												
Ric Taylor	28.07.10	28.07.10	23.07.10									

Neurosurgical MRI Suite
Training Schedule
Core Staff

DATE	DATE Staff Medical Screening Checklist verified	DATE Staff completing MR SAFETY training	DATE Staff completing MR SAFETY training quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID
IP&M	13.08.10	29.07.10	29.07.10		X
Annaliesha Gray	13.08.10	29.07.10	29.07.10		X
Daniel Lane	13.08.10	29.07.10	29.07.10		X
Janet Gahan	13.08.10	29.07.10	29.07.10		X
Peta Mercieca Lima	13.08.10	29.07.10	29.07.10		X
Rick Narayan	13.08.10	29.07.10	29.07.10		X
Rob Swain	13.08.10	29.07.10	29.07.10		X
AFTERHOURS CNC	13.08.10	29.07.10	29.07.10	17.09.10	
Rolf Schmiel	13.08.10	29.07.10	29.07.10	17.09.10	
Mark Brittle	13.08.10	29.07.10	29.07.10	17.09.10	
Lyn Fraser	13.08.10	29.07.10	29.07.10		
Barbara Reid	13.08.10	29.07.10	29.07.10		
Kellie Lang	13.08.10	29.07.10	29.07.10		
SECURITY	13.08.10	29.07.10	29.07.10	17.09.10	
Andrew Dobson	13.08.10	29.07.10	29.07.10	17.09.10	
Brett Graham	13.08.10	29.07.10	29.07.10	17.09.10	
Dario Gomes	13.08.10	29.07.10	29.07.10	17.09.10	
Eric Parkin	13.08.10	29.07.10	29.07.10	17.09.10	
Jareau Smith	9.9.11	20.9.11	20.9.11	20.9.11	
Craig Knight	9.9.11	20.9.11	20.9.11	20.9.11	
Douglas Penny	9.9.11	20.9.11	20.9.11	20.9.11	
Marty Rees	13.08.10	29.07.10	29.07.10	17.09.10	
PM&M	28.09.10	28.09.10	28.09.10		X
Belinda Leith	28.09.10	28.09.10	28.09.10		X
Gary Griffiths	16.08.10	28.09.10	28.09.10		X

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff attending MR SAFETY training	DATE Staff COMPLETED MR SAFETY training + quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID						
MEDICAL IMAGING NURSES											
Allen Bates	17.6.11	10/6/11	17/6/11		17.6.11						
Anna Grierson	17.6.11	10/6/11	17/6/11		17.6.11						
Florence Sikkens	28.09.10	27/09/10	28/09/10	X							
Greg Morley	13.12.11	12/12/11	13/12/11		13.12.11						
Jean Getchell	17.6.11	10/6/11	17/6/11		17.6.11						
Jenni Mossard	31.8.11	12/8/11	31/8/11		31.8.11						
Jennifer Laidley	17.6.11	10/6/11	17/6/11		17.6.11						
Ji Shi	11.4.11	8/4/11	11/4/11		11.4.11						
Jo-Ann Hayes	13.12.11	12/12/11	13/12/11		13.12.11						
June DeLivera	10.1.12	29/12/11	10/1/12		10.1.12						
Karen Dever	17.6.11	10/6/11	17/6/11		17.6.11						
Kate Davison	17.6.11	10/6/11	17/6/11		17.6.11						
Kelly Shek	17.6.11	10/6/11	17/6/11		17.6.11						
Kristin Sicha	17.6.11	10/6/11	17/6/11		17.6.11						
Laura Calligaro	17.6.11	10/6/11	17/6/11		17.6.11						
Leanne Knight	17.6.11	10/6/11	17/6/11		17.6.11						
Lynda Edwards	13.12.11	12/12/11	13/12/11		15.2.12						
Rebecca Kendrick	15.2.12	14/2/12	15/2/12		15.2.12						
Robyn Coble	10.1.12	29/12/11	10/1/12		15.2.12						
Roslyn Parker	10.1.12	20/12/11	10/1/12		10.1.12						
Rousiana Rusanov	10.1.12	27/12/11	10/1/12		10.1.12						
Susan Cross	17.6.11	10/6/11	17/6/11		17.6.11						
Susannah Martin		20/12/11									
Terri O'Leary	17.6.11	10/6/11	17/6/11		17.6.11						
Tina Hetir	15.2.12	14/2/12	15/2/12		15.2.12						
Tina Schirripa	17.6.11	10/6/11	17/6/11		17.6.11						
Trudy Jamieson	13.12.11	12/12/11	13/12/11		13.12.11						
Ulla Sverd	17.6.11	10/6/11	17/6/11		17.6.11						
Vicki Brown	17.6.11	10/6/11	17/6/11		17.6.11						
Suan Tan											
MEDICAL IMAGING CONSULTANTS											
Jeremy Price	10.1.12	20/12/11	10/1/12		10.1.12						
Robert Allen	10.1.12	20/12/11	10/1/12		15.2.12						
Shivendra Laloo		15/12/11									
Tom Ruut		16/12/11									

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE	DATE	DATE	DATE	DATE	DATE	DATE
	Staff Medical Screening Checklist verified	DATE Staff Completing MR SAFETY Training	DATE Staff Completing MR SAFETY Training Quiz	DATE Security Access Given	MR Safe ID		
MEDICAL IMAGING REGS							
George Waterworth	13.12.11	13.12.11	13.12.11		13.12.11		
Ross McKay	15.2.12	15.2.12	15.2.12		15.2.12		
Stefan Kosh	10.1.12	10.1.12	10.1.12		10.1.12		
Ranjani Nagarajan	10.1.12	10.1.12	10.1.12		10.1.12		
Martin Dobes	10.1.12	10.1.12	10.1.12		10.1.12		
Chaturica Athukorala	10.1.12	10.1.12	10.1.12		10.1.12		
Apurv Garg	10.1.12	10.1.12	10.1.12		10.1.12		
Alli Elisy	14.2.12	14.2.12	14.2.12		15.2.12		
Noah Insheish							
SONOGRAPHERS							
Kylie Wilson	14.2.11	14.2.11	14.2.11				
Janine Pike	15.2.12	15.2.12	15.2.12		15.2.12		
Jo Weir	15.2.12	15.2.12	15.2.12		15.2.12		
Lisa Gonsalves							
ADMIN MI							
Simone Bartrop	11.4.11	11.4.11	11.4.11		11.4.11		
Cheryl Langbell	13.12.11	13.12.11	13.12.11		13.12.11		
Ruzica Varga	10.1.12	10.1.12	10.1.12		10.1.12		
Rally Vella	10.1.12	10.1.12	10.1.12		10.1.12		
Paul Garbutio	15.2.12	15.2.12	15.2.12		15.2.12		

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff attending MRI SAFETY training	DATE Staff COMPLETED MRI SAFETY training + Quiz	DATE SECURITY ACCESS GIVEN	MR Safe ID					
ICU										
Aileen Razon	17.5.11	17.5.11	17.5.11		17.5.11					
Alissa Willan	9.9.11	20.9.11	20.9.11		20.9.11					
Amanda Williams	14.10.11	20.10.11	20.10.11		20.10.11					
Amberly Mercovich	13.12.11	13.12.11	13.12.11		13.12.11					
Amy Harney	14.10.11	20.10.11	20.10.11		20.10.11					
Dianne Bandle	13.12.11	13.12.11	13.12.11		13.12.11					
Dorothea Camatighan	29.7.11	13.12.11	13.12.11		29.7.11					
Erica Gorecki	31.8.11	31.8.11	31.8.11		31.8.11					
HeeSong Song	29.7.11	29.7.11	29.7.11		29.7.11					
Janine Cunningham	29.7.11	29.7.11	29.7.11		29.7.11					
Jessica Jacques	13.12.11	13.12.11	13.12.11		13.12.11					
Joanna Irving	13.12.11	13.12.11	13.12.11		13.12.11					
Josie Rusel-Brown	31.8.11	31.8.11	31.8.11		31.8.11					
Kathleen Cook	13.12.11	13.12.11	13.12.11		13.12.11					
Kerry O'Neill	20.10.11	20.10.11	20.10.11		20.10.11					
Kirsten Madsen	13.12.11	13.12.11	13.12.11		13.12.11					
Kylie Johns	13.12.11	13.12.11	13.12.11		13.12.11					
Lauree Stuart	29.7.11	29.7.11	29.7.11		29.7.11					
Leeba Samuel	13.12.11	13.12.11	13.12.11		13.12.11					
Linda Li	13.12.11	13.12.11	13.12.11		13.12.11					
Lisa Lyons	13.12.11	13.12.11	13.12.11		13.12.11					
Lucy Sewdarsen	20.10.11	20.10.11	20.10.11		20.10.11					
Merina Cherian	14.10.11	20.10.11	20.10.11		20.10.11					
Patricia Falero	13.12.11	13.12.11	13.12.11		13.12.11					
Phillipa O'Reilly	13.12.11	13.12.11	13.12.11		13.12.11					
Ruth Gaha-Morris	17.5.11	17.5.11	17.5.11		17.5.11					
Sandra Wright	13.12.11	13.12.11	13.12.11		13.12.11					
Shannon Rutledge	15.2.12	15.2.12	15.2.12		15.2.12					
Song Hee Song	29.7.11	29.7.11	29.7.11		29.7.11					
Stephen Ho	11.4.11	11.4.11	11.4.11		11.4.11					
Yalan Chen	13.12.11	13.12.11	13.12.11		13.12.11					
Lanya Teodo	13.1.12	15.2.12	15.2.12		15.2.12					
Lucy Scott	13.1.12	15.2.12	15.2.12		15.2.12					
Sophie Zhang	15.2.12	15.2.12	15.2.12		15.2.15					

Neurosurgical MRI Suite
Training Schedule
Core Staff

	DATE Staff Medical Screening Checklist verified	DATE Staff MR SAFETY TRAINING	DATE Staff COMPLETED MR SAFETY TRAINING QUIZ	DATE SECURITY ACCESS GIVEN	MR Safe ID															
L4B/5PD NURSES Lorraine Curtis	11.4.11	8.7.11	8.7.11		11.4.11															
	17.6.11	10.6.11			X															
NICU NURSES Shirlene Colbert Debra Colwill Julia Dival Jennifer Bourke Michael Cahill	17.5.11	13.5.11	17.5.11		17.5.11															
	17.5.11	13.5.11	17.5.11		17.5.11															
	31.8.11	12.8.11	31.8.11		31.8.11															
	31.8.11	12.8.11	31.8.11		31.8.11															
	31.8.11	12.8.11	31.8.11		31.8.11															
RESIDENT/INTERNS Aditya Vyas	15.2.12	13.1.12	15.2.12		15.2.12															

RE Jackson Table

From: Gwynn-Jones, Toni
Sent: Friday, 3 September 2010 3:45 PM
To: Gwynn-Jones, Toni; Lang, Kellie
Cc: Reid, Barbara
Subject: RE: Jackson Table

Hi Ladies,

After some discussions (with ++ objections) with the team, apparently Dr McDowell and one of the anaesthetist had been discussion this during one of the mocks. I will endeavour to get a team (including surgeons and anaesthetists) to into the theatre some time next week to see how this might work - Friday might be our best option. I have spoken with Cameron and he is happy for us to try. Dawn (IMRIS Trainer) said it is done in other units.

I'll let you know how we progress,

Ta

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

-----Original Message-----

From: Gwynn-Jones, Toni
Sent: Thursday, 2 September 2010 1:36 PM
To: Lang, Kellie
Cc: Reid, Barbara
Subject: Jackson Table

Hi Kellie,

Having given your request more thought, I am concerned that we would be contravening all recommended practices by putting a second operating table into the theatre. I will seek advice from the scrub managers as I have alarm bells ringing.

As per the ACT Health MRI Safety Policy, any equipment that has to go into the suite needs to be tested to see if it is MRI safe - I know we wont have the magnet coming out of the bay when it is in there but as it's Zone 3 of a MRI unit, we must have it tested and it would probably fail as it's made of metal and is not safe in the MRI environment.

The anaesthetic machine and pendants are in the wrong place, - it's not been designed with this in mind. The only other option we have to increase its use is to do the MRI paed list and other MRI scanning when not being used. I am concerned that if we use this as a regular OR and not for it's intended purpose we substantially increase the risk to the staff and the patients.

I'll provide more comment once I discuss with the team.

Ta

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital

RE Jackson Table

P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

McClymont, Geoff

From: [Redacted]
Sent: Friday, 10 September 2010 11:30 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen; Todd, Kylie; Robertson, Cameron
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: IMRIS Manuals List
Attachments: 100910_IMRIS Manuals List.doc

All,

Please find updated IMRIS Manuals list attached. Please update the locations column as required.

I am not sure who the owner of this list is???

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 4:43 PM
To: [Redacted] Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Yes please,

Thanks

Toni

ii Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

From: [Redacted]
Sent: Wednesday, 8 September 2010 1:51 PM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Toni,

My understanding was that we are going to add another column/two as required to show locations.

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 12:11 PM
To: Priyanka Korallalage; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Thanks [Redacted]

I thought this list was also going to include where the 2nd copy of manuals was located?

Regards,

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

From: [Redacted]
Sent: Wednesday, 8 September 2010 11:37 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: FW: soft copy of manual list

All,

Please find IMRIS Manuals list attached

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

From: [Redacted]
Sent: Wednesday, 1 September 2010 9:04 AM
To: Blakely-Kidd, Richard

Cc: [redacted]
Subject: soft copy of manual list

[redacted]
As requested by [redacted]
[redacted]

~~~~~

[redacted]

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~~~~~

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McClymont, Geoff

From: Gustafsson, Helen
Sent: Friday, 10 September 2010 11:43 AM
To: [REDACTED] Gwynn-Jones, Toni; Belle, Kyril; Todd, Kylie; Robertson, Cameron
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: IMRIS Manuals List
Attachments: 100910_IMRIS Manuals List edHG.doc

Hi,

One copy of the IMRIS Nursing Procedure manual and one copy of the IMRIS Training manual on site intra operative applications are kept at the Medical Physics Department. I have updated the list accordingly.

Regards,
Helen

Helen Gustafsson, PhD
Senior Medical Physics Specialist
Department of Medical Physics
The Canberra Hospital
ACT 2606
Australia
Tel: +61 2 6174 5623
E-mail: helen.gustafsson@act.gov.au
Mobile: [REDACTED]

From: [REDACTED]
Sent: Friday, 10 September 2010 11:30 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen; Todd, Kylie; Robertson, Cameron
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: IMRIS Manuals List

All,

Please find updated IMRIS Manuals list attached. Please update the locations column as required.

I am not sure who the owner of this list is???

Kind Regards,

[REDACTED]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 4:43 PM
To: [Redacted] Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Yes please,

Thanks

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

From: [Redacted]
Sent: Wednesday, 8 September 2010 1:51 PM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Toni,

My understanding was that we are going to add another column/two as required to show locations.

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 12:11 PM
To: [Redacted] Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Thanks [Redacted]

I thought this list was also going to include where the 2nd copy of manuals was located?

Regards,

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

From: [Redacted]
Sent: Wednesday, 8 September 2010 11:37 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard

Subject: FW: soft copy of manual list

All,

Please find IMRIS Manuals list attached

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

From: [Redacted]

Sent: Wednesday, 1 September 2010 9:04 AM

To: Blakely-Kidd, Richard

Cc: [Redacted]

Subject: soft copy of manual list

Richard

As requested by [Redacted]

[Redacted]

~~~~~

[Redacted]





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McClymont, Geoff

From: Belle, Kyril
Sent: Friday, 10 September 2010 12:01 PM
To: Gustafsson, Helen; [REDACTED] Gwynn-Jones, Toni; Todd, Kylie; Robertson, Cameron
Cc: 'Maria Fahey'; Blakely-Kidd, Richard
Subject: RE: IMRIS Manuals List
Attachments: 100910_IMRIS Manuals List edKB.doc

Dear All,

Please find updated list of manuals with BME.

Kyril

-----Original Message-----

From: Gustafsson, Helen
Sent: Friday, 10 September 2010 11:43 AM
To: [REDACTED] Gwynn-Jones, Toni; Belle, Kyril; Todd, Kylie; Robertson, Cameron
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: IMRIS Manuals List

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Helen

Helen Gustafsson, PhD
Senior Medical Physics Specialist
Department of Medical Physics
The Canberra Hospital
ACT 2606
Australia
Tel: +61 2 6174 5623
E-mail: helen.gustafsson@act.gov.au
Mobile: [REDACTED]

From: [REDACTED]
Sent: Friday, 10 September 2010 11:30 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen; Todd, Kylie; Robertson, Cameron
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: IMRIS Manuals List

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Kind Regards,

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[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 4:43 PM
To: [Redacted] Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

Yes please,

Thanks

Toni

Toni Gwynn-Jones
Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

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Sent: Wednesday, 8 September 2010 1:51 PM
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Subject: RE: soft copy of manual list

Toni,

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Kind Regards,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

From: Gwynn-Jones, Toni [mailto:Toni.Gwynn-Jones@act.gov.au]
Sent: Wednesday, 8 September 2010 12:11 PM
To: [REDACTED] Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: RE: soft copy of manual list

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Regards,

Toni

Toni Gwynn-Jones

Assistant Director of Nursing (Ag)
Perioperative Services
The Canberra Hospital
P.O Box 11 WODEN ACT 2606
T 0262442765
Email: Toni.Gwynn-Jones @act.gov.au

ACT Health Values:- Care, Excellence, Collaboration & Integrity

From: [REDACTED]
Sent: Wednesday, 8 September 2010 11:37 AM
To: Gwynn-Jones, Toni; Belle, Kyril; Gustafsson, Helen
Cc: Maria Fahey; Blakely-Kidd, Richard
Subject: FW: soft copy of manual list

All,

Please find IMRIS Manuals list attached

Kind Regards,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Wednesday, 1 September 2010 9:04 AM
To: Blakely-Kidd, Richard
Cc: [REDACTED]
Subject: soft copy of manual list

Richard

As requested by [REDACTED]

