

# Animal Research Manual and Protocols



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## INTRODUCTION

This manual and checklist is designed to provide instructions and serve as a reference guide for researchers interested in doing animal research using the MRI at I<sup>2</sup>AT, as well as other staff personnel using the MRI. Its primary purpose is to serve as a comprehensive guide that prospective users can turn to for information about matters such as scheduling procedures, trainings, contacts, cleaning and FAQ's. This manual will be reviewed and updated annually.

**IN ORDER TO PROCEED WITH USAGE OF THE MRI FOR LIVE ANIMAL RESEARCH PROJECTS, YOU MUST HAVE AN IACUC PROTOCOL NUMBER. IF YOU DO NOT HAVE A PROTOCOL NUMBER, SEE [PAGE 9](#) FOR PROCEDURES TO OBTAIN ONE. YOU ARE ADVISED TO CONTACT CLINICAL SCIENCES FIRST BEFORE YOU FILL OUT YOUR IACUC APPLICATION.**

PLEASE CONTACT DR. JENNIFER GAMBINO (see contacts on [page 6](#)) BEFORE SUBMITTING YOUR IACUC APPLICATION.

## WHAT TO EXPECT UPON YOUR ARRIVAL

I<sup>2</sup>AT West is located in a shared facility with Veterinary Specialty Center (VSC) and Premier Imaging. Because of the diversity of activities at I<sup>2</sup>AT West, those conducting research must remain cognizant of others in the facility. All users of the West facility MUST understand their obligations in conducting their research and follow the direction of the MR technologist at all times. At the time of each experiment involving animal subjects and the MRI system, the PI and/or members of the research team will bear responsibility for their conduct and the PI or a designated team member will serve as the gatekeeper to the MR area.

Before initiation of the research activity and entry into the MR system (Level III) area, the PI and/or research team members must:

- 1) Make sure that any and all members of the research team involved in MR related activities are safety trained. Individuals without MR training and who has not been granted access permission are not to be allowed in Level III areas.
- 2) Make sure that the MR technologist is given complete screening forms:
  - a. for each research team member wanting access to the MR area and,
  - b. for the animals undergoing MR screening.
- 3) Ensure that metal items are removed from all individuals and animals before entering into MR area (Level III).
- 4) Maintain control of the MR area:
  - a. all personnel not essential to running the scan will be restricted to the research console,
  - b. make sure doors remain closed.
- 5) Monitor hallways during the experiment.
- 6) Clean equipment before and after animal research scan. Failure to clean the equipment properly and requiring I<sup>2</sup>AT personnel intervention will result in a \$150 cleaning fee charged directly to your MSU account or invoiced to non-MSU researchers.
- 7) Check all doors and lock-up after research activities are conducted.

Researchers and animals must enter through the back entrance. There is a parking lot directly behind the Premier Imaging facility that can be accessed via Stark Rd. entrance. The back door requires an electronic key card to enter. After you have been notified of the review and approval of the project, contact I<sup>2</sup>AT staff during normal business hours (8:00 AM – 5:00 PM) to check out appropriate keys. You may retain the keys for the duration of your project. Once the research project has ended, the keys must be returned within 7 days. Failure to return the keys will result in a \$50 fee charged directly to your MSU account or invoiced to non-MSU researchers.

## IMPORTANT ACRONYMS

While reading this manual and during the process of completing your research, you will encounter many acronyms used at MSU. Below you will find a list of acronyms that will be used quite often:

**I<sup>2</sup>AT** - Institute for Imaging & Analytical Technologies is a university-wide core facility which meets MSU's missions in research, teaching and service by facilitating inter- and multi-disciplinary research, education and outreach in the life and materials sciences. I<sup>2</sup>AT houses major research instrumentation that is available to faculty, staff, students, and outside users. Instrumentation includes technologies for diverse microscopy (light, confocal, atomic force, and electron) and microanalysis (e.g. X-ray diffraction) applications, in addition to magnetic resonance imaging used in areas of veterinary medicine, cognitive science and medical systems.

