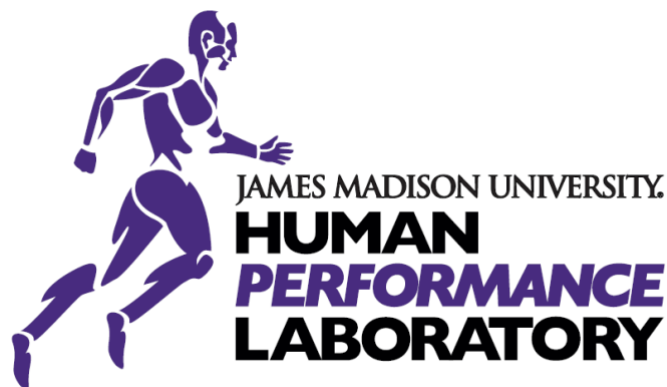


# Human Performance Lab (HPL)

## Safety Protocols and Responsibilities



## Safety Protocols and Responsibilities – Human Performance Lab (HPL)

All lab users must read and adhere to the Department of Kinesiology's *Chemical Hygiene Plan* and *HPL Safety Protocols and Responsibilities* (the current document). These documents outline policies and practices that apply to all employees, students, and visitors, whose work or activities in the HPL may expose them to hazards associated with laboratories containing chemicals, electrical/electronic equipment and mechanical equipment. Both of the aforementioned documents should be reviewed carefully by all lab users, with particular attention to aspects of safety that directly concern their work.

An abbreviated version of our lab safety policy (and important contact information) is posted near the entry doors and lab phones in both 209 & 217.

### Access to Safety Documents:

- 1) Electronically via the common (N:) drive on JMU networked computers - use the following path: N: CHBS, KINES-Common, Human Performance Lab, HPL Lab Safety Documents.
- 2) Hard copies can be found in the *HPL Procedures Binder*, which is located in the glass bookcase in Godwin 209.

### Documentation of Safety Training:

Supervisors (i.e. faculty overseeing student research; GTAs overseeing students in lab courses) should document the completion of lab safety training by their supervisees at the following site: <http://www.cisat.jmu.edu/KIN/SafetyTraining/index.aspx>. See p.4 for details.

### Responsibilities for Adhering to Safety Plan (Review ALL categories which apply to you):

- **Lab Director:** It is the responsibility of the Lab Director to disseminate information regarding CHBS and lab-specific safety protocols to other HPL faculty (i.e. making faculty aware of the *Chemical Hygiene Plan*, and posting other lab-specific protocols in the laboratories).
- **Faculty/Research Supervisors:** It is the responsibility of the faculty/research supervisors to read and abide by the policies in the *Chemical Hygiene Plan*, the *HPL Safety Protocols and Responsibilities*, and other lab-specific protocols. In some instances, this may require individuals to obtain additional information and/or training regarding safety risks (i.e. when using chemicals or techniques that impose safety risks that are not specifically addressed in the aforementioned documents). All faculty should refer to Appendix A of this document to determine the safety training that they are required to complete BEFORE using the HPL labs. Appendix B of this document (*Documentation of HPL Lab Training*) can be completed as a personal record of HPL safety training, and all training MUST be documented using the online site (above). It is the responsibility of each faculty member to ensure that their safety training remains up-to-date, and update the online site when new training is completed.

It is also the responsibility of faculty/research supervisors to ensure that students that they are supervising (i.e. GTAs who are teaching labs in their classes, students conducting research under their direction) are aware of all pertinent policies/procedures. This includes insuring that individuals under their direction a) receive copies of the *Chemical Hygiene Plan* and the *HPL Safety Protocols and Responsibilities* documents, and b)

complete the required training as outlined in Appendix A and Appendix B of this document. Faculty/research Supervisors MUST verify the completion of all training for their supervisees using the online site. Faculty/Supervisors are responsible for ensuring that these items are completed before allowing the individual to perform activities in the lab. Faculty should bring any concerns regarding lab safety to the attention of the Lab Director.