[REDACTED]

~~~~~

[Redacted content]

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Neurosurgical Suite - IMRIS Manuals List

Manual Title	Qty	Paper	CD	From	Original Copy	Other Copies	Comments
Black Box Express Ethernet Switches	1	-	Yes	IMRIS	OR Control Room		
Black Box LB8405A-R3-US - Installation Guide	1	Yes	-	IMRIS	OR Control Room		
Black Diamond CXPS Manual (Matrix Software)	1	-	Yes	IMRIS	OR Control Room		
Bogen Desktop Paging Microphone - Specification page	1	Yes	-	IMRIS	OR Control Room		
Cisco Models SR216 16-Port & SR224 24-Port Switch - Quick Start Guide	1	Yes	-	IMRIS	OR Control Room		
Creston RS232 Expansion Cards - Operation and Installation Guide	2	Yes	-	IMRIS	OR Control Room		
Creston TPS-GA-TPI Touchpanel Interface - Operations Guide	2	Yes	-	IMRIS	OR Control Room		
Creston AV2 and PRO2 Integrated Dual Bus Control System - Operations Guide	1	Yes	-	IMRIS	OR Control Room		
Creston Three Card Expansion Cage for AV2 - Installation guide	1	Yes	-	IMRIS	OR Control Room		
Creston Professional Audio Amplifier - Operations Guide	1	Yes	-	IMRIS	OR Control Room		
Creston System Power Supply - Operations Guide	1	Yes	-	IMRIS	OR Control Room		
CD - Marantz 5 Disc CD Changer - User's Guide	1	Yes	-	IMRIS	OR Control Room		
DDA Digital to Analogue Converter - Specification and Installation Guide	3	Yes	-	IMRIS	OR Control Room	1 at Biomedical Engineering Department	
DDL/DSL User's Guide	2	Yes	-	IMRIS	OR Control Room		
DDL/DSL User's Manual	2	Yes	-	IMRIS	OR Control Room		
Black BoxDVI - 2 & 4 Channel Splitter / Extender - Installation Guide and Specification		Yes	-	IMRIS	OR Control Room		
ETS Lindgren Auto-Seal II user guide	1	Yes	-	IMRIS	OR Control Room		
ETS Lindgren Maintenance Manual MRDR Doors	1	Yes	-	IMRIS	OR Control Room		
STS Lindgren RF shielding Maintenance Guide.	1	Yes	-	IMRIS	OR Control Room		
ETS Lindgren User guide Interoperative Sliding Doors	1	Yes	-	IMRIS	OR Control Room		

Neurosurgical Suite - IMRIS Manuals List

Manual Title	Qty	Paper	CD	From	Original Copy	Other Copies	Comments
ETS Lindgren Certificates of Compliance	1	Yes	-	IMRIS	OR Control Room		
ETS Lindgren Manufacturer's Cleaning Instructions	1	Yes	-	IMRIS	OR Control Room		
ETS Lindgren Warranty	1	Yes	-	IMRIS	OR Control Room		
EULA Terms for Windows XP Professional - Attachment-2 (License restrictions)	1	Yes	-	Siemens	OR Control Room		
Extron Video Scan Converter - User's Manual	2	Yes	Yes	IMRIS	OR Control Room		
Gigabit Ethernet Switch Model 1000BASE-T - User's Guide	1	Yes	-	IMRIS	OR Control Room		
Grafik Eye Series 400 - Installer's Guide	1	Yes	-	IMRIS	OR Control Room		
Grafik Eye Wallstations - Installation Instructions					OR Control Room		
Head Fixation Device - Doro MR Compatible Instruction Manual NEW VERSION	2	Yes	-	IMRIS	OR Control Room		
HP Photosmart Printer Driver CD	1	-	Yes	IMRIS	OR Control Room		
HS Series Powered Speaker - Owner's Manual Yamaha	1	Yes	-	IMRIS	OR Control Room		
iBootBar	1	-	Yes	IMRIS	OR Control Room		
IMRIS Recommended Cleaning Instructions	1	Yes		IMRIS	OR Control Room		
IMRISneuro Installation Pkg - Split Array Head Coil File	1	-	Yes	IMRIS	OR Control Room		
Knurr Socket Strip - Technical and Functional Description	1	Yes	-	IMRIS	OR Control Room		
Lutron Dimming and Switching Panels - Installation Guide	2	Yes	-	IMRIS	OR Control Room		
Magnetom Espree - Operator Manuals MR system	1 ea	Yes	Yes	Siemens	OR Control Room		
Magnetom Family - Operator Manual Coild 1.5T	1	Yes	-	Siemens	OR Control Room		
Medtronic StealthViz with Stealth DTI Applications Reference Guide	1	Yes	-	Medtronic	OR Control Room		
Medtronic Stealth Station Cranial Navigation with Synergy Software	2	Yes	-	Medtronic	OR Control Room		
Medtronic Imaging Protocols for Cranial, DBS and ENT Applications	2	Yes	-	Medtronic	OR Control Room		

Neurosurgical Suite - IMRIS Manuals List

Manual Title	Qty	Paper	CD	From	Original Copy	Other Copies	Comments
Med-X-Change - Recovery CD	1	-	Yes	IMRIS	OR Control Room		
Middle Atlantic's Vertical Power Strips - Specification	1	Yes	-	IMRIS	OR Control Room		
Pitron Toroidal Power - Medical Power Isolation Unit - Owner's Manual	1	Yes	-	IMRIS	OR Control Room		
Plextor - function not further identified	2	Yes	Yes	IMRIS	OR Control Room		
Polycom technical resource	1		Yes	Siemens	OR Control Room		
RDL AV-PAK Series Audio Isolation Module - Installation page	1	Yes	-	IMRIS	OR Control Room		
RDL Model STP-1 Dual Variable Attenuator - Installation & Operation page	2	Yes	-	IMRIS	OR Control Room		
RDL Model STD Series Divider/Combiner Networks - Installation & Operation page	3	Yes	-	IMRIS	OR Control Room		
Radiance NDS Monitor User manual	1	Yes	-	IMRIS	OR Control Room		
Black Box Remote Port USB 2.0, Cat-5 - User's Guide	1	Yes	-	IMRIS	OR Control Room		
Sharp PN-S655 LCD Wall Monitor - Operation Manual	4	Yes	Yes	IMRIS	OR Control Room		
Shure Microflex Boundary Microphone - User's Guide	1	Yes	-	IMRIS	OR Control Room		
Siemens MR005 BIOS CD VB17C	-	-	Yes	Siemens	OR Control Room		
Siemens syngo MR B17 Applications	-	-	Yes	Siemens	OR Control Room		
Siemens COBR-Recovery-Image	1	-	Yes	Siemens	OR Control Room		
Siemens Configuration Report	1	Yes	-	Siemens	OR Control Room		
Siemens Configuration MREASE page	1	Yes	-	Siemens	OR Control Room		
Siemens Declaration of Conformity page	1	Yes	-		OR Control Room		
Siemens syngo Expert-i Viewer B17/C13	1	-	Yes		OR Control Room		
Siemens Guidance & Manufacturer's Declaration EMC	1	Yes	-		OR Control Room		
Siemens Safety Information	1	Yes	-		OR Control Room		

Neurosurgical Suite - IMRIS Manuals List

Manual Title	Qty	Paper	CD	From	Original Copy	Other Copies	Comments
Siemens MRI 30998 Master Back-Up CD as of 19Jly2010	1	-	Yes		OR Control Room		
Siemens Magnet Acceptance page	1	Yes	-		OR Control Room		
Siemens MR User Documentation (brochure)	1				OR Control Room		
Siemens Packing List	2	Yes	-	Siemens	OR Control Room		
Siemens Patient Video Monitor 6813 - Operating Manual	1	Yes	-	Siemens	OR Control Room		
Siemens syngo MR B17 Symphony TIM System CD	1	-	Yes	Siemens	OR Control Room		
Siemens technical Documents Vol 1 (blue folder)	1	Yes	-	Siemens	OR Control Room		
Siemens technical Documents Vol 2 (blue folder)	1	Yes	-	Siemens	OR Control Room		
Sonance Speakers - Specification	1	Yes	-	IMRIS	OR Control Room		
Sonance Speakers - Surface Mounting Instructions	1	Yes	-	IMRIS	OR Control Room		
Sony - Monitor Limited Warranty page	1	Yes	-	IMRIS	OR Control Room		
Steed MF 1080 Isolating Transformer - Instruction Manual	1	Yes	-	IMRIS	OR Control Room		
Steris Harmony LED Surgical Lighting System - Operating Manual	2				OR Control Room		
Steris Harmony LED Surgical Lighting System - Installation Instructions	2	Yes	-	IMRIS	OR Control Room		
Black Box S-Video Balun - Specification	2	Yes	-	IMRIS	OR Control Room		
SurgeX SX2120 Surge Eliminator and Power Conditioner - Specification Page	1	Yes	-	IMRIS	OR Control Room		
Teracue - no functional description provided	1	-	Yes	IMRIS	OR Control Room		
Touch Tools - Drivers and Documentation	2	-	Yes	IMRIS	OR Control Room		
TruLink Audio Video Splitter Extender - Technical Specification	1	Yes	-	IMRIS	OR Control Room		
Tyco LCD Desktop Touch Monitor - Quick Installation Guide	2	Yes	-	IMRIS	OR Control Room		
Polycom Vortex EF2241 - Reference Manual	1	Yes	Yes	IMRIS	OR Control Room		

Neurosurgical Suite - IMRIS Manuals List

Manual Title	Qty	Paper	CD	From	Original Copy	Other Copies	Comments
VSA Telescoping Rack Mounting System - Specification	1	Yes	-	IMRIS	OR Control Room		
Nursing Procedure manual	5	Yes		IMRIS	OR Control Room	1 at Medical Physics Department 1 at Biomedical Engineering Department	
Training manual on site intra operative applications	5	Yes		IMRIS	OR Control Room	1 at Medical Physics Department 1 at Biomedical Engineering Department	
User Manual IMRIS neuro 1.5 Tesla	1	Yes		IMRIS	OR Control Room		

McClymont, Geoff

From: Geoghegan, Sean
Sent: Monday, 26 March 2012 4:46 PM
To: McClymont, Geoff
Subject: iMRI FOI - FW: Neuro Suite Test report

From: Belle, Kyril
Sent: Monday, 18 October 2010 5:25 PM
To: Geoghegan, Sean; Gustafsson, Helen
Subject: RE: Neuro Suite Test report

Thanks Sean, for your valuable comments. Will correct as suggested.

Regards,

Kyril

Kyril Belle

Senior Biomedical Engineer | Biomedical Engineering | Building 3, Level 1, Canberra Hospital, Yamba Drive, GARRAN, ACT 2605 | P: (02) 624 44496 | M: [REDACTED]
Business Support, B&I

Email: kyril.belle@act.gov.au
Web: www.health.act.gov.au

From: Geoghegan, Sean
Sent: Monday, 18 October 2010 4:55 PM
To: Belle, Kyril; Gustafsson, Helen
Subject: RE: Neuro Suite Test report

Hi Kyril,

I like the report, Yuan has done a great job. Some comments:

1. There are a few spelling mistakes (see "biomedicla" in the first paragraph on page 3).
2. The classification of an piece of equipment as being safe, conditional or unsafe is not completely clear, for example the physiological monitor appears to be broken into three components which are individually assessed, however I have had to reach this conclusion by interpreting the data and the figures. I suggest that the particular components are named for the overall assessment and a conclusion is provided about the equipment such as "The physiological monitor was assessed as three separate components: The monitor stand including all components is MRI conditional to 5 mT, the (white box) is MRI Unsafe and the black power transformer is MRI Conditional to 5 mT. The overall assessment for this equipment is MRI Unsafe." Without this concluding paragraph is would be difficult for someone to reach a decision quickly without having to interpret the data and diagrams.
3. The distribution of page breaks could be improved to reduce the number of times a table is cut across two pages.

Cheers,

Sean

Sean Geoghegan

Chief Medical Physicist ACT Health Australia
Medical Physics The Canberra Hospital GARRAN ACT 2605
P: +61 2 6244 2256 F: +61 2 6244 3819 M: [REDACTED]

Business & Infrastructure

Committed to timely, responsive and client-focused services

Care Excellence Collaboration Integrity

From: Belle, Kyril

Sent: Monday, 18 October 2010 11:42 AM

To: Gustafsson, Helen; Geoghegan, Sean

Subject: Neuro Suite Test report

Hi Sean and Helen,

Could you please have a look at the MRI safety testing report (links below) and comment as required before I sent it to MRI safety committee and surgical services. I hope the report and the SOP will be standard for all ACT Health future MRI suite equipment.

^Many Thanks . Happy to discuss in person if necessary.

Kyril

G:\Biomedical Eng\iMRI\Claire's report\iMRI BME test\Test reports

G:\Biomedical Eng\iMRI\Claire's report\iMRI BME test\CFGs\CFG
200N\Mecmesin_CFG+ Compact Force Gauge 2010-Current Brochure.pdf

G:\Biomedical Eng\iMRI\Claire's report\iMRI BME test\CFGs\CFG
200N\Mecmesin_CFG+ Compact Force Gauge 2010-Current Manual.pdf

(iMRI Biomedical Equipment Safety test spreadsheet)

G:\Biomedical Eng\iMRI\Claire's report\iMRI BME test\Test schedules\Biomed Equipment Assessment
orm v1.6.xlsx

Regards,

Kyril

Kyril Belle

Senior Biomedical Engineer | Biomedical Engineering | Building 3, Level 1, Canberra Hospital , Yamba Drive, GARRAN, ACT 2605 | P: (02)
624 44496 | M: [REDACTED]
Business Support , B&I

Email: kyril.belle@act.gov.au

Web: www.health.act.gov.au

**Meemesis**

testing to perfection



Compact Force Gauge⁺

Operating Manual



S.I. Instruments
256 South Rd. Hilton
South Australia 5033
Ph (08) 8352 5511

info@si-instruments.com
www.si-instruments.com

Contents

The Compact Force Gauge (CFG+)

Powering the Gauge	3
Using the Gauge	4
Basic Functions	6
RS232 Commands	11
CFG+ Specifications	14
Dimensions	15

The Compact Force Gauge (CFG+)

Introduction

Thank you for choosing Mecmesin's Compact Force Gauge+ (CFG+). With correct use and regular re-calibration it will give many years of accurate and reliable service.

The CFG+ is the elementary member of a series of highly versatile display units. Specifically designed for performing basic tension and compression tests, the CFG+ can be used handheld or fixed to a manual or motorised test stand.

Before Use

Upon receiving the unit please check that no physical damage has occurred to the packaging material or the instrument itself. If any damage is evident please notify Mecmesin or your local distributor immediately.

Operation

The most commonly used features, such as displaying force, peak hold, zero and changing of displayed units of measurement can all be done by pressing a single dedicated key on the front panel – see page 6, Basic Functions.

Powering the Gauge

The CFG+ is supplied with a set of 4 x 1.5V AA batteries. To fit the batteries you must first remove the battery cover on the upper part of the rear of the gauge. To release the battery cover press the battery cover as indicated by the arrow and slide the cover upwards. Fit the batteries in the battery holder ensuring that you observe polarity. Incorrect insertion of batteries can cause damage to the gauge. To replace the battery cover slide it from the top edge of the gauge until it clicks into place.

If the gauge is not going to be used for 3 months or more the batteries should be removed and stored separately. (Settings and calibration data will not be lost if the batteries are removed).

Replacing batteries

Low battery symbol

If the low battery symbol appears on the display the gauge will power-off unconditionally at intervals of one minute. The gauge may be repowered but will power-off every one minute as long as the low battery symbol remains on the display.

This feature has been designed into the gauge to protect the integrity of displayed readings because when the low battery symbol appears the accuracy of the loadcell reading may be compromised.

When the low battery symbol appears on the display, fit four new 1.5V AA batteries in the gauge. **Rechargeable batteries should not be used in the CFG+.**

Mains operation

The CFG+ can also be powered directly from the mains using an AC Power Adaptor plugged into the right hand side of the gauge (available as an optional extra). Using an incorrect power adaptor can damage the gauge.

Battery safety information

NEVER:

- Short circuit Disassemble or deform cells
- Heat or incinerate Immerse in water
- Solder anything to the battery terminals
- Reverse individual cell polarity
- Use alternative chargers other than that supplied by Mecmesin (Available as an optional extra)
- Use replacement parts other than that supplied by Mecmesin

Never dispose of batteries with 'normal' refuse. Contact your local Environmental Authority to determine the location of your appropriate disposal facility.

Using the Gauge

Fitting accessories

All CFG+ instruments are supplied with a short extension rod (30mm long). This fits directly onto the loadcell mounted in the bottom of the CFG+.

Note: When fitting the extension rod always ensure that it is screwed finger-tight only. Excessive torque or overtightening can damage the loadcell.

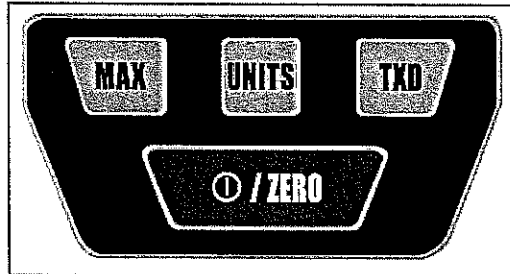
Note: When attaching accessories to the gauge always use the extension rod.


Mounting to a test stand

On the rear of the gauge are 4 x M3 threaded holes, which can be used with the CFG+ Mounting Plate (available as an optional extra) for mounting the gauge to a Mecmesin test stand.

Powering up

Fig. 1




As shown in Fig. 1, the control panel has 4 keys. To power up the gauge press the red and white  key. A short self test will run during which the software version number, the currently selected baud rate and the loadcell capacity in newtons are shown. The gauge will then enter the main display mode.

After the self test, providing no load has been applied to the instrument, the display will show all zero's. This is because the gauge zero's itself during the self test routine.

If a compressive or tensile force is applied via the extension rod to the loadcell, the reading on the display will register the applied force if not in MAX Mode.

Turning off

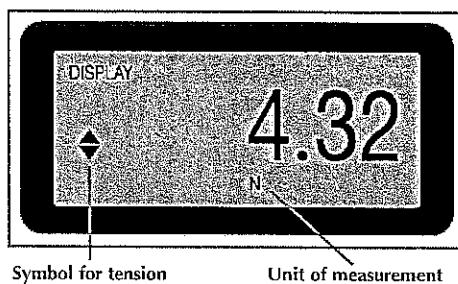
To turn off the gauge press the  key for at least 2 seconds.

Basic Functions

Display of Tension/Compression

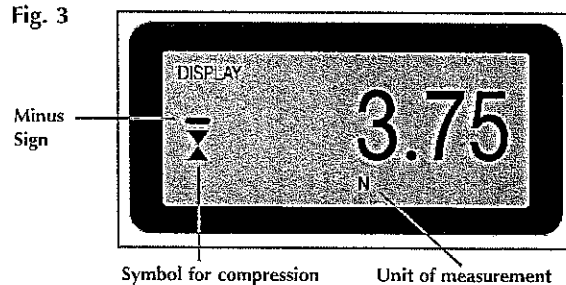
Tensile forces \blacklozenge are displayed on the CFG+ and recognised by the symbol (See Fig. 2).

Fig. 2



Compressive forces \blacktriangledown are displayed on the CFG+ and recognised by the symbol (See Fig. 3).

Fig. 3



Zeroing the gauge

During the operation of the gauge it is often necessary to zero the display – e.g. when you wish to tare out the weight of an accessory that you do not want to become part of the measured reading. Press and release the **ZERO** key. When the gauge is in the process of zeroing itself a row of segments on the top and bottom of the display will be seen to alternately blink once. When this is completed the display will read zero. This function will not be performed if the gauge is in an overloaded state.

Changing the unit of measurement

You can choose from the following units of measurement depending on the capacity of the gauge: newtons (N), kilogram-force (kg), millinewtons (mN), gram-force (g), ounce-force (oz), pound-force (lb) or kilonewtons (kN).

To change the display units press and release the **UNITS** key. Each successive key press will select the next available units until the gauge returns to its original setting. The CFG+ automatically converts readings as new units of measurement are selected.

