Centre for Advanced Imaging

Workplace Health and Safety Policy

-2012-

CAI Workplace Health and Safety Policy

July 2012

Occupational Health and Safety Committee – July 2012

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OHS

OH&S POLICY

your safety, your future

and Safety Policy

Occupational Health

ssion

University is committed to providing a safe and healthy environment for staff, students, contractor, visitors neighbours in accordance with the requirements of the Queensland Workplace Health and Safety Act (1995).

egrated into all our management systems and nd incidents becomes an integral part of our

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Our aim is to ensure that occupational health and safety is int operations so that prevention of occupational injury, illness a organizational zero harm culture.

Scope

ents, visitors and contractors at any of the campuses or sites where work, research or teaching is

Scope

Staff, stude conducted.

nsibilities

committed to ensuring a safe, supportive, isors have overall responsibility for the ole for health and safety performance and eir work areas.

Respon

The University of Queensland Senate and its senior management are c protective and healthy working environment. Managers and superv provision of a safe and healthy working environment and are accountab ensuring the safety management system is working effectively within th

Objectives

ill strive to achieve the highest attainable level of occupational health and safety (OH&S) for its ents and other persons throughout all areas of its activities by:

Objectives

The University w employees, stude

ematic management of health and University of Queensland, and that

d levels at the University;

- Implementing and maintaining a framework that ensures the syste safety throughout all campuses, sites and centres controlled by the compliance with statutory requirements are met;
- Clearly stating and delegating OH&S responsibilities for all persons and

lequate, responsible financial budget for OH&S;

management process which is consistent with the nature of workplace activities and scale afety risks;

easurable objectives and targets aimed at controlling higher risk activities and increasing ealth and safety;

- Providing an ac
- Providing a risk of health and s
- Establishing me awareness of h

ns;

s are included in the decision

es, contractors, students and

- Providing appropriate health and safety and task related training to all persc
- Implementing a consultation process to ensure all employees and student making processes impacting on workplace health and safety; and
- Communicating the relevant health and safety information to all employe visitors.

visitors.

a proactive health and safety management philosophy based on effective and control of hazards. The University Occupational Health and Safety Unit oversee ealth and safety program at the University of Queensland and reports to the OH&S

The University promotes communication, assessment the implementation of the h

1. UQ Staff Responsibilities for OH&S

1.1 Purpose and Objectives

The purpose of these procedures is to ensure all University staff comply with their Occupational Health and Safety responsibilities as outlined in relevant legislation and reinforced by the University's Occupational Health and Safety Policy (PPL 2.10.03a).

1.2 Definitions, Terms, Acronyms

Act – *Workplace Health and Safety Act (Qld) 1995*
PPE – personal protective equipment
WIM - Work Injury Management

1.3 Procedures Scope/Coverage

These procedures apply to all staff at all levels within the University.

1.4 Procedures Statement

Staff at all levels within The University of Queensland have specific responsibilities for ensuring Occupational Health and Safety. These responsibilities are principally based on the *Workplace and Health and Safety Act (Qld) 1995* and related legislation.
The specific OH&S responsibilities of staff are dependent on their role within the University and are outlined in section 5, as follows:

Section 5.1 - Executive Deans and Senior Managers;
Section 5.2 - Heads of Schools and Organisational units;
Section 5.3 - Supervisors; and
Section 5.4 - Individual Staff

OH&S responsibilities must be incorporated into staff position descriptions, and the associated performance criteria utilised in annual performance appraisals to determine staff performance with respect to these OH&S responsibilities.

1.5 Staff OH&S Responsibilities

1.5.1 Executive Deans and Senior Managers

The OH&S responsibility of Executive Deans and Senior Manager is to ensure the implementation and maintenance, within the faculty/institute/division, of an effective system of management for occupational health and safety (OH&S) consistent with the *Act* and other legislative requirements.

The performance criteria are outlined below.

- Set a clear OH&S policy
- Allocate responsibility for OH&S management and delegation of authority
- Establish a Faculty/Institute/Division Occupational Health and Safety Committee
- Allocate sufficient resources for OH&S Management
- Ensure implementation of the risk management program within Schools or Organisational Units

- Ensure implementation of a scheme for hazard and accident follow-up
- Proactively assist and support University procedures for identification, processing and managing Workers' Compensation Claims and Workplace Rehabilitation
- Ensure the Schools or Organisational Units have effective systems for the provision of OH&S information, training and supervision
- Ensure that Schools or Organisational Units have effective emergency procedures

1.5.2 Heads of Schools and Organisational Units

The OH&S responsibility of Heads of Schools and Organisational Units is to implement and maintain, within the School or Organisational Unit, an effective system of management for occupational health and safety consistent with the *Act* and other legislative requirements.

The performance criteria are outlined below.

- Set clear OH&S procedures
- Allocate responsibility for OH&S Management and delegation of authority
- Allocate sufficient resources for OH&S Management
- Implement a scheme for hazard and accident follow-up
- Support University procedures for identification, processing and managing Workers' Compensation Claims and Workplace Rehabilitation
- Ensure provision of OH&S information, training and supervision
- Establish and disseminate emergency procedures

1.5.3 Supervisors

The OH&S responsibility of supervisors is to undertake effective OH&S measures to ensure compliance with the *Act* and related legislative requirements.

The performance criteria are outlined below.

- Provide OH&S information, training and supervision
- Undertake Risk Assessments
- Ensure application of appropriate risk control measures
- Implement a scheme for hazard and accident follow-up

1.5.4 Individual Staff

The OH&S responsibility of individual staff is to comply with requirements of the *Act* and related OH&S procedures developed by the University, School or Organisational Unit.

The performance criteria are set out below.

- Comply with safe working procedures
- Use of appropriate personal protective equipment and safety systems
- Assist with the preparation of risk assessments
- Report OH&S

2. Centre for Advanced Imaging OH & S Information

2.1 Introduction

The CAI represents a major enhancement of the imaging capabilities at The University of Queensland. It brings together the skills of a critical mass of researchers in a new five-story facility which will house a cyclotron (IBA Radiopharma Solutions Cyclone ® 18/18), radiochemistry, ultra-high field human MRI instrumentation and other 'state-of-the-art' research imaging instruments. Radiotracer development and production in-house will support leading edge molecular imaging programs utilising the PET-CT and MR-PET facilities. It is the only facility of its type in Australia, one of only a handful in the world.

2.2 Purpose

Guidelines and rules for the safe entry by staff and visitors into CAI have been established to prevent injury and death to people who work at or visit the Centre for Advanced Imaging (CAI). It is also to eliminate any unnecessary Radiation exposure and prevent damage to equipment caused by the strong magnetic fields within CAI. The superconducting magnets located within CAI produce strong magnetic fields within the immediate vicinity. The accepted human safety exclusion zone for these stray fields is at 5 Gauss. The relevant distance from each magnet will vary according to the designated field strength of the magnet and this distance is marked on the floor around each magnet.

2.3 Scope

This policy is applicable to all people who work at or visit the Centre for Advanced Imaging.

2.4 Responsibilities

The University of Queensland Senate and its senior management are committed to ensuring a safe, supportive, protective and healthy working environment. As outlined in Section 1.5; Managers and supervisors have overall responsibility for the provision of a safe and healthy working environment and are accountable for health and safety performance and ensuring the safety management system is working effectively within their work areas, it is up to each individual entering CAI to take responsibility for their own OHS with the knowledge available.

2.5 Objectives

CAI strives to uphold the highest standards of safety and supports the University of Queensland Occupational Health and Safety policies and Guidelines.

3. CAI- Magnet Safety Information

Once energized, the field of the superconducting magnet is always present and cannot be turned off with the flick of a switch. These magnetic fields propagate horizontally and vertically, extending outside the magnet; which means that no movable metal objects can be allowed within the danger area of the instrument.

