DLAR Training Checklist

Below is a list of trainings provided by DLAR; you will attend only the ones affecting your protocol responsibilities. To keep training current and complete without delays, please schedule and attend all trainings in a timely fashion. Serious delays may result in the PI’s personnel amendment being pulled due to protocol deadlines.

_Building Orientation
-_Species (Zoom meeting and in-person)
-_DLAR Hazard Training (Zoom and in-person evaluation)
-_Gas Anesthesia
-_Aseptic Rodent Surgery (Zoom meeting and in-person)
-_Outside Housing
-_Transportation (across campus)

Details of each below……………………………………………………………………………………………………………………………………………………………………………………………………………………………….

___Building Orientation-All research staff new to a DLAR animal facility are required to attend.

1. Schedule your appointment with the DLAR vivarium staff, see page 5 and 7.

2. Take the form to your scheduled appointment, DLAR will complete the check list and the two of you will sign the form.

3. You will return the signed copy to dlartraining@wayne.edu via email.

___Species Specific Training-All research staff working with rats and mice.

1. Please complete and return page 6 ASAP to dlartraining@wayne.edu

2. Review all information-
   a. This may include written details or videos of techniques you will need to learn. Video links on page 4.
   b. The protocol, including IACUC policies, and discuss your role with your PI and/or lab mentor. Be prepared to answer questions (pertaining to animal use) in detail regarding animal use and techniques associated with them.

3. Introduction Zoom meetings (species) – For the most current meeting dates, see Wayne State’s Event Calendar and search DLAR https://events.wayne.edu/

4. Practice- Individuals with little to no animal experience should have a mentor (approved individual on the protocol) to work alongside of and learn from. Your mentor will help assist you in handling and restraint of the species you will work with. You should be comfortable handling the animals prior to meeting with a DLAR trainer. Do not perform invasive procedures until approved do so. Refer to the IACUC website for an explanation to working hands on while pursuing training requirements.
5. **Follow-up hands-on meeting** - When you feel comfortable handling the animals, contact dlartraining@wayne.edu to schedule your follow-up meeting. We will schedule to meet at the Eugene Applebaum College of Pharmacy and Health Sciences (see page 5) for you to demonstrate techniques you know and train in ones you will use in the current protocol.

___Aseptic Techniques in Surgery - All research staff performing survival surgery.

1. **Review and Understand**-
   a. All information sent to you.
      i. This includes the handout with written details and videos of aseptic techniques that you will need to fully be aware of (see page 4).
   b. The **surgical protocol, including IACUC policies**.
      i. Discuss the surgical process and responsibilities with your PI and/or lab mentor. Be prepared to answer questions in detail regarding animal use and aseptic techniques associated with them.

2. **Introduction Zoom Meeting (aseptic surgical techniques)**--
   a. Contact dlartraining@wayne.edu to schedule a Zoom meeting for aseptic surgical techniques. We will be reviewing standards to apply when performing aseptic survival surgery. You will be sent a questionnaire to complete. These are questions that directly relate to the surgical protocol you will work on; you will need to access the protocol for this (see your mentor).

3. **Practice**-
   a. Work with your mentor (individual approved on the protocol) to learn procedures and techniques within the surgical protocol. For surgery practice, the use of recently euthanized animals to practice surgical skills and ability to stay aseptic during the surgical period is strongly recommended. You are not authorized to use live animals to perform surgery until approved on the protocol.

4. **Follow-up** -
   a. A hands-on session will be scheduled to discuss your answers to the questionnaire. During the hands-on session, we go through setting up a surgery and aseptic techniques to stay sterile, patient care and follow through to incision closure. There will be a quiz at the end, no grade or credit. This just helps identify what you are taking away from the training.

___Gas Anesthesia Training - Individuals working with gas anesthesia.

1. If using gas anesthesia
   a. Contact dlarvts@wayne.edu (Linda) to schedule a time to meet.
   b. You will meet at the facility and room in which you will use the anesthesia machine, she will train you on the unit you will be working with.
   c. You will use a live animal and must have gone through the species-specific training prior to this training.
Animal Transport - transporting animals across campus (building to building)

Working with Hazards and Rodents – Individuals that need to enter the containment room or work with animals during their hazard period are required to attend. This training covers the DLAR Standard Operating Procedures (SOP) for Hazardous Rodent Husbandry.