**MRI** - Magnetic Resonance Imaging is a diagnostic technique that uses a magnetic field to produce pictures of structures inside the body.

**IACUC** - The Institutional Animal Care and Use Committee at Mississippi State University is charged with establishing and reviewing compliance with standards and procedures relating to animal welfare of animals used in research and teaching and advising individuals and agencies dealing with such animals. University instructors and researchers planning projects that utilize animals must submit their proposed protocol to the Institutional Animal Care and Use Committee for review and approval of animal care and use aspects.

**CVM** – The Mississippi State University College of Veterinary Medicine captures a unique balance of world class research in animal and public health, high quality learning experiences and cutting edge medical care, all with a family-like atmosphere. Mississippi State graduates excel in their careers, whether that path leads to a small town practice, research laboratory or an international program. Our faculty are national and international leaders in their fields and are committed to providing excellent veterinary education, advancing research in veterinary medicine and biomedical fields and serving the community through cutting edge diagnostics, clinical care and shared learning.

**ORC** – The Office of Research Compliance provides support and training in the research requirements for the conduct of scientific research for University faculty members, researchers, students, and staff in the areas of human research protections, animal care and use, and biological safety.

**EHS** – The Office of Environmental Health & Safety oversees programs in occupational health and safety, radiological safety, fire safety, laboratory safety, chemical hygiene, and hazardous waste.

**AAALAC** - The Association for Assessment and Accreditation of Laboratory Animal Care is a private, nonprofit organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment programs.

**LARAC** – Laboratory Animal Resources and Care is a unit based at the College of Veterinary Medicine, but serves as a resource for the MSU AAALAC accredited programs, CVM and the College of Arts and Sciences. The manager of LARAC unit reports to the Director of OLAR (the Office of Laboratory Animal Resources), who also serves as the University Veterinarian. The Manager of LARAC is responsible for management oversight of the CVM research and teaching animal facilities, the personnel who provide animal husbandry and the fundamental program of animal care and husbandry for animals used in biomedical research and teaching. Additionally, the Manager collaborates with the lab operations supervisor at the College of Arts and Sciences to ensure that the animal unit in Harned Hall is maintained according to regulations. Reporting to the Manager of LARAC are two Team Leaders, each of whom have responsibility for managing full time personnel and student workers and for providing animal care and husbandry. The animal care staff provides daily animal care and husbandry, and minor facility maintenance.

## IMPORTANT CONTACTS

This section is designed to assist you in contacting the appropriate persons during your research. Throughout the manual we will refer to the names below.

**The I<sup>2</sup>AT** –Is housed in facilities located at two separate locations: East Location is on campus located in the basement of Clay-Lyle Entomology Building and the West location is located at the Premier Health Complex on the corner of Highway 182 West and Stark Road. The east facility is where the majority of the microscopy and microanalysis equipment are housed, this includes: confocal, atomic force, scanning electron, transmission electron microscopes, x-ray diffractometers and sample preparation. The west facility is where access to the MRI, CT, 4D Ultrasound, and Linear Accelerator are available in conjunction with Premier Imaging.

- Zach L Rowland - Director  
zrowland@i2at.msstate.edu  
Office - (662) 325-3485  
1207 Hwy 182 W
- [I<sup>2</sup>AT](#) Main number – 662-325-3019

**Research Compliance** – For general questions about IACUC Training contact:

- Kacey Strickland - Director  
kstrickland@orc.msstate.edu  
Office - (662)325-3294  
53 Morgan Avenue
- Brian Rude - IACUC Chair  
brude@ads.msstate.edu  
Office - (662)325-2933  
Wise Center, Room 4024
- Trina Smith – Compliance Administrator  
tsmith@orc.msstate.edu  
Office - (662)325-0994  
53 Morgan Avenue

