

Guidelines for ramping up research activities

Document updated May 19, 2020

To reduce the risks of researchers potentially being exposed to SARS-CoV-2 in the laboratory and research spaces or exposing others to it as we ramp up of research, we aim to gradually increase the density of our research personnel through ramping up in phases with a set of safety guidelines.

Current knowledge and the advice from epidemiologists and health experts point to three important elements that will help keep you and others safe. They are: (i) wearing a face covering; (ii) regularly washing your hands and the environment around you clean; and (iii) keeping your distance from other people. We have developed our safety guidelines that expand on these elements and contextualize them for our research environments. As new knowledge emerges, we will provide additional guidance to further reduce the risks.

Our general principle is that only research activities **requiring** on-Grounds presence would be conducted on-Grounds. All other research-related work would continue to be performed by telework until restrictions are lifted. Separate school, department and building specific plans should supplement these guidelines.

For research that needs to be on Grounds, the plan is to ramp up in phases with emphasis on safety. The goal of this document is to provide a central framework for resuming activities while allowing for coordinated school specific implementation strategies.

The success of the ramp up depends on each researcher placing the safety of themselves and the people around them first, while conducting their research. In order to reduce our risks as much as possible, this must be a partnership between the researchers and the administration.

Schools are developing a process for the approval of ramp up requests and enforcement of safety guidelines described in this document. The VPR office is working with the schools to provide the necessary support for business process infrastructure, and working with the COO's office to coordinate the acquisition of supplies necessary including face covering and sanitizing supplies.

We thank you in advance for your commitment. The following are the key safety expectations for ramping up research.

Key safety expectations when we ramp up activities (applies to all on-grounds research):

1. Only those who actually need to be in the lab, studio, or research space for conducting research activities are allowed.
2. Building access provided for individuals and for a specific period according to a time- table approved and prepared by the research leader and approved by the department and schools who will also monitor the area assigned to them for compliance.
3. Only essential visitors. No letting others in with your I.D. badge.
4. Accommodation for visitors who are essential for the conduct of research; for example, instrument repair technicians. Essential visitors should be escorted and adhere to safety measures implemented within the visited research environment. Research subjects in human research projects, when allowed, **are not visitors** under this definition.

5. Avoid more than one person on an elevator. No congregation in front of elevators and will need to maintain social distancing while waiting.
6. Convening in groups prohibited (lunchrooms, office, bathroom, conference room). Eat sitting outdoors if possible. If you use common areas, you must wipe down surfaces with disinfectant after use.
7. Maintain social distancing by designing space between people to be at least 9 feet during prolonged work which will be accomplished by restricting the number of people in the lab to a density of ~250 sq. ft. /person in lab areas. When moving around, a minimum of 6 feet social distancing is required. Ideally only one person per lab bench and no one can work at the same time in the same bay.
8. Time in labs may be scheduled in shifts by your research leader. It is essential that you vacate the building at or before the designated time, and leave ample time to conduct disinfection of high touch surfaces before you exit.
9. Before you leave home for Grounds, you must complete an online health screening checklist. If flagged by the screening checklist, you must contact Employee Health for further instructions, as well as your direct supervisor, and act on their instructions.
10. If you or any member of your household, have tested positive for COVID-19, or are awaiting test results, you must notify your supervisor immediately, and you may not come to work for any reason until it is resolved. Personnel who know they have had contact in the last 14 days with someone who tested positive or is awaiting test results, should stay home.
11. Face coverings must be worn at all times (see separate guidelines for how to wear your face covering, types of face coverings, re-use of face coverings, etc.).
12. Staff must wash hands at regular intervals. When handwashing is not possible, use ethanol (>60%) hand sanitizer. We plan to provide where possible, especially in elevator areas, and common areas. You must hand wash just prior to entry into the lab or research space and just prior to exit.
13. When you begin your work and end your work, you must clean work area you have been in contact with an [EPA-approved](#) disinfectant or disinfecting wipe. This includes shared instrumentation such as a microscope, tissue culture equipment etc. located in shared workspaces.
14. When you finish work, you must contact the assigned floor coordinator to “check out” so that your exit is logged. Leaving without informing anyone is not allowed. This is key to contact tracing if someone in your lab or you get sick.
15. Currently used facilities/equipment must be cleaned by designated research staff at least once a day, following [CDC guidance for cleaning and disinfecting](#). This is not the same as cleaning high touch surfaces at the end of daily work.
16. A certification process on training to stay safe and use of PPE is required for every individual allowed to return to the lab before gaining initial access.
17. For a lab or research space where the typical number of active lab personnel would exceed the required density, the PI will be responsible for determining which individuals are allowed to work in each designated shift in their group and seek the approval of the department and school.

