Guidelines for Safe Laboratory Research During COVID-19

1. The most effective method for preventing disease transmission in the workplace is to **stay home and continue working remotely as much as possible**. Physical return to the laboratory /workplace should only be considered when required to accomplish work that cannot be deferred or completed remotely.
2. Maintain physical distancing of **at least six (6) feet** between yourself and others whenever possible, including when in transit (even outdoors). Where feasible, arrange workstations, flow of foot traffic, etc. to maintain or increase physical distancing. Decrease the density of office spaces and laboratories, as much as possible.
3. Face coverings **must** be worn in all UArizona locations, both indoors and outdoors, in accordance with the Administrative Directive. **Face coverings are not a substitute for physical distancing**, which should remain the primary means of preventing transmission.
4. Conduct a daily wellness check to monitor for COVID-19 symptoms prior to arriving at the worksite each day. UArizona's Wildcat WellCheck is a service that can be used daily to check your risk level and provide guidance on whether or not you should physically be onsite.
5. **Stay home** and contact your healthcare provider as soon as possible if:
    a. You are sick or are experiencing symptoms consistent with COVID-19 and you have had or are currently in close contact (within 6 ft for at least 15 minutes) with another person with a known positive case of COVID-19.
    b. You are a critical on-site worker and are sick or are experiencing symptoms consistent with COVID-19, with or without close contact (within 6 ft for at least 15 minutes) with a known positive case of COVID-19.
6. Continue recommended **elevated personal hygiene measures** to prevent transmission:
    a. Practice good hand hygiene: wash hands frequently or use an alcohol-based sanitizer when unable to wash hands;
    b. Avoid touching your face, nose, eyes, and mouth;
    c. Cover your cough and sneeze into a sleeve;
    d. Clean and disinfect frequently touched and/or shared surfaces regularly with an EPA-approved disinfectant.
        i. Facilities Management's website describes their COVID-19 cleaning schedule and information.
        ii. Hand sanitizer (80% ethanol or 75% isopropyl alcohol), signage, and cleaning & disinfection supplies can be requested from Facilities Management via your building manager.

For more information, please visit the UArizona COVID-19 website, RII COVID-19 Resources, and RLSS COVID-19 Resources.

Preparing the Laboratory

Before restarting work, ensure that you and your researchers have completed the RII Return to Research (Phase 3) checklist. **Carefully consider all questions and have plans in place prior to commencing your research and use the RLSS COVID-19 checklist (page 11) to assess your preparedness**. Contact RLSS with any safety concerns and/or questions. Some COVID-19 related supplies, such as disinfectant and face coverings, may be obtained through a building manager request to FM. Please contact your building manager to arrange an order and delivery (note: average wait time is 1-2 weeks for delivery).

