



EMORY  
UNIVERSITY

ENVIRONMENTAL HEALTH AND SAFETY OFFICE  
OFFICE OF RESEARCH ADMINISTRATION

# RETURNING TO LABORATORY RESEARCH AT LOWER DENSITY

COVID-19 PANDEMIC,  
LABORATORY RESEARCH TRAINING  
MAY 2020

The content of this course reflects the most up-to-date guidance and data from the Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), and scientific literature available at the time the course was developed.



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THIS TRAINING IS INTENDED FOR ALL  
LABORATORY RESEARCH PERSONNEL TO  
ADDRESS CHANGES IN LABORATORY  
PRACTICES AND EMORY UNIVERSITY  
EXPECTATIONS AS A RESULT OF THE  
COVID-19 PANDEMIC AND  
REQUIREMENTS TO LOWER PERSONNEL  
DENSITY TO MAINTAIN PHYSICAL  
DISTANCING.

## COURSE OBJECTIVES

- I. Coronavirus Disease 2019 (COVID-19)
- II. COVID-19 Prevention
- III. Preventive Measures for Emory University Personnel
- IV. Emory University COVID-19 Resources
- V. Preparing the Laboratory for Activity in a World of Physical Distancing





# 1. Coronavirus Disease 2019 (COVID-19)

Topics covered in this section:

- COVID-19  
Transmission
- COVID-19 Symptoms



# COVID-19 Transmission

## ☐ Person-to-person spread:

- People are thought to be most contagious when they are at the peak of the infection or are the most symptomatic.
- Transmission of the virus can also occur when an individual is:
  - Pre-symptomatic - before showing symptoms
  - Asymptomatic - showing no symptoms

## ☐ Contact with infected objects or fomites:

- High touch surfaces, such as door handles
- Other surfaces, such as cardboard boxes

# COVID-19 Droplet Transmission

- ❑ Respiratory droplets are created by breathing, coughing, sneezing, singing, or speaking.
  - Small droplets remain airborne for a few seconds depending on the droplet size.
  - Large droplets can travel only a short distance ( $<1\text{m}$ ) before gravitational forces pull them down.
- ❑ Someone can potentially become infected by:
  - Close contact with droplets from a cough or sneeze.
  - Close contact with surfaces contaminated with virus droplets.



Cleveland Clinic



CA Public Health | Twitter

# Who is at Risk of Being Infected?

People of all ages can be infected by the new coronavirus (nCoV-2019).

Older people, and people with pre-existing medical conditions (such as asthma, diabetes, heart disease) appear to be more vulnerable to becoming severely ill with the virus.

WHO advise people of all age to take steps to protect themselves from the virus, for example by following good hand hygiene and good respiratory hygiene.



#Coronavirus

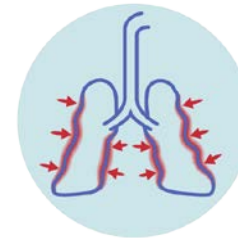
Does the new coronavirus affect older people, or are younger people also susceptible?



# COVID-19 Symptoms

❑ The following symptoms may appear **2-14 days after exposure**.

- ✓ Fever
- ✓ Cough
- ✓ Shortness of breath
- ✓ Fatigue
- ✓ Aches and pains
- ✓ Sore throat
- ✓ Loss of taste / smell
- ✓ Chills



- ❑ Most people recover without needing special treatment.
- ❑ Very few people who contract COVID-19 become seriously ill.



## 2. COVID-19 Prevention

Topics covered in this section:

- Centers for Disease Control and Prevention (CDC) Guidance

# COVID-19 Prevention: CDC Guidance



- ☐ Avoid touching your eyes, nose, and mouth.
- ☐ Cover your cough or sneeze with a tissue, then throw the tissue in the trash.



- ☐ Stay home when you are sick.



- ☐ Avoid close contact with people who are sick.
- ☐ Cover your mouth and nose with a cloth face cover when around others.