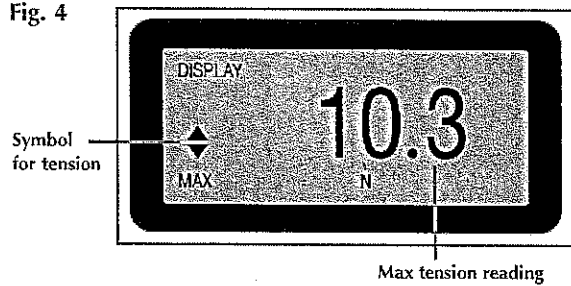
Max (peak) readings

The gauge detects and stores maximum (peak) force in both compressive and tensile directions.

Max Tension

Press the **MAX** key. The display will show the word **MAX** together with the highest tensile \blacklozenge force (See Fig. 4).

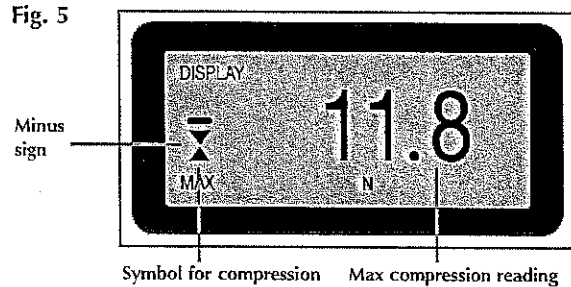
Fig. 4



Max Compression

Press the **MAX** key. The display will show the word **MAX** together with the highest compressive \blacktriangledown force (See Fig. 5).

Fig. 5



Data Output

CFG+ uses
9600 or 115200 Baud
8 data bits
1 start bit
1 stop bit
no parity

A data cable is available as an optional extra to connect your gauge to peripheral devices

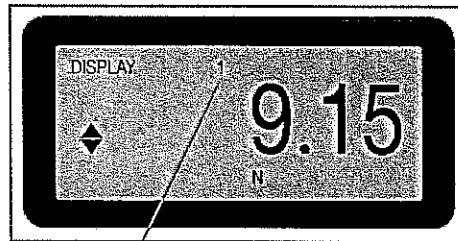
The continuous data stream rate is 100Hz at 9600 Baud and 250Hz at 115200 Baud

The CFG+ has RS232 output. It is possible to transmit the displayed reading to peripheral devices (e.g. PC, printer) by pressing and releasing the **TXD** key.

Displayed readings can also be requested individually from a PC via the RS232 interface by sending a "?" (ascii D63 [3fh]) character.

For sending a continuous data stream to a PC, press and hold the **TXD** key for 2 seconds and release. A '1' will now appear in the display to indicate that data can now be sent (See Fig. 6). To stop sending data, simply press and release the **TXD** key, at which point a '1' will disappear from the display.

Fig. 6



Symbol indicates data can be sent

Please note that the continuous data stream only starts when approximately 2% of the rated capacity of the gauge is reached.

Remote key press from PC

Hold down the Ctrl key on the keyboard and press:

- a to simulate pressing the **TXD** key*
- b to simulate pressing the **UNITS** key
- c to simulate pressing the **MAX** key
- e to simulate pressing the **ZERO** key

* **Note** that the continuous transmission mode cannot be entered via this method.

See page 11 for full table.

Optional Settings through Dual Function keys

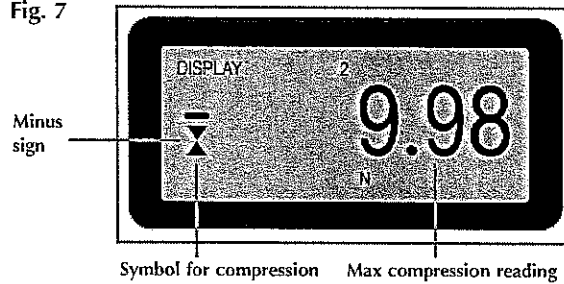
Baud Rate

Holding down the **TXD** key whilst turning on the gauge will toggle between baud rates of 9600 and 115200. If the baud rate is being toggled, when powered up the gauge will display either 9600 or 115.2 between displaying the software version number and the loadcell capacity. The baud rate setting will be stored in memory and remembered when the gauge is turned off.

Removing the minus sign during data transmission


Holding down the **MAX** key while turning the gauge on will enable or disable sending a minus sign with RS232 transmission. If the 'transmit sign' function is enabled then '2' is displayed in the top row of the display (See Fig. 7). This setting is stored in the memory and is remembered when the gauge is powered down.

Fig. 7



Auto-off

To conserve battery power the gauge constantly keeps a record of time elapsed since the last key press. If this function is not disabled and the low battery symbol is not showing, the gauge will power down after approximately five minutes has elapsed since the last key press, the last load change greater than 2% or the last recurrence of RS-232 communication.

If the gauge is being used for a long test the user may wish to disable the auto-off function. The auto-off function can be disabled when powering up the gauge by holding down the  until the display shows 'No Ao'.

Overload

An instrument showing an overload condition cannot be relied upon to provide accurate, repeatable measurement – consult your supplier.

Do not overload the loadcell, as this can cause irreparable damage.

Forces greater than 120% of full-scale will show an '-OL-' symbol and the corresponding tension or compression symbols on the display. If the display shows 'OL' (without dashes) in either of the two max modes, the loadcell is not currently in overloaded state but has been overloaded at least once since the last **ZERO** operation.

Overload counters

If you suspect that the gauge has been subjected to overloading this can be verified by pressing the **UNITS** key while turning on the gauge. This will first display the number of overloads in tension, press **UNITS** key again to see the number of overloads in compression. Press **UNITS** key once more to allow the gauge to resume powering up.

Removing recorded overloads can only be undertaken by Mecmesin or an approved distributor.

Should the instrument have sustained a catastrophic overload the symbol 'OL' will be permanently displayed and the instrument must be returned to Mecmesin or an approved Mecmesin distributor for repair.

Display messages

- '-OL-' Overload – More than 120% of full scale load is currently being applied to the transducer
- 'OL' Overload – The peak force reading was applied to the loadcell in excess of 120% of full-scale
- 't-ERR' Tare Error – The zero function was performed while the transducer was in an overloaded state
- 'No Ao' No Auto off – Automatic power-off is disabled
- 'C-DEF' Calibration default – Invalid calibration data; please notify Mecmesin or an authorised representative for calibration

RS232 Commands Table: Configuration

It is possible to remotely read/configure the settings of your CFG+ by sending the following RS232 command characters:

Character in ASCII	Decimal	Hexadecimal	Function
M	77	0x4D	Current mode
U	85	0x55	Current units
C	67	0x43	Loadcell capacity in newtons
?	63	0x3F	Transmit the current reading
@	64	0x40	Configuration Status Request
*	42	0x2A	Toggle Continuous Transmit Mode
r	114	0x72	Normal Screen (Non max)
t	116	0x74	Max Tension Screen
u	117	0x75	Max Compression Screen
a	97	0x61	Change Units to mN
b	98	0x62	Change Units to N
c	99	0x63	Change Units to kN
d	100	0x64	Change Units to gf
e	101	0x65	Change Units to kgf
f	102	0x66	Change Units to ozf
g	103	0x67	Change Units to lbf
CTRL a	1	0x01	Simulates the TXD key
CTRL b	2	0x02	Simulates the UNITS key
CTRL c	3	0x03	Simulates the MAX key
CTRL e	5	0x05	Simulates the ZERO key (to ZERO a load reading, not turn the gauge off)
CTRL o	15	0x0F	Turns the gauge off

RS232 Command Responses: Information

It is possible to remotely interrogate your CFG+ by sending the following RS232 commands. This will inform you which settings are currently configured.

Command: M

Response	CFG+ Display Mode
Normal	Normal Mode
MaxC	Max Compression
MaxT	Max Tension

Command: U

Response
mN
kN
N
gf
kgf
ozf
lbf

RS232 Command Responses: Information

Command: C

The loadcell size in N

Note: 'xxxx' will be transmitted if the loadcell is not calibrated, or has a serious fault. Contact Mecmesin or your supplier.

Command: @

You will receive the following information listing:

Response	Explanation of Response
Compact+	Gauge Type
50, 100, 200, 500 or 'xxxx' if the gauge is uncalibrated	Loadcell size in N
V01	Version number
Normal, MaxT or MaxC	Mode of operation
mN, kN, N, gf, kgf, ozf or lbf	Units of operation

CFG+ Specifications

Range & Resolution

Model no:	N	kgf	lbf
CFG+ 50	50 x 0.05	5 x 0.005	11 x 0.01
CFG+ 100	100 x 0.1	10 x 0.01	22 x 0.02
CFG+ 200	200 x 0.2	20 x 0.02	44 x 0.05
CFG+ 500	500 x 0.5	50 x 0.05	110 x 0.1

Accuracy

±0.5% of full-scale

Calibration temperature: 20°C ±2°C

Operating temperature: 10°C - 35°C

Temperature shift at zero load: ±0.09% of full-scale/°C

Output

RS232-C

9600 or 115200 Baud

8 data bits, 1 start bit, 1 stop bit, no parity

Optional Extras

AC Power Adaptor

A 6V - 9V AC-DC power adaptor (fitted with a 1.3mm DC power plug with +6V - +9V DC on the centre conductor), can be plugged into the right hand side of the gauge.

Note: Using an incorrect power adaptor can damage the gauge.

CFG+ Mounting Plate

Enables the CFG+ to be mounted to a Mecmesin test stand.

Cable CFG+ to RS232

An interface cable for connecting your CFG+ to peripheral devices

Emperor™ Lite

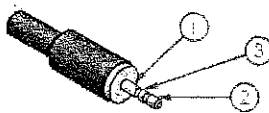
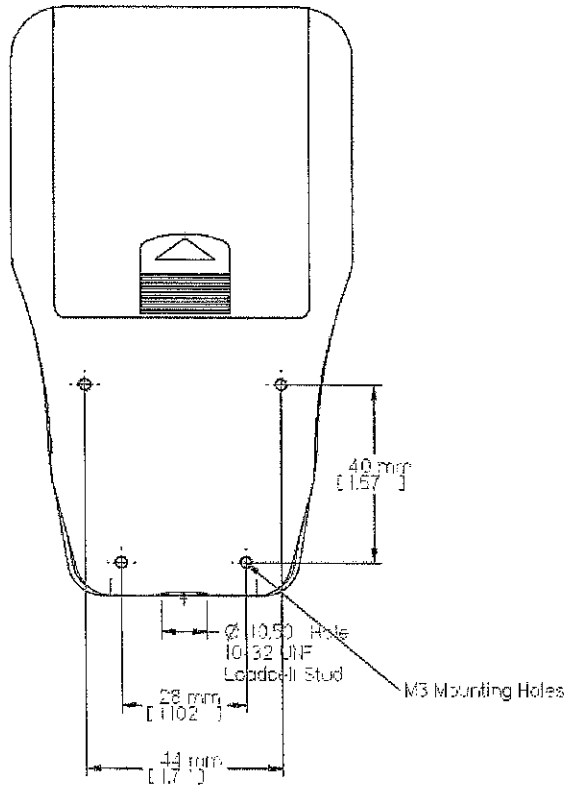
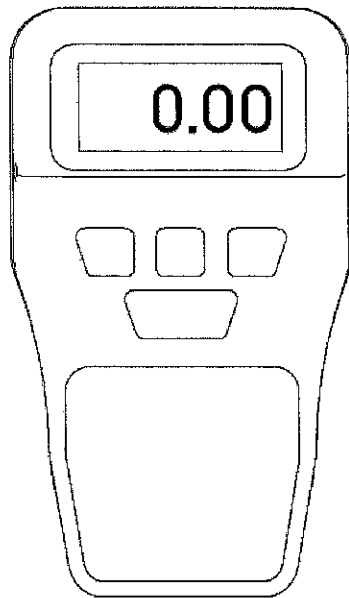
Expand the functionality of the CFG+ with Emperor™ Lite data acquisition and plotting software. Analyse test results and view data in graphical format.

Consult your local distributor to buy any of the above items or please see the website: www.mecmesin.com

Dimensions (in Millimetres)

Front View

Rear View

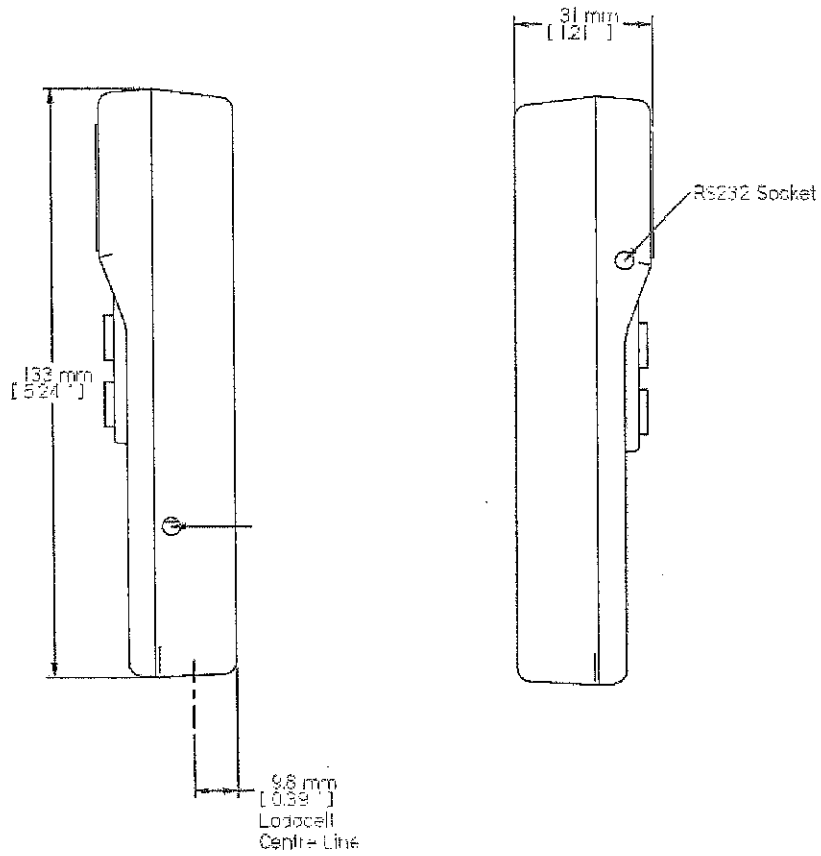


Pin Out:	
1	Ground
2	RS-232 Transmit
3	RS-232 Receive

Allocation for the pins on the 3-pin connector for RS-232 communication.

Dimensions (in Millimetres)

Side Views

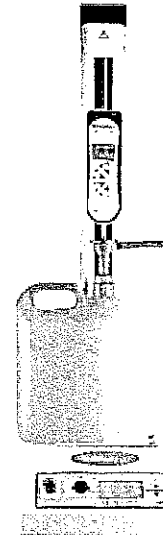


Also Available from Mecmesin...

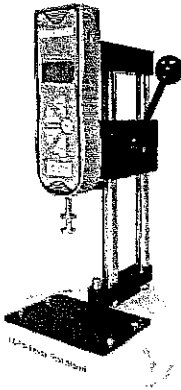
MultiTest-d

The MultiTest-d systems are motorised test frames, which when combined with a force gauge and fixtures, are ideal for straight forward force testing applications. Features below:

- Cost-effective: affordable, suitable for businesses with limited resources
- User-friendly: easy-to-learn and operate even for infrequent users
- Precise: improved digital speed control
- Easy-to-read LCD screen: digital display of displacement speed
- Output capability: create load/displacement graphs
- Capacities: 2 capacities available - 1kN (220lbf) or 2.5kN (550lbf)
- Robust: rugged enough for the factory floor and sensitive enough for the laboratory



LCP/S



The LCP/S lever-operated test stand is ideal for testing on a repetitive basis up to 500N (110lbf) capacity. The MDD has 1000N (220lbf) capacity and handwheel operation to allow fine positional control of the crosshead.

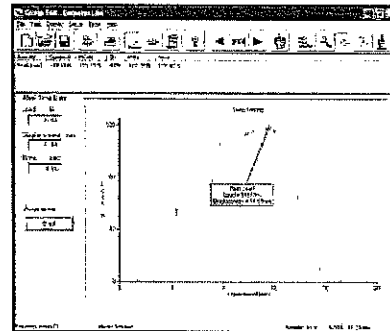
- Easy-to-use
- Robust
- Lightweight
- Portable
- Economical for simple tests

Also Available from Mecmesin...

Emperor™ Lite

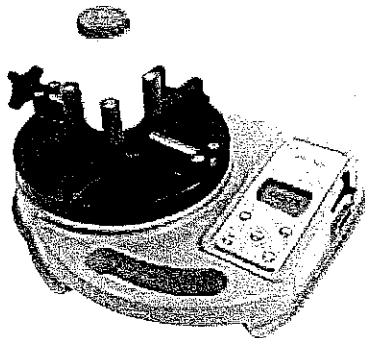
Emperor™ Lite is Mecmesin's powerful data-acquisition software, for use with its extensive range of force & torque measurement instruments. The software quickly and easily enables operators to perform in-depth analysis of measurements using a graphical trace of the test.

User-selectable calculations provide instant results for key test parameters, allowing you to gain valuable quantitative information about the test samples



- Control: perform multiple calculations e.g. peak, minimum and average
- Visual: view test 'live' in real time on PC screen
- In-depth analysis: easily identify and label critical measurement values and pass/fail points during the test
- Flexible: summary test report with graphical traces

Orbis



The Orbis digital torque tester offers a simple, cost effective alternative to the Tornado. Featuring the same highly accurate digital torque capture, but without the Tornado's advanced programming functions, the Orbis is suitable for a broad range of basic torque applications.

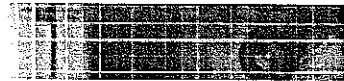
- 6N.m
- Clear, intuitive controls
- Compact, portable & affordable
- Mains or battery powered

To find out about our broad range of grips and accessories, please call us on +44 (0) 1403 799979, or visit us at www.mecmesin.com.



Mecmesin

testing to perfection



Over 30 years experience in force & torque technology

Formed in 1977, Mecmesin Ltd is today widely regarded as a leader in force and torque technology for quality control testing in design and production. The Mecmesin brand stands for excellent levels of performance and reliability, guaranteeing high quality results. Quality control managers, designers and engineers working on production lines and in research laboratories worldwide rely upon Mecmesin force & torque measurement systems for a range of quality control testing applications, which is almost limitless.

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Compact Force Gauge (CFG +)

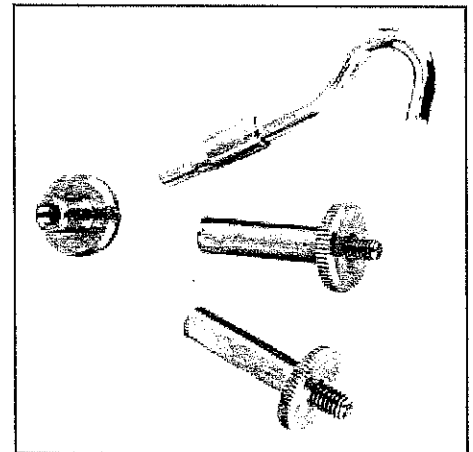
- Accuracy $\pm 0.5\%$ of full scale
- Peak hold in tension and compression
- Selectable units of measurement
l, mN, lbf, ozf, kgf and gf
- RS232 for easy data transmission
- Lightweight plastic case
- Overload warning
- Auto-off function
- CE Mark



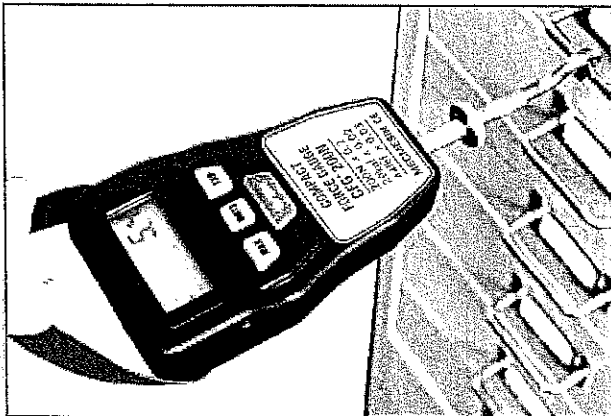
The CFG+ digital force gauge with RS232 output provides an economical solution for simple tension and compression testing. Powered by AAA batteries, the CFG+ can be used handheld or fixed to a manual or motorised test stand.

A simple digital alternative to traditional analogue spring balances, the CFG+ is ideal for users with a limited budget, who only measure on an occasional basis for non-critical applications.

The CFG+ is available in 3 models - 50N, 200N and 500N (11lbf, 44lbf and 110lbf) - and comes complete with a set of accessories, so you can start testing immediately.



CFG+ Accessories



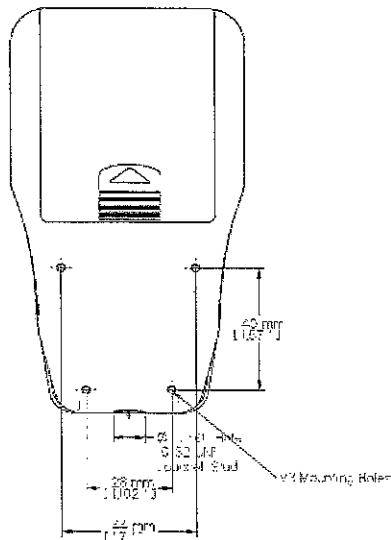
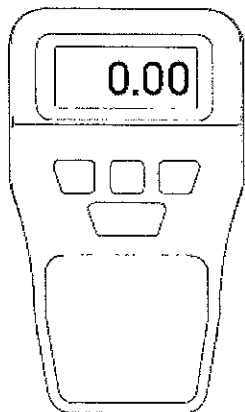
Tensile Test on a Drawer

cost-effective
easy-to-use
durable

Mecmesin

testing to perfection

Dimensions



Optional Extras

CFG+ Mounting Plate

Connect your CFG+ to a Mecmesin test stand for a complete test system



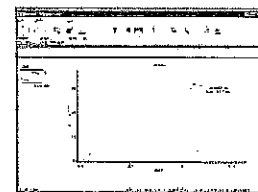
Cable CFG+ to RS232

Connect your CFG+ to a peripheral device e.g. PC for easy data transmission of test results



Emperor™ Lite

Expand the functionality of the CFG+ with Emperor™ Lite data acquisition and plotting software. Analyse test results and view data in graphical format



Specifications

Model No.	Part No.	Capacity x Resolution		
		N	kgf	lbf
CFG+ 50	860 - 021	50 x 0.05	5 x 0.005	11 x 0.01
CFG+ 200	860 - 022	200 x 0.2	20 x 0.02	44 x 0.05
CFG+ 500	860 - 023	500 x 0.5	50 x 0.05	110 x 0.1

Accuracy ±0.5% of full scale

Note: The following units are available on the majority of CFG+ models. Those that differ are marked by an asterisk with details given: kN*, N, mN, kgf, gf**, lbf, ozf

* Not available on the CFG+ 50N

** Not available on the CFG+ 200N or 500N



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Biomed Test Schedule

Equipment	New/ Existing	To be tested?	Qty	Manufacturer / Supplier	Model	SIN	Asset #	Comments
1a) Physiological monitor	New	Yes	1	iMaxeon	Veris	04-5803	H200924	Tested
1b) Physiological monitor - power supply	New	Yes	1	iMaxeon	Veris	AX001624	-	Tested
1c) Physiological monitor - ECG power supply	New	Yes	1	Medrad	Veris	PN: 3010974	-	Tested
2) Anaesthetic workstation	New	Yes	1	Drager	Fabius MRI	ASBH-0028	H200917	Tested
3a) Diathermy machine (Bipolar Diathermy - ESU)	New	Yes	1	Covidien/ Valleylab	Force FX-8CS	SF0D06364A	H200900	Tested
3b) ESU (Bipolar foot switch)	New	Yes	1	Covidien/ Valleylab	Force FX-8CS	REF: E6009	-	Tested
3c) ESU (Foot switch - B.Y)	New	Yes	1	Covidien/ Valleylab	Force FX-8CS	REF: E6006B	-	Tested
4a) Smoke Evacuator	New	Yes	1	Covidien/ Valleylab	RapidVac	VL002038	H200899	Tested
4b) Smoke Evacuator Filter	New	Yes	2	Covidien/ Valleylab	RapidVac	REF: SEA3700	-	Tested
5a) Syringe Drivers	New	Yes	4	iMaxeon	Medrad	DS: 31596; 31590; 31592; 31236	DS: 509111, 509112, 509110, 509109 Pump: 509108, 509107, 509106, 509105	Tested
5b) Syringe Drivers - power supply	New	Yes	2	iMaxeon	Medrad	3019687 10362; 3019687 10345	509113, 509114	Tested
6) MRI safe patient trolley	New	Yes	1	Wardray Premise	MR550	SER.07131	-	Tested
7) Patient warmer	Existing	Yes	4	Critical Assist; Gaymar	Bair hugger; Thermacare	TC3003 D10001; TC3003 A10003; TC3003 B00004; 16132	503383; 503389; 503390; 13118	Tested
8) Pneumatic drill	New	Yes	?	-	-	-	-	Test not needed
9) Laryngoscope	Existing	Yes	4	Koala Medical; Timesco	N/A; Optima	(Blade) PN: ANA006, ANA005	N/A	Tested
10) Microscope	Existing	Yes	1	Leica	Miaka	032307015	-	Tested
11) Transport Monitor	New	Yes	1	Drager	Infinity Delta	6002846362	H201501	Tested
12a) Sequential Compression Device (SCD)	Existing	Yes	4	Kendall	SCD Express?	06 2009 SN0919109	507709	Tested
12b) Calf compressors	Existing	Yes	4	Kendall	Tear Away?	Ref: 73042	-	Tested
13) Nerve stimulator	Existing	Yes	4	Drager	Infinity Trident REF: 7876910	5660282868	-	Tested
14a) Stealth station	New	Yes	1	Medtronic	4900-0924-D-M-L-C 5008	?	?	Tested, TBC-Electrical Safety Test, Assesling
14b) Stealth station - communication hub	New	Yes	1	BROADATA	GEM-SWNOCK	PN X801522	-	Tested
14c) Stealth station - foot pedal	New	Yes	1	GEM SWITCH	CusaExcel	U6A2345S; U7H2883S	-	Tested
15a) Cusa (Ultrasonic Surgical Aspirator)	New	Yes	2	Integra LifeSciences Corporation	CusaExcel	Cat/REF: 150 000 090; Lot. No. 626405; 689087	-	Tested
15b) Cusa foot pedal	New	Yes	2	Integra LifeSciences Corporation	CusaExcel	-	-	Tested
16a) MR safe fire extinguisher - Red	New	Yes	1	-	-	-	-	Tested
16b) MR safe fire extinguisher - Silver	New	Yes	1	Wormald	Sapphire	-	-	Tested on 16Sep10 - non-MR safe (slight pull)
17) Fire blanket	Existing	Yes	1	-	-	-	-	Tested
18) Large instrument trolley	New	Yes	3	KG Vost Pty Ltd	Cat.No: V16.120-0	-	-	Tested
19) Medium instrument trolley	New	Yes	2	KG Vost Pty Ltd	Cat.No: V16.075-0	-	-	Tested
20) Small instrument trolley	New	Yes	2	KG Vost Pty Ltd	Cat.No: V16.050-0	-	-	Tested

Biomed Test Schedule

Equipment	New/ Existing		To be tested?	Qty	Manufacturer/ Supplier	Model	SN	Asset #	Comments
21) Linen basket	New	Yes	4	KG Vost Pty Ltd	Cat.No: V612-0	-	-	Tested	
22) Anaesthetic stock trolley	New	Yes	1	Oxford-EME (Aust) Pty Ltd	-	-	-	Tested	
23) Intubating trolley (2 drawers)	New	Yes	1	-	-	-	-	Tested	
24) Bowl stand	New	Yes	4	KG Vost Pty Ltd	Cat.No: V68.30-0	-	-	Tested	
25) Sharp bin trolley	New	Yes	3	-	-	-	-	Cameron - Back to supplier	
26) Stethoscope	New	Yes	1	Erka	ErkaPhon	Art.-Nr.595.00022.2570	-	Tested	
