

**Gordon PET Core**

**Animal Research Policy**

**PURPOSE:**

Experiments performed by investigators in the Gordon Center for Medical Imaging (GCMI) facilities and scanner suites must be in accordance with the Institutional Animal Care and Use Committee (IACUC) of Massachusetts General Hospital (MGH). All animal procedures must be performed by IACUC-approved staff and listed on an IACUC-approved protocol, with proper precautions taken to adhere to MGH Infection Control and Environmental Health and Safety requirements for employee and patient safety.

**SCOPE:**

This policy applies to all external and GCMI investigators, staff, employees, students, contractors, and visitors who wish to perform animal studies in GCMI facilities and scanner suites. Procedures for use of animal-only and human & animal scanners may differ, refer to their respective sections to ensure proper protocols are followed for each. Failure to adhere to this policy may result in revocation of scanning privileges for individuals associated with the offending laboratory.

**RESPONSIBILITIES:**

1. **Director and his Designates, GMCI:** Responsible for enforcing and monitoring compliance with this policy in Gordon Center imaging suites, and providing all employees and contractors under his/her direction with appropriate training on this policy.
2. **Principal Investigator as listed on the MGH IACUC Protocol:** Responsible for enforcing and monitoring compliance with this policy, providing all employees and contractors under his/her direction with appropriate training on this policy.
3. **MGH Research Employees/Contractors Listed on the IACUC Protocol:** Responsible for following all requirements of this policy, and reporting any deviations from this procedure to the Director, Director’s designates, and the Principal Investigator. Must review this policy document and sign the attestation (page 6) prior to any activities covered under this policy.
4. **Visitors:** *All visitors must be approved by GCMI staff in advance.* Responsible for following all requirements of this policy and all instructions provided by MGH host. Visitors are not allowed in contact with animals or equipment.

**POLICY GUIDELINES AND PROCEDURES:**

1. Animal-only PET Imaging Rooms (CNY-5310A, Bulfinch 051A, Bulfinch 065)

**Scheduling of Imaging Suite and Anesthesia Equipment**

* 1. Animal imaging is scheduled with Julia Scotton or Eric McDonald on the Gordon PET Core CNY Research Manager calendar (<https://petmanager-cny.mgh.harvard.edu/>). A Scheduling Request form must be completed and emailed to reserve a slot.
  2. If controlled substances are required for the study, arrangements should be made in advance with Julia Scotton or Eric McDonald. See controlled substances policy.
  3. Gordon Center anesthesia equipment must be reserved in advance by contacting Julia Scotton or Eric McDonald.
     1. Before anesthetizing the animal on the day of a scan, equipment must be checked for airtight seals and in proper working order.
     2. All isoflurane vaporizers must have a scavenge line attached that has been weighed appropriately.

**Scanner Suite Preparation and Animal Transport**

* 1. Users must perform and document a radioactive contamination survey.
  2. Users must attest that the scanner suite is clean and free of preexisting biohazard trash, radioactive trash, sharps, etc. If a previous user had left behind any of these, it should be detailed on the log.
  3. Secure chux in place to cover the animal prep area (if used), the scanner bed and platform, and any areas where radioactivity will be handled.
  4. Transport animals along IACUC-approved routes with opaque covers occluding cage/cart

**Animal Procedures & Scanning**

1. Appropriate, species-dependent PPE must be worn at all times when sharing airspace with animals.
2. An IACUC-approved staff member protocol must monitor animals at all times while under anesthesia
3. Only approved GCMI staff may operate scanners
4. Users must use the laboratory notebook for each scanner to log scan session information including PI, IACUC protocol #, number of scans per session, and scan start/end times