# COVID-19 Prevention: CDC Guidance



- ☐ Clean and disinfect frequently touched objects and surfaces.

Examples: doorknobs, faucet handles, computer keyboard/mouse, phone, equipment handles, etc.

- ☐ Wash your hands often with soap and water **for at least 20 seconds.**



- after going to the bathroom
  - before eating
  - after blowing your nose, coughing, or sneezing
- ☐ If soap and water is not available, use an alcohol-based hand-sanitizer.
  - >60% alcohol



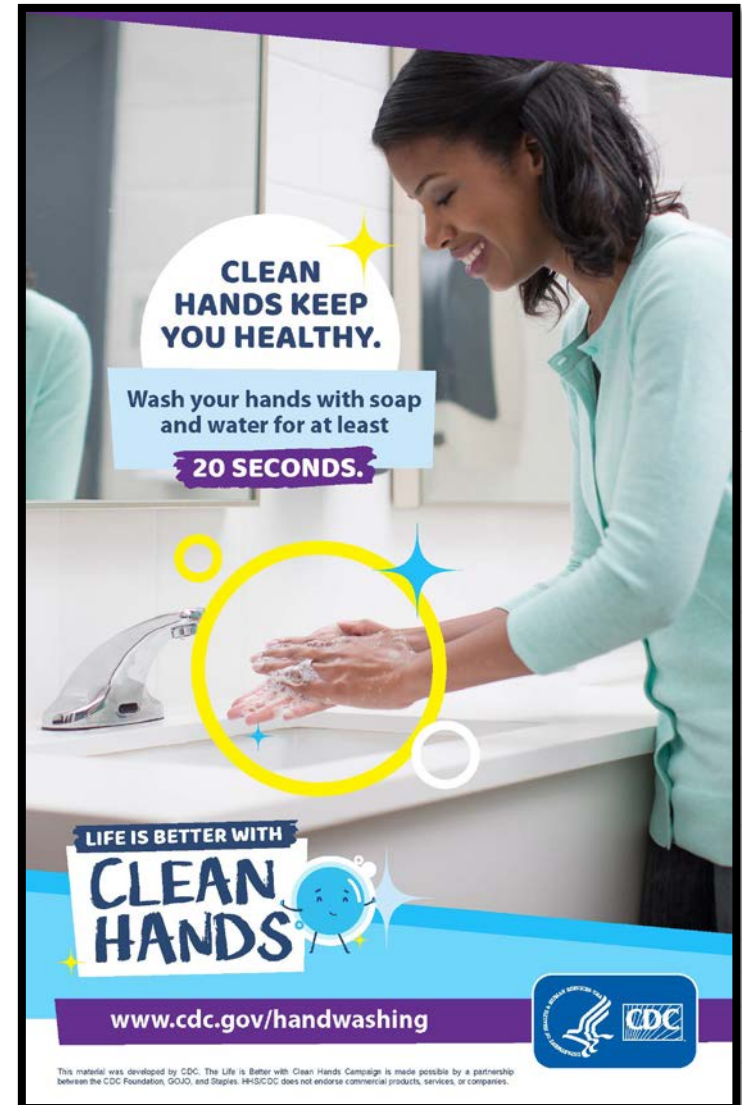
### 3. Preventive Measures for Emory University Personnel

Topics covered in this section:

- Handwashing
- Physical Distancing
- Reducing Laboratory Density
- Wearing a Cloth Face Cover
- Disinfection Guidance
- Doffing Gloves

