

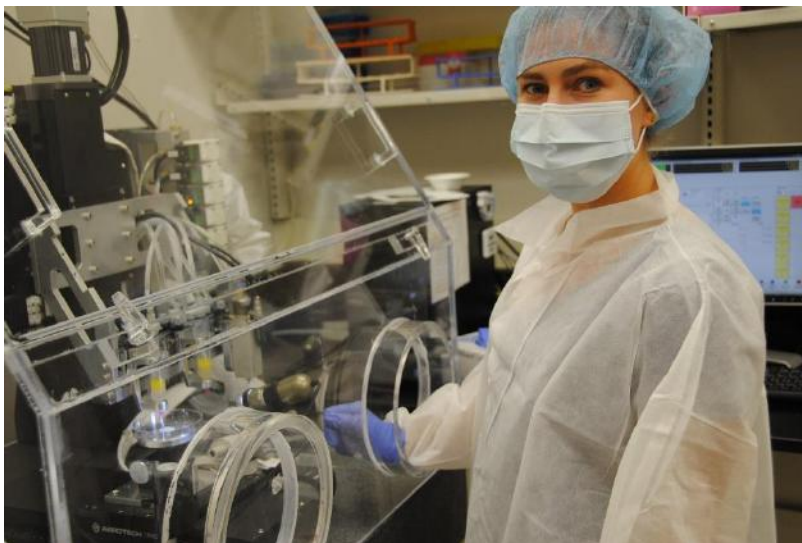
Guidelines for being a good lab citizen at WFIRM

If it is not clear already, the lab is a big place with a lot of moving parts. Therefore, organization and communication between team members is crucial for maintaining the morale of the lab and its operation as a well-oiled machine. While not exhaustive, below are some rules that will help you to do your part to make the lab a safe, happy, and efficient place to work.

The priority should be safety. Failure to maintain safe practices not only put you in danger but also endangers the people working around you. When starting in a lab, you should be aware of the location of the safety equipment - fire blanket, fire extinguisher, chemical spill kit, eye wash station, first aid kit, emergency exit etc. As a starting principle, with anything in the lab, if there is a situation you are unsure of how to handle, you should ask for help. Read all of the safety labels on any reagents, chemicals, and equipment you are using. If anything goes wrong, immediately get help. In a lab that has many dangerous chemicals and organisms, it is important to quickly contain safety hazards to protect everyone. When conducting experiments, it is important to not leave items unattended. Wearing the personal protective equipment (PPE)—such as a lab coat, gloves, and safety glasses—that is appropriate for your activity is advisable. Depending on the culture of your lab, you may find that other members do not adhere to safety regulations like wearing PPE as closely as you would expect. That being said, it is always better to prioritize safety over convenience.

Know how to properly handle the different chemicals and reagents of the lab.

Supplies are shared by everyone. Mistakes with chemicals are not only dangerous but can also hinder the work of others. Because of this, it is vital to:



Minimize

contamination: Whenever using materials from a source that will be reused by yourself or others in the lab, it is important to maintain sterile conditions. Introducing contaminants to stock solutions not only ruins your data but could also taint or change the data of other lab members. If they are conducting a new experiment, contaminants could radically change their

data. If, based on previous experiments, their results do not match what they expected,

they could spend unnecessary time and money troubleshooting and may not realize they had used a contaminated solution.

To further prevent contamination, it is also important to remember to wear PPE, including a lab coat, safety goggles, and gloves. For example, human hands and skin naturally carry RNase enzymes that can contaminate and degrade samples of RNA if those samples are handled without gloves.

Clean up spills quickly: Some reagents are health hazards and may be caustic to the touch. Others have a noxious smell that can cause fainting. At times, smells from chemicals are so powerful that even a fume hood cannot contain them—one spill can make an entire tissue culture room (a sterile room with specialized hoods to grow human cell lines) or lab floor smell! Spills may also create a slipping hazard for unsuspecting lab members. Knowing the proper way to clean up these chemicals will help everyone in the lab to avoid these dangerous situations.



Know how to properly store materials: Some biologics, such as proteins, cannot stand more than a few cycles of freezing and thawing; exceeding the number of appropriate times can denature proteins, destroying their efficacy and ruining their use for further experiments. Others, such as RNA, must be stored at a certain temperature to prevent them from degrading. It is important to label any tubes that you store with the contents of the tube, the date, and your name. Keeping a record of the storage location of reagents is a key aspect of efficiently obtaining correct data.