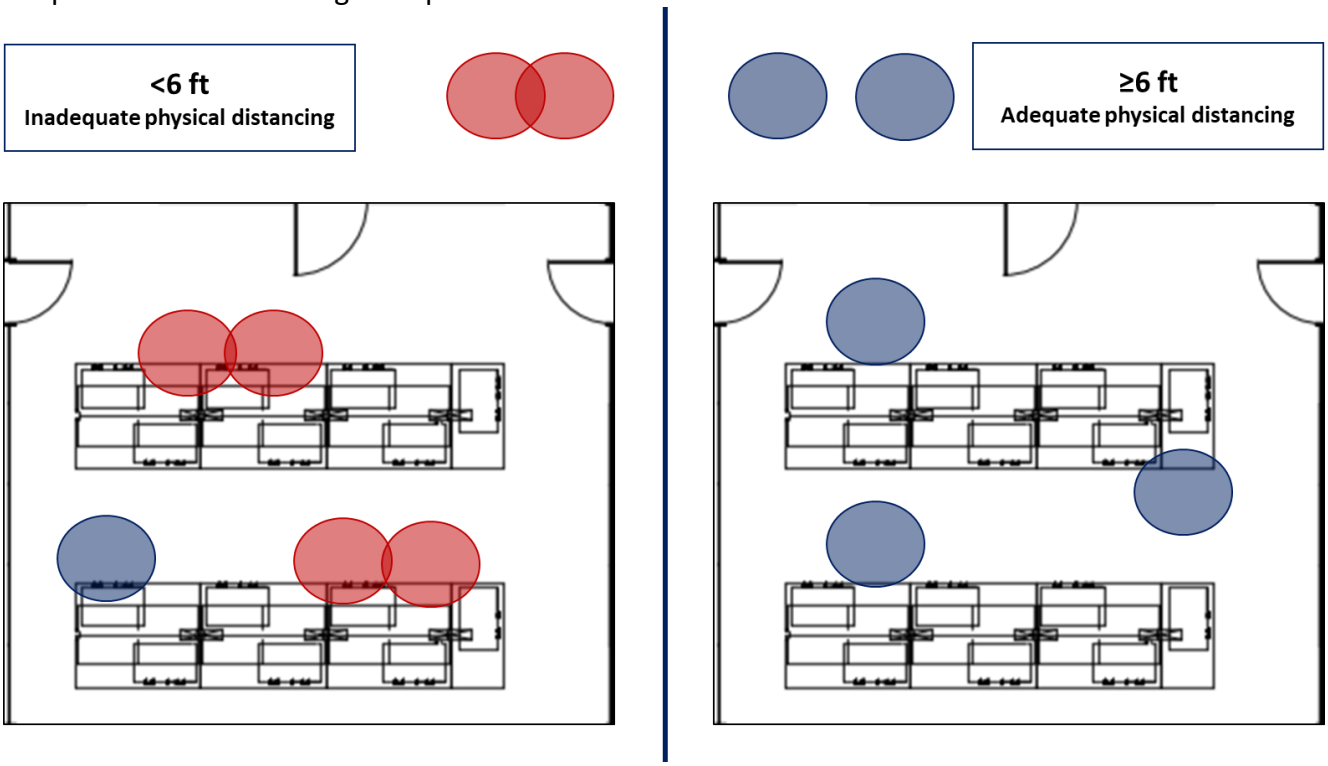
Physical Distancing

- Coordinate with all personnel accessing the lab and any support areas or offices to minimize time on campus and spent physically working with others.
- Stagger and/or alternate shifts to manage the number of researchers in a space; keep the density of people physically present in the lab as low as possible.
- Coordinate use of core facilities, open bay labs, and shared spaces.
- Consider creating a map of the lab space(s) showing where people can be located to maximize or maintain their physical distance from one another.
- Consider using tape to mark areas on the bench that are safe for researchers to be located while working at the same time.

Space Configuration to Maximize Distancing

- Carefully schedule the use of the laboratory and/or equipment to maximize physical distancing as much as possible; use a shared and readily accessible digital sign-up sheet (Google doc, Box document, etc.) to facilitate. *Please see the image below for an example of inappropriate and appropriate physical distancing.*
- For labs with more than one entrance: Consider designating one entrance for ingress and one entrance for egress and establishing traffic flow patterns to minimize proximity to others during entry and exit from the laboratory.
- DO NOT install curtains or physical barriers. If you believe such measures are needed for physical distancing, please consult with RLSS. Installing curtains and barriers might impair ventilation flow or create a fire hazard and all changes to a space must be approved and completed by Facilities Management.
- Remove chairs or label them with an individual's name to prevent use and to ensure separation between researchers when they are at the workbench
- Close down or alternating workspace on each bench to create a staggered workspace across all the lab benches when not able to maintain appropriate physical distancing (e.g. when working back to back, directly next one another, etc.).

- If specific research activities cannot be conducted while maintaining an appropriate physical distance, consult with RLSS. RLSS can help to develop alternate plans to appropriately protect workers during the operation.



Example of appropriate physical distancing in the lab.

Managing Shared Facilities and Equipment

Many laboratory workers share laboratory equipment with others in their lab group and, in some cases, with individuals outside of their lab group.

- Carefully schedule the use of shared facilities and/or equipment to maximize physical distancing as much as possible; use a shared and readily accessible digital sign-up sheet (Google doc, Box document, etc.).
- Wear gloves when touching or manipulating equipment.
- Before and after work is complete, wipe down high-touch surfaces and equipment with disinfectant wipes or solution (if it will not damage the equipment or surfaces; contact the manufacturer to ensure they are compatible before using).
- Plan and communicate roles and responsibilities for cleaning/disinfecting.

Cleaning, Decontamination and Disinfection

- All lab surfaces and equipment must be disinfected **at least daily** but should ideally be done both is before and after each use.
    - See below the graphic below, which is available on the RLSS website as printable stickers, reminding users to clean and disinfect before and after use.