# Handwashing

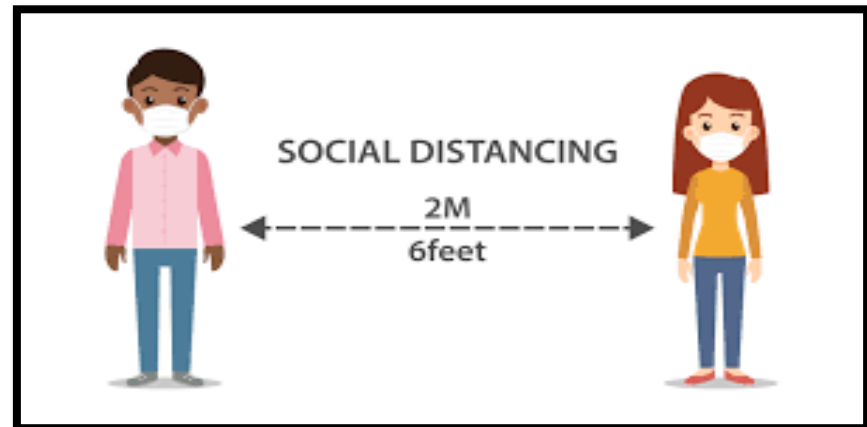
- ❑ **Wet** hands and apply soap.
- ❑ **Lather** by rubbing hands together.
  - ✓ backs of hands
  - ✓ between fingers
  - ✓ under nails
  - ✓ around thumb and wrists
- ❑ **Scrub** for at least **20 seconds**.  
Need a timer? Hum the “Happy Birthday” song from beginning to end, twice.
- ❑ **Rinse** hands well.
- ❑ **Dry** hands using clean towel or air dry them.



# Physical Distancing

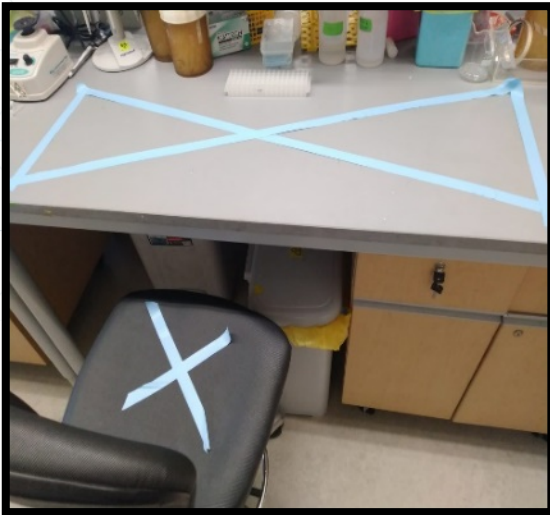
The CDC issued guidelines related to physical distancing measures to reduce the risk of transmission of the virus in schools and workplaces.

- ❑ We remind Principal Investigators, laboratory managers, and researchers to ensure safe distancing practices are observed in their workspaces to ensure a safe and healthy environment.
- ❑ The following slides are meant to provide general guidance on achieving physical distancing measures in the laboratory.

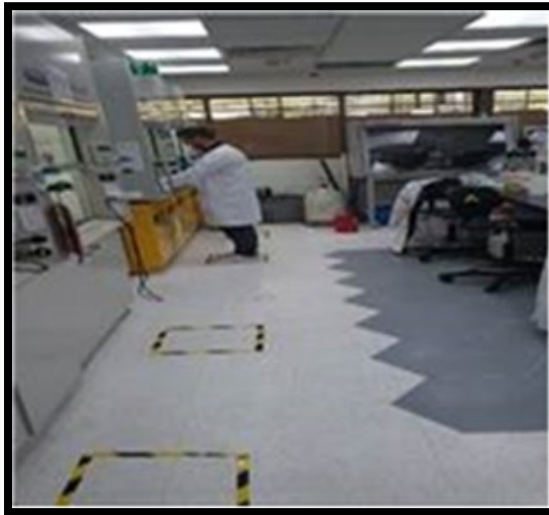


# Physical Distancing

## Workstation Labeling and Floor Marking Recommendations



Labels to identify  
out-of-bounds  
workstation and chair



Floor markings for  
where personnel should  
stand



Floor markings for where  
personnel should work  
(staggering workstations)

These photos provide examples for how to achieve physical distancing measures in the laboratory.