IT IS UNSAFE FOR PEOPLE WITH SOME TYPES OF IMPLANTED METAL OR DEVICES OR HAVING A HISTORY OF METAL FRAGMENTS IN THE EYES TO ENTER THE MAGNET ROOM. PEOPLE WITH PACEMAKERS OR DRUG DELIVERY PUMPS CANNOT ENTER EVEN A LOW MAGNETIC FIELD AREA, AND THEY ARE RESTRICTED FROM LARGE AREAS OF THE CENTRE.

Magnetic fields can generate large attractive forces on ferromagnetic (metal) objects. Such objects include most tools, gas cylinders, pocketknives, key rings and most electronic devices. Any such object that gets too close to the magnet will be accelerated towards the magnet with great force. Metal belt buckles, steel tipped shoes and medical implants or any other metal on or inside the person may be strongly attracted when close to the magnet - effectively becoming a projectile. In the event of such an accident the best possible outcome is only lost time and the expense of removing the object from the magnet. Larger objects (camera tripods, floor polishers, gas bottles, for example) are dangerous and can seriously damage the magnet, potentially requiring replacement of a multi-million dollar instrument. The worst outcome in this case is serious injury or loss of life to any person nearby. Also, the object striking the magnet could cause the magnet to quench; a situation whereby the magnet's cryogenic cooling liquids (helium, nitrogen) vaporize leading to rapid displacement of the air in the laboratory. The magnetic field is lost and possible irreparable damage may be caused to the magnet.

AN OPERATOR IS RESPONSIBLE FOR QUENCHING THEIR MAGNET IF IT BECOMES NECESSARY TO PROTECT LIFE OR PROPERTY. YOUR PRIMARY RESPONSIBILITY IS TO PROTECT LIFE AND REMOVE ALL SUPERVISED PERSONS FROM THE MAGNET VICINITY SAFELY AND QUICKLY WHILE NOT, AT THE SAME TIME, PUTTING YOURSELF IN DANGER.

Know your zones and responsibilities when allowing people access.

Zone 1 : All areas that are freely accessible to the general public.
This region includes all areas that are freely accessible to the general public. This area is typically outside the MR environment itself and is the area through which patients, health care personnel, and other employees of the MR site access the MR environment.[1] .

Zone 2 : This area is the interface between the publicly accessible uncontrolled Zone I and the strictly controlled Zone 3 and 4. For the MRI scanners, subjects are greeted in Zone 2 and the answers to MR screening questions are gathered, and removal of personal items etc., are typically carried out. For non-wholebody magnets, Zone 2 lies outside the secured entry into Zone 3 – see

[1] Kanal et. al., ACR Guidance Document for Safe MR practices. AJR. 188:1-27 (2007)

floor plan for your particular system (www.cai.uq.edu.au)

Zone 3 : This area is the region in which free access by unscreened non–MR Personnel and/or ferromagnetic objects and equipment can result in serious injury or death as a result of interactions between the individuals/equipment and the MR scanner's particular environment. All access to Zone 3 is to be strictly restricted, with access to regions within it (including Zone 4, see below) controlled by, and entirely under the supervision of MR Personnel[2]. CAI Facility Managers must ensure that this MR Safe Practice Guideline is strictly adhered to for the safety of the facility users, the health care personnel, and the equipment itself. Personnel untrained in MR safety should be supervised at all times in Zone 3. The equipment coming into Zone 3 should be restricted to MR safe equipment as far as possible and properly labeled.

Zone 4 : This area is typically synonymous with the MR magnet room itself. Zone 4, by definition, will always be located within Zone 3 as it is the MR magnet and its associated magnetic field that generates the existence of Zone 3 itself[2]. Zone 4 regions are clearly marked with black and yellow tape, and are potentially hazardous due to the presence of very strong magnetic fields. **METAL OBJECTS MUST NOT BE TAKEN BEYOND THIS LINE.** Once in Zone 4 they can become dangerous projectiles. Electronic equipment must not be taken inside the exclusion zone without consultation with the engineers and should be properly labelled. Cameras, mobile phones, credit cards, bus passes etc will not operate when exposed to higher fields and may be irreparably damaged. Only personnel with high levels of MR safety training (6 or 7) are permitted independent access to this zone and may supervise visitors to the laboratory. No one else may enter Zone 4 without supervision. Anyone entering Zone 4 must have undergone the full metals check.

4. CAI- Safety Policies and Guidelines

CAI Safety policies are created by CAI members, then reviewed by the OHS Manager with the CAI OHS Committee, then submitted to CAI executive committee to be signed off. CAI Safety Policies and guidelines can be found at www.cai.uq.edu.au

4.1. CAI- Access Policy

4.1.1. Visitors Access to CAI

Visitor access to CAI requires that everyone entering its facilities sign a statement at reception, declaring that the magnetic field dangers have been explained and understood. **All** visitors entering through reception of CAI need to be asked 2 questions. The first question is the more important of the 2.

[2] Kanal et. al., ACR Guidance Document for Safe MR practices. AJR. 188:1-27 (2007)

• ***Do you have a cardiac pacemaker?***

• ***Do you have any metal implants?***

If the answer is yes to: Do you have a cardiac pacemaker? Then it is not safe for them to enter CAI. Do not let the visitor enter CAI under any circumstances. Please inform the visitor that they cannot enter CAI for their own safety.
If the answer is yes to: Do you have any metal implants? Then it is safe for them to enter. But inform the visitor that they cannot enter a magnet room unless they talk to one of the medical staff first.

Please Note: During Stage 2.2 of the new CAI building (August 2012- Mid 2013), access to CAI reception in the CAI building for the Gehrmann Facility visitors, such as the MRI suite, maybe compromised due to building works. During this period, a 2nd sign in book will be held in the Gehrmann Building, Room 225 of the3T MRI Suite (safety zone 2).

4.1.2. Independent access to CAI

Independent access to the CAI Building is given only to authorised staff and students who have completed a current CAI induction with the online form (see section 4.1.3). All New CAI members will need to do a specific Module induction dependent on their access requirements (see section 4.1.4), and/or attend the CAI Building Induction. This is a General induction which allows members to independent access the office areas, independent access to facilities will have greater requirements and will need to be organised with the individual Facility inductions, which will be outlined by your Training Needs Analysis form (TNA) (Attachment 1),to be counter signed by your supervisor and given to the OHS Manager.

4.1.3. Applying for Independent Access to CAI

Applications for independent access to CAI are to be made through the CAI intranet. All Staff, users and visitors seeking independent access will require a username and password. Independent access to the CAI Building from August 2012 shall only be granted by this method. User names and passwords are available from all facility managers (see attachment 6666) or the Operations Manager (alan.pringle@cai.uq.edu.au).

- Obtain username and password.
- You must log into the CAI Homepage (http://www.cai.uq.edu.au/)via a UQ site (VPN is fine).
- "Log on to CAI information network"
- Using the OHS Tab↵: "Apply for Facility Access↵"
- The default setting is for "CAI General Access". Requirements for access to specific CAI Facilities are available from the drop down menu Facility Search function.

This takes you to the on-line Facility access page containing;

- Current Training Records
- Facility Risk Assessments
- Facility Standard Operating Procedures
- Facility Manager Checklist

Current Training Record is a summary of **all** your valid training records entered into the database. Please advise the OHS Manager (ohs@cai.uq.edu.au) if you have other training to be entered. These records are updated regularly from the UQ databases.