Phases designed to increase on-Grounds density levels during research ramp up:

Phase 0. (We are in phase 0). Designated faculty & staff may continue work on key research in labs using the appropriate protective safety equipment and maintaining proper social distancing requirements. Pre-ramp up activities begin. Core facilities ramped back up, needed supplies

acquired, and business processes designed and deployed to ensure a smooth approval and monitoring process.

Phase I. Researchers allowed back on grounds who can attest to health expectations and ongoing compliance with safety guidelines. At this stage, select graduate students can return based on school prioritization to the essential nature of the work.

Phase II. On-grounds density levels can increase as disease spread is deemed under control and effectively monitored, and/or management and treatments options are successfully advanced to acceptable levels set forth by the Commonwealth.

Phase III. Individuals allowed to work in all environments normally following any new and permanent implementation of safety guidelines. Allowance of Undergraduate researchers back in labs subject to safety guidelines

Additional Considerations for a Successful Ramp-up:

Lab-based research:

An excellent PI checklist for PIs has been developed by EHS and provided in the appendix. Use of the check list will increase the chances of a successful lab ramp up. Check and make sure that applicable resources from the following list are available for your research:

- a. Core facilities operational
- b. Laboratory materials and supplies for you research are available
- c. Availability of necessary PPE for individual use and a process for distribution and safe use
- d. Animal care operations operational to support ramp up
- e. Visual signs and hand wash stations in place
- f. Adequate cleaning supplies in individual research spaces
- g. Computation support services
- h. Library services available for all, especially for the Arts, Social Sciences, and Humanities

Research Studio/Shop/Makerspace:

- a. Studios may have workstations with built-in spacing that may not be consistent with the spacing and sq. ft. /person requirements for the ramp up to phase I. In such cases, either the workstations may have to be rearranged or the usable workstations are identified to meet the distancing requirements.
- b. Adequate cleaning supplies in work spaces to disinfect all
 - work shared surfaces after use
 - shared equipment, etc. (maker bots) after use
 - plotting/printer stations after use
- c. Prohibit all types of sharing of tools and equipment to limit cross contamination where feasible. When not feasible implement plan to sanitize.
- d. Availability of necessary PPE for individual use and a process for distribution and safe use.
- e. Alter mode of delivery of desk critiques through distancing and virtual meetings.
- f. Alter mode of pinup/review sessions through distancing and virtual meetings.

Off-Grounds Field-based research:

- a. Field based research is dependent on the “field stations” such as public schools and community of relevance to be open and available. Allowance of field-based research should be consistent with the policies of field-stations and the ability to meet the safety guidelines of both UVA and the field station.

- b. Research involving in-person meetings (social sciences are currently only allowed to conduct research without face-to-face contact), may be opened gradually while ensuring adherence to social distancing, and group gathering limitations. The schedule and provisions for this will be set as soon as possible.
- c. If a researcher has access to all the “field stations” that they need and are certifying to abide by the safety rules, then they may be granted permission by the department and School to restart their work.
- d. Departments and Schools will develop detailed policies for field-based work approval and monitoring.

Human Subjects Research:

- See separate guidelines (in development)

Social, Behavioral and Professional School Research (Both on-Grounds and off-Grounds):

- a. Field research in the social and behavioral sciences, visits to archives and collection for the humanities, and access to remote site or facilities depend on the operational status and policies of those organizations and locations.
- b. Field-based research is dependent on the lifting of non-essential travel restrictions
- c. Self-quarantine after out-of-state travel, when such travel is allowed for field work should be practiced.
- d. Travel by car policy such as one person per car should be implemented.
- e. No congregation or eating together when outside on field work that violates social distancing guidelines.
- f. Allowance of face-to-face human subjects research subject to safety regulations that protect both the researcher and the subject is necessary. However, at this time, human subjects research requiring face to face contact is not allowed. We will continue to review the relevant conditions and guidelines and will consider resuming such research when safety precautions and protections can be better defined.
- g. For hired data collectors in the fields, a safety procedure training, and monitoring for compliance must be put in place, and equipped with adequate face covering and cleaning supplies
- h. Library services should be available for all, especially for the Arts, Social Sciences, and Humanities. In particular, a well-developed copying and pickup service with social distancing should be available.