27) Scaffold/ladder	New	Yes	1	Height Safety Australia	ESCA3000	-	-	Tested	
28) Scout trolley	New	Yes	1	MSP (Marko Stainless Products) Newcastle	-	-	-	Tested	
29a) Air sampler	Existing	Yes	1	Merck	MAS-100	6635317434	20445 (H100819)	Tested	
29b) Air sampler power supply	Existing	Yes	1	UMEC	UP0351A-24P	C7B14655	-	Tested	
30) Vacuum cleaner	New	Yes	1	Niffisk-Alto	Atlix 7	302002904	?	Tested - brushes are still non-MR safe	
31) Flat bar clamp	New	Yes	2	Allen Medical System	A-CLA105-IMR-HFB	A 186580	-	Tested	
32) Round bar clamp	New	Yes	3	Allen Medical System	A-CLA105-IMR-RB	-	-	Tested	
33) Arm board	New	Yes	2	Horten	A-ABSLU-IMRI	-	-	Tested	
34) Adjustment body support - cylinder	New	Yes	1	Horten	A-HMPP511-34-IMRI	-	-	Tested	
35) Adjustment body support - flat	New	Yes	1	Horten	A-HMPP502-34-IMRI	-	-	Tested	
36) Carter Brahe arm support	New	Yes	1	Horten	A-HMAB207-IMRI	-	-	Tested	
37) Chairs	New	Yes	?	-	-	-	-	Cameron - Test not needed	
38) Stools	New	Yes	?	-	-	-	-	Cameron - Test not needed	
39a) Anspach drill - foot pedal	New	Yes	1	ANSPACH	AUTOLUBE-III	B21300637602	-	Tested	
39b) Anspach drill - Yellow and Blue air hose	New	Yes	1	ESCO?	-	-	-	Tested	
40) IV pole	New	Yes	2	Newmatic Medical	800-228-1428-707-763-1428	-	-	Tested	
41) Pole (with green parts)	New	Yes	1	-	-	-	-	Tested	
42) Drug cabinet key	New	Yes	1	Drager	-	-	-	Tested - 'unsafe' but overwritten to 'safe' by Cameron	
43) Shaver	New	Yes	3	Wahl	PROSeries rechargeable 9551-512 240 AUS	-	509144, 509143	Tested	
44) Patient table (plastic platform)	New	Yes	1	-	-	-	-	Tested	
45) Fluoringe cupboard?	New	Yes	1	-	-	-	-	Tested	

Non-biomed

Equipment tested
Yet to be tested

Prepared by: (Claire) Yuin Inn Es
Last update: 15 Oct 10

Biomed Assessment form

"Spot"/Screening Test

Description: a number of readings to be taken on different "spots" on the equipment and an average is acquired to determine the attraction force Conducted with CFG 100N

NOTE: This test is to be conducted OUTSIDE of MR environment

No.	Equipment	S/N	Asset #	Test Date (DD-MMM-YY)	Test points					Average (N)	MR Compatibility	
					1	2	3	4	5			
Biomedical												
1	1a) Physiological monitor	045803	H200924	10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
2	1b) Physiological monitor - power supply	AX001624	-	10-Aug-10	K	2.52	2.68	3.00	2.90	3.10	2.84	Conditional
3	1c) Physiological monitor - ECG power supply	PN: 3010974	-	25-Aug-10	O	3.24	3.65	2.87	3.40	3.31	3.29	Conditional
4	2) Anaesthetic workstation	ASBH-0028	H200917	10-Aug-10	A	1.00	1.13	1.06	1.05	1.05	1.06	Conditional
5	3a) Diathermy machine (Bipolar Diathermy - ESU)	SFOD00364A	H200900	5-Aug-10	A	0.43	0.53	0.40	0.40	0.45	0.44	Safe
6	3b) ESU (Bipolar foot switch)	REF: E6009	-	5-Aug-10	K	8.08	8.01	7.40	8.72	7.50	7.94	Conditional
7	3c) ESU (Foot switch - B,Y)	REF: E6008B	-	5-Aug-10	O	7.80	7.40	6.80	7.12	6.80	7.18	Conditional
8	4a) Smoke Evacuator	VL002038	H200899	6-Aug-10	A	3.45	3.43	3.55	4.20	3.74	3.67	Conditional
9	4b) Smoke Evacuator Filter	REF: SEA3700	-	6-Aug-10	A	66.85	66.30	66.01	66.50	66.03	66.34	Unsafe
10	5a) Syringe Drivers	DS: 31598; 31590	DS: 509111, 509112,	10-Aug-10	A	3.30	3.40	3.20	3.00	2.90	3.16	Conditional
11	5b) Syringe Drivers - power supply	3019687 10362;	509113, 509114	10-Aug-10	J	12.15	11.32	12.00	12.15	12.06	11.94	Conditional
12	6) MRI safe patient trolley	SER: 0731	-	24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
13	7) Patient warmer	TC3003 D10001;	503383; 503389; 503390;	16-Aug-10	A	151.90	152.00	152.30	152.00	151.88	152.02	Unsafe
14	8) Pneumatic drill	-	-	-	-	-	-	-	-	-	-	Safe
15	9) Laryngoscope	(Blade) PN: ANA006,	N/A	17-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
16	10) Microscope	032307015	0	18-Aug-10	A	9.27	9.40	9.60	9.70	9.77	9.55	Conditional
17	11) Transport Monitor	6002846362	H201501	23-Aug-10	A	28.94	29.83	28.21	26.28	29.61	28.57	Unsafe
18	12a) Sequential Compression Device (SCD)	06 2009 SN0919109	507709	17-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
19	12b)Calf compressors	Ref: 73042	-	17-Aug-10	N	0.00	0.00	0.00	0.00	0.00	0.00	Safe
20	13) Nerve stimulator	5660282868	-	16-Aug-10	A	22.47	24.36	23.84	23.05	23.03	23.35	Unsafe
21	14a) Stealth station	?	?	16-Aug-10	A	6.28	6.78	6.79	6.40	6.46	6.54	Conditional
22	14b) Stealth station - communication hub	?	?	24-Aug-10	I	0.00	0.00	0.00	0.00	0.00	0.00	Safe
23	14c) Stealth station - foot pedal	PN X801522	-	24-Aug-10	L	0.00	0.00	0.00	0.00	0.00	0.00	Safe
24	15a) Cusa (Ultrasonic Surgical Aspirator)	UGA2345S;	-	1-Sep-10	A	10.00	10.40	11.50	10.20	12.70	10.96	Conditional
25	15b) Cusa foot pedal	Cal/REF: 150 000 090;	-	1-Sep-10	A10	0.00	0.00	0.00	0.00	0.00	0.00	Safe
Non-biomedical												
26	16a) MR safe fire extinguisher - Red	-	-	10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
27	16b) MR safe fire extinguisher - Silver	-	-	16-Sep-10	L	0.00	0.00	0.00	0.00	0.00	0.00	Safe
28	17) Fire blanket	-	-	10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe
29	18) Large instrument trolley	-	-	24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe

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Intra-operative MRI (iMRI) Equipment Test Report

The Canberra Hospital



Prepared by,

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Biomedical Engineer*

*Kyril Belle
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2010

Date: 3 April 2012
Version: 1.6

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DRAFT

Purpose of the document

The purpose of this document is to describe the testing, documenting and labelling procedures for all biomedical and non-biomedical equipment used in the iMRI (intra-operative MRI) at The Canberra Hospital.

This document should be used as a reference document for any future MRI equipment safety testing in ACT Health.

The intended audiences for this document are:

- Biomedical department
- Medical Physics
- Medical Imaging
- Any other relevant stakeholders

There are potential risks in the MR environment, not only for the patient but also for the personnels working within the environment. There have been reports in the medical literature and print media detailing Magnetic Resonance Imaging (MRI) adverse incidents involving patients, equipment, and personnel that highlighted the importance for safety procedures and precautions (Chaljub G, 2000; Chen, 2001).

The major equipment issues involves ensuring the functionality and the operations of the equipment is not affected by the strong magnetic field, minimising the interference with the MRI during imaging and to warrant that no currents are generated due to high magnetic field in the equipment that is attached to the patient. Due to safety reasons, equipment that needs to be used in the MRI environment must be tested and labelled by qualified personnel to determine whether it is "safe" to use within the neurosuite.

Introduction

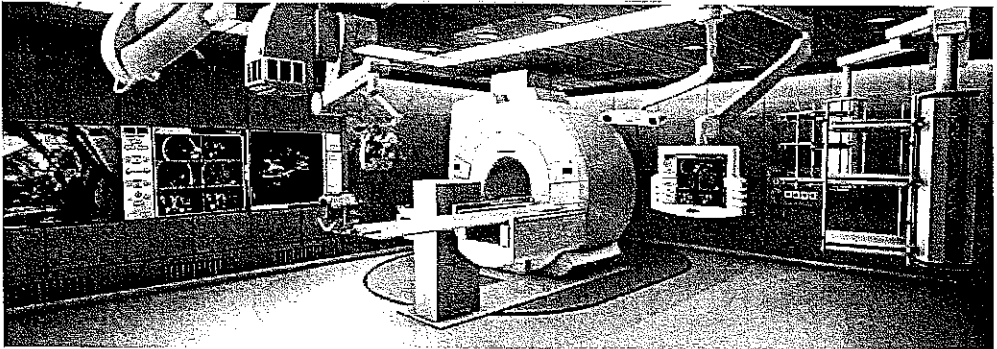
The ACT Government has funded the design and construction of state of the art iMRI, Neurosurgical suite as a result of forecasting by the ACT Health Planning Unit of an increase in neurosurgery activity in the future. The suite is first of its kind in Australia and is being described as the centre of excellence with potential benefit of recruiting clinical specialists in this field within ACT.

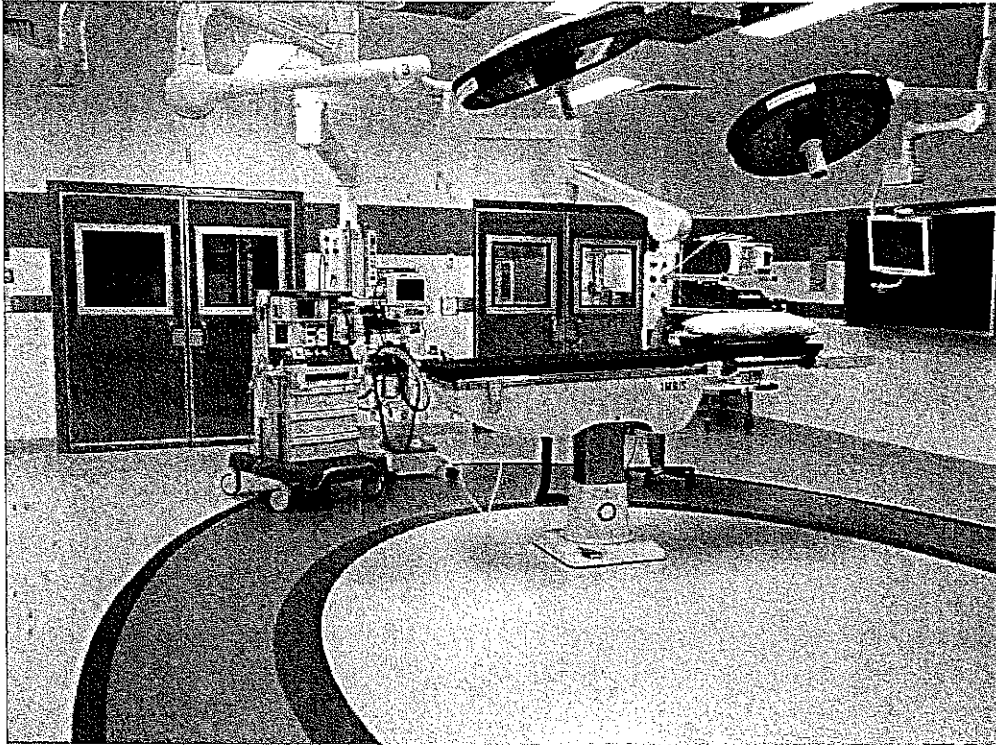
Intraoperative MRI Operating Suite in the TCH

It is important to note that magnetic fields are three-dimensional and the field may project through floors and ceilings of MRI room. This is why the entire Neurosuite is copper shielded to ensure that the potentially hazardous magnetic field is contained within the specified area.

The diagram below depicts the magnetic field distribution within the Neurosurgical MRI suite.

Comment [y1]:
To include magnetic field distribution diagram
To check with Helen





Zoning

All biomedical and non-biomedical equipment should be placed appropriately as per the classification indicated. Failure to abide by the labelling classification can be hazardous and cause serious injury to patients and/or personnels involved. For this reason, magnetic field zones should be clearly delineated and caution should be practiced at all times. Figure 1 and 2 indicates the different zones around and within the Neurosuite.

Noting that Zone II is not applicable to TCH Neurosuite as patient is prepared before admission to the Neurosuite. Floor markings indicates that – red markings for 5mT around the magnet; blue markings for 0.5mT around the magnet.

TCH iMRI Equipment Test Report: 2010

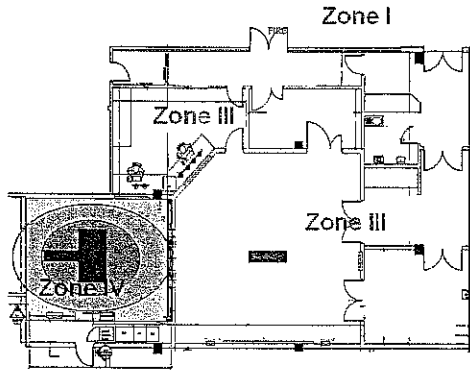


Figure 1 Scanner in MR bay

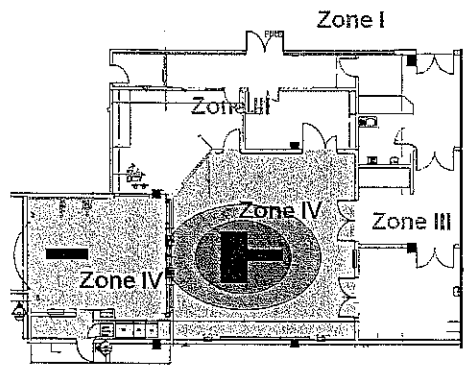







Figure 2 Scanner in OR

Table 1 Zoning (The RANZCR, 2007)

I	Public access	MR SAFE  
III	<ul style="list-style-type: none"> Access is restricted to MR-trained staff ONLY continuously supervised by MRI Neurosuite safety officer to inform nominated Safety Officer on site preferably 2 MR personnel at all times during scanning doors closed except during patient and staff entry/exit 	MR SAFE  
IV	<ul style="list-style-type: none"> Magnet Bay and Operating Room (OR) labelled as hazardous (e.g. The magnet is "on") all entrances in direct line of sight for the supervising person in the control room 	MR SAFE 

Comment [y2]: TBC

TCH IMRI Equipment Test Report: 2010

iMRI Equipment Safety Test

The MRI scanners at The Canberra Hospital (currently the only ones in ACT Health) are superconducting magnets, which means that the static magnetic field **is always on**. The strength of the **static** magnetic field is sufficient to violently move ferromagnetic objects¹ into the scanner bore, potentially injuring patients and staff in the path of the projectile, or damaging the scanner and associated equipment. Examples of ferromagnetic objects include surgical instruments, fire extinguishers, cleaning equipment, patient beds and oxygen tanks. There have been several incidents of severe injuries fatalities in projectile accidents across the world/United States of America (Chaljub G, 2000; Chen, 2001). This field can also displace metallic objects in the body, such as implants or metallic fragments, or interfere with the function of biomedical equipment.

The purpose of the Equipment Safety test is to ensure the integrity and the functionality of equipment used within the MRI environment, and to minimise associated safety risks for staff and patients. Also, to allow visual indication to staff of the status of the equipment.

It should be noted that if the MRI compatibility of equipment is unknown, it should be considered MR unsafe. New equipment that needs to be used in the MRI environment must be tested and labelled by qualified personnel (Biomedical Engineering or Medical Physics in TCH).

Test apparatus

Figure 4 and 5 shows the test equipment used in MR equipment safety test and their specifications. Test apparatus consist of a permanent magnet attached to a compact force gauge (CFG) 100N and 500N.

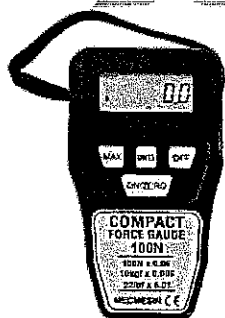


Figure 3 Compact Force Gauge

Specifications:

- Accuracy $\pm 0.5\%$ of full scale
- Peak hold in tension and compression
- Selectable units of measurement: N, mN, lbf, ozf, kgf, and gf
- Overload warning
- Auto-off function
- Lightweight plastic case
- CE approved

¹ Ferromagnetic object – permanent magnets or other materials that can become strongly magnetized in the presence of an external magnetic field

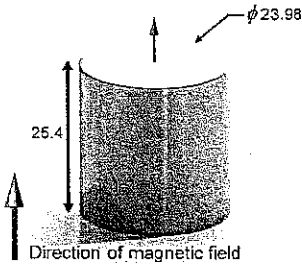


Figure 4 Test Magnet

Specifications:

- Neodymium Cylinder Magnets
- Diameter: 24mm (0.944" in.)
- Height: 25.4mm (1" in.)
- Grade: N50 (Very strong)
- Coating: Nickel (Ni)
- Magnetised Direction: Through height – 25.4mm
- Theoretical Holding Force: ~43.757kg
- Surface Gauss: 6374 Gauss

Please refer to attached Appendix A for operating manuals for the above test apparatus. Noting no documentation on specifications on CFG 100N is available as it is a customised device. However, the standard manual in Appendix A can be used as reference.

Test procedures

A complete MR compatibility test on medical and non-medical equipment requires the use of a functioning MRI system. An attraction force test will be conducted on equipment listed in Table 3.

“Spot” test (see definition below) is carried out to make sure that the equipment is safe to be brought into the MRI environment. It is to note that “Spot” test must be conducted **OUTSIDE** the MRI environment. It is important to note that under no circumstances shall testing magnets, of any form, be taken into the Neurosuite (RPAH, 2007).

Comment [y3]: Can be taken into Neurosuite but not when the magnet is out in the OR.

Non-biomedical equipment:

- Test with handheld magnet – “spot” test.
- If no attraction or insignificant attraction is found (<1N), the equipment is to be labeled as MR safe.
- If attraction is present, equipment labeling depends on the where the equipment will be used:
 - Equipment that will be used inside the 0.5mT (blue/grey) line has to be tested in the MR scanner magnetic field using appropriate tethering. Equipment is labeled as MR conditional to the relevant field strength. MR safe/conditional claimed by manufacturer needs to be verified by an independent ? by Biomedical Engineering or Medical Physics before being appropriately labelled. However, for consistency, all equipment should be labeled using ACT Health labels.
 - Equipment that will only be used outside the 0.5mT line is to be labeled MR unsafe.

Biomedical equipment:

TCH IMRI Equipment Test Report: 2010

- a) Test attraction force with handheld magnet – “spot” test.
 - o If no attraction or insignificant attraction is found (<1N), the equipment is to be labeled MR safe.
 - o If attraction is present, equipment labeling depends on where the equipment will be used:
 - Equipment that will be used inside the 0.5mT (blue/grey) line has to be tested in the MR scanner field using appropriate tethering. Equipment is labeled as MR conditional to the relevant field strength. MR safe/conditional claimed by manufacturer needs to be verified by an independent ? by Biomedical Engineering or Medical Physics before being appropriately labelled. However, for consistency, all equipment should be labeled using ACT Health labels.
 - Equipment that will only be used outside the 0.5mT line is to be labeled MR unsafe.
- b) Test functionality of equipment in the full magnetic field to ensure all parameters are within specifications. Label the equipment accordingly.

Function tests were performed on biomedical equipment as part of the acceptance testing. However, these tests were not performed in the full magnetic field due to time/access/logistics constraints. It should be noted that during the completion of this report, four succesful cases were performed in the suite with no impact on image quality due to biomedical equipment.

It is recommended that a functional test be performed on biomedical equipment in the MRI environment prior to labelling.

Comment [y4]: Need to state the condition? E.g. full magnetic field, etc.

Any inappropriate entry of unsafe equipment into the MRI environment shall be reported in Riskman (Incident Reporting Module).

The results from the above mentioned tests will then determines the pverall MR compatibility of the equipment based on the MR compatibility categories below.:

Comment [y5]: appropriate??

Table 2 MR Compatibility Guidelines (Chin, 2007)

Comment [y6]: Do we still include this? Although only guidelines, there should still be a range/limit as our “reference” in categorising the equipment...




Category	Attractive strength	Attractive Force	MR compatibility
A	Strong attraction	> 20N	
B	Mild attraction	10N to 20N	
C	Weak attraction	< 10N	

D	Very weak / no attraction	< 1N	
---	---------------------------	------	--

Equipment labeling

The MRI safety testing is based on three categories (see table below). The MRI compatibility is based upon the behaviour of equipment in the magnetic field.

Table 3 MR categories and labels

	<p>MR Safe Equipment can be safely used in Zone III or Zone IV. Equipment contains no ferro-magnetic properties.</p>
	<p>MR Conditional Equipment can be safely used up to certain magnetic field. Equipment need to be labelled with the highest field strength it can be used in (e.g. 0.5 or 5 mT). Equipment or module may contain ferromagnetic part(s).</p>
	<p>MR Unsafe Equipment are considered unsafe and cannot be used within Zone IV. Equipment</p>

It should be noted that MR compatibilities detailed in Table 3 are only guidelines and any unlabelled equipment must be treated as MR unsafe. Apart from the attraction force, there are many other factors (as follows) that need to be taken into consideration when labelling an equipment:

Comment [y7]: Results can be overwritten with valid reasons. E.g. drug cabinet key was considered Unsafe/Conditionally safe but overwritten as safe by Cameron.

- Intended use – how it is being used and cleaned. For example, surgical instruments are not labelled due to infection control reasons and also being sterilised each time after use.
- Configuration – if equipment is used as a single unit or a whole module. Some detachable parts of the equipment may be unsafe. However, if secured/tethered properly, they can be considered MR conditional or MR safe.