Facility Risk Assessments are a list of required reading before access can be granted; all risk assessments are available via their title links which directs you to the specific risk assessment on the UQ Risk assessment database (UQ Password required for the first RA only)[3]. Please read and sign off on the UQ risk assessment database. The UQ Risk Assessment-(pdf) link is the easiest to read, whereas the UQ Risk Assessment-(sign off in UQ database) is necessary to be able sign off as read on the UQ Risk Assessment database. Once the Risk assessment on the UQ database is read and signed off as "read", please use the Click here to confirm tab on the original 'CAI intranet access page, as a record for CAI. This process can be repeated for all required reading.

Facility Standard Operating Procedures are also a list of required reading and are directly accessible from their title links; please confirm reading the CAI SOPS with the Read and Understood Tab.

Facility Manager Checklist is the final checklist for the selected Facility access requirements. Facility manager to confirm Tab can only be signed off by the specific Facility Manager, this record indicates that all required reading, training (such as CAI induction, TNA form, etc.) and policies have been explained and understood before access can be recommended. Once access is recommended by the Facility manager, your card access will be activated by the CAI Security officer.

4.1.4. A Guide to CAI Induction Modules

CAI has many Staff, Students and Visitors requiring access for many different reasons. Below is a table outlining the different types of induction required for the different access requirements.

[3] These training procedures are available from request from the Facility manager in pdf form, but access cannot be granted without confirmation of reading and understanding via the CAI intranet, including completion of the checklist by the specific Facility Manager.

Figure 1; Quick guide to CAI Inductions

Module 1:	Supervised Patient	Anyone requiring temporary or once-off access into the magnet room (Zone 4) while being supervised by accredited staff. - for example, for the purpose of being scanned. - This also applies for students who are being taken into the magnet room for a demonstration of any kind, or any behavioural study participant, or other form of equipment testing, even if a scan is not actually being performed.
Module 2:	Supervised Visitor	All persons visiting the Centre requiring temporary or once-off access to Zone 3, while being supervised by accredited staff. - for example P&F personnel, external contractors, delivery people, visiting dignitaries or students who will only be viewing from the console room/Zone 3. IS NOT SUFFICIENT FOR ENTRY INTO ZONE 4 - see Module 1.
Module 3:	Zone 3 Independent Access	All staff and students requiring continual and independent access to equipment in Zone 3, but not needing access to the Magnet room. - For example, students and staff needing access to either processing computers, wet labs or the 3T testing room lying within Zone 3. - Also admin staff who might need to pass messages onto people working in Zone 3 or 4 – this allows them to come into Zone 3 to leave a message but not Zone 4. *This is the minimum level of induction for CAI staff.* THIS IS NOT SUFFICIENT TO SUPERVISE MR-NAIVE PEOPLE IN ZONE 3 – See Module 4. THIS IS NOT SUFFICIENT FOR ACCESS TO ZONE 4 – See Module 5.
Module 4:	Supervising People in Zone 3 + Independent Access	All staff and student requiring independent access to Zone 3 and Zone 4, and supervising people in Zone 3. - For example: Centre staff acting as tour guides for VIPs or students, back-up staff during human MR scanning (also referred to as Level 1). THIS IS NOT SUFFICIENT TO RUN THE SCAN, OR HAVE SOLE RESPONSIBILITY FOR BRINGING MR-NAIVE PEOPLE INTO ZONE 4 – see Module 6.
Module 5:	Zone 4 Independent Access	All staff and students requiring independent access to Zone 4; either to run experiments or perform maintenance, but never have to supervise other people within the magnet. - for example, operators of the MR systems that only run phantoms, proteins or animals, and cadaver samples. - MR engineers THIS IS NOT SUFFICIENT TO SUPERVISE MR-NAIVE PEOPLE IN ZONE 4 – see Module 6.
Module 6:	Supervising People in Zone 4 + Independent Access	All staff or students requiring independent access to Zone 4, and responsibility for subjects or MR-naive persons within Zone 4. These people have final say and responsibility for MR-naive persons entering the magnet room. - for example, Radiographers, MR scanning staff doing projects involving humans (also known as Level 2), MR engineers or staff needing to supervise external contractors within the magnet room.
Module 7:	Zone 4 + supervisory (NO PATIENT STUDIES)	All staff or students requiring independent access to Zone 4, and responsibility visitors within Zone 4. These people have final say and responsibility for MR-naive persons entering the magnet room. THIS IS NOT SUFFICIENT TO SCAN PEOPLE. - for example, MR scanning staff doing projects that do not involve scanning people. (Attachment 2)

4.1.5. *CAI- After-hours Policy*

Concern about after hours work on potentially high risk projects has been raised with the OHS committee and the following policies have been recommended. Please note also that all staff working at any CAI premises off site must also comply with local access policies.

Staff working at the Wesley after hours, must inform Wesley Security of any afterhours work on ext. 7214 [3232 7214].

Staff working at UQCCR Laboratories after hours, staff are required to fill out a form (see attachment 3), signed by your supervisor, giving you permission to work out of hours. A register is kept at reception for those working out of hours.

Staff working at CAI after hours, must complete the CAI after hours consent form, signed by your supervisor and/or Facility Manager. A register is kept by the OHS Manager and used to generate independent access.

After hours Office Access:

All CAI staff members must complete the annual CAI building induction read the After-hours Risk assessment ID 22640 and Standard Operating Procedure SOP-200110026. The risk assessment and SOP will outline specific risks associated with working alone, identifying procedures to reduce risks whilst working alone in the office areas.

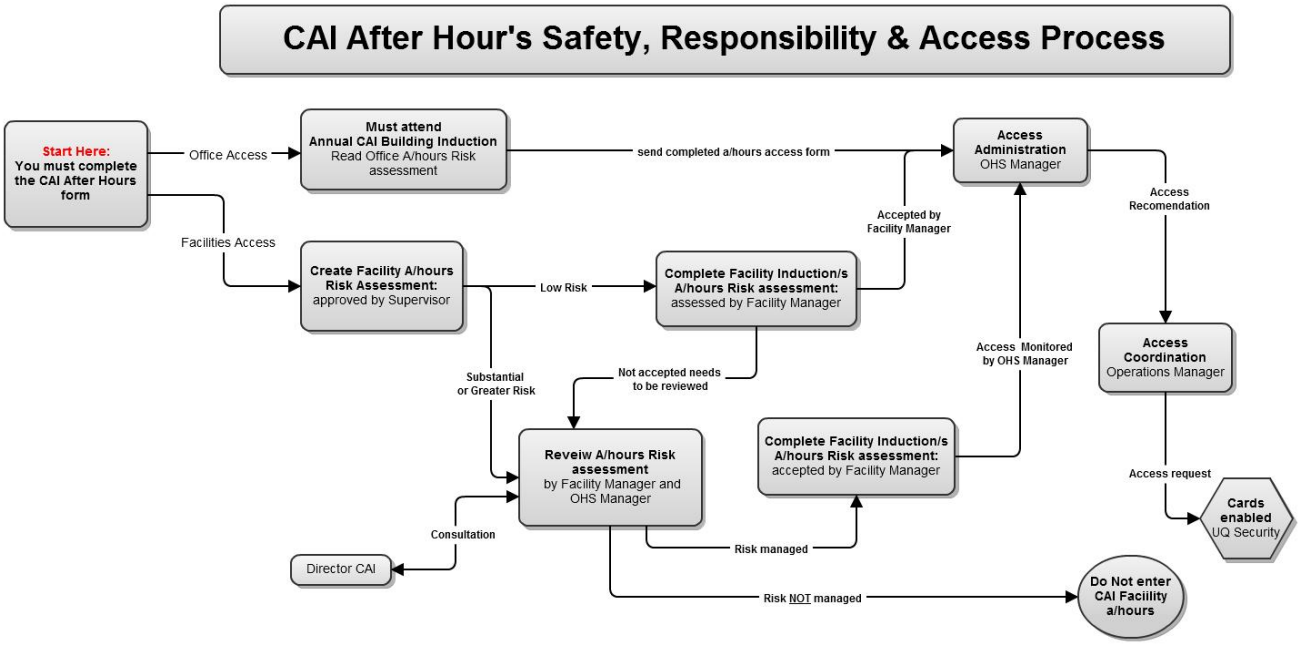


Figure 2: CAI After Hours Safety, Responsibility & Access Process

After Hours Facility Access:

To gain independent access to any facility afterhours, you must firstly complete a specific facility induction with the Facility Manager, which outlines all Facility risk assessments. A specific 'afterhours task' risk assessment must be created for each facility and signed off by your supervisor. If the risk is deemed to be a 'Low risk" it will be assessed by the Facility Manager, who can endorse your afterhours access request (check box on the competency sheet) or be reviewed by the OHS Manager in consultation with the Director of CAI, see **figure above.**

Risks "Substantial or Greater" will all need to be reviewed by the Facility Manager and OHS Manager in consultation with the Director of CAI, who will either:

Recommend additional controls for the risk, such as "task must be done with 2 persons afterhours", then: "Risk Managed" the Facility Manager can then endorse your afterhours access request (check box on the competency sheet). The additional controls will be monitored by the OHS Manager;

Or, recommend "Risk NOT Managed" in which case, Entry to the facility alone is not permitted until the Risk is managed.

All afterhours tasks without risk assessments are deemed
to be "Risk NOT Managed" and entry to facility is not permitted.
No risk assessment = no independent after hour access.
The Facility Manager has the final say on access to their facility.

4.1.6. Access Infringements consequences:

Non-compliance with CAI or Facility policies will result in:

1) 1st warning from the Facility Manager,
2) 2nd warning from OHS Manager or Operations Manager,
3) Immediate removal of access for a calendar month- with access only being reinstated with approval from the CAI Director.

Any serious infringements or breaches of CAI policy will go directly to point 3 above.

4.2. CAI- Metals Checklist Policy

If a staff member or visitor is going enter a magnet room for the first time the procedure outlined below must be followed:

- The information sheet titled "Information about Magnetic Resonance" (Attachment 4) must be read by visitors or subjects entering the 3T wholebody MRI laboratory or MRI scanner rooms at The Wesley Hospital or Royal Brisbane Hospital. For subjects undergoing a scan an additional Pre MRI screen must be taken place before the day of the scan to clear the subject of any potential

issues that may postpone the scan, this is done by telephone or email with the "CAI Pre-MRI screen form. (Attachment 5)

- Regular users and visitors of all other MR laboratories, including the AV700 microimaging, AV750, AV500, solids 300 and SWB300 laboratories in the Gerhmann Building and the 900MHz laboratory in the QBP must read and sign the Metals Checklist provided in the relevant Facility induction Module (Attachment 6).

- Within every magnet room there is a black/yellow stripped line on the floor, or a zone marked by a change in floor tile colour (700, 900), representing the 5 Gauss exclusion zone. It is not safe to pass over this line without first removing any metal / magnetic objects on your person.

4.3. CAI- Footwear Policy

All staff and students working must wear covered footwear when working in CAI facilities. Thongs, open weave shoes, sandals etc. are not appropriate footwear. Staff and students will not be allowed to enter in CAI facilities unless wearing suitable footwear.[4]

4.4. CAI- Use of Protective Eyewear in Laboratories

The use of Protective eyewear in CAI facilities is stated in the CAI documented risk assessment ID 27113[5]. CAI staff and students doing low risk activities identified in the risk assessment do not need to wear safety glasses whilst doing these activities, this also includes visitors. Visitors must be escorted at all times in Laboratory space.

- For all other laboratory tasks eye protection MUST be worn as per other individual risk assessments for these tasks. (i.e. all tasks with physical risk of eye injury, or when handling of hazardous chemicals or infectious/potentially infectious biological material)
- Eye protection must also be worn if a person is in close proximity to anyone conducting tasks that require eye protection. For example if the person on the neighbouring desk is doing work with high eye risks then the person sitting beside them should also wear eye protection while they are within a distance that splashes or fragments could travel in an incident.
- Eye protection must be worn within a 2 m radius of designated potential risk areas within all Labs at CAI. This area is clearly marked out with Blue tape. Any exceptions to this will be individually risk assessed.

4.5. CAI- Magnet Quench Procedure

Under normal operating conditions, superconducting magnets such as within CAI are stable and safe, given attention is paid to the presence of stray magnetic fields. However, it is possible that for some

[4] http://www.uq.edu.au/ohs/pdfs/OHYG-LabSafety-UG.pdf
[5] http://www.uq.edu.au/ohs/index.html?page=29960

reason, the superconducting wire within a magnet suddenly becomes non-superconducting. This results in rapid energy loss from the coil and heat transfer to the liquid helium in which the coil is immersed. Very rapid boil-off the helium ensues, resulting in a noisy expulsion of gas from the magnet and formation of a vapour cloud. This phenomenon is known as a magnet "quench". A similar effect may occur if the vacuum in the magnet cryostat is lost, also resulting in rapid helium boil-off and eventually a quench. The whole event is usually over in the matter of minutes and results in high concentrations of helium gas in the nearby atmosphere. Clearly this is a dangerous situation as workers may be exposed to oxygen deprivation, potentially leading to asphyxiation.

The following procedures are in place to avoid injury resulting from a quench or slow gas build-up:

1. In those labs where helium discharge during a quench is into the room space and not via ducting to the outside, oxymeters have been installed to monitor the oxygen levels. Audio and visual alarms will be activated if the oxygen level drops below a safe threshold.

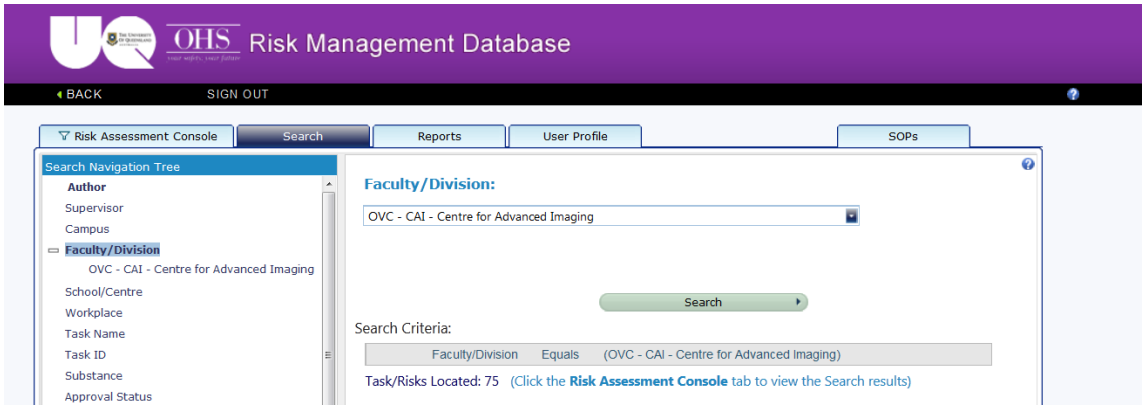
2. Signs are posted in labs instructing operators and other workers to **IMMEDIATELY EVACUATE** the lab in the event of a quench or oxygen alarm, and to inform senior CAI staff or Security of the event.

4.6. CAI- Risk Assessment Policy

CAI uses UQ's Risk management policy which is an ongoing process that is undertaken:

- When **any new work** is planned including laboratory/Facilities/ course work
- When a **significant change** occurs
- **After an incident**
- At **regular** predetermined intervals, all risk assessments must be reviewed within 5 years.