Other types of research work (non-lab based):

Faculty work in many different disciplines, research norms, and practices vary significantly. A literary scholar will face different challenges than an economist who will in turn not face the same barriers as a researcher working with students in the school system. A studio artist or a musician will face a different set of challenges. The primary ramp up to phase I considerations for such research are social distancing, personal hygiene including wearing face covering at all times, and contact surfaces cleaning as described under key safety expectations.

Appendix:

EHS Lab Ramp up Checklist for Laboratories

The following guide is provided to assist researchers in their lab-specific preparations for bringing their research laboratories back online from temporary shutdown. As you restart research, please keep safety in mind and contact Environmental Health & Safety (EHS) at 434-982-4911 with questions or for assistance with risk assessment, safeguards, or hazardous materials management. Visit the [EHS website](#) for additional guidelines and updates. For facility issues, contact Facilities Management (FM) at 434-924-1777 (Academic) or 434-924-2267 (HSPP).

Public Health Considerations (*key elements from general principles reiterated*)

- Face coverings must be worn at all times (see separate guidelines for how to wear your face covering, types of face coverings, re-use of face coverings, etc.). When conducting procedures where a surgical mask would typically be used to protect the wearer from mucous membrane exposure to hazardous materials, cloth face coverings should not be used. Examples may include manipulation of biological agents outside of biosafety cabinet where sprays, splashes or spills are possible (e.g. stereotaxic administration).
 - See [CDC guidelines](#) for proper donning and doffing of face coverings, and laundering.
- Wash hands upon lab entry, and upon departure.
- Disinfect high touch areas between shifts, or more frequently as desired. Use disinfectant wipes on sensitive equipment.
- Develop a plan for physical distancing in the workplace. Consider the following:
 - Identify maximum personnel for workspace according to optimal density (250 Sq. ft. /occupant)
 - Post maximum occupancy of shared facilities, such as break rooms, kitchens, conference rooms, office suites, copy rooms.
 - Work in shifts, to include a period of time between shifts to eliminate overlap.
 - Maintain at least 9' distance when working in a lab and at least 6' distance when moving. Visual cues, such as tape, between individual workspaces may be a helpful reminder.
 - For open/shared suite laboratories, consider if unused spaces can be temporarily assigned.
 - Rearrange seating, or temporarily remove seating, to allow for physical distancing and maximum occupancies.
 - It may be prudent to avoid concurrent use of bench tops that face one-another.
 - Use a 'Google Doc', Microsoft Teams, or something similar, in order to maintain a visible schedule for staggered lab equipment sign-up and use.
 - Avoid working alone whenever possible, but especially when working with hazardous materials.
 - When your work does not require presence in the laboratory, plan to work remotely instead of your office. Plan experiments before coming to the lab.
 - Continue to conduct laboratory meetings using virtual platforms whenever possible.

First Day Back (Phase 0 & I activities)

- Prior to restarting any research, perform a complete and thorough walkthrough of all spaces you are responsible for to check nothing is obviously out of place, missing, damaged, leaking, etc. Address immediately.
- Ensure you have adequate personal protective equipment (PPE) available for near-term planned research.
- Ensure you have adequate hand-soap and towels for handwashing, and disinfectant appropriate for cleaning lab surfaces and equipment.
- Verify all emergency equipment is functional and accessible.
 - Flush all eyewashes in your labs for 1 to 2 minutes, given the eyewashes have a functional drain. Check that the temperature is tepid. Document you have checked the eyewash.
 - Verify that safety showers have been checked by FM in the last 6 months.
 - Check fire extinguisher pressure gauges to make sure the indicator is in operating range.
 - Verify emergency equipment, such as eyewashes, safety showers, sprinkler heads, fire extinguishers, and pull stations are visible and not obstructed.
- Check chemical containers for damage, leaks, pressure build up, etc. Request [waste pickup](#) from EHS, if needed, particularly for peroxide forming compounds or other chemicals that may have become unstable.
- Power up electrical equipment slowly and one at a time. Potential exists to overload electrical circuits.
- Verify that the chemical fume hood is currently certified by checking the sticker issued by EHS. Test the hood to ensure that the sash can be raised up with one hand to the mechanical stop or 18 inch vertical opening and that it does not go into alarm. If the hood does not have a flow monitoring device, check air flow by using a tissue or Kim Wipe to see if it is sufficiently drawn inward.
- Pour small amounts of water down dry traps/floor drains to mitigate sewer gas smells, which can be confused for natural gas leaks.
- As you begin starting active research again, keep plans flexible to accommodate changes. Documenting lab-specific actions taken can help future decisions.