- Weight – for instance, some parts of the anaesthetic machine (Fabius MRI) are non-MRI compatible however, it is considered MR safe due to its heavy weight and strong break mechanism.
- Quantity, size and location – for example, it is not practical to label each and every pieces of surgical instruments such as scapels due to its size and quantity being used. Also, equipment do not need to be labeled if they are only used outside of the MR environment.

Equipment tested

Due to safety reasons, every piece of equipment/items brought into the neurosuite must be inspected and labelled before use to ensure its safety to be used within the MR environment.

The following table depicts all the equipment that need to be MRI safety tested. (More details can be found in the attached spreadsheet in Appendix A)

Table 4 List of Equipment Tested

Type	Equipment	Supplier/ Manufacturer	Model
Biomed	Physiological monitor	iMaxeon	Veris
	Anaesthetic workstation	Dräger	Fabius MRI
	Diathermy machine (Bipolar Diathermy - ESU)	Covidien/ Valleylab	Force FX-8CS
	Smoke Evacuator	Covidien/ Valleylab	RapidVac
	Syringe Drivers	iMaxeon	Medrad
	MRI safe patient trolley	Wardray Premise	MR550
	Patient warmer	Critical Assist; Gaymar	Bair hugger; Thermacare
	Pneumatic drill		
	Laryngoscope	Koala Medical; Timesco	N/A; Optima
	Microscope	Leica	Mitaka
	Transport Monitor	Dräger	Infinity Delta
	Sequential Compression Device (SCD)	Kendall	SCD Express?
	Calf compressors	Kendall	Tear Away?
	Nerve stimulator	Dräger	Infinity Trident REF: 7876910
	Stealth station	Medtronic	i7
CUSA (Ultrasonic Surgical Aspirator)	Integra LifeSciences Corporation	CusaExcel	
Non-biomed	MR safe fire extinguisher A	-	-
	MR safe fire extinguisher B	Wormald	Sapphire
	Fire blanket	-	-
	Large instrument trolley	KG Vost Pty Ltd	Cat.No: V16.120-0
	Medium instrument trolley	KG Vost Pty Ltd	Cat.No: V16.075-0
	Small instrument trolley	KG Vost Pty Ltd	Cat.No: V16.050-0
	Linen basket	KG Vost Pty Ltd	Cat.No: V612-0
	Anesthetic stock trolley	Oxford-EME (Aust) Pty Ltd	-
	Intubating trolley (2draw)	-	-
	Bowl stand	KG Vost Pty Ltd	Cat.No: V88.30-0
	Sharp bin trolley	-	-
	Stethoscope	Erka	ErkaPhon
	Scaffold/ladder	Height Safety Australia	ESCA3000
	Scout trolley	MSP (Marko Stainless Products) Newcastle	-
	Air sampler	Merck	MAS-100

TCH iMRI Equipment Test Report: 2010

Vacuum cleaner	Nilfisk-Alto	Attix 7
Flat bar clamp	Allen Medical System	A-CLA105-iMRI-FB
Round bar clamp	Allen Medical System	A-CLA105-iMRI-RB
Arm board	Horten	A-ABSLU-iMRI
Adjustment body support - cylinder	Horten	A-HMPP511-34-iMRI
Adjustment body support - flat	Horten	A-HMPP502-34-iMRI
Carter Braine arm support	Horten	A-HMAB207-iMRI
Anspach drill - foot pedal	ANSPACH	AUTOLUBE-III
Anspach drill - Yellow and Blue air hose	ESCO?	-
IV pole	Newmatic Medical	800-228-1428-707-763-1428
Pole (with green parts)	-	-
Drug cabinet key	Drager	-
Shaver	Wahl	9551-512 240 AUS
Patient table (Plastic platform)	-	-
Fluoringe cupboard	-	-

Comment [y8]: To confirm item name

Comment [y9]: To confirm item name

Comment [y10]: To confirm item name

Test results/outcomes

Appendix B summarises the test results for all the equipment listed in Table 1. Diagrams of these equipment can also be found in the appendices.

DRAFT

Bibliography

Chaljub G, K. L. (2000). Projectile cylinder accidents resulting from the presence of ferromagnetic nitrous oxide or oxygen tanks in the MR suite. *American Journal of Roentgenol*, 177 (1), 27-30.

Chen, D. (2001, Jul 31). Boy, 6, dies of skull injury during M.R.I. *Sec. B:1-5*. NY Times.

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Appendix A

Comment [KB11]: Sorry I cannot find the way to insert the file into this document so I'll leave a hyperlink instead.

(Operating manual and specifications of CFG used for testing)

G:\Biomedical Eng\IMRI\Claire's report\IMRI BME test\CFGs\CFG 200N\Mecmesin CFG+ Compact Force Gauge 2010-Current Brochure.pdf

G:\Biomedical Eng\IMRI\Claire's report\IMRI BME test\CFGs\CFG 200N\Mecmesin CFG+ Compact Force Gauge 2010-Current Manual.pdf

(IMRI Biomedical Equipment Safety test spreadsheet)

G:\Biomedical Eng\IMRI\Claire's report\IMRI BME test\test schedules\Biomed Equipment Assessment Form v1.6.xlsx

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Appendix B

Equipment: Physiological monitor

Diagram:



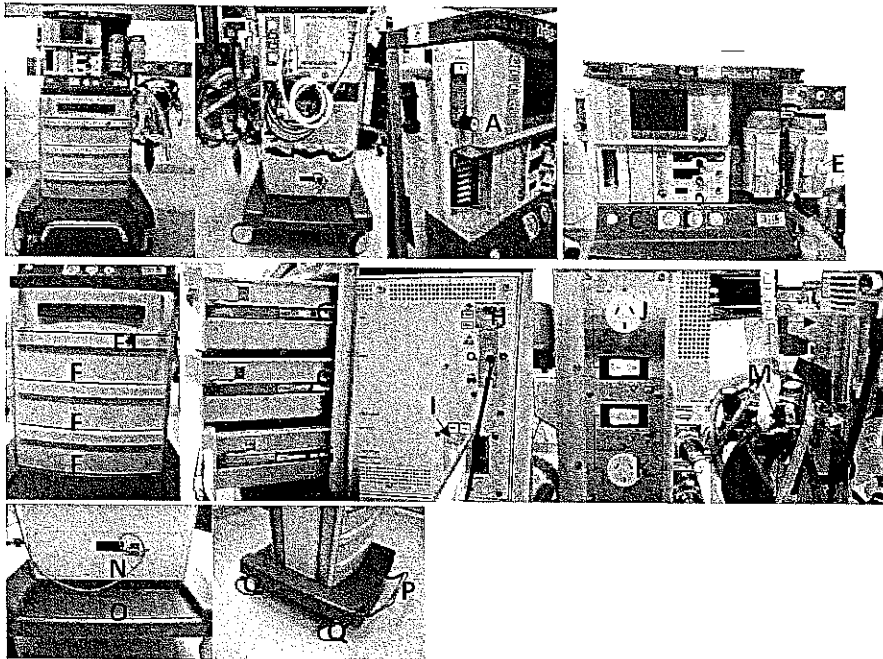
Results:
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	MR Compatibility	Over all MR Compatibility
		1	2	3	4	5			
10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	Safe	CONDITIONAL 5mT
	B	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	C	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	D	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	E	2.00	13.00	12.30	12.50	12.50	12.46	Conditional	
	F	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	G	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	H	11.60	11.50	12.00	12.10	11.60	11.76	Conditional	
	I	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
	J	0.00	0.00	0.00	0.00	0.00	0.00	Safe	
10-Aug-10	K	2.52	2.68	3.00	2.90	3.10	2.84	Conditional	UNSAFE
	L	1.97	2.79	2.50	2.38	2.03	2.33	Conditional	
	M	4.60	3.70	4.50	4.00	3.80	4.12	Conditional	
25-Aug-10	N	13.00	13.00	13.10	14.00	14.40	13.50	Conditional	CONDITIONAL 5mT
	P	0.00	0.00	0.00	0.00	0.00	0.00	Safe	

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	Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Safe
	R	2.07	2.07	2.07	2.12	2.03	1.98	1.98	Conditional
	S	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Safe

Equipment: Anaesthetic workstation
 Diagram:



Results
 "Spot" Test

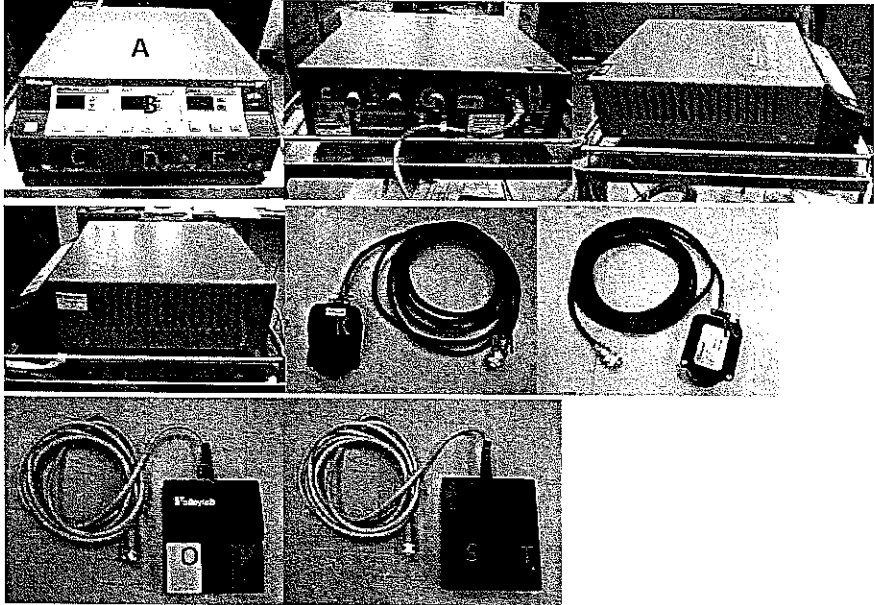
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
10-Aug-10	A	1.00	1.13	1.06	1.05	1.05	1.06	CONDITIONAL 5mT
	B	3.17	2.80	3.60	3.80	3.60	3.39	
	C	6.26	6.30	6.33	6.30	6.28	6.29	
	D	10.80	10.88	11.58	11.44	11.50	11.24	
	E	11.99	11.98	12.50	12.64	12.55	12.33	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	F1	0.00	0.00	0.00	0.00	0.00	0.00	
	G	13.60	13.60	12.80	13.80	12.98	13.36	
	H	13.70	14.10	13.20	14.00	14.80	13.96	
	I	8.00	7.80	8.70	8.70	7.30	8.10	
	J	6.35	6.46	6.65	6.60	6.50	6.51	
	K	6.45	6.50	6.50	6.75	6.55	6.55	
	L	5.66	6.55	6.50	6.50	6.43	6.33	
	M	3.63	4.00	4.43	4.44	3.97	4.09	
N	112.32	113.33	113.40	115.78	113.30	113.63		

TCH iMRI Equipment Test Report: 2010

	O	0.00	0.00	0.00	0.00	0.00	0.00	
	P	0.00	0.00	0.00	0.00	0.00	0.00	
	Q	12.50	13.30	14.00	13.60	13.10	13.30	

Equipment: Bipolar diathermy machine (ESU)

Diagram:



Results:

"Spot" Test

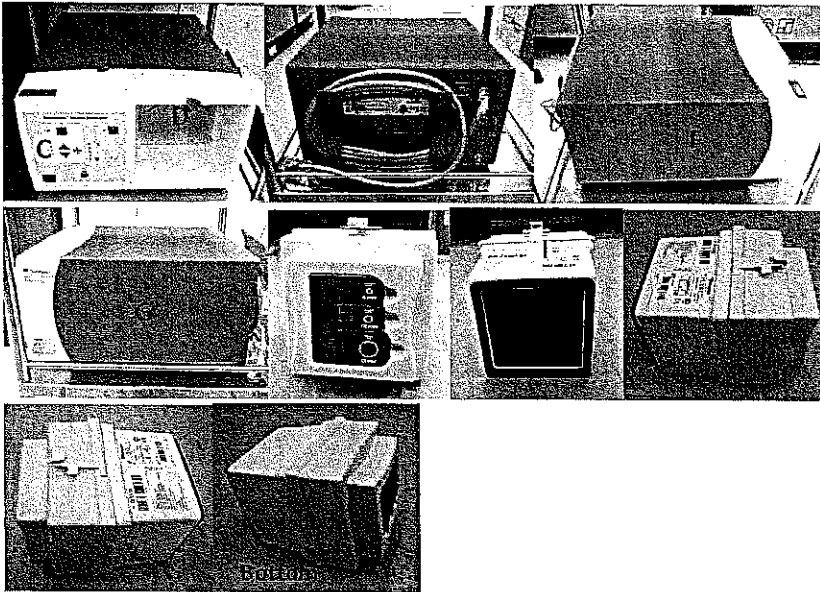
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
5-Aug-10	A	0.43	0.53	0.40	0.40	0.45	0.44	UNSAFE
	B	9.60	10.10	10.46	9.60	10.90	10.13	
	C	16.80	17.26	18.19	17.33	16.00	17.12	
	D	5.33	5.85	5.18	4.89	5.43	5.34	
	E	3.00	3.50	3.64	3.73	4.30	3.63	
	F	16.02	16.56	16.27	16.26	16.00	16.22	
	G	14.69	15.45	15.23	14.25	14.80	14.88	
	H	19.50	19.70	20.95	19.91	20.03	20.02	
	I	8.90	8.00	7.40	7.50	7.50	7.86	
	J	11.15	10.85	11.40	11.11	10.81	11.06	
5-Aug-10	K	8.08	8.01	7.40	8.72	7.50	7.94	UNSAFE
	L	21.00	20.85	20.81	19.85	19.80	20.46	
	M	0.00	0.00	0.00	0.00	0.00	0.00	
	N	14.60	15.86	15.79	14.40	14.00	14.93	
5-Aug-10	O	7.80	7.40	6.80	7.12	6.80	7.18	UNSAFE
	P	6.70	6.88	6.95	7.33	7.62	7.10	
	Q	0.00	0.00	0.00	0.00	0.00	0.00	
	R	0.00	0.00	0.00	0.00	0.00	0.00	

TCH IMRI Equipment Test Report: 2010

S	6.25	6.57	6.92	6.95	6.30	6.60	
T	6.57	6.53	6.58	6.62	7.00	6.66	

Equipment: Smoke Evacuator

Diagram:



Results:

"Spot" Test

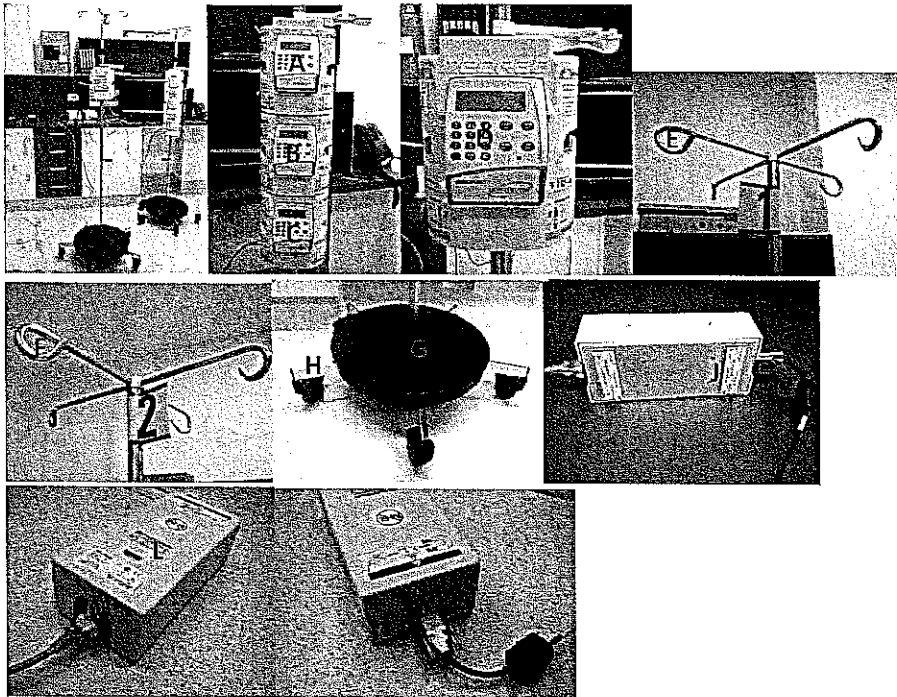
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
6-Aug-10	A	3.45	3.43	3.55	4.20	3.74	3.67	UNSAFE
	B	4.76	4.19	4.30	4.34	4.46	4.41	
	C	0.40	0.39	0.31	0.45	0.49	0.41	
	D	0.50	0.70	0.55	0.62	0.50	0.57	
	E	10.87	10.64	10.10	10.30	10.04	10.39	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	2.98	2.62	2.80	3.00	2.30	2.74	
6-Aug-10	H	66.85	66.30	66.01	66.50	66.03	66.34	UNSAFE
	I	3.20	3.08	3.50	3.58	3.50	3.37	
	J	2.79	3.15	2.90	2.90	2.73	2.89	
	K	3.12	2.84	2.88	3.15	2.86	2.97	
	L	2.90	2.90	2.56	2.77	2.92	2.81	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

TCH IMRI Equipment Test Report: 2010

Equipment: Syringe drivers

Diagram:



Results

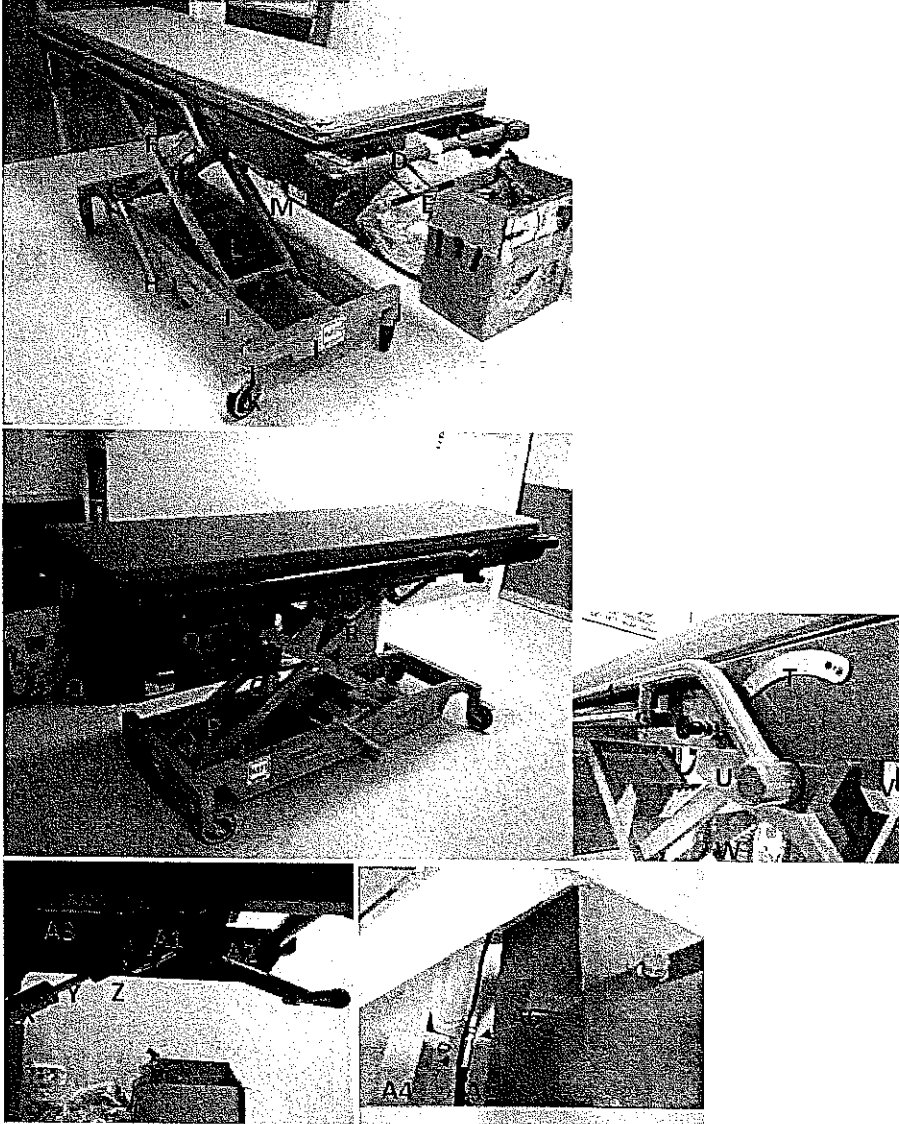
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
10-Aug-10	A	3.30	3.40	3.20	3.00	2.90	3.16	CONDITIONAL 5mT
	B	3.80	3.30	3.60	3.50	3.60	3.56	
	C	2.20	2.10	2.10	2.20	3.00	2.32	
	D	2.90	3.60	3.30	3.00	3.20	3.20	
	E	2.40	2.00	2.10	2.60	2.30	2.28	
	F	1.60	1.30	1.40	1.30	1.60	1.44	
	G	16.90	16.80	16.80	16.50	16.20	16.64	
	H	3.30	3.30	3.90	4.00	4.70	3.84	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
10-Aug-10	J	12.15	11.32	12.00	12.15	12.06	11.94	UNSAFE
	K	13.96	13.90	13.88	13.90	13.87	13.90	
	L	0.00	0.00	0.00	0.00	0.00	0.00	
	M	10.24	10.06	10.20	10.30	10.20	10.20	
	N	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: MR safe patient trolley

Diagram:



TCH IMRI Equipment Test Report: 2010

Results:

"Spot" Test

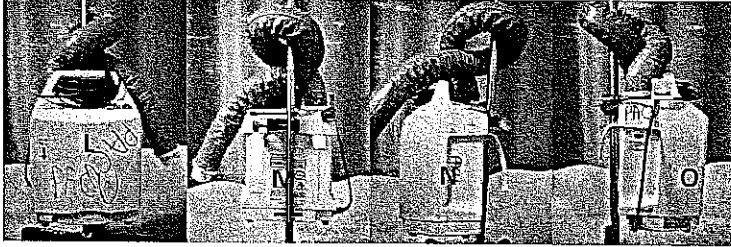
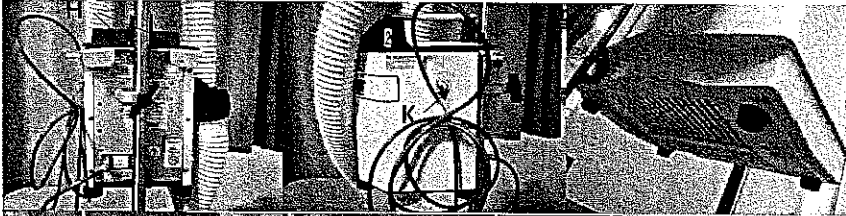
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	2.78	2.16	3.25	3.50	3.50	3.04	
	L	0.00	0.00	0.00	0.00	0.00	0.00	
	M	0.00	0.00	0.00	0.00	0.00	0.00	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
	O	0.85	0.77	0.85	0.80	0.80	0.81	
	P	0.00	0.00	0.00	0.00	0.00	0.00	
	Q	0.00	0.00	0.00	0.00	0.00	0.00	
	R	2.31	2.39	2.39	2.36	2.42	2.37	
	S	0.00	0.00	0.00	0.00	0.00	0.00	
	T	0.00	0.00	0.00	0.00	0.00	0.00	
	U	0.00	0.00	0.00	0.00	0.00	0.00	
	V	0.00	0.00	0.00	0.00	0.00	0.00	
	W	0.00	0.00	0.00	0.00	0.00	0.00	
	X	0.00	0.00	0.00	0.00	0.00	0.00	
	Y	0.00	0.00	0.00	0.00	0.00	0.00	
	Z	3.63	3.63	3.80	3.75	3.57	3.68	
A1	0.00	0.00	0.00	0.00	0.00	0.00		
A2	0.00	0.00	0.00	0.00	0.00	0.00		
A3	0.00	0.00	0.00	0.00	0.00	0.00		
A4	0.00	0.00	0.00	0.00	0.00	0.00		
A5	0.00	0.00	0.00	0.00	0.00	0.00		
A6	0.00	0.00	0.00	0.00	0.00	0.00		

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

TCH IMRI Equipment Test Report: 2010

Equipment: Patient warmer

Diagram:



Results:

"Spot" Test

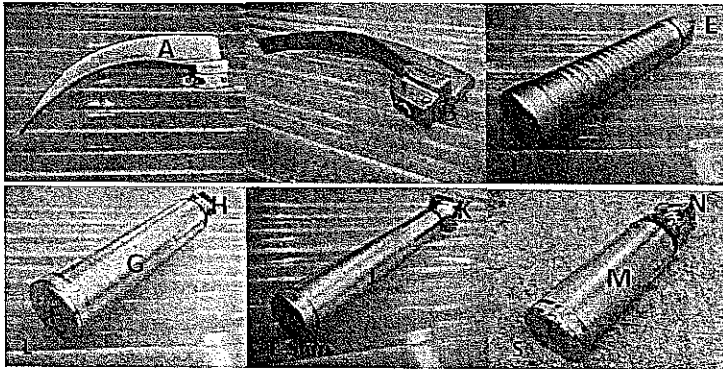
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
16-Aug-10	A	151.90	152.00	152.30	152.00	151.88	152.02	UNSAFE
	B	14.17	12.87	14.00	13.68	12.00	13.34	
	C	26.46	25.63	26.90	27.71	28.03	26.95	
	D	25.40	25.50	26.00	25.50	26.01	25.68	
	E	33.70	34.01	33.70	33.80	33.67	33.78	
	F	25.00	25.00	26.71	25.87	26.00	25.72	
	G	6.75	7.34	7.60	7.35	7.40	7.29	
	H	20.49	20.80	21.90	20.77	20.89	20.97	
	I	9.80	9.88	8.87	8.50	8.65	9.14	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	18.00	18.50	18.50	19.00	18.62	18.52	
	L	0.00	0.00	0.00	0.00	0.00	0.00	
	M	0.00	0.00	0.00	0.00	0.00	0.00	
	N	27.90	28.80	28.30	27.80	27.90	28.14	
	O	37.80	36.80	37.90	37.80	37.50	37.56	
	P	15.15	15.00	15.00	15.40	15.35	15.18	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

TCH iMRI Equipment Test Report: 2010

Equipment: Laryngoscope

Diagram:



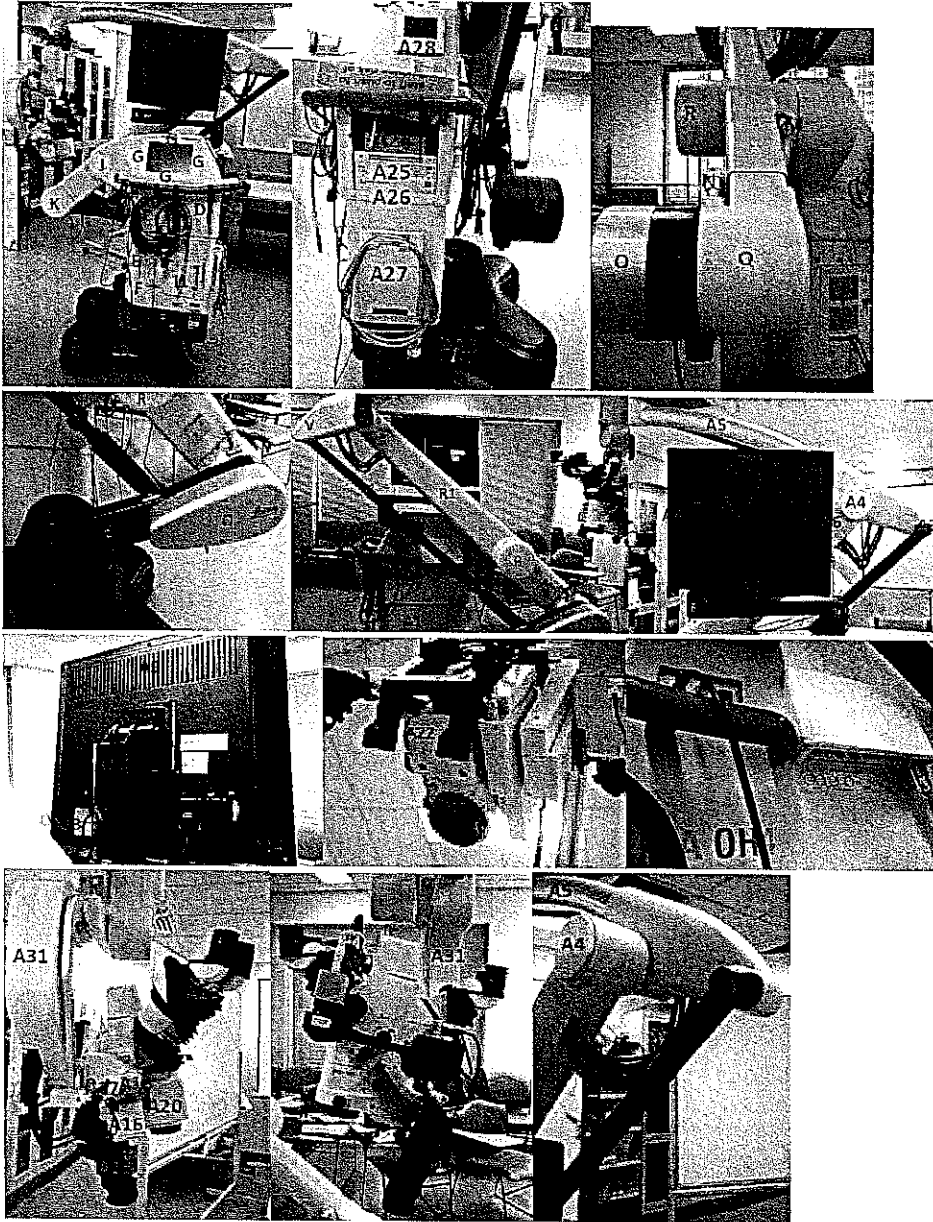
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
17-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.60	0.55	0.52	0.50	0.50	0.53	
	C	10.70	11.00	10.80	10.80	11.00	10.86	
	D	40.50	40.70	40.55	40.68	40.60	40.61	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	5.60	5.80	5.92	6.03	6.15	5.90	
	G	40.70	40.70	40.68	41.00	41.40	40.90	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	10.20	10.20	10.40	11.00	10.40	10.44	
	J	20.40	19.80	19.90	19.88	20.10	20.02	
	K	0.00	0.00	0.00	0.00	0.00	0.00	
	L	4.25	4.25	4.02	4.11	4.20	4.17	
	M	11.57	11.44	11.67	11.35	11.80	11.57	
	N	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings = attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: Microscope
Diagram:



TCH IMRI Equipment Test Report: 2010

Results:

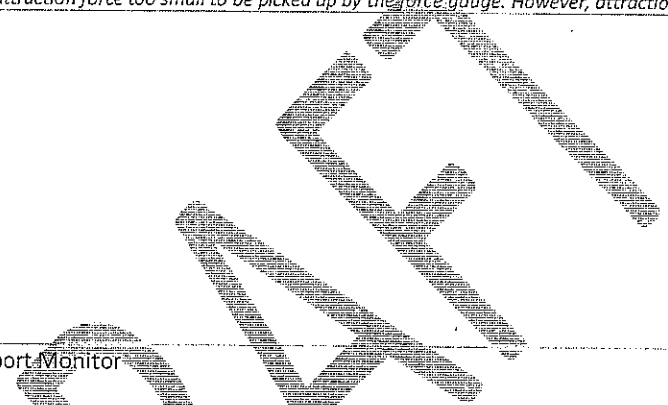
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
18-Aug-10	A	9.27	9.40	9.60	9.70	9.77	9.55	UNSAFE
	B	156.70	158.40	156.90	158.00	158.35	157.67	
	C	11.62	11.41	11.32	11.70	11.70	11.55	
	D	9.67	9.90	9.75	9.75	9.60	9.73	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	13.89	13.62	13.88	13.56	13.60	13.71	
	G	26.07	26.53	27.21	26.83	26.33	26.59	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I1	0.00	0.00	0.00	0.00	0.00	0.00	
	I2	25.30	25.98	26.35	25.80	26.02	25.89	
	I3	17.10	17.15	18.40	18.35	18.40	17.88	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	15.40	14.69	14.25	14.26	15.04	14.73	
	L	7.98	7.60	7.67	7.67	8.00	7.78	
	M	64.66	64.43	65.53	65.30	64.80	64.94	
	N	68.97	68.88	69.84	68.65	68.65	69.00	
	O	9.34	9.44	9.45	9.50	9.56	9.46	
	P	226.50	228.00	225.78	226.32	226.02	226.52	
	Q	42.25	42.50	43.31	43.67	42.89	42.92	
R	9.14	9.24	9.30	9.60	9.20	9.30		
R1	0.00	0.00	0.00	0.00	0.00	0.00		
S	21.17	21.20	20.84	21.32	20.67	21.04		
S1	0.00	0.00	0.00	0.00	0.00	0.00		
T	121.80	123.10	123.90	123.40	122.63	122.97		
U	225.70	232.10	230.10	232.10	234.80	230.96		
V	0.00	0.00	0.00	0.00	0.00	0.00		
W	10.20	11.70	11.70	10.60	10.54	10.95		
X	0.00	0.00	0.00	0.00	0.00	0.00		
Y	0.00	0.00	0.00	0.00	0.00	0.00		
Z	6.88	6.74	6.80	6.88	6.90	6.84		
A1	0.00	0.00	0.00	0.00	0.00	0.00		
A2	0.00	0.00	0.00	0.00	0.00	0.00		
A3	16.90	16.80	16.60	16.88	16.57	16.75		
A4	0.00	0.00	0.00	0.00	0.00	0.00		
A5	0.00	0.00	0.00	0.00	0.00	0.00		
A6	27.44	27.56	26.60	26.50	27.07	27.03		
A7	3.15	3.30	3.33	2.97	3.15	3.18		
A8	3.24	3.24	2.43	3.02	2.87	2.96		
A9	50.96	51.63	51.08	51.65	51.70	51.40		
A10	113.50	113.70	114.00	112.80	114.67	113.73		
A11	132.86	128.40	133.80	133.07	131.98	132.02		
A12	38.10	38.50	38.68	37.10	37.23	37.92		
A13	58.55	58.93	59.01	58.55	59.10	58.83		
A14	56.98	56.50	56.14	56.67	57.01	56.66		
A15	4.04	3.75	3.81	4.43	3.97	4.00		
A16	127.90	130.20	128.20	128.56	129.20	128.81		
A17	42.82	42.14	43.01	42.56	42.60	42.63		
A18	74.83	75.83	80.11	78.20	82.39	78.27		
A19	26.66	26.34	26.78	27.03	27.00	26.76		

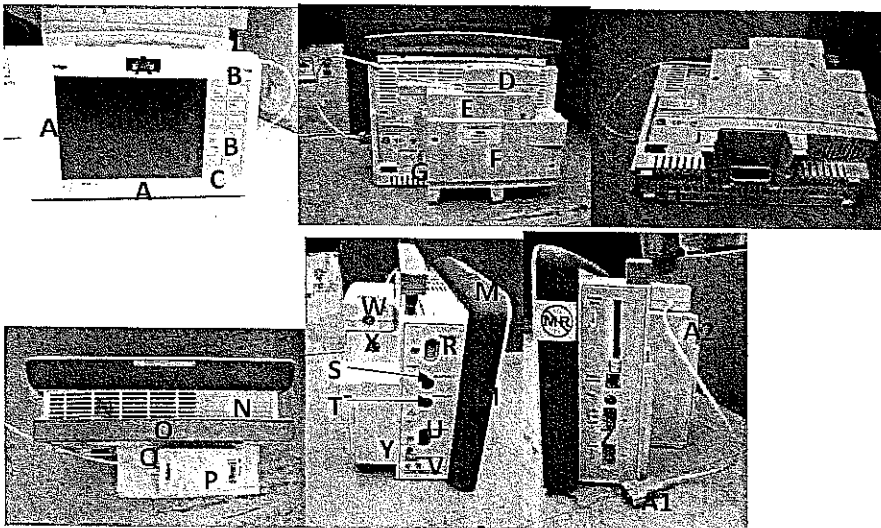
TCH IMRI Equipment Test Report: 2010

A20	19.60	19.98	20.29	20.00	21.10	20.19
A21	11.33	11.02	11.60	11.74	11.60	11.46
A22	1.40	1.39	1.38	1.27	1.40	1.37
A23	56.44	57.00	56.95	57.00	56.23	56.72
A24	7.50	7.50	7.26	7.67	7.32	7.45
A25	99.30	98.28	97.00	98.52	99.56	98.53
A26	195.90	196.70	196.01	197.20	197.00	196.56
A27	0.00	0.00	0.00	0.00	0.00	0.00
A28	0.00	0.00	0.00	0.00	0.00	0.00
A29	11.82	12.32	11.98	11.70	11.70	11.90
A30	23.90	23.70	23.56	23.70	24.01	23.77
A31	0.00	0.00	0.00	0.00	0.00	0.00
A32	23.30	22.34	20.90	23.10	23.07	22.54

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist



Equipment: Transport Monitor
Diagram:



TCH IMRI Equipment Test Report: 2010

Results:

"Spot" Test

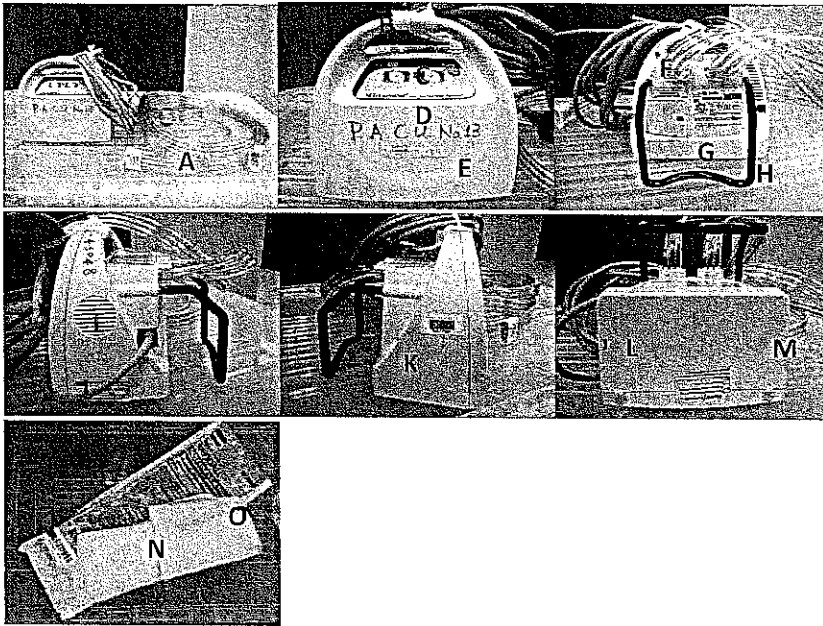
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
23-Aug-10	A	28.94	29.83	28.21	26.28	29.61	28.57	UNSAFE
	B	38.33	37.61	38.08	37.86	38.65	38.11	
	C	4.02	3.63	3.71	4.03	3.79	3.84	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	10.43	10.20	10.59	10.43	10.51	10.43	
	F	6.41	6.64	6.88	6.43	6.48	6.57	
	G	10.39	9.97	10.36	10.12	9.98	10.16	
	H	47.15	47.41	48.63	47.29	47.66	47.63	
	I	41.35	41.60	41.11	41.61	42.62	41.66	
	J	43.07	43.27	43.68	44.19	43.96	43.63	
	K	0.00	0.00	0.00	0.00	0.00	0.00	
	L	12.06	11.59	11.75	11.44	12.13	11.79	
	M	2.40	3.32	2.70	2.78	2.32	2.70	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
	O	0.00	0.00	0.00	0.00	0.00	0.00	
	P	0.70	0.62	0.62	0.80	0.76	0.70	
	Q	53.07	54.72	53.52	53.90	53.10	53.66	
	R	0.00	0.00	0.00	0.00	0.00	0.00	
	S	0.00	0.00	0.00	0.00	0.00	0.00	
	T	0.00	0.00	0.00	0.00	0.00	0.00	
	U	0.00	0.00	0.00	0.00	0.00	0.00	
	V	0.00	0.00	0.00	0.00	0.00	0.00	
	W	0.00	0.00	0.00	0.00	0.00	0.00	
	X	0.00	0.00	0.00	0.00	0.00	0.00	
	Y	8.11	8.11	8.35	8.33	8.20	8.22	
	Z	23.63	23.79	23.56	23.55	23.60	23.63	
A1	26.30	26.39	26.40	27.08	26.08	26.45		
A2	15.95	15.10	15.80	15.18	15.70	15.55		

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

TCH iMRI Equipment Test Report: 2010

Equipment: Sequential Compression Device (SCD) & calf compressors

Diagram:



Results:

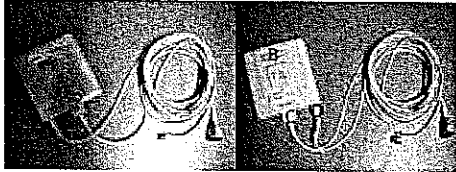
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
17-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	10.58	10.51	10.80	10.52	10.95	10.67	
	D	2.50	2.80	2.40	3.00	2.50	2.64	
	E	1.34	1.40	1.37	1.34	1.35	1.36	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	21.08	21.14	19.98	19.87	19.87	20.45	
	H	64.59	63.15	63.25	62.48	65.85	63.86	
	I	6.54	6.05	6.15	6.15	6.20	6.22	
	J	5.69	5.71	5.64	5.57	5.82	5.69	
	K	8.88	9.20	8.97	8.87	8.65	8.91	
	L	8.45	8.29	8.80	8.60	8.56	8.54	
	M	29.50	29.40	29.50	29.70	29.70	29.56	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
O	0.00	0.00	0.00	0.00	0.00	0.00		

TCH iMRI Equipment Test Report: 2010

Equipment: Nerve Stimulator

Diagram:



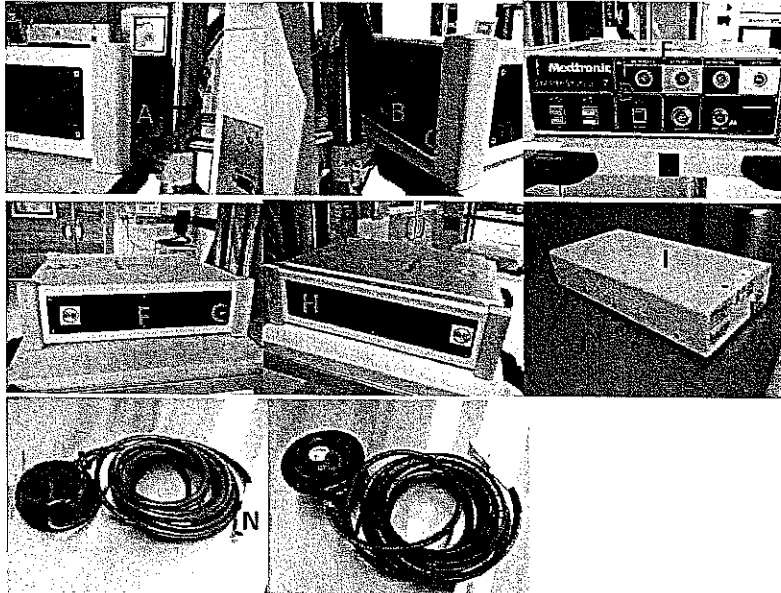
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
16-Aug-10	A	22.47	24.36	23.84	23.05	23.03	23.35	UNSAFE
	B	11.67	11.67	10.82	10.89	11.50	11.31	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Stealth Station

Diagram:



TCH IMRI Equipment Test Report: 2010

Results:

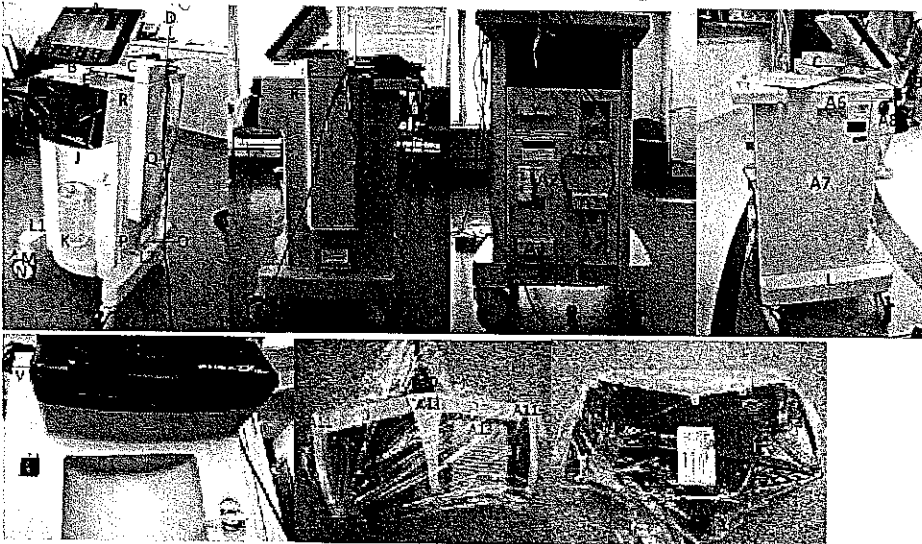
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
16-Aug-10	A	6.28	6.78	6.79	6.40	6.46	6.54	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	17.00	17.46	16.88	17.54	17.55	17.29	
	E	23.70	23.98	23.70	23.30	23.50	23.64	
	F	15.80	15.78	15.55	15.50	15.80	15.69	
	G	23.10	23.00	23.50	23.75	23.70	23.41	
	H	56.60	56.40	56.40	56.40	56.70	56.50	
	I	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE/ CONDITIONAL