Images courtesy of National University of Singapore

# Physical Distancing

## Workstation Labeling and Floor Marking Recommendations



Floor label to indicate  
*DO NOT ENTER*  
when someone is inside



Floor markings for  
waiting area



Floor markings for  
waiting area

These photos provide examples for how to achieve physical distancing measures in the laboratory.

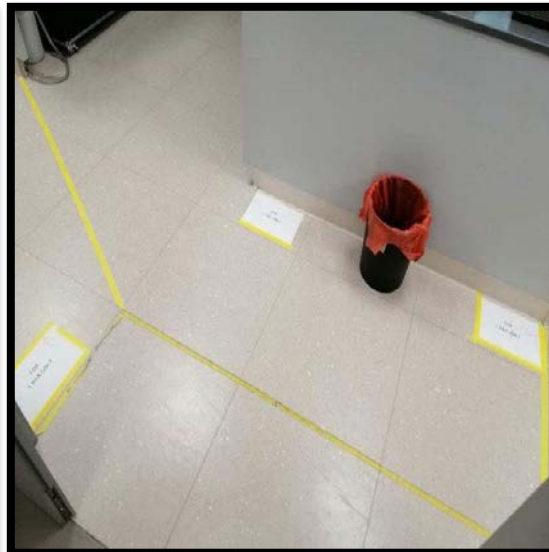
Images courtesy of National University of Singapore

# Physical Distancing

## Workstation Labeling and Floor Marking Recommendations



Labels to remove excess equipment and furniture



Floor markings to separate work areas



Labels for workstations designated by shifts (Team A and Team B)

These photos provide examples for how to achieve physical distancing measures in the laboratory.

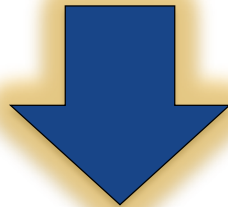
Images courtesy of National University of Singapore



# Physical Distancing

If specific laboratory activities, procedures, or certain lab areas  
inhibit the ability to practice physical distancing

(i.e. researchers are unable to maintain 6 ft distance between one another and/or maximum density of 250 sq ft per individual)



Contact the Environmental Health & Safety Office (EHSO) for a risk assessment **to determine if additional PPE** or an alternative solution may be available.

**404-727-5922 | [ehso@emory.edu](mailto:ehso@emory.edu)**

# Reducing Laboratory Density

- ❑ Make adjustments to work schedules to ensure sufficient space is allowed for physical distancing.
  - ✓ use shift hours  
**example: 7:00a–3:00p, 3:00p–11:00p**
  - ✓ alternate days or weeks
  - ✓ keep clear and constant communication between group members
- ❑ Reduce the total number of employees in a facility at a given time.
- ❑ Reduce the density of personnel per square foot of research/workspace. Maximum personnel density in labs is **250 sq ft per individual**.



Courtesy of Workplace Hero

# Wearing a Cloth Face Cover

Emory University personnel will be provided cloth face coverings when they become available. It is recommended that you bring your own to conserve supplies. Cloth face coverings must be worn while on Campus and inside Emory Buildings.



- ☐ To slow the spread of the virus and **help protect others**.
- ☐ The cloth face cover is not a substitute for physical distancing.
- ☐ The cloth face coverings are not surgical masks or N95 respirators. Those are critical supplies that must continue to be reserved for healthcare workers and other medical first responders.

# Wearing a Cloth Face Cover

- ❑ Fits snugly but comfortably against the face:
  - Covers nose, mouth, and chin
  - Secured with ties or ear loops
  - Includes multiple layers of fabric
  - Allows for breathing without restriction
- ❑ Able to be laundered and machine dried without damage or change to shape.
- ❑ When removing:
  - Release ear loops or ties without touching your face or the front of the cloth face cover.
  - Wash your hands with soap and water for at least 20 seconds after removing cloth face cover.