- **Lab Instructors:** It is the responsibility of all lab instructors to read and abide by the policies in the *Chemical Hygiene Plan*, the *HPL Safety Protocols and Responsibilities*, and other lab-specific protocols. Lab Instructors should refer to Appendix A of this form to determine the safety training that they are required to complete BEFORE using the HPL labs. Submit a completed Appendix B (*Documentation of HPL Lab Training*), and other necessary documents (outlined in Appendix B) to your supervisor or the Lab Director, so that your training records can be entered into the online system.

Lab Instructors must also insure that students that they are supervising (i.e. students enrolled in their lab courses, other students conducting research under their direction) are aware of all pertinent policies/procedures. This includes making sure that individuals under their supervision do the following: a) receive access to copies of the *Chemical Hygiene Plan* and the *HPL Safety Protocols and Responsibilities* (i.e. post copies or links on the Canvas site for lab courses), b) complete the *HPL Safety Protocols Test* with a score of 10/10 (contact the Lab Director to obtain an electronic copy), and c) complete other safety training, as required (See Appendix A and B of this document). Lab Instructors are responsible for ensuring that these items are completed and documented in the online system before allowing students to perform activities in the lab. Lab Instructors should contact the Lab Director (Dr. Saunders) if you need an administrative ID to access the system, and bring any concerns regarding lab safety to the attention of their supervisor, or the Lab Director.

- **Lab Students:** It is the responsibility of students (enrolled in lab courses or conducting/assisting laboratory projects) to do the following: a) read and abide by the policies in the *Chemical Hygiene Plan*, and the *HPL Safety Protocols and Responsibilities*, b) complete the *HPL Safety Protocols Test* with a score of 10/10 (submit to Lab Instructor), and c) complete other safety training, as required (see Appendix A and B of this document). Lab Students should bring any concerns regarding lab safety to the attention of their supervisor, or the Lab Director, Dr. Mike Saunders.

### Lab-Specific Rules and Protocols:

In addition to the *Chemical Hygiene Plan*, all HPL users should be familiar with the following rules and regulations:

#### Documentation of Lab Safety

- Completion of all lab safety procedures must be documented at the online site: <http://www.cisat.jmu.edu/KIN/SafetyTraining/index.aspx>, using your JMUAD ID (i.e. JMUAD\saundemj) and JMU password.
- Documentation for students should be completed by their ‘supervisor’ (i.e. GTA’s must document completion of safety procedures for their students; faculty must document completion of safety procedures for thesis students, etc.).
- Access to the online site is limited to supervising faculty/GTAs. Contact Dr. Saunders if you need access.

#### Lab Security

We have a lot of expensive equipment in the labs. To protect this equipment:

- If no one else is in the lab when you leave, lock the door
- When you leave the lab, bring your key
- If you’re likely to be the last to leave that day, lock the deadbolt to the door
- Do not remove equipment from the labs without permission. If equipment must be loaned/used outside the lab, you must fill out an Equipment Loan Agreement Form (electronic copy available in the HPL folder on the Common Drive)

#### Lab Scheduling

Scheduling of data collection or other laboratory activities (other than laboratory courses) is conducted via a Google Calendar for the lab. Contact an Exercise Science faculty member or the Lab Director if you need access to the calendar.

#### Exercise Testing

- Lab users are required to follow procedures outlined in the current *ACSM Guidelines for Testing and Prescription (11<sup>th</sup> Edition)* for all exercise testing.

#### Research Studies/IRB Training

- All data collection/testing on human subjects for the purposes of research must be approved beforehand by the Institutional Review Board (IRB). All faculty & students with a substantive role in the research should be listed on the protocol. Procedures for submitting a protocol for IRB approval can be found at: <https://www.jmu.edu/researchintegrity/irb/irbtraining.shtml>.
- Everyone helping on research studies in any capacity must complete CITI training beforehand (a link to this training can be found at the above site).
- Students who are just helping with data collection (i.e. lab assistant) and do not have a leadership role on a project do not have to be listed on the protocol (but must complete the CITI training). These students should not have access to data files or databases.