1. Introduction meeting (virtual)- Visit [https://events.wayne.edu/](https://events.wayne.edu/) (search DLAR) for the most current dates.
2. Evaluation-
   a. If you are in the training process and will meet with for hands-on with mice/rats, your hazard evaluation will be at the same time as your hands-on training. If you only need hazard training and not hands-on, proceed to b-e below.
   b. Schedule to meet with DLAR in your animal facility. Print evaluation form (page 8) to take with you.*
   c. DLAR will evaluate your techniques and complete the evaluation form.
   d. DLAR will give you back your evaluation form for you to email back to [dlartraining@wayne.edu](mailto:dlartraining@wayne.edu).
   e. Individuals will not be allowed to enter the containment room unless they have attended this training.

### Commonly Used Hazards

<table>
<thead>
<tr>
<th>BIOLOGICAL HAZARDS</th>
<th>Hazard Identification Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human tumor cell lines (immunocompromised mice)</td>
<td>1. Communicate with the DLAR technician in the room/facility about your planned experiment with the hazardous agent.</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>a. Recommend the communication occurs 1-2 days prior to initiating experiment.</td>
</tr>
<tr>
<td>Adeno-associated virus (AAV)</td>
<td>2. Obtain the proper hazardous sticker in advance of the experiment.</td>
</tr>
<tr>
<td>Candida albicans</td>
<td>3. Label the cage card at the time of the inoculation with the sticker and the following information:</td>
</tr>
<tr>
<td></td>
<td>a. Date</td>
</tr>
<tr>
<td>CHEMICAL HAZARDS</td>
<td>b. Compound administered</td>
</tr>
<tr>
<td>Streptozotocin (STZ) (diabetes induction)</td>
<td>c. Route of administration</td>
</tr>
<tr>
<td>Chemotherapeutic agents (cancer research)</td>
<td>d. Dose</td>
</tr>
<tr>
<td>LPS (sepsis research)</td>
<td></td>
</tr>
<tr>
<td>Tamoxifen (gene expression, chemotherapeutic)</td>
<td></td>
</tr>
<tr>
<td>DMSO</td>
<td></td>
</tr>
<tr>
<td>Novel test compounds (generally identified by letters or numbers, not commercially available)</td>
<td></td>
</tr>
</tbody>
</table>

### Outside Housing – Individuals responsible for the housing, care, and feeding of animals outside of a DLAR animal facility.

This is schedule with [dlartraining@wayne.edu](mailto:dlartraining@wayne.edu), this can be done via a Zoom meeting.
REFERENCES

Videos
Manual Restraint and Common Compound Administration Routes in Mice and Rats

http://www.procedureswithcare.org.uk/administration-of-substances/

https://www.research.psu.edu/newanimal/training/videos

Oral Gavage
Mice- https://www.instechlabs.com/mouse-oral-gavage-watch
Rats- https://www.instechlabs.com/rat-oral-gavage-watch

Tail Vein Injections
https://www.sciencedirect.com/topics/medicine-and-dentistry/tail-vein
This video is for viewing the tail vein injection technique only

Written information- Tail vein injection
https://www.sciencedirect.com/topics/medicine-and-dentistry/tail-vein
https://animalcare.ubc.ca/sites/default/files/documents/ACS-2012-Tech03.pdf

Submandibular Blood Collection - Mice
https://www.understandinganimalresearch.org.uk/resources/video-library/blood-smple/

Aseptic Rodent Surgery
https://youtu.be/fqalbeXdK8s
https://youtu.be/84EppHgpkBo
Patient Skin Preparation- https://youtu.be/BZ_ZCORTaCU


Suture Techniques- https://youtu.be/You_vN-x8cQ

Animal Care and Use - NIH
https://oacu.oir.nih.gov/animal-research-advisory-committee-guidelines