Risk assessments at CAI are compiled using the UQ Risk Management & Assessment database (https://new.risk.admin.uq.edu.au/Signin.aspx).CAI risk assessments are found by restricting the field searches Faculty/Division to OVC – CAI Centre for Advanced Imaging. (See below).



This process can be represented as follows:

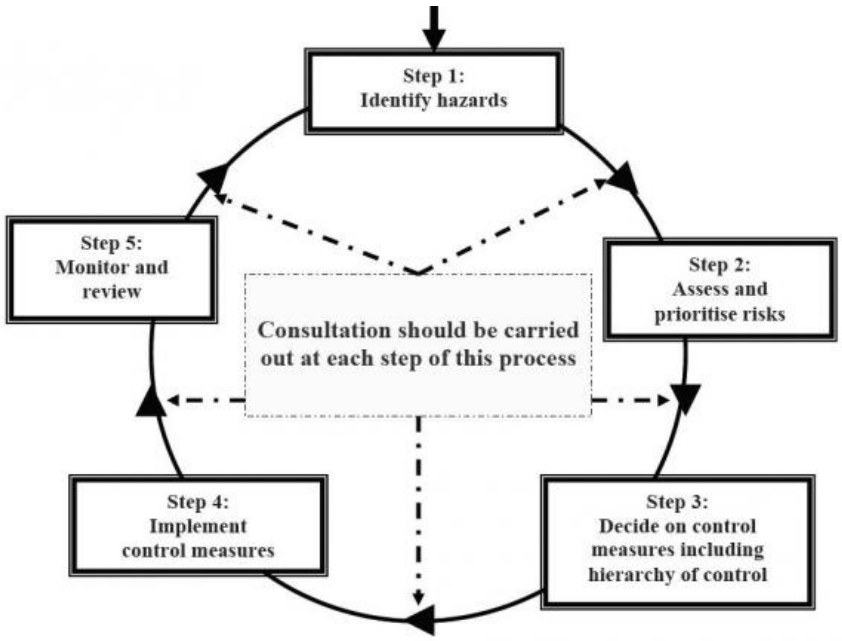


Figure 3: The Risk Assessment Process

4.7. CAI- Standard Operating Procedures Policy

Why do we need SOPs for each piece of equipment?

The Workplace Health and Safety Act 2011 outlines obligations to manage risks. These obligations extend to managing risks associated with all equipment use in the Centre.

At CAI we manage SOP's through the CAI intranet website; http://intranet.cai.uq.edu.au/, using your UQ login, you should log in, then select the OHS tag, and finally the Standard Operating Procedures link. Follow the instructions to view or edit the centres SOP's. All SOP's can be edited/update by anyone within CAI. More CAI SOP instructions can be found in attachment 7.

4.8. UQ- Radiation Safety Guidelines

Information on general radiation safety guidelines, personal radiation monitoring, transport of radioactive materials, management of unsealed radioactive wastes and radioactive spills emergency response plan can all be found on the website:

http://www.uq.edu.au/ohs/general-radiation-safety-guidelines

4.9. UQ- Injury, Illness, and Incident Reporting System

It is imperative that all workplace injuries are reported promptly. To report an injury, illness or incident, use the University Reporting System, available at:

https://www.risk.admin.uq.edu.au/uq-injury/forms/default_content.asp

4.10. UQ - Chemical Waste Disposal

The Chemical Waste Operating Procedure Manual and helpful points to consider when disposing of chemical waste can be found on the UQ Occupational Health and Safety website:

http://www.uq.edu.au/ohs/index.html?page=134244

More information about OH&S can be directed to OHS Manager (ohs@cai.uq.edu.au)

4.11. UQ- Environmental Management System (EMS)

The University of Queensland has adopted a proactive approach to environmental management for its research, educational and facilities operations

The Environmental Management System (EMS) assists staff in the disposal of all Hazardous Waste.

http://www.pf.uq.edu.au/EmsProcedures.html

3.1. UQ- Electrical Safety

Electrical safety regulations require that regular inspection and testing of specified electrical equipment is carried out in accordance with the relevant Australian Standard.

It is the CAI operators' responsibility to:

- Visually inspect any equipment prior to use
- Ensure that it is fit for the intended purpose
- The test and tag label is current
- That cords and leads are run in such a way as to be protected from harm and not present a risk to others

Double adaptors, piggy-back plugs**, un-switched power boards** and the daisy chaining of power boards is strictly prohibited in any University operation.
All personal mains powered equipment (including laptop power supplies) intended for use on campus must be tested and tagged for electrical safety before use.
Removal of non-compliant items from service is the responsibility of the person in control of the area. Further information regarding Electrical Safety can be found on the UQ Occupational Health & Safety website

4. Attachments

1. Training Needs Analysis

OHS
your safety, your future

TRAINING NEEDS ANALYSIS
CENTRE FOR ADVANCED IMAGING

The below list represents a ***selection of potential safety training*** courses that may be required for you to carry out your work safely and efficiently at the Centre for Advanced Imaging (CAI). **Please note:** additional safety training may also be required, and task specific safety training should be arranged by your Supervisor. Your safety training requirements should be discussed regularly with your Supervisor, and will depend on your experience, prior training and the nature of your work activities.

Name:	Employee Number:	Supervisor:

All Workers	Training is Mandatory for ...	Required?	Contact:
UQ Online General Workplace Safety	All UQ workers	Yes	Online
UQ Online Annual Fire Safety training	All UQ building occupants	Yes	Online
Local CAI Safety Induction	All CAI workers	Yes	Dr Simon Nevin
OH&S for Supervisors & Managers	All Supervisors & Managers of staff/students (HEW 7 and below)	Yes / No	Staff Dev
Senior Managers OH&S Responsibilities	HEW 8 and above Managers/Supervisors	Yes / No	Staff Dev

All Laboratory Workers	Training is Mandatory for ...	Required?	Contact:
UQ Online Laboratory Safety Induction	All UQ lab workers	Yes / No	Online
UQ Online Chemical Safety training	All users of hazardous chemicals	Yes / No	Online
UQ Online Compressed Gases Safety training	All users of compressed gases	Yes / No	Online
Local Facility Induction	Hi Res 500	Yes / No	Lynette Lambert
	Hi Res 700	Yes / No	Lynette Lambert
	Hi Res 900	Yes / No	Dr Greg Pierens
	Solid State 300	Yes / No	Dr Katia Strounina
	Imaging 300	Yes / No	Dr Katia Strounina
	16.4T MRI	Yes / No	Dr Nyoman Kurniawan
	Wesley MRI	Yes / No	Aiman Al Najjar
	Human 3T MRI	Yes / No	Aiman Al Najjar
	EPR	Yes / No	Dr Chris Noble
	PET CT	Yes / No	Dr Karine Mardon
	MR PET	Yes / No	Dr Gary Cowin
	9.4T MRI	Yes / No	#
	Human 7T MR	Yes / No	#

#- To be determined

All Workers	Training is Recommended for ...	Required?	Contact:
UQ Online Computer Workstations module (Design & Adjustment)	Administration & Office workers	Yes / No	Online

All Workers	Training is Recommended for ...	Required?	Contact:
UQ Online Risk Management module	Lab workers using hazardous materials	Yes / No	Online
Personal Protective Equipment (PPE)	Lab workers using hazardous materials	Yes / No	Staff Dev
Chemical Management	Lab workers using hazardous materials	Yes / No	Staff Dev
Emergency Procedures/spill kits for Hazardous materials	Lab workers using hazardous materials	Yes / No	Staff Dev
UQ Environmental Management Systems Overview	Workers using hazardous materials	Yes / No	Staff Dev

Online OH&S Training:	http://www.uq.edu.au/ohs/?page=153556
Staff Development	http://www.uq.edu.au/staffdev/index.asp?ProgramType=PE6OHS
UQ OH&S Unit	http://www.uq.edu.au/ohs or www.uq.edu.au/ohs/?page=129690
DAFF Biosecurity (AQIS)	http://www.iwgq.com.au (DAFF http://www.daff.gov.au/aqis)

Task specific training

Task specific training must be 'hands-on' and provided by the workers Supervisor (or a suitably qualified nominee). You must not use any laboratory equipment that you are not familiar with, and have not been trained to use. Always refer to the manufactures instruction manual and any locally developed 'Standard Operating Procedures' prior to the commencement of activities.