**College of Veterinary Medicine, AAALAC, LARAC and OLAR** – For general questions about animal housing, anesthesia, euthanasia, veterinary care and contact:

- Dr. Lucy Senter – Director Animal Res/Attending  
[lhs36@msstate.edu](mailto:lhs36@msstate.edu)  
Office - (662)325-0632
- Michael Bassett – LARAC Manager  
[bassett@cvm.msstate.edu](mailto:bassett@cvm.msstate.edu)  
Office – (662) 325-1370
- Dr. Bridget Willeford – Lab Animal Veterinarian  
[willeford@cvm.msstate.edu](mailto:willeford@cvm.msstate.edu)  
Office - (662)325-1254
- Dr. Jennifer Gambino- Clinical Science  
[gambino@cvm.msstate.edu](mailto:gambino@cvm.msstate.edu)  
Office - (662) 325-3432

## EMERGENCY

**IN CASE OF ANY EMERGENCY DURING PROCEDURE, PLEASE CONTACT Zach Rowland at 662-341-0397.**

## TRAINING

**ALL TRAINING MUST BE COMPLETED, CURRENT AND VALID BEFORE SCHEDULING.**

**PLEASE NOTE: ALL RESEARCHERS INVOLVED IN YOUR STUDY WILL HAVE TO COMPLETE THE FOLLOWING TRAINING: (THAT INCLUDES ANYONE AND EVERYONE THAT WILL BE IN THE MRI ROOM)**

**IACUC** - All personnel listed on active animal projects must enroll in the Occupational Health and Safety Program (OHSP) and complete Animal Handler training prior to beginning any animal work. Training must be completed every 4 years and OHSP should be updated as necessary. Instructions on how to enroll in OHSP and Animal Handler training are listed on Research Compliance IACUC website.

<http://orc.msstate.edu/animalcare/training/>

**MRI SAFETY TRAINING 1 OR 2** - To ensure the safety and well-being of our subjects, patients, researchers, and staff, I<sup>2</sup>AT requires **ALL** individuals involved in **ALL** research projects involving animals and the MRI to complete I<sup>2</sup>AT Safety Training (detailed below) before scheduling or using the MRI. All individuals involved in research projects dealing with the MRI must complete I<sup>2</sup>AT Safety Training annually. For more information, please contact the staff of I<sup>2</sup>AT at (662) 325-3019. To register for training:

Log into myCourses with your netID and password.

Click Access 'myCourses'.

Click on the 'Self Enrollment' tab at the top of the page.

Click 'Enroll' for either: I<sup>2</sup>AT Safety Training (Initial) or I<sup>2</sup>AT Safety Training II Refresher Training.

Click 'OK' to confirm.

Click 'myCourses' in the top right corner.

You should see the course in your course list.

Read the instructions and proceed as directed.

Your score will be shown after completion of the quiz.

If your score is lower than 88%, you will need to retake the test.

*If you have already completed any of the above training and just need the refresher courses, select refresher as needed. If you are not certain about dates of your training, feel free to contact the appropriate department.*

## Cleaning

### IACUC Cleaning Guidelines

IACUC standards require specific cleaning practices to take place prior to any animal research activities.

It will be the responsibility of the PI and/or research members conducting animal research to assure that the facility is properly cleaned and sanitized before and after every use of the facility. Failure to clean the facilities in accordance with IACUC standards and leading to I<sup>2</sup>AT personnel performing those duties will result in a \$150 cleaning fee charged directly to your MSU account or invoiced to non-MSU researchers.

For instructions and guidelines for cleaning see [Exhibit A](#).

## SCHEDULING MRI USAGE

**This section is designed to assist you in your preparation for scheduling. Included is important information on procedures, guidelines, and steps followed by I<sup>2</sup>AT.**

IACUC standards require specific cleaning practices to take place prior to any animal research activities. Because of this, we cannot guarantee admittance to the animal bay area before 5:30 p.m. Please keep this in mind when scheduling the MR for animal subjects that require preparation time (e.g. anesthesia). If you schedule an MR for 5:30 p.m. for an animal subject that requires use of the animal bay area and you would like to prepare the animal for MR prior to 5:30 p.m., you can call ahead (662-325-3019) to check whether the area is ready prior to 5:30 p.m.

