



## Laboratory ergonomics is an important aspect of workplace safety

As a researcher, one may perform hundreds of repetitive motions per day while performing various activities. For example, researchers maintain steady motion of the hand and thumb while gripping the pipette, depressing and releasing the plunger of the pipette to plate cells, and when uncapping/recapping tubes and vials. Overtime, repeated, steady motion of the hand, thumb, and arm can lead to the development of repetitive motion injuries, such as carpal tunnel syndrome. To control these types of injuries

and improve comfort, it is necessary to organize your work station. So here are some tips to help you pipette comfortably:

- Adjust the height of your chair so that your elbows can rest on the work surface at a 90 degree angle and your back can remain straight.
- If you must stand for certain processes, such as gel loading, try placing your foot on a stool or foot rest to take the pressure off of your lower back.
- A crowded work surface may cause you to maintain awkward posture. Therefore it is important to reduce the amount of material in the biological safety cabinet.
- Try to maintain an even work surface within the biological safety cabinet. For example, the height of disposal containers for pipette tips can create an uneven work surface. Select working containers and disposal containers with a low profile.
- Take more frequent breaks when working at the bench or biological safety cabinet. While pipetting it is good practice to take a 1-2 minute break for every 20 minutes of pipetting activity <https://blogs.emory.edu/labratnews/?p=467>

References:  
Case Study on Ergonomics. University of California Berkely. Accessed at: <http://ergo.berkeley.edu/casestudies/>  
OSHA Fact Sheet. Laboratory Safety Ergonomics for the Prevention of Musculoskeletal Disorders. Accessed at: <http://www.osha.gov/Publications/laboratory/OSHAfactsheet-laboratory-safety-ergonomics.pdf>

## The Do's and Don'ts of General Safety within Labs

### Scenario 1: FIRE! FIRE!

There is a fire within a research laboratory. The lab personnel are trying to exit the building quickly, but there is so much storage, they can't! Also, one employee is in a wheelchair and had to find an alternate route to get outside.

### Scenario 2: "I Needed the Space!"

There is a flood occurring within a lab space requiring Campus Services to access the pipe chase to turn the water off. Water begins to cascade into the connected lab, and when Facilities Management arrives they have to move stored items from the pipe chase to access the pipes. This delay ends up causing over \$100,000 worth of building damage.

### Scenario 3: Faulty Fire Extinguisher

A fire extinguisher is blocked by storage. A small fire erupts in the lab, thanks to a Bunsen burner and paper towels close by. The lab worker is delayed in getting the extinguisher because the storage has to be removed first, and to make matters worse...it doesn't work! No inspection has been conducted in 3 years.

### What can we learn from these scenarios?

In all three scenarios, the problems could have been prevented. These scenarios are potential Occupational Safety and Health Administration (OSHA) violations and fire code violations. In order to prevent these from occurring in your lab, remember the following:



### Training

Most of EHSO's Trainings are available online in Blackboard.

[www.ehso.emory.edu](http://www.ehso.emory.edu)

for registration information.

### Shipping Training

May 17th

### Radiation Safety Training

2nd Tuesdays at 9:00 am  
[Laboratory Safety Training](#)

3rd Thursdays at 10:00 am

### Eye Wash Testing

Someone in your lab should test the eyewash station once a month. Bio-safety Cabinets/ Chemical Fume Hoods Certification required annually.

### Chemical/Radioactive Waste Pick-up Schedule

[Full Schedule here...](#)

All **chemical** waste pick up should be requested by emailing

[chem-waste@emory.edu](mailto:chem-waste@emory.edu)

All **radioactive** waste pick up should be requested via EHS Assist pick-up. **Chemical** waste disposal inventory form and/or **radioactive** waste inventory form should accompany all waste containers at the time of pick-up.

### PPE

Choice to be based on potential exposures involved:

There should be 36 inches of access clearance within a hallway. So, if you have large tables or other items stored in the hallway to place food on, they need to be removed, because it would slow down evacuation during an emergency.