Are you working with any of the following substances?	Yes / No
• Lead • MOCA • Acrylonitrile • Asbestos • Benzene • Cadmium • Creosote • Crystalline Silica • Inorganic Arsenic • Inorganic Chromium • Inorganic Mercury • Isocyanates • Organophosphate Pesticides • Pentachlorophenol (PCP) • Polycyclic Aromatic Hydrocarbons (PCP) • Thallium • Vinyl Chloride	If yes, please complete a 'Health Surveillance Assessment Form' www.uq.edu.au/ohs

Other Safety Training requirements, as identified by Supervisor and Worker ...

Approvals

**** It is the responsibility of the Supervisor and Worker to ensure required safety training is undertaken ****
**** Please ensure Facility training is recorded in your local 'Facility Training Register' ****

Worker Name & Signature: _____ **Date:** _____

Supervisor Name & Signature: _____ **Date:** _____

2. Module 7 Induction Form

THE UNIVERSITY OF QUEENSLAND AUSTRALIA | Centre for Advanced Imaging

CAI Induction

Date .....

Name: ..... Phone: .....
Email: .....

Supervisor: ..... Phone: .....
Email: .....

Association: ..... School/Centre.....

Card Access required (if applicable):

Supervised	❒	Facility Access	
Independent	❒		
Supervising	❒- Student	3T MRI	❒.....
	❒- Subjects	4T MRI	❒.....
----------		Imaging 300	❒.....
General Access		Imaging 700	❒.....
		PET/CT	❒.....
Gehrmann	❒.....	Hi Res 500	❒.....
Ritchie	❒.....	Hi Res 750	❒.....
AIBN	❒.....	Hi Res 900	❒.....
IMB	❒.....	Solid State 300	❒.....
Wesley	❒.....	EPR	❒.....

Compulsory Online Training: General Safety Inductions.....❒ UQ Fire Safety.....❒
Other Training required (*i.e. PC-2, UQ online Lab Safety etc*).....❒
(www.tedi.uq.edu.au/sdh) (http://www.elearn.com.au/uq2/START.htm)

Induction Module required: .....
I certify that the above mentioned person has been inducted and understands all points outlined.

Induction Officer: ..... Signature: .....

Access to be granted: ❒ -General ❒ -Facility .....

Information appearing on the 'smart card' to be used for CAI Access	***Office Use only***
Student No. (if applicable): ----------	*Induction Module:*
First Name: ----------	*Date of Induction:*
Last Name: ----------	*Data Entry Date:*
Position: ----------	
Organisational Unit: ----------	*Initial Admin officer:*

28/07/2011 *Version 1.4*

CAI Induction Module 7

7 Supervisor - Zone 4

7.1 Scope

This Induction Module applies to all persons working at the Centre and requiring independent access to Zone 4 without running patient scans. They can supervise other staff within Zone 3 and 4. For example: NMR Operators; animal or phantom MRI imaging.

7.2 Procedure

7.2.1 A trained induction officer explains all the points listed in the Work Instruction below.

7.2.2 The Trainee initials each point once it is understood.

7.2.3 Both the Trainee and the Induction Officer sign the understanding agreement at the end of the Work Instruction.

7.2.4 The Induction Officer ensures that the completed Work Instruction is retained on the Centre's files.

7.3 Work Instruction

Complete this section to formally identify the person to whom the induction has been given.

Family Name:_____ Given Names:_____

Organisational Unit:_____ Arrival date/time:_____

7.3.1 Explanation of the Zone System

The Induction Officer will explain the following:

Topic	Inductee to Initial
Zone designations 1,2,3 and 4	
Responsibility for everyone allowed into Zones	
I realise I must not give my swipe card to anyone else	

7.3.2 Trainee Safety Information

The following detailed awareness information is to be read and understood be the Trainee.

Magnetic fields can generate large attractive forces on ferromagnetic (metal) objects. Such objects include most tools, gas cylinders, pocketknives, key rings, and most electronic devices. Any such object that gets too close to the magnet will be accelerated towards the magnet with great force. Metal belt buckles, steel tipped shoes, and medical implants or any other metal on or inside the person may be strongly attracted when close to the magnet - effectively becoming a projectile. In the event of such an accident the best possible outcome is only lost time and the expense of removing the object from the magnet. Larger objects (camera tripods, floor polishers, gas bottles, for example) are dangerous and can seriously damage

the magnet, potentially requiring replacement of a multi-million dollar instrument. The worst outcome in this case is serious injury or loss of life to any person nearby. Also, the object striking the magnet could cause the magnet to quench; a situation whereby the magnet's cryogenic cooling gases (helium, nitrogen) vaporize leading to rapid displacement of the air in the laboratory. The magnetic field is lost and possible irreparable damage may be caused to the magnet.

Once energized, the field of the superconducting magnet is always present and cannot be turned off with the flick of a switch. These magnetic fields propagate horizontally and vertically, extending outside the magnet; which means that no movable metal objects can be allowed within the danger area of the instrument.

It is unsafe for people with some types of implanted metal or devices or having a history of metal fragments in the eyes to enter the magnet room. People with pacemakers or drug delivery pumps cannot enter even a low magnetic field area, and they are restricted from large areas of the Centre. Know your zones and responsibilities when allowing people access. For your own safety, DO NOT enter a new area without supervision or training.

Zone 1 : All areas that are freely accessible to the general public.
This region includes all areas that are freely accessible to the general public. This area is typically outside the MR environment itself and is the area through which patients, health care personnel, and other employees of the MR site access the MR environment.[5]

Zone 2 : *This area is the interface between the publicly accessible uncontrolled Zone I and the strictly controlled Zone 3 and 4. For the MRI scanners, subjects are greeted in Zone 2 and the answers to MR screening questions are gathered, and removal of personal items etc., are typically carried out.*[1] *For non-wholebody magnets, Zone 2 lies outside the secured entry into Zone 3 – see floor plan for your particular system.*

Zone 3 : *This area is the region in which free access by unscreened non–MR Personnel and/or ferromagnetic objects and equipment can result in serious injury or death as a result of interactions between the individuals/equipment and the MR scanner's particular environment. All access to Zone 3 is to be strictly restricted, with access to regions within it (including Zone 4, see below) controlled by, and entirely under the supervision of MR Personnel.*[1] *CAI Facility Managers must ensure that this MR Safe Practice Guideline is strictly adhered to for the safety of the facility users, the health care personnel, and the equipment itself. Personnel untrained in MR safety should be supervised at all times in Zone 3. The equipment coming into Zone 3 should be restricted to MR safe equipment as far as possible and properly labeled.*

Zone 4 : *This area is typically synonymous with the MR magnet room itself. Zone 4, by definition, will always be located within Zone 3 as it is the MR magnet and its associated magnetic field that generates the existence of Zone 3 itself.*[1] *Zone 4 regions are clearly marked with black and yellow tape, and are potentially hazardous due to the presence of very strong magnetic fields. Metal objects must not be taken beyond this line. Once in Zone 4 they can become dangerous projectiles. Electronic equipment must not be taken inside the exclusion zone without consultation with the engineers and should be properly labelled. Cameras, mobile phones, credit cards, bus passes etc will not operate when exposed to higher fields and may*

[5] Kanal et. al., ACR Guidance Document for Safe MR practices. AJR. 188:1-27 (2007)

be irreparably damaged. Only personnel with high levels of MR safety training (6 or 7) are permitted independent access to this zone and may authorize visitors to enter Zone 4. No one else may enter Zone 4 without supervision. Anyone entering Zone 4 must have undergone the full metals check.