### Scheduling Procedures

- All animal MRI research is conducted between the hours of 5pm-8am on Mondays and Wednesdays. While this is not a required schedule, our preference is for you to schedule your research according to those guidelines.
- Please note when scheduling animal research in the West office, the PI or research team members will be responsible to clean before and after all animal research procedures.
- Exceptions may be granted after a written request is made to I<sup>2</sup>AT.

### **There the two major steps that you must take before scheduling**

#### **1. Pass and maintain the following trainings:**

- a. MRI Safety Training I or II (Annual Renewal)
- b. IACUC Training (OHSP and Animal Handlers) – (Every 4 Years Renewal)

#### **2. Complete and submit appropriate forms for approval in the following order (a copy of all forms are attached or you may access an electronic copy at <http://www.i2at.msstate.edu/scheduling/>:**

- a. **IACUC Protocol** – you must have this completed before any other forms can be submitted. Visit the Research Compliance website at <http://www.orc.msstate.edu/> or contact Trina Smith at [tsmith@orc.msstate.edu](mailto:tsmith@orc.msstate.edu) or (662) 325-3294, at the Office of Research Compliance in order to receive full instructions.



- b. **Research Project Application** – You will need your IACUC Protocol Number to complete this form. The research project application is designed to provide us with all the contact, compliance and billing information we will need to assist you with your research project. Review the [Checklist](#) and [Equipment Costs](#) before submitting the application. Please allow seven (7) business days after the submission of the application and other documentation to process your research project application. This form asks general questions about your project and is submitted to the I<sup>2</sup>AT Office. You will receive a Project Application code (PA#) via email when you submit an application. This PA# will be entered as the login when you register at the scheduling site and as the login to gain access to the scheduling site throughout the project duration.  
[https://ssl3.msstate.edu/i2at/research\\_project\\_application.php](https://ssl3.msstate.edu/i2at/research_project_application.php)
  
- c. **MRI Procedure Screening Form for Participants and Personnel** - The MRI system has a very strong magnetic field that may be hazardous to individuals entering the MR environment or MR system room if they have certain metallic, electronic, magnetic, or mechanical implants, devices, or objects. Therefore, all individuals are required to complete this form BEFORE entering the MR environment or system room. **Be advised, the MRI system magnet is ALWAYS on.** Questions about this form or the I<sup>2</sup>AT screening process may be referred to the I<sup>2</sup>AT Office.  
[http://i2at.msstate.edu/pdf/MRI\\_Screening\\_form\\_participant\\_and\\_personnel.pdf](http://i2at.msstate.edu/pdf/MRI_Screening_form_participant_and_personnel.pdf)
  
- d. **MRI Procedure Screening Form for Animals** – The MRI system has a very strong magnetic field that may be hazardous to individuals entering the MR environment or MR system room if they have certain metallic, electronic, magnetic, or mechanical implants, devices, or objects. Therefore, researchers are required to have a completed form for **all animals BEFORE** entering the MR environment or MR system room. **Be advised, the MR system magnet is ALWAYS on.** Questions about this form or the I<sup>2</sup>AT screening process may be referred to the I<sup>2</sup>AT Office.  
[http://i2at.msstate.edu/pdf/Animal\\_screening\\_form.pdf](http://i2at.msstate.edu/pdf/Animal_screening_form.pdf)
  
- e. **Radiograph Documentation** - This will be required if animal is euthanized. The purpose is to check for metal objects, if the PI is not aware of animal's history. This is necessary for the safety of the staff and the machine.
  
