Emergency Procedures

Medical Emergency

In case of a medical emergency, dial 13 to reach UR Security. State that you are in the Medical Center Annex Building, room 1B107 and report the nature of your emergency. Security will call 911.

Get the person out of the scan room as quickly as possible. We do have an MR safe stretcher located in the rear of the scan room if needed. If you need assistance there is an alarm switch located by the scanner door. When you flip this switch, an alarm goes off in the RCBI hallway and all available personnel will be there to offer assistance. This alarm stays on until someone arrives to help.

There are two red table stop buttons located on the control panels of the scanner—one on either side of the table. By pushing this button, the table brakes are released and the table may be pulled out by hand. This will enable you to remove the person out of the scanner in a hurry. There is also a table stop button located on the top of the intercom in the control room.

There is an emergency cart with basic CPR supplies located in the control room behind the door if needed. The equipment on this cart is NOT MR safe. You MUST get the person out of the scan room first. Be sure to close the scan room door after removing the subject to prevent entry of unauthorized personnel.
Fire Emergency

In case of a fire, stop the scan and remove the subject from the scanner. Call UR Security at ext. 13. State that you are in the Medical Center Annex Building, room 1B107 and explain the problem. Security will call 911. There is a fire alarm, which is located on the other side of the double doors (in the main hallway) just outside of the control room.

If it is an electrical fire (in the scanner or electronics cabinets) press the emergency stop button and pull the tab on the blue box located below the stop button to activate the sprinkler system. Be sure to close doors to contain fire before leaving the building.

We do have an MR safe fire extinguisher just outside of the control room. It is located on the wall opposite the sink. Use this only if the situation is appropriate.

Be sure to advise emergency personnel of the MR system. Local firefighters are aware of the safety issues concerning the magnet but they still need to be reminded and monitored.

Emergency stop

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If you smell smoke in the scanner or in the electronics cabinets, remove the subject from the area. Press the emergency stop button. Call UR Security at ext. 13. State that you are in the Medical Center Annex Building, room 1B107 and explain the problem. Security will send someone to investigate the cause. Be sure to close the magnet room door and monitor all personnel entering the area. Notify Siemens service and the director Dick Aslin immediately in the event of a fire or smoke.
Emergency Shut–off Switches

Emergency stop/shut-down switch (electrical supply only)

By pushing this button all electrical supply to the magnet PDU (power distribution unit) is disrupted. It does not initiate a quench. THE MAGNET REMAINS RAMPED (“ON”). MAKE SURE ALL FERROMAGNETIC OBJECTS REMAIN OUTSIDE OF THE SCAN ROOM.

Use this if there is a fire or electrical accident in the scan room or the electronics cabinets, or if the sprinkler system goes off in either of these rooms. Also, if you see or smell smoke coming from the magnet or a computer cabinet, use this button. Call UR Security at ext. 13. State that you are in the Medical Center Annex Building, room 1B107 and explain the problem.

There are three: 1—inside the scan room, as you face the door from the inside, it is the closest button to the left of the door. 2---in the control room, as you face the computer console, it is to the left. 3---in the computer cabinet room, as you face the door from the inside, it is to the left.

Notify Siemens service and Dick Aslin immediately if this button is pushed.
Magnet Stop / Quench switch

The only person authorized to push this button is the director Dick Aslin, unless a human life is at risk.

By pushing this button you rapidly reduce the magnetic field strength. The helium coolant boils off suddenly during this process and is released through an exhaust vent. An alarm signal will sound when the magnet stop button is pushed.

Since a quench cost thousands of dollars and may damage the magnet, ONLY quench the magnet if a large metallic object pins or impales a person against the magnet and no other method will free them or prevent further injury.

Never attempt to pull large metallic objects from the magnet field. The object may change its magnetic polarity and re-align itself on the magnet and become a projectile, causing a serious or fatal injury.

There are two Magnet Stop buttons: both covered with a plastic flap
1—inside the scan room, it is to the left of the emergency stop.
2---inside the control room, as you face the computer console, it is to the right.

If you need to quench the magnet, remove all personnel from the scan room as soon as possible. It takes about 20 seconds for the magnet to lose its power. Initiating a quench will release the helium through a vent to the outside. Notify Dick Aslin and Siemens service immediately.
**Alarm Silence Button**

When the magnet is quenched, either spontaneously or manually, or if the helium level drops to a dangerous level an alarm will sound. The alarm silence button is located on the panel below the magnet stop button in the control room. If the alarm goes off, stop the scan and remove the subject from the scanner. Notify Siemens service and Dick Aslin immediately.

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**Magnet Quench: Failure of vent**

During a quench, the liquid helium boils off through an exhaust vent and the magnet loses its super-conductivity. It takes only 20 sec. for the magnet to quench. When a quench occurs an alarm goes off (which can be silenced on the alarm box) and a hissing noise is heard as the helium is vented outside. Do not attempt to touch the vent during a quench due to the extremely cold temperature. Frostbite will occur. Large plumes of white fog appear outside as a result of the helium release.

One liter of liquid helium will quickly expand to about 800 liters of gaseous helium. If the exhaust vent fails, whereby the helium is vented into the scan room, it will quickly reduce the oxygen level in the scan room and cause asphyxiation. Frostbite and/or hypothermia will also occur.

If you need to quench the magnet, remove all personnel out of the room first! If someone is pinned to the magnet, be absolutely sure that you have propped the scan room door open. If the vent fails, the pressure caused by the expanding gas will slam the door closed and it will be impossible to open until the pressure of the gas is released. Once it no longer is a magnet, quickly remove the subject.

Be sure to notify Siemens service immediately in the event of a quench. Also notify the director Richard Aslin. If he is not available notify Daphne Bavelier.
(A copy of these procedures and contact personnel are kept in the control room)

In the event you are in the control room without a RCBI staff member and an alarm goes off, you must notify a staff member.