Inductee: I have read and understood the above information. _____

7.3.3 Metals Check

EVERYBODY entering the laboratory must complete the following METALS CHECKLIST

DO YOU HAVE	Yes	No
Pacemaker or a Heart valve		
Syringe Driver		
Metal mesh Implants/Clips/wire sutures		
Hearing Aid/Implant		
Glass Eye		
Joint Replacement		
Bullet/Shrapnel Wound		
Metal Fragments in Eye, Head, Skin		
Artificial Limb or Prosthetic		
Do you work with metals?		
Fractures bones treated with Metal?		
Have you had any major surgery?		
A Shunt, spinal or Ventricular?		
Brain clip, aortic clip or neurostimulators		
Personal information is not required; *If you have any questions regarding the checks below, please feel free to contact the CAI Radiographer Staff member*		
Could you be pregnant?		
Do you have an IUD? (intrauterine device)		

ARE YOU WEARING/DO YOU HAVE ON YOU	Yes	No
Hairpins, slides, wig, hair bands		
Ear rings		
Necklace/Chains		
Safety pins/Broaches/Badges		
Watch		
Bracelets		
Rings		
Body piercing		
Braces with metal clips		
Mobile phone/Pager		
Coins		
Credit Cards		
Wallet		
Penknife		
Keys		
	Signature	
I agree all information above is correct. Participant:		
Witnessed by: Authorised MRI Supervisor:		

7.3.4 Fire and Evacuation

The Induction Officer will explain the following:

Topic	Inductee to Initial
Location of the nearest exit	
Location of the nearest fire extinguisher	
Location of the assembly point	
Manual alarm points	
Building warden	
Floor/area warden:	

First Aid officer(s):	
WHSO:	
First Aid kit	
Waste Disposal	
Isolating electrical switches or gas taps	
Floor plan	
Local alarms and associated procedures – e.g. Oxygen alarms, fire alarms, evacuation alarms	
Responsibilities for supervised person in Zone 3 in an emergency	

7.3.5 Occupational Health and Safety

The Induction Officer will explain the following:

Topic	Inductee to Initial
Required PPE	
Enrolment in training courses	
Audiometric testing needed?	
Afterhours access	
Amenities	
Injury, Illness, and Incident Reporting System	
UQ employees are required to read through appropriate risk assessments from the UQ database: www.risk.admin.uq.edu.au	

7.3.6 Adverse Event Reporting

The Induction Officer will explain the following

Topic	Inductee to Initial
Report unusual events to facility manager and Centre OHS manager	
Reporting incidents with supervised people	
MR safety training must be renewed annually	
Any artefacts, frayed cables or coil issues should be reported to the engineer, Don Maillet.	

7.3.7 Administrative Awareness

The Induction Officer will explain the following:

Topic	Inductee to Initial
Organisational Structure	
Head of Organisation	
Introduction to Key Staff	
Phone & Phone Use	
Confidentiality	

7.3.8 Access Responsibilities

The Induction Officer will explain the following:

Topic	Inductee to Initial
Who can be allowed into the Centre	
Responsibility of the trainee when allowing people into Zone 3	
Responsibility of the trainee when allowing people into Zone 4	
After this training, authorised for unsupervised entry to Zone 4	

7.3.9 MR operation training

Topic	Inductee to Initial
Initially training will be done on phantoms or samples, and only with your specified trainer present.	
Any issues during scanning must be immediately brought to the attention of your trainer.	
Do not open the equipment racks without authorisation.	
You may only scan the protocol for which you have ethics approval to run (where animal ethics is required).	

7.3.10 Understanding Agreement

Topic	Induction Officer to Initial
This induction has covered all points necessary for MR operation and the responsibilities of supervising people within Zone 3 and 4.	

Trainee

I have been briefed and understand all the points shown above.

_____ _____

Signature of visitor Date

To get access to the area, please provide a photocopy of your current staff/student card and uq login to the facility manager or Alan.Pringle@cai.uq.edu.au.

Induction Officer

I certify that the above mentioned person has been briefed and understands all points listed above.

_____ _____

Signature of Induction Officer Date

3. UQ-CCR Out of Hours Checklist

Authorization to enter the UQCCR Laboratories After Hours

All Staff must read and complete this form before entering the UQCCR laboratories after normal business hours.

Please follow procedure for working out of hours outlined in the UQCCR out of hours policy

Have you completed all Risk Assessments for the work? ☐

Have you been trained in techniques/equipment? ☐

Are you aware of where to find spill kits? ☐

Do you have the emergency numbers available ? ☐

Please note the locations of emergency equipment, including fire extinguishers, spill kits, first aid kits and break glass alarms in your local area. Your supervisor is responsible for ensuring that you are familiar with emergency procedures and the locations of emergency equipment. Please ask Lab Coordinators to show you if unsure.

I have read and understood the above requirements and the UQCCR policy about working out of hours.

Name: ……Date:…….

Lab/Supervisor:…….

Emergency contact

phone number #1: …….

#2:…….

Signature:…….

UQCCR Supervisor Signature:……..

4. *Information about Magnetic Resonance*

THE UNIVERSITY OF QUEENSLAND AUSTRALIA | Centre for Advanced Imaging

Information about Magnetic Resonance

Magnetic fields can generate large attractive forces on ferromagnetic (metal) objects. Such objects include most tools, gas cylinders, pocketknives, key rings, and most electronics. Any such object that gets too close to the magnet will be accelerated towards the magnet with great force. Metal belt buckles, steel tipped shoes, medical implants and any other metal on the person may be strongly attracted when close to the magnet. In the event of such an accident the best case scenario is simply lost time and expense of removing the object from the magnet. Larger objects (floor polisher for example) are dangerous and can seriously damage the magnet, potentially requiring replacement of a multi-million dollar instrument. Worst case is injury of the user or bystanders that could occur in two ways. First, an object pulled with great force towards the magnet could strike someone causing severe injury, possibly fatal. Second, the object striking the magnet could cause the magnet to quench (i.e., become resistive). This vaporizes the magnets cryogenic cooling gases (helium, nitrogen), which will rapidly displace air in the laboratory. In this instance everyone must immediately leave the laboratory to avoid the potential for asphyxiation. Once energized the field of the superconducting magnet of the spectrometer is always present. These magnetic fields propagate horizontally and vertically and extend outside the magnet; therefore, no movable metal objects should be allowed within the danger area of the instrument.

It is unsafe for people wearing pacemakers or having a history of metal fragments in the eyes to enter the magnet room.

A coloured line (usually either blue or black and yellow) indicates the limits of the magnetic field in the magnet room and must NOT be crossed until the following Metals Checklist has been completed.

Use of cameras, digital equipment: Like all electronic equipment, cameras must not be taken inside the magnet field exclusion zone defined by the 5G field line marked on the floor. Outside this zone, cameras, mobile phones and other devices should work properly and are safe. They will not operate correctly when exposed to higher fields and may be irreparably damaged. If taken too close to the magnet they may become a projectile, dangerous to both the magnet and the holder.

Small personal items such as credit cards and mobile phones, which will be wiped by the magnetic field in the magnet room, and other items such as keys, jewellery, wallets, watches, etc. must be removed from your person before entering the magnet exclusion zone.