- f. **Parameter Statement** – This document is for the MRI Tech's information. You will need to explain what parameters will be used for the protocol. If you need assistance with this form, feel free to contact the I<sup>2</sup>AT Office. [https://ssl3.msstate.edu/i2at/research\\_project\\_application.php](https://ssl3.msstate.edu/i2at/research_project_application.php)

**Once you have completed the above, you are now ready to schedule an appointment to use the equipment.**

## Schedule the Equipment

Once you have submitted the required forms and your project has been approved; you will receive an e-mail notice confirming your approval. At this point, you can create a user name and login to the scheduling system (See website below). Your project application number (PA#) will be entered as the login when you register at the scheduling site and as the login to gain access to the scheduling site throughout the project duration. You may schedule your whole project at once, or one session at a time, but you will only be able to schedule as

many reservations as you requested in the research application. We will try our best to accommodate all scheduling requests. However, at times we might have to suggest alternative dates or times due to the volume of requests or compliance constraints.

- Scheduling an appointment using the I<sup>2</sup>AT Scheduling System:
  1. Visit the scheduling website at <https://booknow.appointment-plus.com/1d5hkm98/> If you are a new user, click the register button and follow directions, if you are returning user, log in.
  2. Follow the directions on the right hand side of the page to schedule the Equipment.

## Confirmation

Once your paperwork has been processed, and your reservation made, you will receive an e-mail confirming your requested time. If there are any questions or concerns, you will be contacted prior to confirmation.

## Cancellation

**ALL** cancellation requests must be made 24 hours in advance. Not doing so will result in you being charged for the time you have reserved the instrumentation. You must cancel through the above online scheduling system. Verbal cancellations may be made, but you must submit your cancellation online to avoid being charged for the time.

IACUC standards require specific cleaning practices to take place before and after animal research activities. We cannot guarantee admittance to the animal bay area before 5:30 p.m. Please keep this in mind when scheduling the MR for animal subjects that require preparation time (e.g. anesthesia). If you schedule an MR for 5:30 p.m. for an animal subject that requires use of the animal bay area and you would like to prepare the animal for MR prior to 5:30 p.m., you can call ahead (662-325-3019) to check whether the area is ready prior to 5:30 p.m.

## **Scheduling the CT scanner, Linear Accelerator, 4D Ultrasound, and Fluoroscope**

The CT Scanner, Linear Accelerator, 4D Ultrasound, and Fluoroscope are all scheduled through Premier Imaging. Prior to scheduling the instruments, a project application must be completed and submitted to the I<sup>2</sup>AT. All research activity is tracked through I<sup>2</sup>AT, whether it is scheduled through I<sup>2</sup>AT or Premier. Once the project application has been completed please call Premier Imaging at 662-320-6800 to schedule the equipment.

## **Arriving for your Appointment:**

Researchers and animals must enter through the back entrance. There is a parking lot directly behind the Premier Imaging facility that can be accessed via Stark Rd. entrance. The back door requires an electronic key card to enter. After you have been notified of the review and approval of the project, contact I<sup>2</sup>AT staff during normal business hours (8:00 AM – 5:00 PM) to check out appropriate keys. You may retain the keys for the duration of your project. Once the research project has ended, the keys must be returned within 7 days. Failure to return the keys will result in a \$50 fee charged directly to your MSU account or invoiced to non-MSU researchers.

## FAQS

So now that you have completed all that is necessary. The following questions might arise:

### General FAQs

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**Q: Who will I contact for anesthesia?**

A: You will need to contact Clinical Sciences.

**Q: What Veterinarian will participate?**

A: You will need to contact Clinical Sciences.

### Live Animals

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**Q: How do I order animals for research?**

A: You will need to contact LARAC at 662-325-1370.

**Q: Where will animals be housed?**

A: All animals must be housed at CVM. Animals cannot be housed over night at I<sup>2</sup>AT. They must be housed at CVM. For housing inquiries, contact Mike Bassett. 662-325-1370

**Q: Who will transport the animals?**

A: You are responsible for coordinating the transportation of the animals. For transportation information, contact Mike Bassett.