  - This includes surfaces within the biosafety cabinet, chemical fume hood, equipment, bench tops and other work surfaces, transport and transfer containers, etc.
- Laboratory members and Principal Investigators (PIs) are responsible for developing their own plans and/or guidance to promote good laboratory hygiene by regularly disinfecting common laboratory areas and touch points (e.g., doorknobs, sink handles, freezer doors, telephones) within the laboratory space.
- Disinfection **must** be done with an approved Environmental Protection Agency (EPA) disinfectant: Disinfectants for Use Against SARS-CoV-2 list. Facilities Management is supplying the EPA-approved disinfectant, Oxivir, to all building managers and workplaces on campus.
  - Care must be taken to follow the manufacturer's disinfection directions, which may include pathogen-specific inactivation instructions and required contact times for the disinfectant to inactivate the virus.
  - **Never use solutions containing formaldehyde or glutaraldehyde to disinfect laboratory surfaces.**
  - **Never mix disinfectant solutions, as many will produce toxic gases that can severely injury or kill.**
- Facilities Management (FM) custodians will continue to clean bathrooms, hallways, common areas, etc. Laboratories will only be cleaned weekly. Please see the FM website for more details on the cleaning process and schedule.

Cleaning and Disinfection Instructions

- Always follow the instructions on the disinfectant's label to ensure proper inactivation of the virus, and regularly check the CDC website for guidance on cleaning and disinfection best practices.
- Ensure that the area is cleaned (no dirt, debris, etc.) prior to initiating the disinfection process where applicable. Excess gross contamination significantly decreases the activity of the disinfectant.
- The concentration of the disinfectant is critical to the efficacy of the disinfectant for inactivating the pathogen. Follow the manufacturer's recommendations for dilution if purchasing a commercial disinfectant.

- **No disinfectant works immediately, and the manufacturer's instructions for the appropriate contact time must be followed to properly disinfect**.
    - Disinfectants must be left on the surfaces or items to be decontaminated for a specified contact time, which may vary depending on the contaminant and the disinfectant. Contact times of 1- 10 minutes or even longer may be required.
    - Apply disinfectant until surfaces are glistening wet and allow to air dry.
    - If your disinfectant has a higher evaporation rate (e.g., alcohols), and a longer contact time is needed, you may need more than one application; however, the surface being disinfected should remain wet for the duration of the required contact time.
- **Appropriate personal protective equipment, including eye and hand protection, must be used when applying chemical disinfectants**.
    - Many disinfectants are made with hazardous chemicals, like isopropyl alcohol, hydrogen peroxide, and/or phosphoric acid, that may be harmful to the user.
- **Be aware of any dermal or respiratory irritation** that occurs after using disinfectants or after working on surfaces that have been disinfected. If dermal or respiratory irritation is encountered:
    - Exit the area, get to fresh air.
    - Flush the irritated area and seek additional medical assistance, as needed.
    - Suspend the use of the suspected disinfectant and contact RLSS for additional assistance.

Personal Protective Equipment

Laboratory Coats

- If working with human specimens or biological materials that require BSL 2 containment, wear the covering specified in your IBC approval, which may include using disposable lab coats or isolation gowns.
- **Do not share lab coats, and do not store lab coats on a common rack or device where they may be in contact with one another.**
- Laboratory coats **must be laundered regularly** to minimize the risk of fomite transmission.
- **Never take laboratory coats home to be washed**; they may be contaminated with hazardous materials and/or viral particles and should be cleaned by a laundry service.
- Lab coats worn by a researcher who is suspected or confirmed to have COVID-19, **should be turned inside out, placed inside a sealed bag, stored, and held for at least 7 days prior to laundering**. The bag containing the potentially contaminated laboratory coat should be labeled "**COVID-19 quarantined laboratory coat**" and the date when the coat can be removed for laundering.
- RLSS recommend using Shaffer Dry Cleaning & Laundry for Tucson lab coat cleaning; satellite locations should contact local laundering services for their needs.

Gloves

- Gloves should be used for normal laboratory work and cleaning only; do NOT wear gloves outside of the lab or in common areas as you may contaminate common surfaces inadvertently.

