Name of Appendix: **Safe entry to MRI (Magnetic Resonance Imaging) rooms**

1. **General**
   1. Tel Aviv University has two types of MRI imaging devices for research purposes.
   2. In the area where the MRI devices are located, there is a strong magnetic field and for this reason this area is defined as high risk in accordance with the magnetic field strength and the risk this presents to employees who need to enter the area as well as the devices themselves.
2. **Goal**

The goal of this procedure is to bring to the attention of employees (researchers and students) who are required as part of their position to enter MRI rooms the risks involved, to define risk areas, and to determine those who are authorized to routinely enter.

1. **References** 
   1. The Safety at Work Ordinance (new version) 5730-1970.
   2. Organization of Work Control Regulations (Provision of Information and Employee Training), 5759 – 1999.
   3. Operating manual for each device.
2. **Definitions**
   1. **MRI** – a type of non-invasive screening that uses imaging of the body’s internal organs for purposes of diagnosis and treatment, etc.

This technology uses a combination of strong radio and magnetic field waves (above one telsa) in order to affect the spinning of protons in hydrogen atoms that are found in water molecules that are present in human body tissue.

* 1. **Authorized for entry –**  only **the technician in charge** of the MRI is authorized to enter the MRI room. Any other person may enter solely with the authorization of the **technician in charge** and under his supervision, maintaining constant eye contact, and after receiving suitable instructions from the technician in charge, with proof that the person may enter the room under the required restrictions.
  2. **Technician in charge –** At any point in time that the MRI device is operating, there will be a person present who is the technician in charge. He will be aware of all rules, safety procedures and device operation including its division into risk areas.

1. **Division of the MRI unit into safety areas**

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1. **General safety instructions**
   1. An employee/researcher/student will not enter the danger areas at all, and specifically the magnet room, unless he has been instructed about the risk and received authorization from the **technician in charge,** and is under the constant supervision and maintains eye contact with the technician in charge, and the technician in charge has taken all required measures to ensure safe entry to the magnet room.
   2. Warning!!! The magnet is extremely powerful and works 24 hours a day without stop. Even during hours when no activity is being carried out in the room or with the device, entry to the magnet room after regular operating hours and on Friday-Saturday, will be solely with the prior coordination of the chief technician, and with his authorization and supervision.
   3. The laboratory manager is responsible for ensuring that employees providing services to the MRI device have received instruction regarding the risks, are familiar with the requirements of this procedure and with the signs and warning symbols in the MRI area.
   4. It is completely prohibited for an employee with metal equipment to be in the magnet room. The laboratory manager must make suitable arrangements with regard to work tools, personal protective equipment, non-magnetic work equipment and kits that are adapted for work in the MRI environment.
   5. It is completely prohibited to wear necklaces or bracelets or have any metal on one’s body.
   6. An employee who has dental implants or a metal crown or pacemaker or metal heart valve or a tattoo must report this to his immediate superiors. The managers must report which of their employees are permitted to enter the danger areas and who is not.
   7. The MRI technician is required to ensure that the magnet room is locked after operating hours.
   8. Delivery of housekeeping equipment, maintenance work and cleaning, and any other work that is not routine will be performed in full coordination with the technician in charge during regular hours and a coordinated work schedule. In general, maintenance work will be carried out by a service technician from a reputable company, unless otherwise organized by the laboratory manager.
2. **Personal protective equipment and clothing**
   1. Prior to entering the magnet room, employees must check that there are no metal parts on their clothing, including: belts, accessories, buckles, etc.
   2. Employees with safety shoes – prior to entering the magnet room, the employee must check that their safety shoes do not have a protective cap or iron metal parts.
   3. During operation of the MRI device, employees will be equipped with disposable earplugs to reduce the noise generated by the machine. Also, the operator will ensure prior to operation of the machine that the patient received disposable earplugs and noise protection headphones.
3. **Rules of conduct**
   1. Throwing materials or tools at the operator outside of the risk area – prohibited and may cause an accident.
   2. The MRI staff must focus on their work – do not distract them, and behave towards your colleagues with attention and respect.
   3. Remove tools and equipment from passageways – leave passageways free and clear in the event of an irregular incident.
   4. From the point of view of the technician in charge and the operator, every person is defined as a stranger and will receive the appropriate instructions, and they will comply with all safety requirements prior to entering the magnet room.
   5. Do not perform any work for which you are not qualified. Repair and maintenance of the device will be carried out by a qualified technician. All maintenance work within the magnet room will be performed by qualified employees who have received authorization from the chief technician to enter the room and perform the work with advance coordination.