**Scanner Suite Cleanup and Waste Disposal**

1. All researchers are responsible for clean-up of the scanner and room and proper disposal of all waste after their study is complete.
   * 1. Radioactive waste must be placed in an appropriate container, labeled, and placed in a Waste Decay area.
     2. Radioactive waste must be labeled with radioactive tape, isotope, activity level, date, and user initials *at least*, even for short-lived isotopes. Under no circumstances is waste to be left unlabeled.
     3. Those who create the radioactive waste are ALWAYS responsible for the final disposal of the waste after 10 half-life decay period.
     4. Radioactive waste must be stored in the designated decay areas, and should not be left behind the lead block workspaces in the scanner suites. These spaces are for active use of radioactive material only.
     5. Biohazard waste (non-radioactive) must be placed in a biohazard bin with a red biohazard liner, and returned to or collected by Environmental services.
     6. Non-radioactive sharps must be placed in a sharps container.
     7. Non-radioactive sharps containers must be sealed and disposed of when 2/3rds full, and placed in a biohazard bin, outsize of the can liner.
2. At the end of the study, users must perform and document a radioactive contamination survey before a new dose is brought into the scanner room, and attest on the log that they have placed all biohazard trash, radioactive trash, and sharps in the appropriate receptacles.
3. If radioactive contamination is detected:
   * + 1. User must make every effort to clean all removeable radioactive material from contaminated surface using an appropriate cleaner.
       2. If detectable contamination remains which is not removable:
          1. Cover with lead sheets/bricks until detected activity is below 3x background
          2. Tape lead in place and identify with radioactive tape, isotope, activity level, date, and user initials
          3. Julia Scotton and Eric McDonald **must be notified**, and may need to report the spill to the Radiation Safety Office
4. Scanners should be disinfected at the end of every study using appropriate methods (ex. Sani-cloth wipes, 70% alcohol, Virex, Clidox) according to the work being performed and consistent with EHS and PIBC requirements.
5. All anesthesia, monitoring, hot water circulation blanket, and other animal related equipment must be returned to its proper storage location after scans are completed.
6. Human PET Imaging Rooms (White 224, 225, 228, Blake 260, Edwards 003)

**Scheduling of Imaging Suite, Controlled Substances, and Anesthesia Equipment**

* 1. Animal imaging on human-use scanners is scheduled by Steve Weise on the Gordon PET Core Research Manager calendar (<https://petmanager.mgh.harvard.edu/>).
  2. If controlled substances are required for the study, arrangements should be made in advance with Julia Scotton or Eric McDonald
  3. Gordon Center anesthesia equipment must be reserved in advance by contacting Eric McDonald or Julia Scotton.
     1. Before anesthetizing the animal on the day of a scan, equipment must be checked for airtight seals and in proper working order.
     2. All isoflurane vaporizers must have a scavenge line attached that has been weighed appropriately.

**Scanner Suite Preparation and Animal Transport**

* 1. To prevent any possibility of overlapping human and animal studies, a minimum of one hour must elapse after completion of animal studies and decontamination of the space before any human studies can take place.
  2. Researchers MUST confirm all human subjects have left the Scanning Suite before beginning animal transfer
  3. Transport animals along IACUC-approved routes with opaque covers occluding cage/cart
  4. The PET/CT bore and bed must be lined with chux for the duration of the study. Chux must be taped in place.

**Animal Procedures & Scanning**

* 1. Appropriate, species-dependent PPE must be worn by all users inside the scanner room when animal is present.
  2. PPE must be removed before entering the control room.
  3. An IACUC approved staff member protocol must monitor animals at all times while under anesthesia
  4. Only approved GCMI staff may operate scanners
  5. Users must use the laboratory notebook for each scanner to log scan session information including PI, IACUC protocol #, number of scans per session, and scan start/end times

**Scanner Suite Cleanup and Waste Disposal**

* 1. Decontamination of human scanners must be done with Super Sani-cloth germicidal disposable wipes (NHP studies require purple-top wipes containing tuberculocidal), as the scanner, bed, and gantry are not water-tight. **DO NOT SPRAY** any disinfectants onto scanner, bed or gantry.
  2. The chairs, counters, etc. including in the waiting room/ante room spaces also need to be decontaminated with spray/wipes at the end of the study (i.e. all chairs and surfaces used while staff were wearing PPE).
  3. All researchers are responsible for clean-up of the scanner and room and proper disposal of all waste after their study is complete.
     1. **Radioactive waste must be placed in an appropriate container, labeled, and placed in a Waste Decay area.**
     2. Radioactive waste must be labeled with radioactive tape, isotope, activity level, date, and user initials *at least*, even for short-lived isotopes. Under no circumstances is waste to be left unlabeled.
     3. Those who create the radioactive waste are ALWAYS responsible for the final disposal of the waste after 10 half-life decay period.
     4. Biohazard waste (non-radioactive) must be placed in a biohazard bin with a red biohazard liner and returned to/collected by Environmental services.
     5. Non-radioactive sharps must be placed in a sharps container.
     6. Non-radioactive sharps containers must be sealed and disposed of when 2/3rds full, and placed in a biohazard bin, outsize of the can liner.
  4. At the end of the study, users must perform and document a radioactive contamination survey.
  5. All anesthesia, monitoring, hot water circulation blanket, and other animal related equipment must be returned to its proper storage location after scans are completed, not left in the scan room.

I, \_\_\_\_\_\_Kira Grogg\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, have read, understood, and will abide by the Gordon PET Core Animal Research policy. I understand that failure to adhere to this policy may result in revocation of scanning privileges for myself or my laboratory at the discretion of the GCMI Director.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature

03/05/2019

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date