



Standard Operating Procedure (SOP)

<b>Title:</b>  <b>Animal and Imager Preparation</b>	<b>SOP No.</b> SAIL- Xtreme-SOP-01
	<b>Version No.</b> 02
	<b>Effective Date:</b> July 28, 2017
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Approvals

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Distribution

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## 1.Purpose

This SOP describes and outlines the proper preparation and set-up of the In-Vivo Xtreme optical imager for imaging sessions in the SAIL Imaging suite (room E.S2.8100).

## 2.Scope

Applicable to all studies involving scanning with the In-Vivo Xtreme optical imager in the SAIL Imaging suite.

## 3.Responsibility

- 3.1 The SAIL Manager and the study Principal Investigator(s) and/or his/her designate(s) is responsible for maintaining safety and security standards within the SAIL Imaging suite.
- 3.2 The SAIL Manager, under the supervision of the SAIL Director, is responsible for the inspection and maintenance of the equipment within the SAIL Imaging suite. As such, he/she is responsible for reporting any problem with and/or damage to the equipment to the SAIL Director as soon as possible.
- 3.3 The SAIL manager is responsible for the reporting of any accidents and/or incidents that occur within the SAIL Imaging suite. These incidences will be documented and recorded on accident/incident forms as provided by SAIL in accordance with RI-MUHC policies.
- 3.4 Only approved, trained users are permitted to operate the In-Vivo Xtreme optical imager.
- 3.5 The pre-scan preparations preceding all scanning sessions as described on this SOP are the responsibility of the Principal Investigator(s) and/or his/her designate(s).

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## 4. Materials

- Medical tape
- Cotton swabs
- Ophthalmic ointment
- Anesthesia Induction chamber
- Benchtop liner
- Kim wipes
- Personal Protective Equipment (PPE)

## 5. Procedure

### 5.1 Imager Preparation

- 5.1.1 1 hour before imaging time, switch on the PC, the imager, and the air heater so that the camera can be cooled at -65°C.
- 5.1.2 Perform a quick visual inspection of the imager, its accessories, and the general state of the room. Clean if necessary.
- 5.1.3 If necessary, carefully clean the Platen with 70% ethanol and Kim wipes.
- 5.1.4 Select and install the appropriate screens, tray, and animal mask as per the particular experimental protocol (AUP). Make sure anesthesia apparatus is working properly.
- 5.1.5 Prepare any additional components necessary for the scan as per the particular experimental protocol (e.g. injectables, stimuli, and/or other manipulations to be applied to the subject during the scan).

### 5.2 Animal Subject Preparation

- 5.2.1 When manipulating animals, all mandatory PPEs should be put on: bonnet, mask, gloves, sleeves.
- 5.2.2 Remove the selected subject from its cage, weigh the animal on the calibrated scale, noting its strain, weight, sex, and registered birth date.

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- 5.2.3 If isoflurane anesthesia is required by the study, cover the bottom of the induction chamber with benchtop liner and place the animal in the induction chamber for anesthesia as per SAIL-Xtreme-SOP-02. If alternative anesthetic agents are used, please follow the procedures as outlined in the study AUP.
- 5.2.4 Once the animal is adequately anesthetized, open the imager's front door, take the animal out of the induction chamber and place it in the prone position on the tray of the imager.
- 5.2.5 Apply ophthalmic ointment to the eyes of the animal using Q-tips
- 5.2.6 Check to ensure that there are no loose connections or loose tubing/wiring hanging from the tray. Affix elements as necessary with medical tape and secure the subject in its final position on the tray by inserting its head into the nose cone.
- 5.5.7 Make sure that respiration rate has stabilized within acceptable ranges (between 85-155 breaths per minute for mice and 50-80 breaths per minute for rats) before closing the imager's front door.
- 5.5.8 Begin your imaging sequence as indicated per experimental protocols.

## 6. References

SAIL-Xtreme-SOP-02: Anesthesia Induction and Maintenance

MNI UACC SOP-2: Anesthesia for Adult Experimental Animals

## 7. Appendices

None.