A pipe chase is not a closet to store lab supplies, boxes, cleaning products, or any other items. These chases need to remain clear of obstruction. In an urgent situation, maintenance personnel must be able to access the space to correct any problems and reduce the likelihood of major destruction.



Fire extinguishers are required to be certified annually by a Fire-Pro technician, but monthly checks are REQUIRED for fire extinguishers in labs (this must be performed by the researchers). Monthly checks are intended to give reasonable assurance that the fire extinguisher is fully charged and operable. Fire extinguishers also can't be blocked by storage. See the October 2010 Lab Rat for how to conduct monthly visual inspection.

Safety is not solely the responsibility of EHSO, but it should be a part of everyone's daily routine. While lab storage space is definitely limited and the projects are very costly, the safety of the people within the building must come first.

**SO REMEMBER:**

- NO storage that restricts hallway access.
- NO storage in pipe chases.
- NO storage in front of fire extinguishers

<https://blogs.emory.edu/labratnews/?p=467>

## EHSO Registration for Summer Research Opportunities

In the coming summer months, many of the labs on campus will welcome high school students and non-Emory undergraduates to campus in order to gain valuable laboratory experience. Individuals that are non-Emory undergraduate students, visiting scientists, or high school students must complete all required training and receive EHSO approval prior to participating in research. PIs should remember that high school students will need to complete the Minor's Participating in Research Activities Form. All individuals that are 18 years of age and older who want to participate in research activities will need to complete the Volunteers Participating in Research Activities Form. The Volunteer form must be completed for students who are not enrolled in a catalog course at Emory University or Oxford College or a degree program. This form must also be completed for visiting scientists who are not employed by Emory University as a full or part-time employee. Both the Minor's form and the Volunteer form are available on the EHSO website ([www.ehso.emory.edu](http://www.ehso.emory.edu)).

[Minors Form](#) [Volunteer Registration Form](#)

### Building Liaisons

- Dionna Thomas 404-727-4673**  
Woodruff, Woodruff Extension, & Winship (Clinics B & C)
- Meagan Parrott 404-712-9480**  
Dental, Medical Office Tower, Emory Midtown, School of Public Health (CNR/GCR), & Rollins
- Steve Arehart 404-727-4171**  
Clinic B-Eye Center, Pediatrics, North Decatur, Carlos Museum, Yerkes, Hope Clinic, Wesley Woods, Briarcliff Campus, & Anthropology
- Rodrick Esaw 404-727-1348**  
Whitehead, Math & Science, Emerson, Oxford College, & Atwood

- This newsletter is a tool to help fulfill a legal requirement for ongoing safety training.
- Supervisors are responsible for ensuring that individuals in their area have read and understood the information that applies to their area.
- The signed newsletter should be placed into the PIs EHSO Binder.

Signature indicates: I have read and I understand the information in this issue of Lab Rat Newsletter. Use an additional sheet of paper for more signatures, if needed and attach to this document.

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2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

- Eye: Glasses, goggles & face shields
- Gloves: Appropriate for the type of procedure
- Clothing: Gowns, lab coats, aprons, coveralls
- Respirators: Appropriate for the type of procedure

#### Fire Extinguishers

Check fire extinguishers in your lab:  
A. Is it present and mounted in its proper location?  
B. Is it readily accessible?

If it appears to need servicing contact the Maintenance HELP line at 7-7463  
Contact Employee Health Services / Emory Healthcare Corporate regarding immunization information at (404-728-6437)

Tell us how we are doing!

The newsletter has a new home. Every individual article is now hosted online at <https://blogs.emory.edu/labratnews/>

Got something to share? [Tell us!](#) Post comments, related articles/links, and safety concerns.

Feel free to also send your comments to [bio-safe@emory.edu](mailto:bio-safe@emory.edu). We look forward to reading your ideas and comments!