EVERYBODY entering the laboratory must complete the CAI METALS CHECKLIST

5. *CAI Pre-MRI screen*

Centre for
Advanced Imaging

CAI Pre-MRI screen (over the phone or by email)

1. Do you have a pacemaker or heart valve (or have you had a pacemaker)
   (***No MRI scan can be done for participants with pacemaker or history of pacemaker***)
2. Do you have Brain clip, aortic clip or neurostimuators
   (No MRI scan can be done for participants with brain clip, aortic clip or nuerostimulators, unless their surgeon provide a written statement which indicates that the participant is safe to undergo an MRI scan, the statement must include the field strength i.e. participant is safe to undergo MRI scan on 1.5T, 3T or 4T)
3. Do use an insulin or infusion pump
   (***No MRI scan can be done for participants with insulin or infusion pump***)
4. Do you have medicated skin patches (some patches contain foil and may cause burn or the magnetic field might modify the dosage, ***nicotine patches are safe***)
5. Have you had any surgery under general anaesthetics if yes, please inquire about the surgery (what kind of surgery, when, what part of the body and was there any metal involved). If not sure, contact CAI Facilities manager/Radiographer and they will advise you if more information is required prior MRI scan
6. Have you ever done any metal work or grinding (have you always worn safety goggles)? (if not, an orbit X-Ray is required). Comments:
7. Do you have any metal fragment or shrapnel in your body (i.e. eyes, head or skin)?
   Comments:
8. Do you have fractured bone treated with metal (i.e. screws, plates)
   Comments:
9. Do you have metal mesh, clips or wires structures?
   Comments:
   Do you wear braces or have a dental bridge?
   Comments:
10. Do you have hearing aid (including implants)? (inform them that this has to be removed prior to MRI)
    Comments:
11. Do you wear ear or body rings? (inform them that these need to be removed and locked away during the scan)
    Comments:
12. Could you be pregnant? (***CAI use MRI scanners for research purpose, therefore, pregnant women must NOT undergo MRI scan***). Comments:
13. Do you wear glasses? (Inform them that the glasses need to be removed). Ask them to bring their contact lenses if they have any, otherwise, CAI offers MRI safe goggles to be worn during the scan
    Comments:
14. Do you have a tattoo (if yes, ask them when and where they had it, and how big the tattoo is and if it's dark or colourful). Comments:

15. Do you suffer claustrophobia? Comments:

6. Metals Checklist

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

Centre for Advanced Imaging

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Level 2, Gehrmann Laboratories
Research Road
Brisbane Qld 4072 Australia
Telephone +61 7 3365 4100
Facsimile +61 7 3365 3833
Internet www.cai.uq.edu.au

MR INVESTIGATION METALS CHECK/INTERIM MEDICAL

Subject/Visitor Name: _____ DOB: _____

Date: _____ Time: _____ Checked By: _____

Contact Phone Number _____

DO YOU HAVE	YES*	NO	ARE YOU WEARING	YES*	NO
Pacemaker or a Heart valve			Hairpins, slides, wig, hairbands		
Syringe Driver			Ear rings		
Brain clip, aortic clip or neurostimulators			Necklace/Chains		
Metal mesh Implants/Clips/wire sutures			Safety pins/Broaches/Badges		
Medicated Skin Patches			Watch		
Hearing Aid/Implant			Bracelets		
Dental Bridge or Dentures with wires			Rings		
Glass Eye			Body piercing		
Joint Replacement			Braces with metal clips		
Bullet/Shrapnel Wound			Mobile phone/Pager		
Metal Fragments in Eye, Head, Skin			Coins		
Artificial Limb or			Credit Cards		
Do you work with metals?			Wallet		
Could you be pregnant?			Penknife		
Do you have an IUD?			Keys		
Fractures bones treated with Metal?					
Have you had any major surgery?					
A Shunt, spinal or Ventricular?			I have read the MR Information Sheet		

ARE YOU HAVING A SCAN	YES*	NO
Do you suffer claustrophobia?		
Do you have any tattoos?		
Do you have a history of kidney disease/disorder?		
Do you consent to undergo the MRI?		

Blood Pressure: _____ Pulse _____

Height _____ Weight _____

Signed:

Volunteer: _____

Authorised MRI Supervisor: _____

Comments:

*If yes, contact CAI Radiographer of Facility Manager

111104_Metals check sn

7. CAI SOP Guidelines

SOP's at CAI are hosted on the "CAI Intranet".

The basic format of the SOP is as follows:

Title: Short title *(few words)*

Description: Brief decription of the SOP *(one sentence)*

Scope: The extent of the application- A particular practise may apply to every facility equally. So there would be a number of similar procedures and each would ***scope*** indicating to which subset of facilities it applies. *(one paragraph)*

Purpose: A brief reason/purpose for the procedure. Stating what is intended to be acheived by following the procedure. *(one paragraph)*

Procedure: A set of activities that accomplish a particular Goal, this is the main body of the SOP. Can include; Safety considerations, training required, legislation, record keeping, disposal, emergency and general procedures.

The SOP hosted on the CAI intranet will be in a basic text format, and will be partially self populated for reporting and access purposes (fig 1.).

To start to create your SOP:

- login to the intranet
- Select OH&S
- Standard Operating Procedures
- Create New SOP

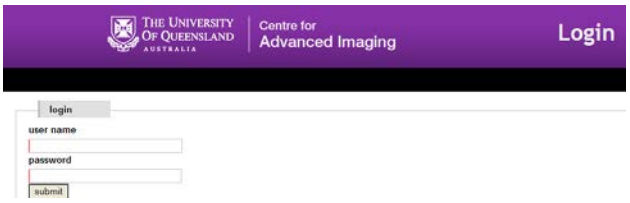

Fig 1. Log in

The New SOP form will require population of searching criteria before editing the actual procedure can occur. Once these criteria are filled in, you can press **submit** at the bottom of the form (Fig 2.).

Once the SOP is created, you are directed to your SOPs, select your new SOP from the list, and continue to "**edit procedure text**" via the new link directly above the form tab (fig 3.).

Once clicked you are directed to the editing suite, click on (Create SOPDAta.20120004) and add your procedure text. This data may be cut and pasted from a word file. Remember to press **Save** before leaving this screen. **Preview** will allow direct printing or pdfs of the final document.

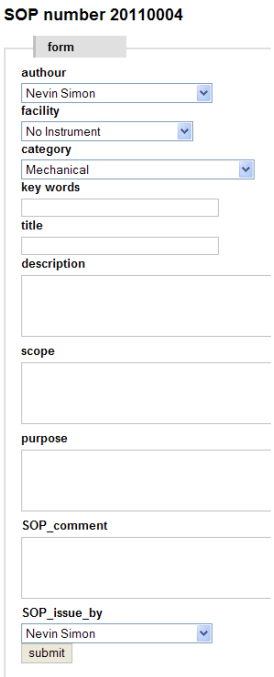

Fig 2. Creating SOP

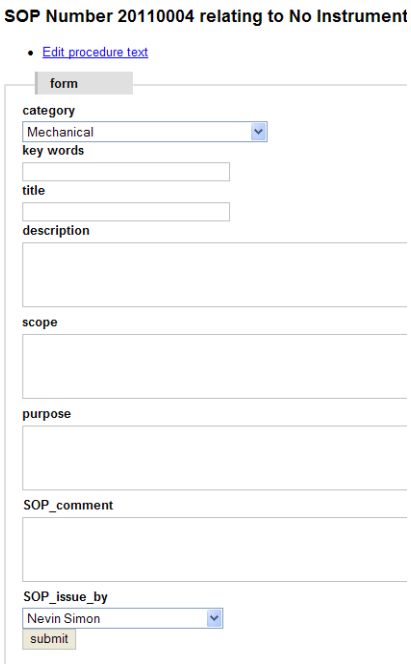

Fig 3. Editing Procedure text