General

- Avoid engaging in startup procedures alone. Try to have at least two people present in case any issue arises. Have a general planned schedule of when certain processes should be back up and running.
- Use the opportunity of bringing processes back online to cross-train other members of your laboratory.
- Take things cautiously slow as your research ramps back up. Accidents are more likely to occur if a lab rushes back into research.
- Reconsider beginning with certain experiments or research activity that rely on other facilities, are especially hazardous or long-term in nature.
- Note that shared facilities, such as stockrooms or core labs, may be on different ramp up

schedules or in more demand than during normal operation.

- Be aware that many lab items may be in short supply or have longer lead times, including gases, chemicals, and PPE.
- Schedule deliveries of research materials in smaller quantities and expect delays.
- Avoid sharing PPE if possible.
 - Conduct a risk assessment to determine the appropriate level of PPE.
 - Provide individual PPE whenever possible.
 - Disinfection may be problematic or impractical for some PPE that is commonly shared (e.g. laser glasses, cryogloves). Tasks requiring special PPE may be best designated to select individuals in order to manage public health considerations.
 - If PPE can be disinfected, do so. Additionally, wash hands before and after use.
- Consider if items worn for public health considerations (e.g. cloth face coverings) may hinder safe use of PPE used to mitigate exposure to hazardous materials.
- Do not wear your lab gloves outside the labs. It will be common to see people in gloves outside labs, and it is best for it to be clear for everyone that anyone wearing gloves is doing so for sanitary reasons only.
- Check that all utilities such as house vacuum and natural gas are operational for your needs.
- Water connections: turn water back on slowly. Check connections for leaks. Do not leave the site right away as some connections may burst after a few minutes. Return to the equipment a short time later to confirm there are no leaks. Call the appropriate service desk to report any leaks immediately.

Animal Care

- Communicate with your vivarium manager prior to restarting animal research.
- Confirm inventory of controlled substances and proper documentation.

Biologicals

- Verify that biosafety cabinets have not gone out of certification over the shutdown period.
- Ensure you have CMC's and sharps containers available before beginning work.
- Ensure appropriate disinfectants for your biological work are available and not expired.
- Verify your CO₂ supply before beginning use of incubators.

Chemicals

- Ensure you have hazardous waste containers available before beginning work.
- Maintain separation of non-compatibles as you get set up in the lab again (e.g. oxidizers and flammable gases, acids and bases or flammables).
- Ensure all compressed gas cylinders are chained/secured.
- Consider leak testing compressed gas piping systems before using.

Radioactive Materials

- Verify all survey equipment are operating normally. Contact Radiation Safety at 982-4919 for any survey equipment problems.

- Perform a survey of the lab before beginning work and contact Radiation Safety if contamination is found.
- Perform an inventory check and contact Radiation Safety if any material is not accounted for.

Equipment

- Freezers and refrigerators may have “died” during the shutdown. Check each by slowly opening door (items may have shifted). If not functioning, close and take appropriate action. Consult EHS if very moldy, a hazardous situation exists, or you need additional waste containers for cleaning out.
- Review manuals for any equipment’s start up procedures.
- Do not daisy chain or use extension cords in attempts to reach emergency power.
- Verify “Laser In Use” lights, door interlocks, or other safety related controls still operate.
- Verify cryogen supply. Do not fill units alone. Contact cryogen suppliers to make any special delivery arrangements/changes necessary.
- Verify heat sources do not have damaged cords before reconnecting to power (includes, but not limited: hot plates, ovens, heat blocks, sterilizers, water baths).

Department & Building Manager Considerations

- Keep an updated list of which labs are where in the restarting process. If labs have schedules to get back online, request copies.
- Walk through the building, verifying that corridor fire extinguishers, pull stations and emergency egress are not obstructed.
- It may be advised to have a delivery management plan, especially with respect to storage of delivered supplies. Labs in your area may overwhelm standard service plans.
- Centralized gas storage areas are a particularly important area to keep an eye on. All gases must be restrained immediately upon delivery.
- Consider developing a lab visitor policy for your department, to include an entry/exit log for future contact tracing, should that become necessary.
- Departments or laboratories that share common facilities, including break rooms and conference areas, should coordinate schedules and procedures to accommodate public health considerations.