	J	11.90	10.27	10.20	11.28	11.05	10.94	
	K	3.07	2.78	3.04	3.00	2.88	2.95	UNSAFE
	L	0.00	0.00	0.00	0.00	0.00	0.00	
	M	0.00	0.00	0.00	0.00	0.00	0.00	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
	O	78.00	78.32	78.96	78.98	79.02	78.66	

Comment [y12]: Depending on where it is being used. Unit is very light and might possibly get sucked into the magnet - hence, MR unsafe

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: Cusa
Diagram:



TCH IMRI Equipment Test Report: 2010

Results:
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
1-Sep-10	A	10.00	10.40	11.50	10.20	12.70	10.96	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	123.80	123.60	125.00	125.00	124.90	124.46	
	E	16.70	17.10	17.10	17.10	16.90	16.98	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	9.60	10.00	9.80	8.80	9.60	9.56	
	H	12.30	12.70	12.70	12.70	12.70	12.62	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
	J	17.50	16.70	17.80	16.30	16.87	17.03	
	K	68.90	69.00	68.90	70.01	68.60	69.08	
	L1	32.20	34.40	34.20	33.80	35.40	34.00	
	L2	38.60	37.80	37.80	37.80	38.02	38.00	
	M	71.30	72.00	71.80	71.80	72.90	71.96	
	N	11.90	11.10	12.30	12.70	13.50	12.30	
	O	64.90	63.30	64.90	63.30	65.00	64.28	
	P	91.20	90.50	91.90	90.20	90.00	90.76	
	Q	10.40	9.20	10.00	10.00	10.04	9.93	
	R	91.20	92.30	91.90	91.20	90.00	91.32	
	R1	9.60	10.40	11.10	11.10	10.60	10.56	
	S	88.80	83.60	88.20	88.80	88.80	87.64	
	T	6.40	7.20	6.80	6.76	6.68	6.77	
	U	0.00	0.00	0.00	0.00	0.00	0.00	
	V	7.60	8.00	7.60	8.00	8.00	7.84	
	W	0.00	0.00	0.00	0.00	0.00	0.00	
	X	98.00	98.30	98.30	99.90	117.00	102.30	
	Y	164.80	163.70	164.00	164.50	164.63	164.33	
	Z	0.00	0.00	0.00	0.00	0.00	0.00	
	A1	192.00	186.00	186.00	185.90	189.90	187.96	
	A2	91.20	91.20	90.00	90.80	90.76	90.79	
A3	189.50	189.50	190.80	191.20	192.30	190.66		
A4	159.90	163.00	163.60	163.60	161.76	162.37		
A5	0.00	0.00	0.00	0.00	0.00	0.00		
A6	141.00	139.90	142.50	141.80	141.80	141.40		
A7	95.10	96.80	95.10	95.40	96.20	95.72		
A8	27.10	26.30	27.10	27.10	27.00	26.92		
A9	0.00	0.00	0.00	0.00	0.00	0.00		
A10	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE	
A11	0.00	0.00	0.00	0.00	0.00	0.00		
A12	6.40	5.60	5.60	6.40	6.24	6.05		
A13	5.60	6.80	5.60	5.80	6.56	6.07		
A14	142.50	139.30	141.80	141.63	141.70	141.39		

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

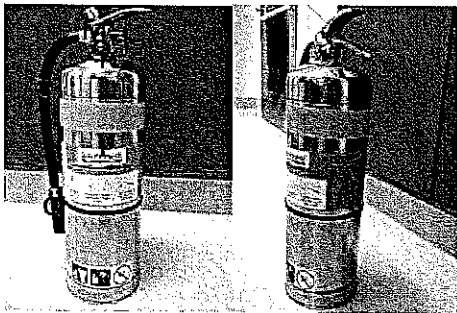
Equipment: MR safe fire extinguisher

Diagram:

Extinguisher A



Extinguisher B



Results

"Spot" Test

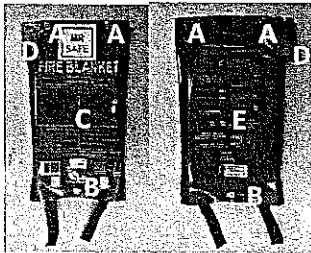
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	0.00	0.00	0.00	0.00	0.00	0.00	
10-Aug-10	L	0.00	0.00	0.00	0.00	0.00	0.00	SAFE <i>(However, concern is how the slight attraction will react over time.)</i>
	M	0.00	0.00	0.00	0.00	0.00	0.00	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
	O	0.00	0.00	0.00	0.00	0.00	0.00	
	P	0.00	0.00	0.00	0.00	0.00	0.00	

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	Q	0.00	0.00	0.00	0.00	0.00	0.00	
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Equipment: Fire blanket

Diagram:



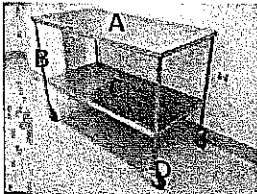
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
10-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Large instrument trolley

Diagram:



Results:

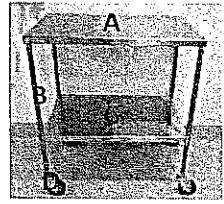
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	125.00	125.50	126.00	125.80	125.60	125.58	

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Equipment: Medium instrument trolley

Diagram:



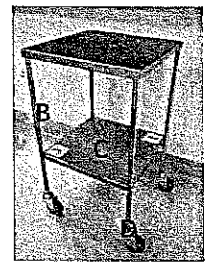
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	119.20	119.00	119.30	119.50	119.65	119.33	

Equipment: Small instrument trolley

Diagram:



Results:

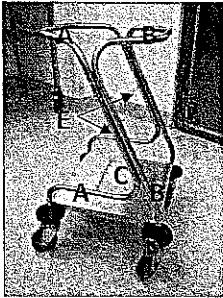
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	124.20	123.80	124.20	123.50	123.87	123.91	

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Equipment: Linen basket

Diagram:



Results:

"Spot" Test

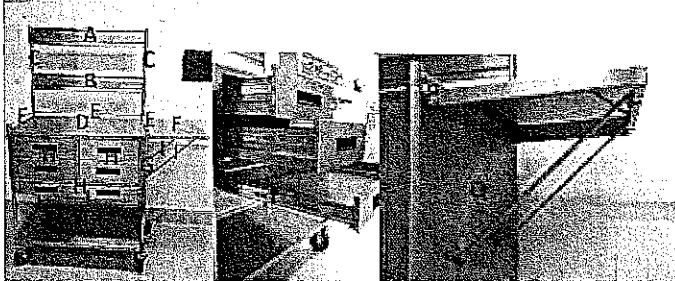
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	135.40	135.00	135.30	135.40	136.00	135.42	
	E	0.00	0.00	0.00	0.00	0.00	0.00	

DRAFT

Equipment: Anaesthetic stock trolley

Diagram:

TCH IMRI Equipment Test Report: 2010



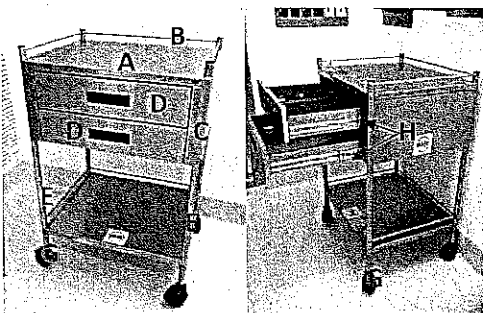
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	0.00	0.00	0.00	0.00	0.00	0.00	
	L	140.50	141.80	141.50	141.00	141.00	141.16	
	M	95.70	96.70	96.00	96.00	96.20	96.12	
	N	0.00	0.00	0.00	0.00	0.00	0.00	
	O	0.00	0.00	0.00	0.00	0.00	0.00	
	P	1.23	1.25	1.23	1.22	1.30	1.25	
	Q	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Intubating trolley

Diagram:



Results:

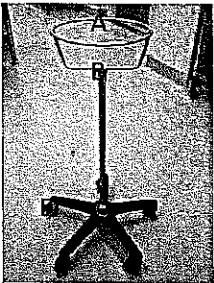
TCH IMRI Equipment Test Report: 2010

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	29.50	29.80	30.00	31.40	30.00	30.14	
	H	92.00	95.10	94.30	95.00	93.80	94.04	

Equipment: Bowl stand

Diagram:



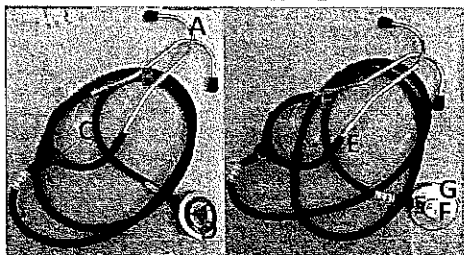
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	124.00	124.60	125.00	123.80	124.50	124.38	
	D	15.90	16.70	16.00	16.67	16.60	16.37	

Equipment: Stethoscope

Diagram:



Results:

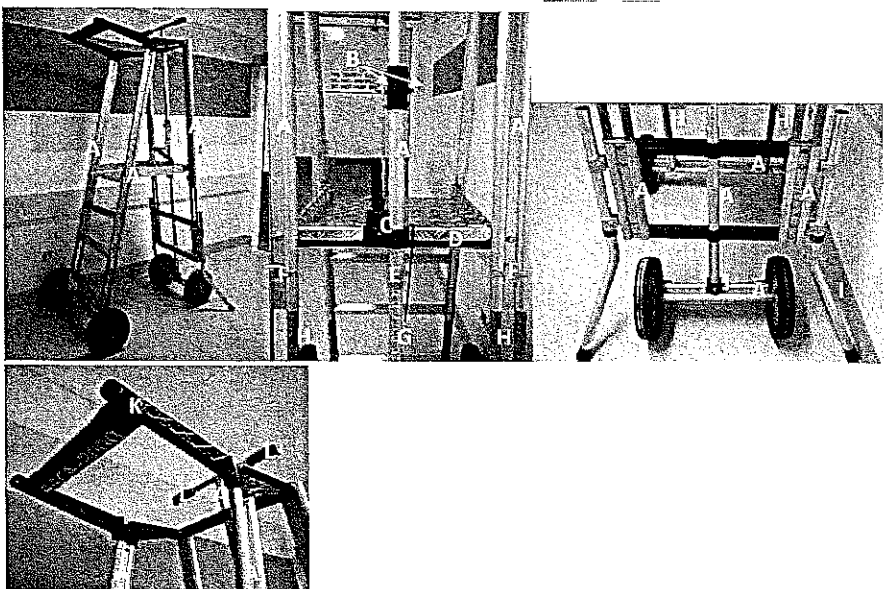
TCH iMRI Equipment Test Report: 2010

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
19-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Scaffold/ladder

Diagram:



Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
30-Sep-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	0.00	0.00	0.00	0.00	0.00	0.00	

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	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	0.00	0.00	0.00	0.00	0.00	0.00	
	L	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist.

Equipment: Scout trolley

Diagram:



Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
24-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	23.80	23.10	25.90	25.10	25.60	24.70	
	G	72.90	72.70	72.70	72.30	72.50	72.62	
	H	58.10	58.50	56.50	57.80	58.00	57.78	
	I	20.90	21.90	20.88	19.10	20.00	20.56	
	J	21.00	21.00	20.78	20.90	20.70	20.88	
	K	10.00	10.00	10.01	10.20	10.32	10.11	

Equipment: Air sampler

Diagram:

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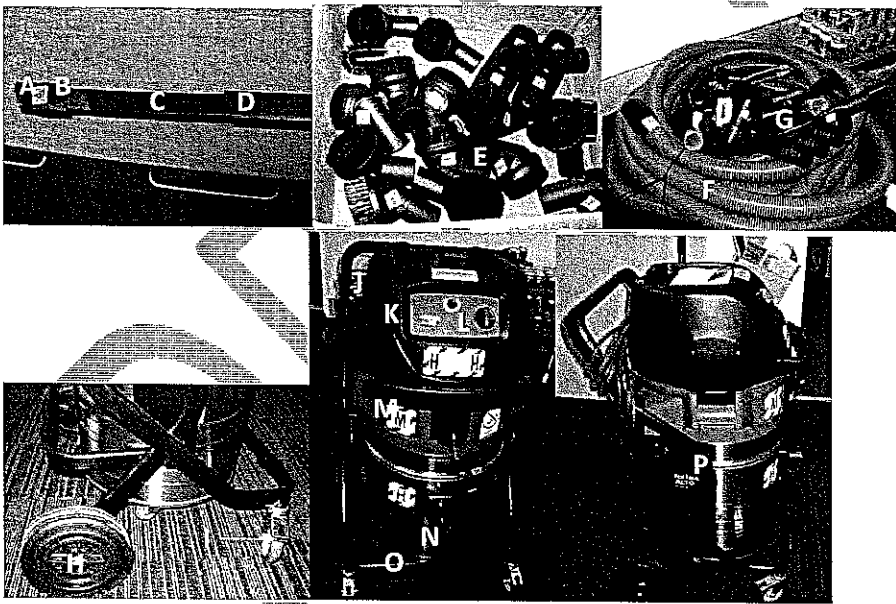
Results:
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
19-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	7.19	7.45	7.67	7.57	7.91	7.56	
	C	17.28	18.76	18.01	18.93	18.50	18.30	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	J	0.00	0.00	0.00	0.00	0.00	0.00	
	K	33.60	33.71	34.09	33.13	33.70	33.65	
	19-Aug-10	L	5.10	5.64	5.18	5.80	5.55	
M		17.52	16.68	16.80	16.88	16.80	16.94	
N		1.27	1.31	1.43	1.25	1.27	1.31	
O		13.31	13.52	13.44	13.37	13.30	13.39	
P		7.34	6.72	6.72	7.26	7.00	7.01	
Q		0.00	0.00	0.00	0.00	0.00	0.00	
R		0.00	0.00	0.00	0.00	0.00	0.00	
S		0.00	0.00	0.00	0.00	0.00	0.00	
T		0.00	0.00	0.00	0.00	0.00	0.00	
U		0.00	0.00	0.00	0.00	0.00	0.00	

Comment [y13]: Power supply is very light and may possibly fly into the magnet

Equipment: Vacuum cleaner

Diagram:



Results:

"Spot" Test

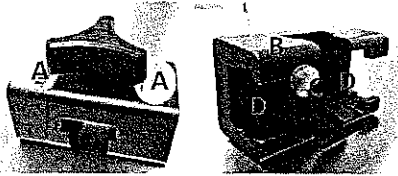
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
20-Aug-10	A	4.48					4.48	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	20+					>20	

TCH IMRI Equipment Test Report: 2010

F	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
H	109.80						109.80	
I	85.82						85.82	
J	100.00						100.00	
K	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
M	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
O	100.00						100.00	
P	100.00						100.00	

Equipment: Flat bar clamp

Diagram:



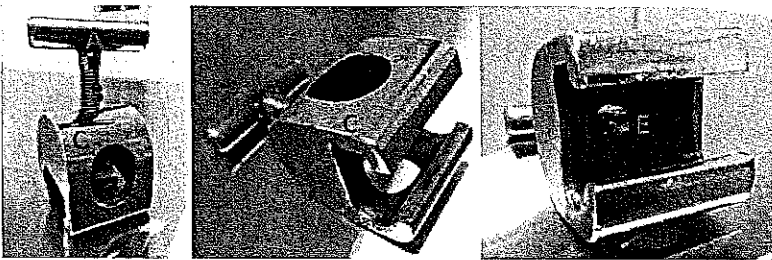
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Round bar clamp

Diagram:



Results:

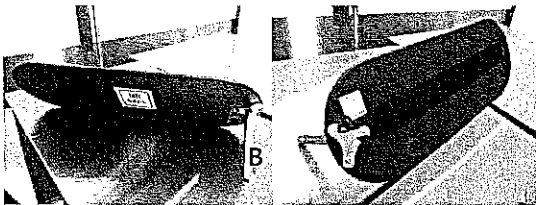
TCH iMRI Equipment Test Report: 2010

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: Arm board
Diagram:

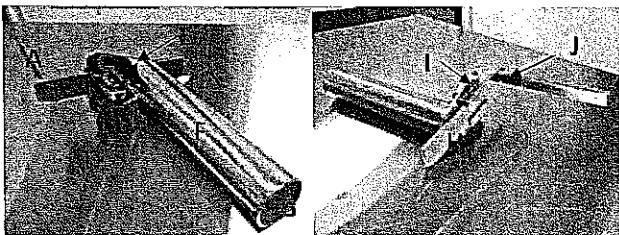


Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.56	0.77	0.56	0.66	0.60	0.63	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	

Equipment: Adjustment body support - cylinder
Diagram:



Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	CONDITIONAL

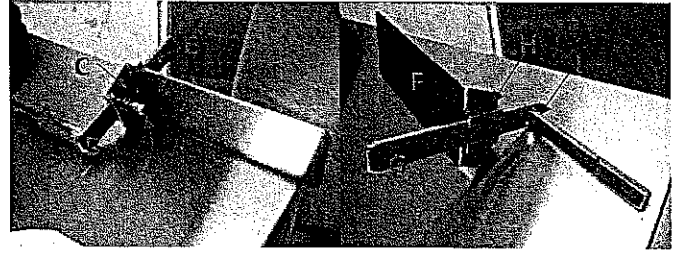
Comment [y14]: Slight attraction but may possibly increase with time. Equipment went back to supplier.

TCH IMRI Equipment Test Report: 2010

B	1.52	1.62	1.62	1.60	1.58	1.59
C	1.20	1.06	1.23	1.20	1.00	1.14
D	0.00	0.00	0.00	0.00	0.00	0.00
E	1.20	1.26	1.26	1.06	1.03	1.16
F	0.00	0.00	0.00	0.00	0.00	0.00
G	0.00	0.00	0.00	0.00	0.00	0.00
H	0.00	0.00	0.00	0.00	0.00	0.00
I	1.50	1.60	1.66	1.60	1.75	1.62
J	1.62	1.62	1.60	1.70	1.65	1.64

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: Adjustment body support - flat
Diagram:



Results:
"Spot" Test

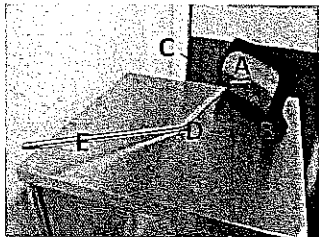
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	CONDITIONAL
	B	1.60	1.62	1.59	1.60	1.56	1.59	
	C	1.08	1.04	1.24	1.20	1.04	1.12	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	1.27	1.20	1.27	1.05	1.03	1.16	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	1.62	1.60	1.62	1.66	1.74	1.65	
	I	1.60	1.59	1.71	1.71	1.66	1.65	
	J	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Comment [y15]: Slight attraction but may possibly increase with time. Equipment went back to supplier.

Equipment: Carter Braine arm support
Diagram:

TCH IMRI Equipment Test Report: 2010



Results:

"Spot" Test

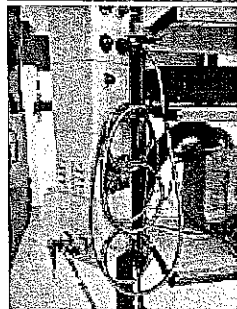
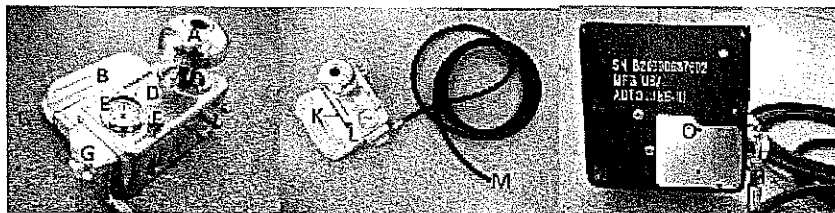
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
25-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	CONDITIONAL
	B	1.60	1.63	1.70	1.60	1.56	1.62	
	C	4.00	4.50	4.50	4.58	5.00	4.52	
	D	4.56	5.00	5.00	4.88	4.67	4.82	
	E	0.00	0.00	0.00	0.00	0.00	0.00	

Comment [y16]: Slight attraction but may possibly increase with time. Need to determine Testa level

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: Anspach drill – foot pedal & hose

Diagram:



Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
1-Sep-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	

TCH IMRI Equipment Test Report: 2010

D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
E	4.00	4.80	4.00	4.00	4.60	4.28		
F	0.00	0.00	0.00	0.00	0.00	0.00		
G	0.00	0.00	0.00	0.00	0.00	0.00		
H	0.00	0.00	0.00	0.00	0.00	0.00		
I	0.00	0.00	0.00	0.00	0.00	0.00		
J	60.10	58.50	58.50	58.10	58.90	58.82		
K	2.40	2.40	2.80	2.40	2.50	2.50		
L	2.60	2.60	2.50	2.48	2.52	2.54		
M	0.80	1.01	0.76	0.68	0.68	0.79		
N	3.20	3.60	3.80	3.60	3.18	3.48		
O	0.43	0.50	0.50	0.62	0.35	0.48		
P	0.00	0.00	0.00	0.00	0.00	0.00		
Q	0.00	0.00	0.00	0.00	0.00	0.00		UNSAFE
R	70.90	71.40	70.90	70.90	70.90	71.00		

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist

Equipment: IV poles

Diagram:



Results:

"Spot" Test

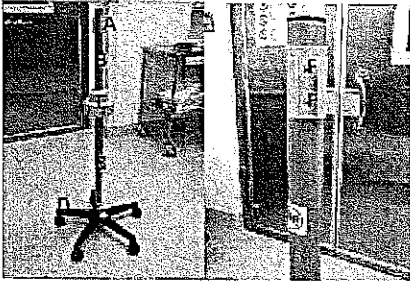
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
27-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	

NOTE: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions exists. ONE wheel on one IV pole has slight attraction.

Equipment: Pole (green parts)

TCH IMRI Equipment Test Report: 2010

Diagram:



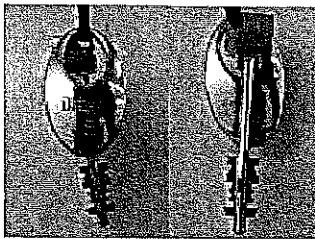
Results:

"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
27-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE
	B	131.80	129.00	127.80	128.20	127.60	128.88	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	11.96	10.00	11.36	12.26	10.51	11.22	
	E	15.88	15.88	16.47	15.18	16.30	15.94	
	F	11.05	10.35	8.88	8.27	10.80	9.87	

Equipment: Drug cabinet key

Diagram:



Results:

"Spot" Test

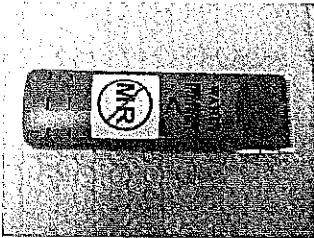
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
27-Aug-10	A	0.00	0.00	0.00	0.00	0.00	0.00	UNSAFE/ CONDITIONAL
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	

NOTE: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions exists. Depends on where the key is used. Key is small and very light weight. Hence, high possibility to fly into the magnet if not attached to something/someone. [Overwritten to "MR SAFE" by Cameron]

Equipment: Shaver

TCH IMRI Equipment Test Report: 2010

Diagram:



Results:

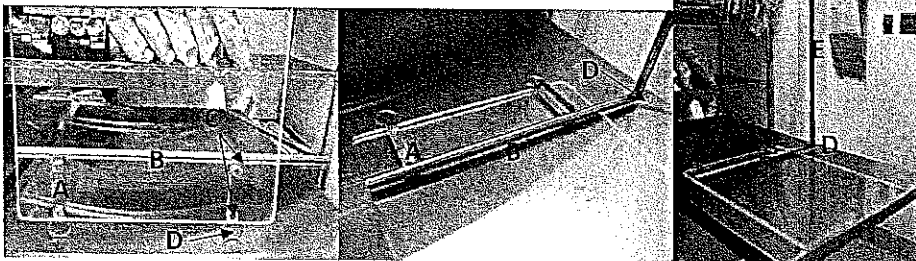
"Spot" Test

Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
27-Aug-10	A	20.90	21.08	22.50	22.04	21.98	21.70	UNSAFE

Comment [y17]: Over 20N

Equipment: Patient table (Plastic platform)

Diagram:

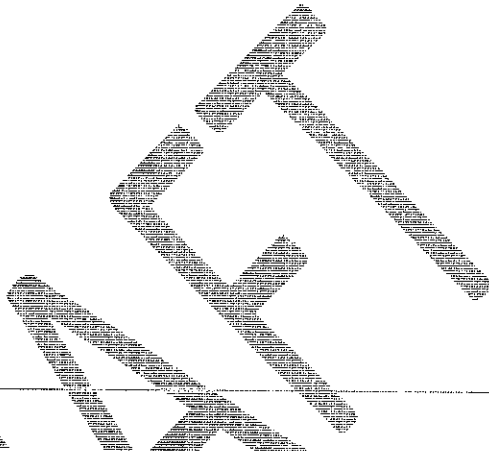


Results:

"Spot" Test

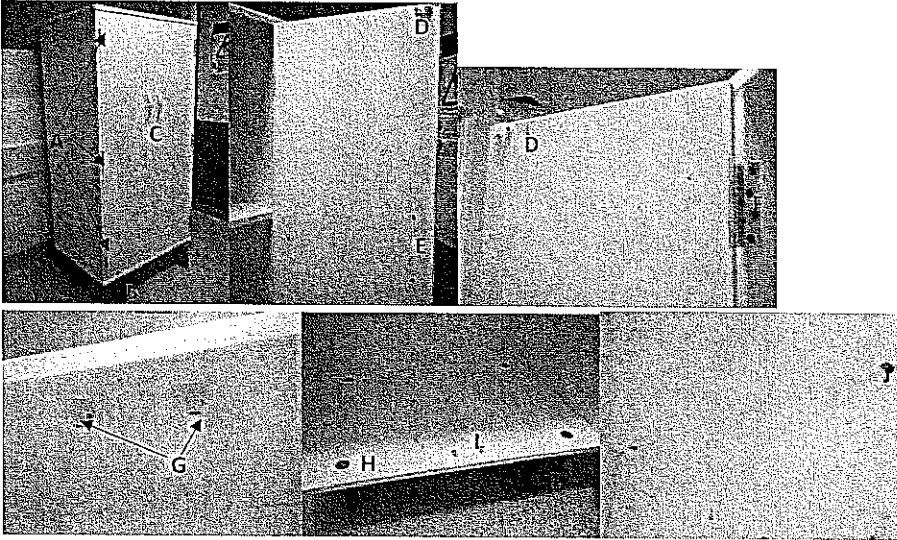
Test Date (DD-MM-YY)	Test points	Readings (N)					Average (N)	Over all MR Compatibility
		1	2	3	4	5		
30-Sep-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.00	0.00	0.00	0.00	0.00	0.00	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist at bends/welding points.



Equipment: Fluorine cupboard?

Diagram:



Results:

"Spot" Test

Test Date	Test points	Readings (N)	Average	Over all MR
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TCH IMRI Equipment Test Report: 2010

(DD-MM-YY)		1	2	3	4	5	(N)	Compatibility
06-Oct-10	A	0.00	0.00	0.00	0.00	0.00	0.00	SAFE
	B	0.03	0.03	0.04	0.03	0.03	0.03	
	C	0.00	0.00	0.00	0.00	0.00	0.00	
	D	0.00	0.00	0.00	0.00	0.00	0.00	
	E	0.00	0.00	0.00	0.00	0.00	0.00	
	F	0.00	0.00	0.00	0.00	0.00	0.00	
	G	0.00	0.00	0.00	0.00	0.00	0.00	
	H	0.00	0.00	0.00	0.00	0.00	0.00	
	I	0.00	0.00	0.00	0.00	0.00	0.00	
	J	0.00	0.00	0.00	0.00	0.00	0.00	

Note: Zero readings - attraction force too small to be picked up by the force gauge. However, attractions still exist.

DRAFT

[Redacted]

From: Lamech, James [James.Lamech@act.gov.au]
Sent: Friday, 22 October 2010 9:04 AM
To: Belle, Kyril
Cc: [Redacted] Petherbridge, Brett; [Redacted] Moore, Peter; Pannett, Richard; [Redacted]
Subject: RE: P01716 - Acceptance of Pendant Cabling

Hi Kyril

Whilst waiting for THINC meeting minutes of our meeting yesterday, I would like to summarise the discussion around the pendant cabling.

- The InTACT BRS for the Neurosuite did not identify any requirement for services using pendant cabling
- The requirement from Surgical Services as recently articulated to use the Neurosuite for overflow surgery from existing theatres (1 to 12) is a new requirement
 - This requirement has yet to be fully analysed and understood
 - It could take as long as May 2011 for the Neurosuite to be fully capable of satisfying the requirement for overflow surgery
- The current cabling is working to the agreed InTACT acceptance tests though
 - [Redacted] plan to replace the existing through connectors with Krone
 - Should an opportunity present itself, [Redacted] may replace the existing 12 pendant patch leads with Krone
 - In either case, [Redacted] will liaise with InTACT to confirm product and part numbers
- In short, the suggested InTACT options of
 - Replacement immediately with [Redacted] is not required
 - Capacity increase (ie more active ports) is not required
 - Redundancy improvement (the additional ports patched to alternate switches) is not required
- Based on the above, InTACT will proceed with the final component of the pendant cabling acceptance tests
 - This will involve assisting the PACS Administrator in confirming the connection to the MI network on both pendants

Happy to correct any errors or omissions.

Cheers

James Lamech
 Project Manager
 InTACT
 Ph 02 6207 5046
 e-mail James.Lamech@act.gov.au

From: Lamech, James
Sent: Friday, 15 October 2010 3:21 PM
To: [Redacted]
Cc: [Redacted] Nicholas; Belle, Kyril; JasonSmith, Rhona; Robertson, Cameron; Petherbridge, Brett
Subject: RE: P01716 - Acceptance of Pendant Cabling

[Redacted]

I can see that you are in a difficult position.

The facts are that the through connector has failed on at least 2 occasions that I know of in this short period. That's 2 connectors out of a total of 12.

The disconcerting thing is that the failures are unpredictable with no indication or warning that they will fail.

The part number for the [redacted] through connector is 6467 1 121-00 RJ45 Adaptor
The part number for the [redacted] 10m Cat5e leads are 6451 5 039-00

I cannot accept the pendant cabling in its present form but in the end, the users are ACT Health. The risk is theirs not InTACT.

Kyrii/Rhona

Are you prepared to accept the pendant cabling for surgical use? When last tested, they were working.

Cheers

James Lamech
Project Manager
InTACT
Ph 02 6207 5046
e-mail James.Lamech@act.gov.au

From: [redacted]
Sent: Friday, 15 October 2010 1:34 PM
To: [redacted]
Cc: [redacted] Lamech, James; [redacted]
Subject: RE: P01716 - Acceptance of Pendant Cabling

[redacted]

I have discussed this issue with [redacted] and they have informed me that the parts used are certified by the ACMA - Australian Communication and Media Authority, and that [redacted] is on the list of endorsed suppliers to the Australian Government.

At this stage I am not prepared to run new cabling through the pendant particularly now that all connections are functioning. To do so would involve partially dismantling the pendant. This work would take some time to carry out, cause much disruption to the theatre and possibly create new problems. Changing the cabling may also create warranty issues and I do not want to put ACT Health in a position where this might be jeopardized.

However, in order to progress this issue, if InTACT could provide the product code and price for the Krone through connectors, I will forward the information to [redacted] for their consideration.

Regards,