# How Can Research Personnel Help Prevent the Spread of COVID-19/SARS-CoV-2?

Personnel Type	Personal Protective Equipment (PPE) – Minimum Required	Disinfection Activity	Disinfectant *
Office/ Computational Personnel	 <p>Cloth Face Cover</p>	<ul style="list-style-type: none"> <li>☐ Frequently wipe high-touch surfaces during the day and at the end of your work shift (e.g. desk, drawer handles, phone, computer keyboard, mouse).</li> <li>☐ Wash your hands for 20 seconds before you leave to go home.</li> </ul>	<p>Any EPA-registered disinfectant *</p> <p>(e.g. Clorox, Lysol, Sani-Cloth wipes, 70% alcohol solutions)</p>
Laboratory Personnel	 <p>Standard Laboratory PPE + Cloth Face Cover</p> <p>(Use respiratory protection if advised by EHSO due to risk assessment)</p>	<ul style="list-style-type: none"> <li>☐ Frequently wipe high-touch surfaces during the day and at the end of your work shift (e.g. benchtops, equipment handles, door handles, lab phone, computer keyboard, mouse).</li> <li>☐ Wash your hands for 20 seconds before you leave to go home.</li> </ul>	<p>Any EPA-registered disinfectant *</p> <p>(e.g. quaternary ammonium, 10% bleach, 70% alcohol solutions, or approved alternatives)</p>

\*Any disinfectant that demonstrate efficacy against 'Human Coronaviruses' can be used.



# Disinfection Guidance for Laboratories and Workspaces



Environmental Health and Safety Office  
Research Administration

1762 Clifton Road NE, Suite 1200  
Atlanta, GA 30322  
(404) 727-5022  
FAX: (404) 727-5904

## DISINFECTION GUIDANCE FOR LABORATORIES AND WORKSPACES

The following is guidance for disinfection and protection during the SARS-CoV-2 (COVID-19) pandemic. Particular attention should be given to 'high touch' surfaces. Also refer to guidance provided by the Centers for Disease Control and Prevention. Please keep in mind and observe the basics of infection control:

- *Avoid close contact with people who are sick.*
- *Practice social distancing by maintaining distance (approximately 6 feet or 2 meters) from others.*
- *Cover your cough or sneeze with a tissue, then throw the tissue in the trash.*
- *Avoid touching your eyes, nose, and mouth.*
- *Clean and disinfect frequently touched objects and surfaces.*
- *Stay home when you are sick, except to get medical care.*
- *Wash your hands often with soap and water for at least 20 seconds.*
- *Cover your mouth and nose with a cloth face cover/mask when around others.*

<https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html>

<https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-lhe-response.html>

During the SARS-CoV-2 (COVID-19) pandemic, Campus Services Building and Residential Services (BRS) team will continue to provide cleaning services for occupied buildings. The focus of the cleaning will be disinfection of high touch surfaces such as door handles, elevator buttons, bathrooms, stair rails, and other surfaces in common

Available on the EHSO website:  
<http://www.ehso.emory.edu/documents/Disinfection-Guidance-for-Laboratories-and-Workspaces.pdf>

# Doffing/Removing Gloves





## 4. Emory University COVID-19 Resources

Topics covered in this section:

- Office of Research Administration (ORA) COVID-19 Resources
- Emory University COVID-19 Resources

# COVID-19 Resources: Office of Research Administration

- ❑ Emory research guidance during COVID-19
- ❑ Guidance for faculty
- ❑ Upcoming and previously recorded webinars
- ❑ Emory COVID-19 research news



# COVID-19 Resources: Emory University

- ❑ Resources provided for Students, Faculty, and Staff
- ❑ Important Communications
- ❑ Frequently Asked Questions (FAQs) section
  - *What should you do if you think you have COVID-19?*
- ❑ Emory Healthcare COVID-19 Hotline  
**(404) 71-COVID**
- ❑ EVIP Appointment Line  
**(404) 778-EVIP**





# 5. Preparing the Laboratory for Activity in a World of Physical Distancing

Topics covered in this section:

- Preparing the Laboratory Facility
- Evaluation of Reagent and Chemical Stocks
- Removal of Wastes



# Emory University Expectations



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**All University personnel, including members of research teams, will:**

- ☐ Follow **physical distancing** practices.
- ☐ **Wear cloth face covers** in common spaces (even if they are the only person in the space).
- ☐ Ensure their **workspaces** and **frequently touched** items are **disinfected** prior to and at the end of their work shift.
- ☐ **Wash hands for 20 seconds** throughout work shift and before they leave to go home.
- ☐ **Stay home if they feel ill or present with symptoms.**  
**(NO EXCEPTIONS)**
- ☐ **Report illness and/or symptoms** to their PI, Supervisor, Manager, and/or Department Administrator **immediately**.