**Q: Who will take care of the animals?**

A: The PI is ultimately responsible for the care of animals on his/her protocol. While housed and used within AAALAC approved facilities, LARAC will be responsible for care of the animals.

**Q: What is the cost or fees for housing an animal?**

A: You will need to contact LARAC. <http://www.lar.msstate.edu/>

### Expired Animals

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**Q: How do I dispose of an expired animal?**

A: All animals will be disposed of through CVM. Place the animal in a red disposable biosafety bag and taken to CVM's Sample Receiving. You are not allowed to take the animal home and return it the next morning. The animal must be returned immediately to CVM.

**Q: Who is responsible for delivery and pick up of the animals?**

A: You are responsible for coordinating the delivery and pick-up of the animals. You should coordinate this transportation with LARAC. No transportation in privately owned vehicles is permitted. No animals are to stay overnight at I<sup>2</sup>AT facilities.

**Q: Are there any fees?**

A: Please contact LARAC. <http://www.lar.msstate.edu/>

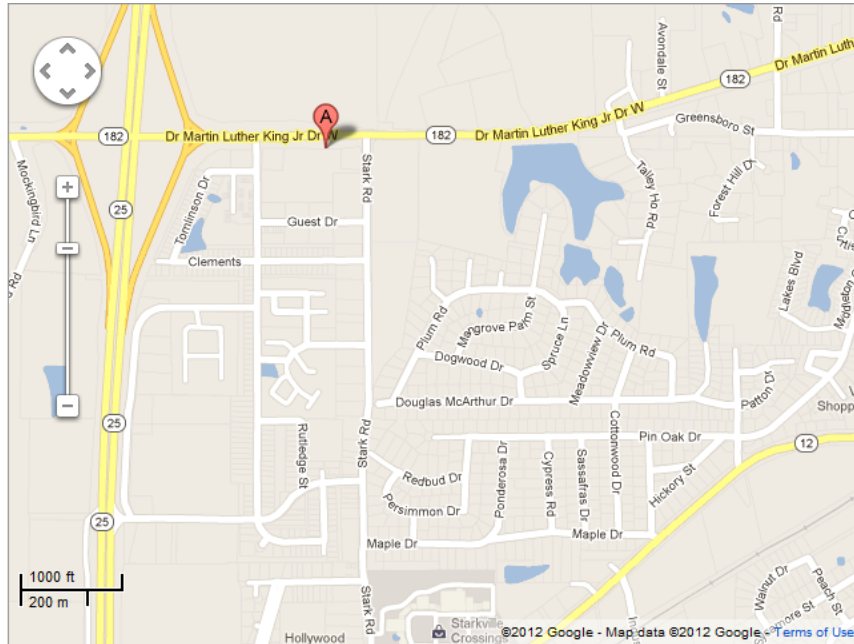
### Euthanasia

IT IS IMPERATIVE THAT YOU VISIT THE MSU LAB ANIMAL RESOURCES WEBSITE <http://www.lar.msstate.edu/> FOR ALL QUESTIONS ABOUT EUTHANASIA. The website is design to answer any questions you may have about euthanasia. If the website was not applicable, please contact Dr. Lucy Senter or Dr. Bridget Willeford.