~~~~~  
[redacted]

[redacted]

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**From:** [redacted]  
**Sent:** Wednesday, 13 October 2010 2:15 PM  
**To:** [redacted]  
**Cc:** [redacted] Lamech, James; [redacted] Maria Fahey  
**Subject:** FW: P01716 - Acceptance of Pendant Cabling

Can you please discuss with James and get the specs for these connectors and proceed.

Kind Regards,  
[redacted]

**From:** Lamech, James [mailto:James.Lamech@act.gov.au]  
**Sent:** Wednesday, 13 October 2010 10:53 AM  
**To:** [redacted]  
**Cc:** Chaiker, Rodney; JasonSmith, Rhona; [redacted] Robertson, Cameron; Belle, Kyril; Moore, Peter; [redacted]  
**Subject:** RE: P01716 - Acceptance of Pendant Cabling

Hi [redacted]

[redacted] have formally advised me that they **do** have a through connector that will fit on the pendant and will warrant for 20 yrs.

Kindly advise how you would like this progressed...

Cheers

James Lamech  
Project Manager  
InTACT  
Ph 02 6207 5046  
e-mail James.Lamech@act.gov.au

James Lamech, James  
Wednesday, 12 October 2010 4:34 PM  
in Jedrzejek  
Chaiker, Rodney; JasonSmith, Rhona; [redacted] Robertson, Cameron; Belle, Kyril; Moore, Peter; [redacted]  
RE: P01716 - Acceptance of Pendant Cabling

Hi [redacted]

After some discussions with Biomed and our vendors, I may have a way of resolving this issue.

[redacted] have advised me that they **may** have a through connector that they will warrant for 20yrs. I think we all realise that 20yrs may be an overkill, the point is that they will be highly reliable and fit for purpose.

The only condition that [redacted] wish to impose is that the 10 metre fly cable from the media convertor to the through connector on the pendant must also be from [redacted] (as you are aware, one of the existing 12 fly leads has also failed recently)

Could you kindly advise how open [redacted] would be to replacing the fly leads and through connectors with [redacted] parts?

Cheers

James Lamech  
Project Manager  
InTACT  
Ph 02 6207 5046  
e-mail James.Lamech@act.gov.au

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Lamech, James  
Friday, 8 October 2010 3:50 PM

[redacted]  
Walker, Rodney; JasonSmith, Rhona; [redacted] Robertson, Cameron; Belle, Kyril; Moore, Peter; [redacted]  
RE: P01716 - Acceptance of Pendant Cabling

Hi [redacted]

Just giving you an update on the pendant testing conducted today.

InTACT tested all 6 connections to pendant 'S' and the connection to S10 failed.

On investigation, the through connect keyhole adaptor proved to be faulty.

InTACT replaced the through connector (and relabelled all services) and S10 is now working.

However, considering that this is not the first time that a through connect has failed in this short interval between [redacted] and InTACT acceptance testing, InTACT must conclude that they are not fit for purpose.

Could [redacted] kindly research, provide and replace all 12 through connects with a medical grade product?

InTACT will then retest and confirm.

Note that I have the faulty connector in my possession (to avoid its reuse in the Neurosuite)

Cheers

James Lamech  
Project Manager  
InTACT  
Ph 02 6207 5046  
e-mail James.Lamech@act.gov.au

---

Robertson, Cameron  
Wednesday, 6 October 2010 9:51 AM  
Lamech, James

Walker, Rodney; [redacted] JasonSmith, Rhona; [redacted]  
RE: P01716 - Acceptance of Pendant Cabling

James,

You can access the suite at any time today. Just call me on my mobile, 0414706021, and advise me of your arrival so that I can organise access for you.

Regards,

Cameron Robertson

**iMRI Section Manager  
Medical Imaging  
The Canberra Hospital**

---

**From:** Lamech, James  
**Sent:** Wednesday, 6 October 2010 9:49 AM  
**To:** Robertson, Cameron  
**Cc:** Chalker, Rodney; [REDACTED], JasonSmith, Rhona; [REDACTED]  
**Subject:** P01716 - Acceptance of Pendant Cabling

Hi Cameron

[REDACTED] have advised that the pendant cabling is fixed.

InTACT need to complete their acceptance testing of the cabling.

We will need access to the Suite for about an hour and access to a ladder.

Kindly advise when we may have this access...

Cheers

James Lamech  
Project Manager  
InTACT  
Ph 02 6207 5046  
e-mail James.Lamech@act.gov.au

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**McClymont, Geoff**

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**From:** [Redacted]  
**Sent:** Tuesday, 26 October 2010 9:04 AM  
**To:** George, Jacinta; Petherbridge, Brett; Belle, Kyril; Lamech, James; [Redacted] Blakely-Kidd, Richard  
**Cc:** [Redacted]  
**Subject:** Neuro/SAPU PDM 036 Action Statement  
**Attachments:** 101021\_\_Neuro-SAPU\_PDM 036\_Action Statement.pdf

Dear all,

Please find attached Action Statement following the Project Directors' Meeting (PDM) 036 held Thursday 21<sup>st</sup> October.

Should you have any comments on content or otherwise, please do not hesitate to let me know.