# Preparing the Laboratory Facility

- ☐ Flush sinks and eyewash equipment.
  - ✓ Allow water to run continuously for 5 minutes.
  - ✓ After activation, record date and initials on the Eyewash Activation Record Form.
- ☐ Ensure sinks are free of foreign objects or solid waste that could clog drain.
- ☐ Ensure sinks are fully stocked with soap and paper towels.



# Preparing the Laboratory Facility



- ❑ Check all compressed gas cylinders and house gas lines.
  - ✓ Ensure cylinders/tanks are properly secured.
  - ✓ Check valves and regulators.
  - ✓ Verify amount of gas content remaining in cylinders/tanks.



# Preparing the Laboratory Facility

 **WRONG**



- ☐ Ensure laboratory has negative directional airflow.
- ☐ Use a Kimwipe or tissue to confirm air flows toward the interior of the lab (i.e. away from non-lab spaces).
  - Image to left = positive airflow
  - When you test your lab airflow, if the Kimwipe/tissue moves toward the hallway/non-lab space, submit a work order with your Facility Manager or Campus Services to have this addressed by Emory's HVAC team.



# Evaluation of Reagent and Chemical Stocks

- ❑ Evaluate reagent and chemical stocks for expiration and/or contamination.
- ❑ Dispose of expired or contaminated chemicals through EHSO.



## Removal of Wastes

- ❑ Restart lab activities with empty waste containers. Dispose of any previously accumulated hazardous wastes.
  - ✓ Chemical wastes
  - ✓ Biological wastes



# How To: Transfer Waste to EHSO



Visit the Regulated (Chemical)  
Waste Request System  
[www.ehso.emory.edu](http://www.ehso.emory.edu)

Transfer waste to EHSO  
For special requests, email  
[chemwaste@emory.edu](mailto:chemwaste@emory.edu)  
(e.g. lab cleanouts)

Instructions:

1. List each item separately by SDS.
2. Complete all sections to the best of your knowledge, including containers.
3. Waste will be picked up by EHSO on scheduled days for your building. Click Here for schedule.

NOTE: Emergency and special waste pickup requests (e.g. lab decommissioning) can be scheduled. Email [chemwaste@emory.edu](mailto:chemwaste@emory.edu) with complete details.

NOTE: If your P.I., Department, Building is not found in the drop-down box, please email us at [chemwaste@emory.edu](mailto:chemwaste@emory.edu).

For additional information, please call 727-5922 or view our website [www.ehso.emory.edu](http://www.ehso.emory.edu).

\* Investigator:

---SELECT A PI---

\* Department:

---SELECT A DEPARTMENT---

\* Building:

---SELECT A BUILDING---

\* Room #:

\* Contact Name:

\* Email Address:

\* Phone #:

Comments:

Waste Collection Request

☐ Check Here if No Pickups are Required

No.	# of Containers	Size	Units	Contents
1	2		Gallons	40% Methanol / 30% acetic
1	3		Gallons	



# WORK – RELATED HEALTH CONCERNS?

- Please contact Occupational Injury Management (OIM) at 404-686-8587
- For additional information about OIM, please visit [OIM's website](#).



# QUESTIONS

For questions about this course,

- Please contact EHSO at 404-727-5922 or [etraini@emory.edu](mailto:etraini@emory.edu)
- For additional information about EHSO, please visit [EHSO.Emory.edu](http://EHSO.Emory.edu)