Refining Rodent Stereotactic Surgeries
https://vimeo.com/535770350/aa47417567
To Schedule BUILDING ORIENTATION

- Print the “Building Orientation Form” (page 7) to take it to your appointment.
- Contact DLAR at your animal facility to schedule an appointment with assigned staff

<table>
<thead>
<tr>
<th>BUILDING LEADER INFORMATION</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Scott Hall</td>
<td>Amyre</td>
<td>577-1114</td>
<td><a href="mailto:Ae8965@wayne.edu">Ae8965@wayne.edu</a></td>
</tr>
<tr>
<td>VAMC</td>
<td>Carrie</td>
<td>576-1000 x65880 x63433</td>
<td><a href="mailto:ac0679@wayne.edu">ac0679@wayne.edu</a></td>
</tr>
<tr>
<td>Biological Science</td>
<td>Carrie</td>
<td>577-5878</td>
<td><a href="mailto:Ac0679@wayne.edu">Ac0679@wayne.edu</a></td>
</tr>
<tr>
<td>KEI</td>
<td>Star</td>
<td>577-1690 or 577-9983</td>
<td><a href="mailto:aj3953@wayne.edu">aj3953@wayne.edu</a></td>
</tr>
<tr>
<td>IBio</td>
<td>Star</td>
<td>577-1637</td>
<td><a href="mailto:Aj3953@wayne.edu">Aj3953@wayne.edu</a></td>
</tr>
<tr>
<td>Mott Center</td>
<td>Susan</td>
<td>577-1757</td>
<td><a href="mailto:ab4825@wayne.edu">ab4825@wayne.edu</a></td>
</tr>
<tr>
<td>Elliman Building</td>
<td>Laura</td>
<td>577-8516</td>
<td><a href="mailto:ae5203@wayne.edu">ae5203@wayne.edu</a></td>
</tr>
<tr>
<td>Veterinary Surgical Services</td>
<td>Janine</td>
<td>577-1130</td>
<td><a href="mailto:jmattei@med.wayne.edu">jmattei@med.wayne.edu</a></td>
</tr>
<tr>
<td>Lande – MRB</td>
<td>Amyre</td>
<td>577-1277</td>
<td><a href="mailto:ae8965@wayne.edu">ae8965@wayne.edu</a></td>
</tr>
<tr>
<td>Applebaum Pharmacy</td>
<td>Serene</td>
<td>577-1631</td>
<td><a href="mailto:ab4887@wayne.edu">ab4887@wayne.edu</a></td>
</tr>
</tbody>
</table>

Contact and Directions to Training:
DLAR Training Program
Karen Dean-Christie LVT, RLATg
dlartraining@wayne.edu
Office: 577-1343

Gas Anesthesia Training
Animal Transportation Training
Linda Walowicz, LVT, RLATG
dlarvts@wayne.edu
313-993-4005

Along with virtual meeting, there are one-on-one meetings scheduled to train and evaluate individual’s skillset. These meetings are held at the location below.

DLAR Training Program -
Eugene Applebaum College of Pharmacy and Health Sciences/259 Mack Ave.
Enter at the Brady Street entrance, check-in at the desk and take the elevators (freight elevator if main ones are down) to the 5th floor. Please call 577-1343 from either the elevator. If using the stairs, use the phone in the 5th floor lobby, our staff will meet you.

Main Campus Shuttle: http://transportation.wayne.edu/shuttle.php
Medical Campus Shuttle: http://transportation.wayne.edu/med-shuttle.php

One Card (debit) Parking is available in Structure 7 located next to Whole Foods.
## TRAINING TECHNIQUE CHECKLIST * PLEASE PRINT AND RETURN TO dlartraining@wayne.edu*