### CPR Certification and AED training

- Who needs this training?
  - \* Any Faculty/GTA teaching lab classes
  - \* Any Faculty/GTA/student who will be conducting research in the lab (note: a CPR/AED trained individual is required to be present for all testing. Thus, an undergraduate research assistant may not be required to have certification if a GTA/Faculty member is also present during testing)
- Where can you get certifications locally?
  - \* Emergency Prep (<http://www.eprepcpr.com/>)
  - \* Online: <https://cpraedcourse.com/course/cpr>

### Food and Beverages in the Labs

- Food and beverages are NOT permitted in the lab spaces, unless required for a study/lab (i.e. consuming a sports-drink for a study). This includes coffee and bottled water – it should NOT be on tables or elsewhere in the labs (it is only permitted inside student/faculty offices in the labs).
- Please adhere strictly to this policy, and require your students to do the same.

### Protection against blood borne pathogens

- All those who will handle blood/human fluids must complete Universal Precautions Training ([www.jmu.edu/bbp/](http://www.jmu.edu/bbp/))
- Protective eyewear is required in benchtop/chemistry area – glasses are provided in a drawer in the area.
- Any lab users who will be conducting finger-stick or venipuncture blood draws must complete additional training, as documented in the *HPL Procedures Binder*.
- Waste removal:
  - All sharps (needles, catheter, any glass, hard plastic, etc) must be disposed in a red plastic sharps container (Biohazard).
  - All non-sharps materials that have been in contact (or potentially in contact) with blood (gauze, gloves, etc.) must be disposed in a red Biohazard bag.
  - Unsoiled paper wrappers etc. can be disposed in regular trash bins.
  - Check that all waste has been removed, and the area is entirely clear of any waste/blood.
  - If any blood has spilled in the area (i.e. on chairs, floor, equipment), clean thoroughly with germicidal bleach (i.e. Clorox®) and paper towels.
  - If you are supervising students who are performing this technique (i.e. for a lab class or study), it is your responsibility to double-check the area is clean before leaving the area.

### DXA

The use of the DXA device (located in Godwin 217) is limited to approved personnel. Approved personnel must complete the following training activities prior to using the device for research studies and/or class activities. All training (radiation safety training, and device instructions/operation – see below) must be

completed at the time of initial training (i.e. before completing any DXA scans). In addition, radiation safety training must also be completed annually - at the onset of each academic year.

- Radiation safety training: <http://www.jmu.edu/labsafety/radiation.shtml>. Review the Training Videos for Practical Radiation Safety and X-Ray Generating Equipment and successfully complete the corresponding quizzes. Users should provide their supervisor with the date of successful quiz completion, so they can complete the subsequent training activities (this information must be entered into the online system by the supervisor). This training should be completed annually, with the most current date entered into the online system.
- Receive instructions/training regarding the operation of the device from a trained faculty member or graduate student. Operating instructions should include a) information regarding radiation doses and precautions when using the DXA (i.e. review risks/precautions as included in prior research IRB proposals using the DXA), and b) operating instructions regarding how to complete Quality Assurance (QA), Patient Positioning, and Scanning (review the “DXA Scan Procedures” document).
- Complete scans on at least 3 subjects on 2 separate occasions. Coefficients of variation (CV%) will be calculated for BMD and % fat measures, to determine measurement reliability. Users will be required to obtain CV’s  $\leq 3.0\%$  for BMD and % fat, prior to testing subjects for research studies and/or class activities. All of these activities must be documented at the online site by the supervising faculty member.

### Lab Chemicals

Individuals using any chemicals in the labs should carefully review the *Chemical Hygiene Plan*. A brief review of universal issues is provided below:

- Any individuals who will be using chemicals in the labs are required to complete a brief (~15 min) PowerPoint training presentation and quiz regarding chemical hazards (this includes those only using simple reagents used for lactate analyzers, plate readers, cleaning supplies, etc.). The Hazard Communication Standard training module and corresponding quiz are available at <http://www.jmu.edu/labsafety/>. A minimum score of 80% must be achieved for successful completion of the training.
- Individuals working with chemicals should refer to Safety Data Sheets (SDS; formerly known as Material Safety Data Sheets, or MSDS) for appropriate safety procedures. Online access to SDS sheets can be obtained at: [jmu.kha.com](http://jmu.kha.com), or by downloading the app ‘SDS mobile’, and login (Username: [jmu@sdsmobile.app](mailto:jmu@sdsmobile.app), Password: jmusds2019).
- Employees and students are prohibited from donating JMU chemicals, or from accepting donated chemicals. Doing so is an inherently risky practice that creates safety and compliance issues, and exposes the university to significant liability and disposal costs.