Respiratory Protection

- **Any researcher planning or wanting to use respiratory protection**, including N95 respirators, elastomeric half or full-face respirators, or powered air-purifying respirators (PAPRs) **must contact RLSS for a required RLSS hazard assessment**. If approved, you will then be provided instruction on the next steps, including medical clearance from the UA Occupational Health clinic, fit testing, training, and other OSHA-mandated requirements.
- **COVID-19 has created severe shortages in respiratory protection and, until further notice, University resource cannot be used to support voluntary users of respiratory protection.**
- To request an assessment please complete the online Respiratory Protection Request Questionnaire.
- For assistance, questions, and/or concerns please contact RLSS-ppe@arizona.edu.

MASK TYPE	CONSTRUCTION	EXAMPLE	RECOMMENDED USE	PENN UNIVERSAL MASK USE
CDC Recommended Cloth Face Covering	2-ply cotton cloth These masks may be self-constructed or commercially manufactured. Loops may be on the sides on top and bottom. See: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html		CDC advises the use of simple cloth face coverings to slow the spread of the virus and help people who may be unaware that they have the virus from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.	Acceptable for Penn Universal Mask Precautions if properly made.
Surgical-Style Masks not intended for clinical use and Dental Face-masks	Surgical-Style & Dental Masks are loose-fitting masks typically made of non woven fabric and will have straps or cloth ties. Masks come in three fluid resistance ASTM levels (1-3) the higher the number the more resistance to fluid, blood, aerosol exposure or spray. Surgical-Style masks are constructed in a similar manner as surgical masks but are not manufactured for clinical use or carry FDA approval. These masks are non-sterile.		A surgical or dental mask is a loose-fitting, disposable mask that covers the nose and mouth of a person The mask will prevent large-particle droplets, splashes, sprays, or splatter from being spread by the person wearing them.	Acceptable for Penn Universal Mask Precautions. Typical of University-Supplied Face Mask
N95 , N99 and N100 Respirators	Respirators are composed of melt-blown non woven fabric. US respirators come in different filter efficiencies (95, 99 and 100) will carry a NIOSH approval. European respirators come in two filter efficiencies FFP2 (nearly N95) or FFP3 (N100) These respirators may also have an exhalation valve.		Respirators are tight fitting face coverings that are designed to reduce the wearer's exposure to respiratory contaminates.	Not recommended for Penn's Universal Mask Precautions. In general respirators are in very limited supply and should ideally be reserved for healthcare staff.

Credit: Penn State EHRS

Face Coverings

Face coverings **must** be worn in all UArizona locations, both indoors and outdoors, in accord with President Robbins' Administrative Directive. **Face coverings are not a substitute for physical distancing**, which should remain the primary means of preventing transmission.

Reusable and disposable face coverings are intended to decrease the potential for the wearer to spread the virus that causes COVID-19. **Face coverings provide little to no protection to the wearer, but they DO protect your community from you; many spreaders of COVID-19 are asymptomatic and may not even realize they are spreading the virus.**

Please see the RLSS guide to face coverings in the laboratory for more information on using face coverings in the laboratory.

Vehicles

- It is strongly recommended that **vehicles be single occupancy only** but recognize that in some cases it simply isn't feasible. When single occupancy is not feasible:
    - Follow the recommendations in the CDC guidance intended for workers in ride-share/taxis.
    - Everyone should check their symptoms before getting in the car, using the CDC symptom checker or the Wildcat WellCheck app;
    - Distance as much as possible (one person in the front, the other in the back; avoid any more than 2 people for standard vehicles).
    - Roll down the windows instead of using A/C (recirculating air).
    - Wear face coverings at all times.
    - Clean and disinfect everything with an EPA-approved disinfectant before and after use.
    - Minimize the duration and frequency trips as much as possible: keep them short and infrequent.

General Lab Rules and Guidance

- Current Pima County guidelines and CDC recommendations discourage gatherings of more than 10 people.
- Continue conducting virtual meetings and phone calls rather than in-person meetings.
    - If you **must** meet in person, limit to 10 people and position yourselves with at least six feet of separation. Keep the meeting short as possible, open any doors or windows to increase ventilation, and ensure all participants have performed a wellness check and are wearing a face covering.
- If you find that people are not practicing physical distancing, hygiene, or safety practices, or if you recognize unsafe conditions:

- In a congenial and caring manner, advise the individual(s) how they can improve the behavior or condition.
- If you are uncomfortable alerting the person or group, or if behaviors or conditions do not improve, speak with a Principal Investigator, advisor, lab or department manager, Human Resources, OmBuds, or another person in authority.
- It is **NOT recommended** to report using the UArizona Compliance Hotline, which is reserved for more serious privacy law and research ethics violations.