<table>
<thead>
<tr>
<th>DATE:</th>
<th>SPECIES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTOCOL NUMBER:</td>
<td>PERSONNEL:</td>
</tr>
<tr>
<td>P.I. NAME:</td>
<td>PERSONNEL EMAIL:</td>
</tr>
<tr>
<td>P.I. EMAIL:</td>
<td>PERSONNEL PHONE:</td>
</tr>
<tr>
<td>LAB PHONE #</td>
<td>PERSONNEL ACCESS ID</td>
</tr>
<tr>
<td>BUILDING:</td>
<td>PERSONNEL BANNER #</td>
</tr>
<tr>
<td>ANIMAL HOUSING</td>
<td>(If building access is needed)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Will you transport animals across campus (building to building)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will you enter the animal hazardous containment room or handle animals during hazardous periods?</td>
</tr>
<tr>
<td>What type of hazards will you work with? (if applicable) Biological, chemical or both</td>
</tr>
<tr>
<td>Will you be responsible for husbandry (housing/care/feeding) to the research animals in an area outside of a DLAR facility?</td>
</tr>
</tbody>
</table>

### Handling / Restraint
- Non-survival aseptic procedure
- Surgical Assisting
- Post-Surgical recovery - monitoring
- Breeding
- Genotyping: Tissue:

### ADVANCED TECHNIQUES
- Please note that the skills needed for techniques listed below may not be accomplished in the initial training session. Competency in the technique must be achieved before training is complete.

<table>
<thead>
<tr>
<th>Injections- IV (rodents- tail)</th>
<th>Euthanasia – Gas overdose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Collection- Location:</td>
<td>Euthanasia – CO2</td>
</tr>
<tr>
<td>Anesthesia – injectable- Drug Name:</td>
<td>Assurance-Cervical Dislocation or Decapitation</td>
</tr>
<tr>
<td>Gas Anesthesia – Isoflurane</td>
<td>Assurance –Pneumothorax / Thoracotomy</td>
</tr>
<tr>
<td>Oral Gavage</td>
<td>Other methods:</td>
</tr>
</tbody>
</table>

### ASEPTIC TECHNIQUES IN SURVIVAL SURGERY (surgical prep, surgical techniques, post-op recovery, nursing care)

Other types of techniques need? Contact dlartraining@wayne.edu to consult.

- Consult PI to complete this Training Technique Checklist. Have PI sign prior to returning it to dlartraining@wayne.edu.

**PI Signature:**
# BUILDING ORIENTATION FORM

<table>
<thead>
<tr>
<th>DATE:</th>
<th>DLAR FACILITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI NAME:</td>
<td>PERSONNEL NAME:</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Will you be responsible for breeding?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be working with animals inside a Biosafety Cabinet?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be working with hazards (chemical, biological, radiation)?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be responsible for husbandry within DLAR (isolation/holding)?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be responsible for transporting animals between buildings?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be using special food or water</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Will you be responsible for husbandry outside of DLAR (&gt;12 hrs.)?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Building Leader:** Please complete applicable areas to your building, sign and return to DLAR Training ASAP.

<table>
<thead>
<tr>
<th>Location of DLAR Office</th>
<th>Show CO2 set up, body bags, labels</th>
<th>Discuss cage card requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of DLAR &amp; Vet contact info</td>
<td>Location of carcasses / disposal</td>
<td>Discuss cage change days</td>
</tr>
<tr>
<td>Location of “Whistle Blower” sign</td>
<td>Cage systems- location &amp; cage wash area</td>
<td>Discuss post-op cage cards</td>
</tr>
<tr>
<td>Location of treatment/procedure room</td>
<td>Animal rooms/postings on doors</td>
<td>Discuss common flags used</td>
</tr>
<tr>
<td>Location of imaging areas</td>
<td>Location of Clean/dirty cage wash</td>
<td>Discuss census sheets / use of</td>
</tr>
<tr>
<td>Location of the nearest eye wash station</td>
<td>Location of extra supplies frequently used</td>
<td>Discuss Transport out of DLAR</td>
</tr>
<tr>
<td>Discuss IACUC tracking form</td>
<td>Discuss reserving procedure rooms</td>
<td>Discuss enrichment, single vs multi housed</td>
</tr>
<tr>
<td>Discuss the “cage location tracking” form</td>
<td>Documentation of procedures</td>
<td>Discuss weaning procedure</td>
</tr>
</tbody>
</table>