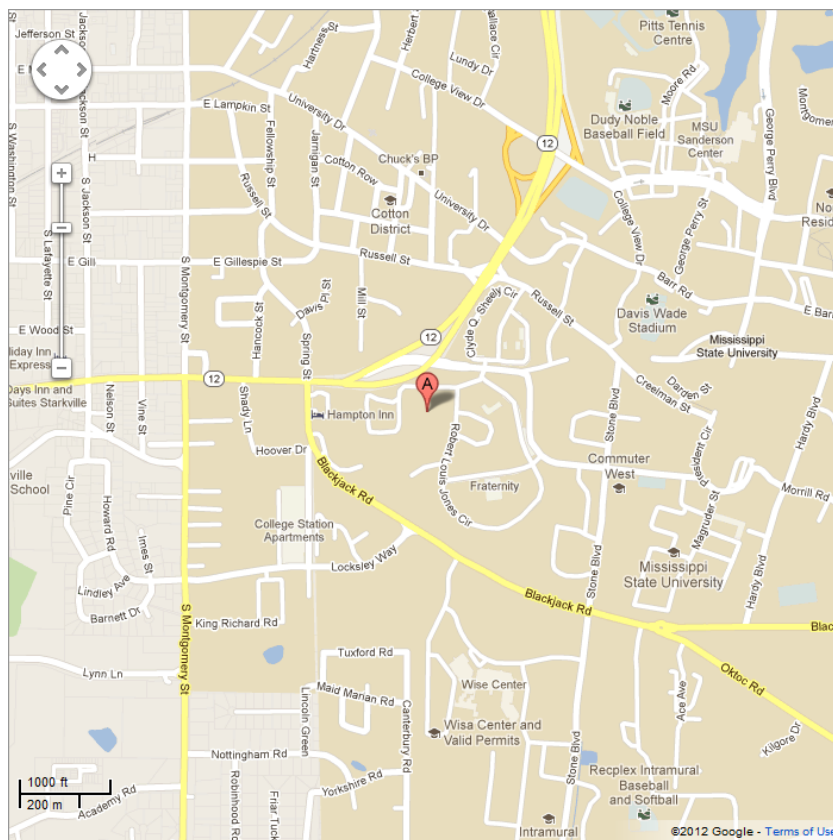
## FORMS

All forms will be submitted through our online website at <http://www.i2at.msstate.edu/>. Follow the link below to find the Lab Animal Resources Form for ordering animals and charges for per diems. <http://www.lar.msstate.edu/perdiem/>

# Locations



[I2AT West](#), 1207 Hwy 182 West Starkville, MS 39759



[I2AT East \(On MSU Campus\)](#) Clay Lyle Entomology Building, 100 Twelve Ln. Mississippi State, MS 39762

# Exhibit A

I2AT West - Animal Research Standard Operating Procedure: Cleaning/Disinfection

I2AT West

Animal Research

Standard Operating Procedure

**Title:** Cleaning and Disinfection of Animal and Anesthesia Rooms and Equipment

**Number:** I2AT 101

**Issue Number:** 100316

**Supersedes Issue Number:** na

**Procedure:** This protocol is based on the protocol use by Veterinary Specialty Services in the execution of their daily clinical practices. Utilization of this protocol provides a synergistic effort in maintaining a safe environment for animal care and research. The procedures are intended to reduce the opportunity of transmission of pathogens between animals and people, and between animals, in shared locations.

**Purpose:** Procedures to clean and sanitize research equipment that are used with animals and to prevent the spread of microbial agents that may cause sub-clinical and clinical diseases that could jeopardize the validity and reproducibility of research data, or complicate its interpretation. The "Guide for the Care and Use of Laboratory Animals", 8th edition recommends that "Sanitation of cages and equipment by hand with hot water and detergents or disinfectants can also be effective but requires considerable attention to detail" (p.71) and also stipulates: "Whether the sanitation process is automated or manual, regular evaluation of sanitation effectiveness is recommended" (p. 73). The goal of this policy is to ensure that animal activity areas are cleaned and disinfected prior to and after use. Cleaning and disinfection are necessary to prevent cross-transmission or exposure to microorganisms, excrement, biological fluids, and pheromones from one research subject to another and to remove these substances as well as allergens from work environments shared with humans. When accompanied by mechanical wiping or scrubbing to remove organics and other soilage, effective disinfection by definition eliminates vegetative microorganisms from inanimate objects.

**Scope:** This procedure applies to all faculty, students, and technicians who work with live animals in labs or testing rooms as well as those maintaining equipment or devices in the animal research facility.

