

9.4T MRI FACILITY
SOP#410-03 PROCEDURES & SURGERIES

1. INTRODUCTION

- 1.1. As some individuals may be sensitive to the procedures performed on animals, every effort should be made to educate and inform both personnel and visitors as to the potential inadvertent observation of such procedures.
- 1.2. Every effort should be made to minimize traffic through the prep and surgical areas while procedures are being conducted.
- 1.3. Animal related procedures and experiments should not be discussed with the 'general public'.

2. EQUIPMENT AND STORAGE

- 2.1. Because the facility is multi-user, it is everyone's responsibility to ensure the equipment is kept in good working order. Problems with malfunctioning equipment should be brought to the attention of the Facility Manager or the Animal Technician/Lab Manager immediately.
- 2.2. There should be minimal equipment left out on the countertops. Storage is available for small items. If necessary, labs will be assigned a specific area for storing their supplies. Storage of controlled drugs in the 9.4T MRI Facility is subject to approval by the Animal Technician/Lab Manager. Controlled drugs must be stored under double lock and key.

3. ANIMAL PREP AREA

- 3.1. The following procedures may be performed in the animal prep area: induction of anesthesia, ET-intubation, venous catheterization, surgical prep, and other minimally invasive procedures or monitoring. Certain non-sterile, non-recovery surgeries may be performed in the prep area ONLY at the discretion of the Animal Technician/Lab Manager. This is subject to the scheduling and co-ordination of other animal experiments.

4. STERILE RECOVERY SURGERIES

- 4.1. All invasive recovery surgeries require a separate sterile area. These types of surgeries should be performed in the Operating Room (OR) suite (when possible). This will minimize traffic flow around the animal during surgery, significantly decreasing the chance of infection and complications.

5. OR SUITE

- 5.1. The OR suite is an area designed to accommodate the specific needs of sterile surgeries. This room is to be kept clean and organized at all times.
- 5.2. When surgery is being conducted in the OR suite, a sign is to be placed on the outside of the pocket door to alert other personnel that a surgery is taking place. Free access to and from the OR suite is essential for the safety of personnel.
- 5.3. The OR suite should be thoroughly cleaned and decontaminated prior to commencement of surgery, and upon completion of surgery. Wipe down all surfaces with the cleaning solution provided. Sweep and mop the floor when finished with a diluted bleach solution. Consult SOP#415 "Cleaning and Decontamination" for more details.

6. SAME SPECIES PROCEDURES & SURGERIES

- 6.1. Recovery surgeries and other procedures may be conducted at the same time on the same species as long as the animals have come from a housing location where the health status is comparable. For example, mice from Roberts External Barrier (REB) Holding Rooms should not be exposed to rats from the conventional rooms at Health Sciences Animal Care Facility.
- 6.2. Discuss health status of your animals with the Animal Technician when discussing your experiment. Health records from the housing facility may be required for scheduling of experiments.
- 6.3. All equipment must be thoroughly disinfected after use with either 70% isopropyl alcohol or the disinfecting solution provided by the Facility.

7. CROSS-SPECIES PROCEDURES & SURGERIES

- 7.1. Procedures or surgeries may be conducted on two different species at the same time in the 9.4T MRI Facility if rooms physically separate them; i.e. rodent surgery CAN occur while another species is being imaged in the magnet. However, the traffic route must remain accessible to all. Centre for Brain and Mind (CBM) animals cannot be stationed in the prep area while the OR suite is being used, as this would preclude movement from the OR to the prep area, and ultimately restrict the movement of personnel in the OR suite. As well, rodent procedures cannot take place in the prep area if the CBM animals need to move through, or into that area.
- 7.2. Procedures or surgeries may be conducted on two different species at the same time in the 9.4T MRI Facility if rooms physically separate them; i.e. rodent surgery CAN occur while another species is being imaged in the magnet. However, the traffic route must remain accessible to all. Centre for Brain and Mind (CBM) animals cannot be stationed in the prep area while the OR suite is being used, as this would preclude movement from the OR to the prep area, and ultimately restrict the movement of personnel in the OR suite. As well, rodent procedures cannot take place in the prep area if the CBM animals need to move through, or into that area.
- 7.3. Airflow in the 9.4T MRI Facility must also be a consideration when planning procedures and surgeries. The OR suite is positive to the prep area, and the prep area is positive to the magnet area. Thought to species, health status, etc, must be considered when scheduling experiments.
- 7.4. The Facility Manager and/or the Animal Technician/Lab Manager can, at their discretion, allow or coordinate special requests or circumstances. The study must be scheduled well in advance to allow for discussions and to work out the specifics
- 7.5. Consult the "Center for Brain and Mind Procedural Manual for the MRI Suite" and the CBM SOPs for more details.

8. MRI OF ANIMALS – GENERAL GUIDELINES

- 8.1. While inside the magnet, animals should be monitored at least every ten to fifteen minutes by the student/animal technician/research staff.
- 8.2. Forms of monitoring include respiration, heart rate, oxygen saturation, temperature.
- 8.3. The amount of anesthetic (isoflurane) as well as oxygen tank status should also be monitored regularly during the scan.
- 8.4. The Facility Manager and/or the Animal Technician/Lab Manager can, at their discretion, allow or coordinate special requests or circumstances. The study must be scheduled well in advance to allow for discussions and to work out the specifics.