Personnel Signature: ___________________________________________  
DLAR Signature: ___________________________________________

Date: ____________________________

**COMMENTS:**

---

**Commonly Used Hazards**

**BIOLOGICAL HAZARDS**

- Human tumor cell lines (immunocompromised mice)
- Pseudomonas aeruginosa
- Adeno-associated virus (AAV)
- Candida albicans

**CHEMICAL HAZARDS**

- Streptozotocin (STZ) (diabetes induction)
- Chemotherapeutic agents (cancer research)
- LPS (sepsis research)
- Tamoxifen (gene expression, chemotherapeutic)
- DMSO
- Novel test compounds (generally identified by letters or numbers, not commercially available)

**Hazard Identification Steps**

3. Communicate with the DLAR technician in the room/facility about your planned experiment with the hazardous agent.
   - Recommend the communication occurs 1-2 days prior to initiating experiment.

5. Obtain the proper hazardous sticker in advance of the experiment.

6. Label the cage card at the time of the inoculation with the sticker and the following information:
   - Date
   - Compound administered
   - Route of administration
   - Dose
During a hands-on training session, you will be asked questions relating to your role in the protocol. These questions focus on techniques you will apply when working with the animals. This is a valuable process when trying to replicate the training to your responsibility. Below are techniques and questions you may be asked to talk about. The areas are highlighted so you can review only what you will be responsible for. As a new lab member, you may work supervised (no surgery) while completing your training, this time is limited and enforced by the IACUC.

A. HANDLING AND RESTRAINT

- PI / Lab Manager should evaluate your ability to work with animals and level of comfort. Does your ability match the skill level of the techniques you are assigned?
- What kind of restraint is used and why was it chosen for this purpose?
- **Approval to handle/restrain is based on the following...**
  1. Held the base of the tail.
  2. Used gentle handling technique (low stress)
  3. The animal’s head is immobilized.
  4. Tail restrained (if applicable)
  5. No excessive trunk movement

B. BLOOD COLLECTION

- Which blood collection site is used?
  - Heart, jugular, saphenous, tail, facial, orbital
- Discuss the volume of blood collected, frequency, maximum blood sampling volume and fluid replacement?
- What collection items are used?
  - Needles, syringes, lancets, blood tubes, capillary tubes, etc…
  - Discuss single use collection items and disposal of sharps.
- Assure hemostasis is achieved and animal(s) and cage(s) are free of blood.
- Approval to preform blood collection is based on the following:
  1. Restraint is comfortable and secure.
  2. Isolation of vessel and puncture location noted.
  3. Correct collection materials used.
  4. Show an understanding of the technique.
  5. Success noted a minimum of 2/3 of attempts
C. INJECTION TECHNIQUES and DOSAGE ADMINISTRATION

- Which injection technique(s) are performed?
  - IP, SQ, IV
- Review needle size and syringe volume used for injections?
- Review how to calculate compound doses for initial and follow up administration.
- How frequently is your compound administered?
- What is the location of injection and the maximum amounts allowed for that area?
- Discuss proper syringe holding, aspiration of plunger and what to do if incorrect placement occurs.
- **Approval to administer injections is based on:**
  1. Proper restraint
  2. Syringe held steady; hand placed so not to move it once the needle is inserted.
  3. The needles bevel is facing upward.
  4. The location of injection site is identified, and needle inserted.
  5. Aspiration prior to injecting (IP)

D. ANALGESICS

- What is the drug(s) given to manage pain for the animals on study?
- Discuss the route and frequency of administration for each analgesic.
- Discuss frequency of monitoring and signs that additional analgesics are required.
- Review signs of pain in the species you are working with.