## Anesthesia Machines

- Hoses- Rinse out with water, soak in antibacterial soap for 10 minutes, rinse in clean water and hang to dry
- Mask- Scrub and rinse with antibacterial soap, rinse with clean water, set out to dry
- Endotracheal Tubes- If used in MRI THROW AWAY! If used for CSF taps or minor surgeries rinse with water, clean inside with brush, soak in antibacterial soap for 10 minutes, rinse with clean water and set out to dry
- Breathing Bags- rinse with water, soak in antibacterial soap for 10 minutes, rinse with clean water and set out to dry
- Machines- Wipe/spray down entire machine with Accel
- Soda Sorb- Change after 4 hours of use, replace new hour mark sticker
- Activated Charcoal- Change after 8 hours of use, replace new hour mark sticker

\*\*All parts of the machines should be disinfected after every use, and once weekly regardless of use!

## Muzzles, Leashes and Slings

- After each use, wash with antibacterial soap and water, hang to dry

## E-Collars

- Wipe down after each use with Accel on both sides, let dry

## Thermometers

- Wipe off feces, clean with alcohol after every use

## Bair Hugger

- Wipe down machine and hose with Accel after each use

## Probes for Monitoring Systems

- ECG Leads- Wipe down with alcohol and make sure the clips and snaps are free of hair, gel, tape, etc. after each use
- Temperature Probe- Wipe off all feces, then wipe clean with alcohol
- Blood Pressure Cuffs- Take off all tape, wipe down with alcohol
- Blood Pressure Cord- Wipe off with alcohol
- SpO<sub>2</sub> Cord- Wipe off cord and sensor with alcohol
- eCO<sub>2</sub> Cord- Wipe off with alcohol

This should be done after every use!

## Cages

- Clean all walls, bottom, top, and doors with Accel after every use

## Floors

- All floors should be swept and mopped at the end of each day, or as needed throughout the day
- Mop water= 5mls of Consume Eco-Lyzer per 1 gallon of water
- Mop water should be changed daily
- Mop head should be changed once a week

## Counter Tops and Tables Pads

- Clean with Accel after every use and as needed

### Autoclave

- Clean the air jet by manipulating the air trap wire back and forth 10 times once a month
- Clean the water sensor with a damp cloth once a month
- Clean the chamber with Chamber Brite once a month
- Once a month remove the trays and clean trays and tray holders with a non-abrasive stainless steel cleaner and water, using a cloth and sponge, rinse immediately with water to avoid staining metal

### Otosopes and Ophthalmoscopes

- Clean handles with alcohol
- Rinse outside and inside of earpiece specula's with soap and water, if sterilization is needed, package and take to MSU-CVM central sterile to be gassed

### Scales

- Wipe clean of hair and debris and spray with Accel daily

### Puppy Gates

- Wipe down and spray with Accel daily, once a week take outside and wash with soap and water, let dry

### Instruments

- Clean reflex hammers, hemostats etc. after each use by wiping down with Accel

### Ultrasound

- Wipe screen with soft non-abrasive texture as needed
- Clean wire and probe with alcohol after each use

### Gurneys

- Spray with Accel and wipe clean, leave to dry after each use

### Radiology Positioning Devices

- Pawpositioners- Spray with Accel and wipe clean after each use
- Tacos- Wipe outside of cover with Accel after each use
- Sand Bags- Wipe cover with Accel after each use
- Lead- Spray and wipe down with Accel after each use
- Centrifuge
- Softly wipe down inside tray with alcohol after each use

### Refractometer

- Wipe lens off with soft wipe and distilled water after each use

### MRI, CT, X-Ray & Radiation Therapy Rooms

- Wipe down all tables with paper towels to remove hair, then with bleach wipes (provided by Premier) and let dry
- Mop floors with 5mls Consume Eco-Lyzer/1 gallon of water, set up wet floor sign
- Room air must circulate for 15 minutes before next patient (human)