Kind Regards,

[Redacted]

[Redacted]

[Redacted]

## Action Statement

**Client** ACT Health

**Meeting No** 036

**Project** Neurosuite/SAPU

**Location** TCH Building 23 Meeting Room 1

**Meeting** Project Directors' Meeting

**Date** Thursday 21 October 2010, 8.30am

| Name                | Initials                                | Position                           | Organisation | Attending |
|---------------------|-----------------------------------------|------------------------------------|--------------|-----------|
| Jacinta George      | JG                                      | A/g Senior Manager – RU            | ACTH         | part      |
| Brett Petherbridge  | BP                                      | Capital Works Manager – RU         | ACTH         | ✓         |
| Kyril Belle         | KB                                      | Senior Biomed Engineer – RU        | ACTH         | part      |
| James Lamech        | JL                                      | Project Manager                    | InTACT       | part      |
|                     | AM                                      |                                    |              | ✓         |
|                     | PK                                      |                                    |              | ✓         |
|                     | KOH                                     |                                    |              | ✓         |
|                     | PD                                      |                                    |              | ✓         |
| <b>Distribution</b> | <b>Attendees &amp; apologies, plus:</b> |                                    |              |           |
| Manfred Halton      | MH                                      | Senior Manager Eng Services (CADP) | ACTH         |           |
|                     | DM                                      |                                    |              |           |
|                     | MF                                      |                                    |              |           |
|                     | RJ                                      |                                    |              |           |

| No.       | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | By            |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>1.</b> | <b>DESIGN CHANGE REQUESTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |
| 1.1.      | Current status and PDM recommendations of design change requests (see attachment 1)                                                                                                                                                                                                                                                                                                                                                                                             | Note          |
| 1.2.      | As per ACTH confirmation at the handover meeting, provided the safe operations of the facility is not compromised ACTH confirmed that there was a moratorium on design change for 3 months until users have had sufficient operational time in the facility as designed.<br><br>A number of design change requests are not considered critical to the safe operation of the facility and may reflect a change in operational use from the originally proposed at design change. | Note          |
| 1.3.      | Funding:<br>[redacted] advised no project contingency remains to fund design changes. There is a small amount of funding remaining from the FF&E budget however noting that this was additional funding provided on the basis that what was not required would be returned to the CADP budget                                                                                                                                                                                   | Note          |
| 1.4.      | Design change Requests for signage required in outside Neurosuite and appropriate mirror outside ward clerk area were approved and funded from FF&E budget – [redacted] to formally instruct [redacted] to complete work                                                                                                                                                                                                                                                        | PK – 21.10.10 |
| 1.5.      | Reduce height of sluice - JG and BP met with Heather Bullard and decision was made not to change the height of the sluice.                                                                                                                                                                                                                                                                                                                                                      | Note          |

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                            |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>2.</b> | <b>InTACT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                            |
| 2.1.      | <p>Pendent Cabling JL &amp; KB confirmed:</p> <ul style="list-style-type: none"> <li>a. The current cabling is working to the agreed InTACT acceptance tests</li> <li>b. Suggested options InTACT had previously identified via email are not required at this time (Replacement with [REDACTED]s not required; Capacity increase (ie more active ports) is not required; Redundancy improvement (the additional ports patched to alternate switches) is not required)</li> <li>c. Based on the above, InTACT will proceed with the final component of the pendant cabling acceptance tests</li> </ul> <p>JL to confirm the final InTACT budget</p> | <p>Note<br/>JL –<br/>25.10.10</p> <p>JL –<br/>25.10.10</p> |
| <b>3.</b> | <b>PLANT ROOM</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                            |
| 3.1.      | <ul style="list-style-type: none"> <li>a. [REDACTED] advised the plant room has been handed over to PM&amp;M on 19/10/2010.</li> <li>b. [REDACTED] to finalise Certificate of Occupancy (COU) application for the full scope of works encompassing south slab fitout and the plant room</li> <li>c. [REDACTED] to arrange COU for the whole facility including the plant room</li> </ul>                                                                                                                                                                                                                                                            | <p>Note<br/>KOH –<br/>25.10.10<br/>KOH –<br/>29.10.10</p>  |
| <b>4.</b> | <b>DEFECTS RECTIFICATION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                            |
| 4.1.      | <ul style="list-style-type: none"> <li>a. [REDACTED] advised defects list is 99% complete with 2 fire doors expected to be installed end October</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>GES-<br/>29.10.10</p>                                   |
| <b>5.</b> | <b>POST HANDOVER ITEMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                            |
| 5.1.      | <ul style="list-style-type: none"> <li>a. [REDACTED] advised that OM&amp;M manuals and WAE drawings targeted for end October</li> <li>b. [REDACTED] to arrange a training session for PM&amp;M re building services</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>PD –<br/>29.10.10</p>                                   |
| <b>6.</b> | <b>OTHER BUSINESS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |
| 6.1.      | <ul style="list-style-type: none"> <li>a. KOH noted design change requests received for SAPU</li> <li>b. [REDACTED] to review and advise users where applicable to formally submit design change requests</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>GES</p>                                                 |





Attachment 1

| Design change requests submitted | Description                                                                     | User Priority | PDM Recommendation<br><br>(Note cost estimate exclude GST)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------|---------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 02/09/2010                       | Reduce height of sluice                                                         | 1             | Following the meeting with Heather Bullard, JG and BP decision has been made not to change the height of the sluice at this stage (see email attached)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 06/09/2010                       | Appropriate mirror outside OR ward clerk area                                   | 1             | <ul style="list-style-type: none"> <li>• [Redacted] estimate - \$180 supply only</li> <li>• Funded from FF&amp;E budget</li> <li>• [Redacted] to be instructed to undertake mirror installation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                  | Black line in to lino to indicate where doors open                              | 1             | Monitor as an operational issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 02/09/2010                       | Temperature display in theatre                                                  | 2             | Monitor as an operational issue<br>Type of display unit required – surgeons to confirm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                  | Red line on the floor at check point                                            | 2             | Monitor as an operational issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 30/08/2010                       | Rolled edges to joinery in control room, sterile set up and anaesthetic bay     | 2             | <p>Control Room – monitor as an operational issue</p> <ul style="list-style-type: none"> <li>• KOH advised control room was not designed as a fully sterile zone and hence the installation of the desk complies with the design. It would not be a straightforward exercise to replace this desk due to the amount of services on and under the desk.</li> <li>• [Redacted] Estimate – \$10,355</li> </ul> <p>Sterile Setup and Anaesthetic Bay – monitor as an operational issue</p> <ul style="list-style-type: none"> <li>• BP to confirm with Infection Control whether these 2 desks can be monitored during DLP and replaced at a later time if necessary on the basis that moisture getting into the joints will only be during cleaning</li> <li>• [Redacted] estimate (Sterile Setup) - \$3,055</li> <li>• [Redacted] estimate (Anaesthetic Bay) - \$2,380</li> </ul> |
|                                  | Doors to cupboard in control room and sterile set up                            | 2             | Monitor as an operational issue<br>As per Control Room joinery recommendation above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                  | Touch panel control to exit checkpoint in to corridor next to fire warden phone | 2             | Monitor as an operational issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 02/09/2010                       | Signage outside Neuro and walls at checkpoint                                   | 3             | <ul style="list-style-type: none"> <li>• [Redacted] estimate - \$840 supply and install</li> <li>• Additional scope can be funded from FF&amp;E budget</li> <li>• [Redacted] to be instructed to undertake signage installation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07/09/2010                       | Wards person call bell in control room                                          | 3             | Monitor as an operational issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 02/09/2010                       | Activate GPO for warming cabinet and replace with a red cover                   | 4             | Completed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 02/09/2010                       | Additional data point to blood gas monitor                                      | 4             | Monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 02/09/2010                       | Tesla numbers in the lino                                                       | 4             | Previously confirmed with TGJ as not required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 02/09/2010                       | Magnet transit lines                                                            | 4             | Previously confirmed with TGJ as not required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**From:** JasonSmith, Rhona  
**Sent:** Tuesday, 26 October 2010 4:56 PM  
**To:** Bullard, Heather  
**Cc:** Reid, Barbara  
**Subject:** Neuro Suite functional availability

Background

On the 12<sup>th</sup> October John Fuller, David McDowell, a wardsperson and members of the Neuro nursing team did a mock-up for spinal surgery taking the spinal equipment including spinal table and microscope etc into OR14. The team trialled the bed in numerous positions taking into consideration the anaesthetic machine and equipment, and imaging equipment.

Outcome

The fixed MRI table limited the configuration of additional operating equipment required for spinal surgery which decreased the working size of the OR to smaller than is currently available in OR7 thus potentially compromising the sterile field (the fixed MRI bed would be within 1 metre of the surgeons' back).

The theatre lights are an issue as they need to be centrally located over the operating table and this was unachievable because of the fixed MRI table. We found the only way the Jackson table could be positioned was with the head also at the LCDs, feet at sterile stock room. This was the only way you could operate with one or two overhead lights centrally above the patient. However, it is the preference of several of the anaesthetists to have the patient's head to be near the sterile stock room doors not the LCDs.

Finally, the radiographers would have a difficult time wheeling the machines around into the MRI suite. The impact this would have on the rest of the ORs would be very significant.

Comment

The Neuro MRI Suite Working Party has the brief to work through the processes to enable other surgery to be performed in this suite. There are many issues to be resolved particularly in relation to ensuring that the environment is clear of ANY magnetic objects prior to IMRI surgery. I believe this can be achieved, however as we are all 'learner drivers' at the moment we need to progress carefully for safety reasons. My plan is to move towards doing non-MRI cases in OR14 initially ie heads first then carpal tunnels. The reason is that non-MRI heads use pretty much the same surgical equipment so the transition in this conservative environment should be reasonably smooth. The variation arrives with the anaesthetic equipment. The anaesthetists preference is not to use the MRI safe machine for any other surgery. With this comes a multitude of small pieces of equipment that have magnetic properties eg needles. We need to develop SOPs to ensure that the environment is COMPLETELY safe before IMRI surgery would next be performed in that room. Dry runs then need to be conducted and staff trained.

Once we start considering using the OR for other types of surgery we start exponentially increasing the risk of small/tiny magnetic items being inadvertently left in the OR. I feel we need to move very carefully in this regard as the risks are so high.

Hope this is the information you require.

Regards  
Rhona

**McClymont, Geoff**

---

**From:** Scott, Adrian  
**Sent:** Friday, 5 November 2010 2:23 PM  
**To:** Brussel, Thomas; Belle, Kyril  
**Subject:** FW: TCH Neurosuite - C of O

FYI,  
 Hopefully we will have possession by the end of next week.  
 Thanks Adrian.

*Adrian Scott*

Director Strategic Support | Level 3, 11 Moore Street CANBERRA ACT 2600 | P: (02) 6205 0867 | [REDACTED]

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**From:** Willcox, Keren (Supply)  
**Sent:** Friday, 5 November 2010 1:38 PM  
**To:** Scott, Adrian  
**Cc:** Kirchner, Horst; Grovenor, Priya  
**Subject:** FW: TCH Neurosuite - C of O

Adrian,

The hold up on the C of O is with ACTPLA, something to do with the electrical clearance.

Paul from [REDACTED] is hoping it will be sorted out by mid-next week and will send the through certificate ASAP.

Kind Regards,

Keren Willcox

A/g: Capital Works & Accommodation Coordinator | Strategic Support | Level 3, 11 Moore St, CANBERRA ACT 2600 | P: 620 51769 / [REDACTED]

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**From:** [REDACTED]  
**Sent:** Friday, 5 November 2010 1:25 PM  
**To:** Willcox, Keren (Supply)  
**Subject:** FW: TCH Neurosuite

Hi Keren,

As discussed, see below. As soon as the certificate comes through, I will pass it on.

Cheers,

[Redacted]

[Redacted]

[Redacted]

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**From:** [Redacted]  
**Sent:** Monday, 1 November 2010 10:59 AM  
**To:** [Redacted]  
**Subject:** FW: TCH Neurosuite

FYI.

**From:** [Redacted]  
**Sent:** Monday, 1 November 2010 9:34 AM  
**To:** [Redacted]  
**Subject:** RE: TCH Neurosuite

Hi Paul,

Just a note to advise that I have compiled all the COU documentation for the Neurosuite for lodgement with ACTPLA today. The COU for stage 1, and a Partial COU for Stage 2 have already been issued. This lodgement will supersede the Partial COU for Stage 2 thus you will have final COU's for both Stage 1 and Stage 2.

Regards

Chris

**From:** [Redacted]  
**Sent:** Friday, 29 October 2010 11:36 AM  
**To:** [Redacted]  
**Cc:** [Redacted]  
**Subject:** FW: TCH Neurosuite

Hi [Redacted]

I'm just making sure you have received the attached certification from [REDACTED] Could you also advise of when all documents will be lodged to ACTPLA.

Thanks,

[REDACTED]

[REDACTED]

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Friday, 29 October 2010 10:53 AM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: TCH Neurosuite

[REDACTED]

Attached is the certificate for the fan systems

Regards

[REDACTED]

**From:** [REDACTED]  
**Sent:** Thursday, 28 October 2010 1:30 PM  
**To:** [REDACTED]  
**Subject:** TCH Neurosuite

Hi [REDACTED]

As per my phone messages, could you please give me a call back, Urgently Re. C of O for the Neurosuite/SAPU projects.

Thanks,

[Redacted]

[Redacted]

[Redacted]

The content of this e-mail, including attachments, may be privileged and confidential. Any unauthorised use of the contents is expressly prohibited. If you have received this message in error, please advise the sender and then delete the message and any attachment(s). Any views expressed in this message are those of the individual sender, except where the sender expressly, and with authority, states them to be the views of [Redacted]. While all care is taken, neither [Redacted] or any of its employees will be held in any way liable for the transmission of viruses. ABN: [Redacted]

Information from ESET NOD32 Antivirus, version of virus signature database 5573 (20101028)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

Information from ESET NOD32 Antivirus, version of virus signature database 5576 (20101029)

The message was checked by ESET NOD32 Antivirus.

<http://www.eset.com>

**From:** JasonSmith, Rhona  
**Sent:** Friday, 12 November 2010 4:54 PM  
**To:** Reid, Barbara; Lang, Kellie  
**Cc:** Burns, Cathy; Zuccherelli, Lisa; Brussel, Thomas; Guy, Shane; Burns, Michelle; Harman, Maria; Andrews, Kylie; Lyons, Robert; Reeves, Kerri; Wood, Daniel  
**Subject:** Neuro Suite Update

Hi Barb and Kellie

The Neuro Working Party has been meeting weekly to progress outstanding items remaining for the clinical commissioning of the Neuro iMRI suite. This is progressing well although we are still awaiting a response regarding the issue of the height of the sluice. As there have been a limited number of iMRI cases to date the Working Party has identified the importance of 'budding' up less experienced staff members with key neuro personnel to increase their level of confidence when iMRI cases are booked.

The Working Party is also progressing the body of work regarding undertaking non-iMRI cases in OR 14. Attached is a list of the current cases that have been identified we should be able to undertake initially. The SOP is currently being developed to manage the environment both before and after non-iMRI surgery; and the table attachment for non-iMRI surgery has arrived. The rep is coming on Monday to inservice the staff.

Next Steps

Once the SOP has been developed for both scrub and anaesthetics we will undertake a dry run to identify any outstanding issues. Surgical Bookings will then be notified of the availability of OR14 for these cases.



iMRI Suite Non  
MRI Case List.d...

Regards  
Rhona

Rhona JasonSmith  
Assistant Director of Nursing Perioperative Services  
The Canberra Hospital  
ph (02) 62443051  
fx (020) 6244 3348

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## iMRI Suite Non MRI Case List

The following is a proposed list of procedures can occur the Neuro iMRI suite that do not require the use of the magnet:

- Craniotomy
  - for excision of tumour
  - for cerebral aneurysm
  - for subdural haematoma
- Cranioplasty
- Insertion of Ventricular Peritoneal shunt
- Radio frequency facet denervation
- Anterior cervical discectomy and fusion
- Carpal tunnel decompression
- Nerve decompression
- Muscle or nerve biopsy
- Transphenoidal resection of pituitary tumour



**McClymont, Geoff**

---

**From:** [REDACTED]  
**Sent:** Thursday, 9 December 2010 10:40 AM  
**To:** Belle, Kyril  
**Cc:** McClymont, Geoff  
**Subject:** FW: Hospital level recall for product correction - IMRIS Operating Room Tables [SEC=UNCLASSIFIED]  
**Attachments:** RC-2010-RN-01182-3 TGA Recall Notice.doc

---

**From:** [Margaret.Dillon@tga.gov.au](mailto:Margaret.Dillon@tga.gov.au) [mailto:[Margaret.Dillon@tga.gov.au](mailto:Margaret.Dillon@tga.gov.au)] **On Behalf Of** [Recalls@tga.gov.au](mailto:Recalls@tga.gov.au)  
**Sent:** Thursday, 9 December 2010 10:27 AM  
**To:** [#Recalls\\_Devices\\_Group@tga.gov.au](mailto:#Recalls_Devices_Group@tga.gov.au)  
**Subject:** Hospital level recall for product correction - IMRIS Operating Room Tables [SEC=UNCLASSIFIED]

Please find attached a notice of a recall action. This may be further distributed as required.

The sponsor of the product is contacting the following customers. Please do not pass on customer information to third parties

1 hospital in ACT:

The Canberra Hospital

Other relevant information: None

TGA Recalls Unit

\*\*\*\*\*

"Important: This transmission is intended only for the use of the addressee and may contain confidential or legally privileged information and has been sent in accordance with the TGA security policy.

If you are not the intended recipient, you are notified that any use or dissemination of this communication is strictly prohibited. If you receive this transmission in error please notify the author immediately and delete all copies of this transmission."

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**Australian Government**  
**Department of Health and Ageing**  
**Therapeutic Goods Administration**

**URGENT RECALL FOR PRODUCT CORRECTION**

LEVEL: Hospital

CLASS: Class II

REFERENCE: RC-2010-RN-01182-3

DATE AGREED: 3/12/2010

**PRODUCT:** IMRIS Operating Room Tables Model T2X;  
Part Number - 110470-000  
Serial Number - 10002343

ARTG number 136622

**SPONSOR:** Emergo Asia Pacific Pty Ltd

**PHONE:** 02 90061662 - Mike Skalsky

**REASON:** The manufacturer has identified a part of the table that can become contaminated with fluids and that is not easily accessed for cleaning.

The sponsor is expected to dispatch letters to all affected customers within two working days of the agreed date. Please do not contact the sponsor for further information unless you believe that you have the goods under recall and have not received a recall letter.

Product Distribution: 1 hospital in ACT

Product export status: Unknown

This issue was first identified by the Sponsor

[Classification system. Class I – Class I defects are potentially life-threatening or could cause a serious risk to health. Class II – Class II defects could cause illness or mistreatment, but are not Class I. Class III – Class III defects may not pose a significant hazard to health, but withdrawal may be initiated for other reasons. Class I & II recalls are considered to be safety related recalls]

**McClymont, Geoff**

---

**From:** [McClymont, Geoff]  
**Sent:** Thursday, 9 December 2010 10:56 AM  
**To:** Brown, John; Cramp, Brendan (Supply); Silec, Mario (Supply); Williams, Horace; Saker, Steve  
**Cc:** Belle, Kyril; O'Dwyer, Mike; Van Lith, Martin  
**Subject:** Urgent Recall Product Correction RC-2010-RN-01182-3  
**Attachments:** RC-2010-RN-01182-3.doc; RC-2010-RN-01182-3 TGA Recall Notice.doc

Hi All,

*Please check your inventory and inspect your stock to see if any product is subject to the (these) Notification(s), attached.*

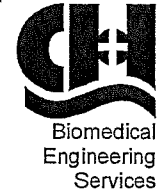
*Please sign and return the attached form for verification of receipt of this notice (signature require in Table)*

Thank you,

*Geoff McClymont*

Email [geoff.mcclymont@act.gov.au](mailto:geoff.mcclymont@act.gov.au)  
Biomedical Engineering | Building 3, Level 1, The Canberra Hospital GARRAN ACT 2605 |  
Ph: 6244 3043 | Fax: 6244 3819 |  
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***ACT Health - Care Excellence Collaboration Integrity***

## **URGENT - MEDICAL PRODUCT NOTICE**



### **Biomedical Engineering Services**

Biomedical Engineering Services (BES) has received from the Therapeutic Goods Administration (TGA) in the Commonwealth Department of Health and Ageing, the attached Notification(s) for medical devices or products relating to their quality, safety or efficacy.

The Notification(s) will advise the product is subject to:

#### **Urgent Recall for Product Correction**

| TGA Reference      | Product                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| RC-2010-RN-01182-3 | IMRIS Operating Room Tables Model T2X;<br>Part Number – 1104700-000<br>Serial Number – 10002343<br>ARTG Number 136622<br>Emergo Asia Pacific Pty Ltd |

#### Distribution for Action

| Name                         | Department                  | Receipt Verification |
|------------------------------|-----------------------------|----------------------|
| Supply Manager               | Supply Services, ACT Health | •                    |
| Clinical Engineering Manager | Biomedical Engineering, TCH | • <i>J. Brown</i>    |

*Signature Required Please*

#### Distribution for Information Only

| Name            | Department                          | Receipt Verification |
|-----------------|-------------------------------------|----------------------|
| Kyril Belle     | Engineer-Biomedical Engineering     | •                    |
| Martin Van Lith | Systems Coordinator – B&I           | •                    |
| Mike O'Dwyer    | Property Management and Maintenance | •                    |

Action Taken

Unit under warranty.  
Referred to manufacturer

Please check your inventory and inspect your stock to see if any product is subject to this (these) Notification(s).

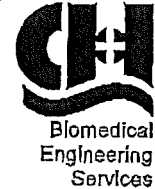
If product is found please isolate the items and contact ACT Health Supply (for consumables) on PH 6205 0807, Biomedical Engineering Services (for Medical Equipment) PH 6244 3045 or Property Management and Maintenance (for Non-Medical Equipment) PH 6244 2115 so that appropriate follow up action may be taken.

Please sign and return this form for verification of receipt of this notice (Signature required in Table above please). A duplicate is attached that may be retained for your own records.

Even if you find that no held stock or products are subject to the above action the return of this form signed with action taken is required to reconcile the process.

Jennie Baker  
Director  
Business Support  
Biomedical Engineering Services  
The Canberra Hospital  
Building 3, Level 1

*ATTACHED: Copy of this form, TGA Recall Notice(s), Return envelope for receipt verification*

**URGENT - MEDICAL PRODUCT NOTICE****Biomedical Engineering Services**

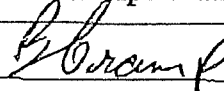
Biomedical Engineering Services (BES) has received from the Therapeutic Goods Administration (TGA) in the Commonwealth Department of Health and Ageing, the attached Notification(s) for medical devices or products relating to their quality, safety or efficacy.

The Notification(s) will advise the product is subject to:

**Urgent Recall for Product Correction**

| TGA Reference      | Product                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| RC-2010-RN-01182-3 | IMRIS Operating Room Tables Model T2X;<br>Part Number – 1104700-000<br>Serial Number – 10002343<br>ARTG Number 136622<br>Emergo Asia Pacific Pty Ltd |

**Distribution for Action**

| Name                         | Department                  | Receipt Verification                                                                   |
|------------------------------|-----------------------------|----------------------------------------------------------------------------------------|
| Supply Manager               | Supply Services, ACT Health | •  |
| Clinical Engineering Manager | Biomedical Engineering, TCH | •                                                                                      |

*Signature Required Please*

**Distribution for Information Only**

| Name            | Department                          | Receipt Verification |
|-----------------|-------------------------------------|----------------------|
| Kyril Belle     | Engineer-Biomedical Engineering     | •                    |
| Martin Van Lith | Systems Coordinator – B&I           | •                    |
| Mike O'Dwyer    | Property Management and Maintenance | •                    |

Action Taken

Product NOT found.

Please check your inventory and inspect your stock to see if any product is subject to this (these) Notification(s).

If product is found please isolate the items and contact ACT Health Supply (for consumables) on PH 6205 0807, Biomedical Engineering Services (for Medical Equipment) PH 6244 3045 or Property Management and Maintenance (for Non-Medical Equipment) PH 6244 2115 so that appropriate follow up action may be taken.

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Director  
Business Support  
Biomedical Engineering Services  
The Canberra Hospital  
Building 3, Level 1

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## **URGENT - MEDICAL PRODUCT NOTICE**



### **Biomedical Engineering Services**

Biomedical Engineering Services (BES) has received from the Therapeutic Goods Administration (TGA) in the Commonwealth Department of Health and Ageing, the attached Notification(s) for medical devices or products relating to their quality, safety or efficacy.

The Notification(s) will advise the product is subject to:

#### **□ Urgent Recall for Product Correction**

| TGA Reference      | Product                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| RC-2010-RN-01182-3 | IMRIS Operating Room Tables Model T2X;<br>Part Number – 1104700-000<br>Serial Number – 10002343<br>ARTG Number 136622<br>Emergo Asia Pacific Pty Ltd |

#### **Distribution for Action**

| Name                         | Department                  | Receipt Verification |
|------------------------------|-----------------------------|----------------------|
| Supply Manager               | Supply Services, ACT Health | •                    |
| Clinical Engineering Manager | Biomedical Engineering, TCH | •                    |

*Signature Required Please*

#### **Distribution for Information Only**

| Name            | Department                          | Receipt Verification |
|-----------------|-------------------------------------|----------------------|
| Kyril Belle     | Engineer-Biomedical Engineering     | •                    |
| Martin Van Lith | Systems Coordinator – B&I           | •                    |
| Mike O'Dwyer    | Property Management and Maintenance | •                    |



**Action Taken**

|  |
|--|
|  |
|--|

Please check your inventory and inspect your stock to see if any product is subject to this (these) Notification(s).

If product is found please isolate the items and contact ACT Health Supply (for consumables) on PH 6205 0807, Biomedical Engineering Services (for Medical Equipment) PH 6244 3045 or Property Management and Maintenance (for Non-Medical Equipment) PH 6244 2115 so that appropriate follow up action may be taken.

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Director  
Business Support  
Biomedical Engineering Services  
The Canberra Hospital  
Building 3, Level 1

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