If mistakes are made and you are unsure how to handle it, then it is vital that you tell someone else in the lab so that the situation can be taken care of. In addition, even if you are able to take care of a situation, it is best to let someone else in the lab know so they can assess the situation. In this way, everyone is safe, and lab experiments are not ruined.

Take good notes: While this seems obvious, it is one of the most common lab activities that is completed improperly. Make sure to date your notes, include the entire protocol, and record any observations you may have. All notes should be written in pen, not pencil. Good notes not only help to repeat experiments, but they can also help you with identifying sources of error if the experiment goes awry. Additionally, taking good notes can help other people in your lab understand the experiment and repeat it if necessary, even years after the initial experiment. It's also worth mentioning that, if the research the lab conducts is NIH-funded, you are obliged to keep good notes and record of data.

It is important to keep in mind that the notes you take do not belong to you but rather to the lab: accordingly, you should always be taking thorough notes that can be read and understood later by someone else. And, because others may refer to any lab member's

notebook for future experiments, one final tip would be to also write notes with a future focus. This means including things that may be forgotten when trying to replicate an experiment in a year, such as tips that helped a reaction proceed faster, where in the lab you found a particular reagent, and how long an experiment took you to complete.

Leave the lab looking better than the way it was: The more organized and clean the lab is, the less likely it is that mistakes and contamination will occur. Keeping shelves and stocks organized, closing fume hoods, sterilizing tools—these are all essential steps for keeping the lab going every single day.

Talk to others, not your phone: Engaging in conversations with your colleagues is healthy and productive. There is a lot that you can learn from people who have more experience. On the other hand, it's best to stay off your phone during lab, a place where it's best not to be texting or calling others. Additionally, food, drinks, smoking, and phone use are prohibited in lab spaces.

Observe: The best way to learn in the lab at the start is to watch everyone around you. Shadow them as they complete experiments. Ask lots of questions. Take notes about what they are doing and everything you learned. Aid in the completion of their experiments. You can read endlessly about how to complete an experiment, but to truly get a feel for a protocol and to better understand the work of your colleagues, the best way to learn is to get your gloves dirty and start working.

Proper attire, equipment critical for laboratory safety at WFIRM

A key to laboratory safety is wearing the right attire and appropriate personal protective equipment. Here are some recommendations on what to wear in the laboratory. Additional information is available on the [EHS website](#) or the EHS web-based [training module](#) on PPE.

Standard lab attire

- Work shirt that covers the upper torso and arms.
- Lower body clothing that covers the entire leg to the ankle (e.g., pants, skirt, coveralls, lab coat) and fully protects exposed skin.
- Closed-toe shoes that cover the top of the foot and are made of leather or synthetic leather or another material that resists rapid penetration by spilled liquids or sharps.
- In laboratories where a fire danger is present, avoid clothing made of synthetic fibers like nylon, polyester, polypropylene or acrylic, which can melt if ignited. Wear less flammable natural fibers, such as wool, cotton, jute, flax and silk.

Standard personal protective equipment

Lab coat:

- Long-sleeved laboratory coat with ribbed cuffs, or gown or coveralls, made from flame-retardant material.

- Chemical-resistant apron and sleeves for handling corrosives and chemicals that are toxic when absorbed through the skin.

Eye protection:

- Safety spectacles with side shields.
- Goggles for handling chemicals that can cause eye damage.
- Supplement goggles with a face shield when risk of injury is great.

Gloves:

- Examination gloves are appropriate for routine lab activities.
- To avoid contact with toxic chemicals, use gloves made specifically to resist hazards or chemicals.

Face Masks in the Lab

- Face masks are currently not required, however, feel free to wear one if your's more comfortable

Current COVID Recommendations

- **Patients recovered from COVID-19 illness:**
 - Home isolation should be maintained for at least 5 days **after illness onset** and at least 24 hours **after recovery**.
 - Illness onset is defined as the date symptoms begin.
 - Recovery is defined as resolution of fever without the use of fever-reducing medications **and** progressive improvement or resolution of other symptoms.
- **Patients with a positive COVID-19 test and NO symptoms:**
 - Isolate until 5 days have passed since the date of their first positive COVID-19 diagnostic test, assuming they have NOT subsequently developed symptoms since their positive test. If they develop symptoms, then the duration of home isolation will be determined as per #1 above.