E. ANESTHETICS

- Review IACUC SOP: Principles of Rodent Anesthesia and Surgery
- Discuss the anesthetic agent used. Review administration route, volume, and drug calculation.
- No fasting of rodents, larger animals will be fasted - review this procedure.
- Understanding what will happen (appearance) in the species when it is administered.
- Gas anesthesia – Review induction amount –vs-maintenance amount (both gas and O2)
- Gas anesthesia- Discuss the machine use, problem solving, refiling vaporizer and maintenance.
- Review IACUC SOP: Post-Operative / Post Anesthetic Care of Rodents. (if applicable)
- How are the animals recovered from anesthesia?
  - Cage set-up, monitoring, heat supplement, charting, recovery feeding and return to room
F. IDENTIFICATION METHOD
- Review IACUC document: Rodent Identification (if applicable)
- What Identification method will be used?
  - Ear tag/punch/notch, marker, tattoo, collar, photo, USDA/DLAR assigned number.
- Tools used – set up, working the applicator and location of placement on animal.
- Cage Charts or Cards
  - Discuss required information on each.
- Approval of technique is based on:
  1. Comfortable, secure restraint
  2. Knowledge of equipment used.
  3. Proper placement on the animal
  4. Success noted 90% of attempts.

G. ORAL GAVAGE
- Review the proper restraint used for this technique.
- Discuss the appropriate size gavage needle/feeding needle used for your species.
- Review the volume and schedule for administration.
- Review monitoring post-procedure and possible complications.
- To be approved, individuals will need to demonstrate the following:
  1. Restraint is proper, comfortable, and secure.
  3. Understand technique and correct placement.
  4. Success noted more than 70% of attempts

H. BREEDING
- Review IACUC policy: Rodent Breeding and Weaning.
- Review IACUC policy: Space Recommendations
- Discuss breeders.
  - Set up (pair, trio)
  - What age to retire
  - Phenotype known to the strain.
  - Breeding issues with the strain
- Review weaning
  - At what age
  - Sexing
- If genotyping in rodents, review the IACUC Policy: Rodent Tail Biopsy
- If an identification method will be used, review the IACUC Policy: Rodent Identification.
- Consider visiting Charles River Lab’s website for their FREE colony management guidebook.
I. END POINT

- With the expected end point, what is the primary euthanasia method?
  - CO2 training is covered at the time of building orientation; other methods used will need to be reviewed as necessary with DLAR or VSS personnel.
- Discuss the method used to assure death for animals listed on the protocol.
  - A secondary assurance of death must be performed on all research animals.
- Review criteria for the euthanasia of abnormal or moribund animals covered within the protocol.
- Review the IACUC Guidelines: Defining Humane Endpoints

During a training session with DLAR, live animals are not always available to train the euthanasia and assurance technique. These items are discussed and demonstrated on alternative animal models. To be certified in using CO2 with follow up of assurance of death, please have DLAR staff available to perform the technique on animals in your lab or another as they become available. DLAR Training Program will need to be notified of such event.

J. IACUC WEBSITE – Policies, Guidelines and Procedures  IACUC WEBSITE: www.iacuc.wayne.edu

- All staff should view the IACUC website to become familiar with Policies, Guidelines and Procedures. All members working within an approved protocol should understand the level of responsibility the PI accepts as listed in the standard operating procedure

K. Additional information

- Personnel can always use dead animals; they make good practice patients. Contact DLAR/VSS and ask to be notified when they are euthanizing animals. Benefits from these are...
  - You can practice new techniques or master older ones.
  - These animals will not count against the protocol.
  - There are no charges to the PI’s account.
  - There are no amendments needed to match species, strain, sex, age, etc...
- Responsibility lies on the staff to seek training and opportunities to perfect their skill.
  - The PI is responsible for all non-compliance incidents involving their staff.
  - Personnel should always be forthright about areas of concern that may affect research animals, testing results and medical outcomes. (Wrong injections, miscalculated drugs, contamination of specimens, etc...).
  - The protocol must be followed as written (amendments included). Talk to veterinarian to discuss protocol amendments or deviations ASAP, this may decrease approval time.
  - PI’s have a responsibility when bringing new personnel and students into their lab. It requires mentoring and teaching from them. DLAR is also here to help in this process.