Requests for Reasonable Accommodations

If you or a fellow research requires a reasonable accommodation for any reason, please contact the UArizona Disability Resource Center or Human Resources.

Emergency Contacts

In case of emergency, dial 911. RLSS staff are available during normal business hours Monday through Friday, with limited onsite availability. Email requests for services to RLSS-help@arizona.edu or by calling 520-626-6850.

Research Outside of the Laboratory

- Human Subjects information can be found on the RII COVID-19 website
- The Safe Work Return Team, part of the Campus Re-Entry Group, has draft materials available online
- "Doing Fieldwork in a Pandemic" Living Document is available online

Resources

OSHA Guidance on Preparing Workplaces for COVID-19
https://www.osha.gov/Publications/OSHA3990.pdf

OSHA COVID-19 Website
https://www.osha.gov/SLTC/covid-19/controlprevention.html

CDC Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19)
https://www.cdc.gov/coronavirus/2019-ncov/lab/index.html

ABSA SARS-CoV-2/COVID-19 TOOLBOX
https://absa.org/covid19toolbox/

CDC Guidance for Schools, Workplaces & Community Locations
https://www.cdc.gov/coronavirus/2019-ncov/community/index.html

Higher Ed Return to Campus Guide: COVID-19 Phase II

Johns Hopkins' "Can a Mask Protect Me? Putting Homemade Masks in the Hierarchy of Controls"

OSHA Face Coverings FAQ

CDC Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes

RLSS COVID-19 Inspection Checklist

Question	Corrective Measure
Has your lab group had a meeting or formal communication reviewing the COVID-19 mitigation measures and behavior expectations?	Hold a virtual meeting or have formal communication reviewing the COVID-19 mitigation measures and behavior expectations.
Are lab members practicing proper hand hygiene, according to the CDC (washing with soap and water 20 sec, or hand sanitizer when soap and water are not available)?	Ensure lab members are practicing proper hand hygiene.
Are disinfection products (hand sanitizer, hand soap, paper towels, etc.) available at all times and being used in accordance with the manufacturer instructions (e.g. correct contact time)?	Ensure disinfection products are available.
Are lab members aware of how to procure disinfection products for their use?	Ensure ab members are aware of how to procure disinfection products.
Are common touchpoint surfaces (keyboards, door handles, touchscreens, chairs, etc.) decontaminated by lab members before and after each use, or at least on a daily basis?	Decontaminate common touchpoint surfaces are at least daily.
Are common pieces of equipment and instruments are labeled with the RLSS cleaning & disinfection stickers?	Ensure common pieces of equipment and instruments are labeled with the RLSS cleaning & disinfection stickers.
Are digital versions of documents are used over paper versions in all possible situations?	Ensure digital versions of documents are being used over paper versions.
Are all duties that can be done remotely (e.g. ordering, lab meetings, data analysis, etc.) now transitioned to remote formats?	Ensure duties that can be done remotely have been transitioned to remote formats.
Is appropriate physical distancing (at least 6 ft) maintained between lab members at all times (including the lab, work area, kitchens, etc.)?	Ensure a minimum of 6ft distance is maintained between lab members as much as possible and work with RLSS to enact other controls if not feasible.
Are staggered schedules and/or other physical distancing measures in use and communicated to all lab members?	Ensure staggered schedules and/or other physical distancing measures have been created and communicated to all lab members.
Are all lab members wearing face coverings, made of the appropriate materials, while on-site? See the RLSS guide to Face Coverings in the Laboratory.	Ensure lab members are wearing face coverings made of appropriate materials.
Do all lab members have at least 2 face coverings while onsite?	Ensure all lab members have at least 2 face coverings.
Are lab members aware of the CDC guidance and the expectation to self-isolate or quarantine if they • Test positive for COVID-19, • Have been in close contact (< 6 ft for 15 minutes) with someone who has tested positive, • And/or develop symptoms consistent with COVID-19?	Ensure lab members are aware of the expectation to self-isolate or quarantine.