- In all cases of eye contact with chemicals:
  - Immediately flush with water for 15 min at an eyewash station (Godwin 209). Open eye as wide as possible during flushing.
  - Seek immediate medical attention after flushing.
  - Do not bandage the eye.
- Disposal of liquids/chemicals
  - Non-toxic items should be poured down the chemical sink, and packaging disposed.
  - Toxic items: container should be correctly labelled (see CHP) and placed in the cabinet under the fume hood in 209 for disposal by CHBS Safety personnel.

### Compressed Gas Cylinders

We have a number of compressed gas cylinders in the labs, which are used for calibrating our gas analyzers. These gases are under very high pressure, and can become dangerous projectiles if the tanks are damaged (i.e. the valve can be sheared off if a tank falls over with a regulator connected to it). To minimize these dangers:

- Never drag or slide cylinders, and do not transport them with a regulator connected to the tank.
- Never drop cylinders or bang them together.
- Cylinders should always be stored in an upright position.
- Cylinders should always be secured when in use.
- Unused cylinders are stored in their original boxes in the storage closet in Godwin 209.
- When a cylinder is empty (be sure all gases are evacuated from the tank), write “EMPTY” on the cylinder using a marker, and place alongside other empty cylinders in the storage closet in 209. Be sure these empty tanks are secured with bungee cord.
- Do not attach regulators to cylinder valves if you have not been instructed how to do so.
- Turn off valves after use (but avoid over-tightening).

## **Appendix A – What Training Do I Need to Work in the HPL?**

### **All HPL Users (Faculty, GTA, students) MUST complete the following:**

- 1) HPL Safety Protocols Test (with a score of 10/10)
- 2) All users (excluding students in laboratory classes) are encouraged to complete Appendix B (*Documentation of HPL Lab Training*) as a record of their training.

### **Additional Training is Required for All of the Following Lab Activities:**

- a) Handling blood or other potential blood-borne pathogens – must take the Universal Precautions Training
- b) Performing Finger-Stick or Venous Blood Draws – must complete appropriate training/documentation
- c) Using the DXA Device – must complete appropriate training/documentation (annually)
- d) Performing research on human subjects – complete IRB Training
- e) Performing exercise testing or research involving exercise testing – at least one person present must have CPR and AED training
- f) Using chemicals (this includes ALL chemicals, such as those used in the lactate/glucose analyzer) – must complete *Hazard Communication Standard* training

### **\*\*IMPORTANT\*\***

All training above must be documented in the online system by a ‘supervisor’ (i.e. GTA’s must document completion of safety procedures for students in their classes; faculty must document completion of safety procedures for thesis students they are overseeing, etc.).

<http://www.cisat.jmu.edu/KIN/SafetyTraining/index.aspx>

Note: All safety documents are available electronically via the common (N:) drive on JMU networked computers - use the following path: N: CHBS, KINES-Common, Human Performance Lab, HPL Lab Safety Documents. Hard copies can be found in the *HPL Procedures Binder*, which is located in the glass bookcase in Godwin 209.



**Appendix B – Documentation of HPL Lab Training**

Name of Lab User: \_\_\_\_\_

Name of Supervisor (if user is a student/GTA): \_\_\_\_\_

Training Completed	Date	Initial
HPL Safety Protocols Test (with a score of 10/10)		
Handling blood & blood-borne pathogens – Universal Precautions Training		
Finger-Stick Blood Draws – use forms in HPL Procedures Binder		
Venous Blood Draws – use forms in HPL Procedures Binder		
DXA Device – use forms/documentation in HPL Procedures Binder		
IRB Training (if performing research on human subjects)		
CPR and AED training		
<i>Hazard Communication Standard</i> training (Chemicals)		
Other Training (Specify in this box)		

\*\* All training above must be documented in the online system by a Supervisor:

<http://www.cisat.jmu.edu/KIN/SafetyTraining/index.aspx>