

## FOR RESEARCHERS: FACE COVERINGS, SURGICAL MASKS, AND RESPIRATORS

This fact sheet describes the various forms of respiratory protection used at Yale, both on campus and in the research environment.

### Face Coverings



While a cloth face covering is not allowed in a Yale laboratory, you should know that a mask or face covering is required whenever you are outside or inside any space that can reasonably be expected to be shared (e.g., common work areas, hallways, and restrooms). This physical barrier can help contain the spread of respiratory droplets when an infected person coughs, sneezes, or talks. A face covering is not intended to protect the wearer, but by covering their mouth and nose with a face covering, they are less likely to transmit the virus to others if they are asymptomatic or have unrecognized, early COVID-19 symptoms. A face covering also prevents the wearer from touching their eyes, nose, and mouth with unwashed hands.

Please note:

- A face covering is not required when working alone in segregated spaces (i.e., cubicles with walls, private offices, etc.) or when walking alone outdoors away from others.
- A mask or face covering appropriate for each individual's work activities are provided by a variety of means. A face covering must not have an exhalation valve.

See EHS's separate fact sheet for more details about the use and care of face coverings. View the face sheet at <https://ehs.yale.edu/sites/default/files/files/face-masks-coverings.pdf>.

### Surgical Masks for Yale Laboratories



Yale's Personal Protective Equipment (PPE) policy requires every person in a laboratory to wear eye protection. Gloves and a lab coat are required when handling hazardous materials. PPE procedures for laboratories are described at <https://ehs.yale.edu/sites/default/files/files/ppe-procedure-labs.pdf>.

During Yale's Phase I reactivation of campus research, trainees, faculty, and staff are also required to wear surgical masks while in a laboratory. Each individual returning to work in a laboratory will be provided a supply of disposable, water-resistant surgical masks. This mask will not only serve the wearer as a face covering does, but—together with eye protection—the water-resistant surgical mask also protects the wearer from droplets—an important means of disease transmission.

A surgical mask is only effective if used properly:

- Wash hands or use hand sanitizer before putting on and removing the mask or face covering.
- Your mouth and nose should be fully covered.
- The mask should cover both your nose and mouth, to impede virus-containing respiratory droplets that can enter and be expelled from both the nose and mouth.
- Don't touch the outside of your mask. Breathing through the mask draws respiratory droplets towards your mask, so treat the external part of your mask as if it were contaminated.
- If you have difficulty breathing when wearing a face covering, it should be removed.
- Laboratory surgical masks should be disposed of at the end of the day, or if damaged or contaminated. When removing your mask, only touch the loops that go around your ear.

A face covering or a surgical mask is not a substitute for social distancing. As the CDC stresses, wearing a face mask or covering is an additional public health measure people should take to reduce the spread of COVID-19. You should still stay at least 6 feet away from other people (social distancing) and frequently wash your hands.

Additional points about wearing surgical masks:<sup>1</sup>

- You are not required to wear a surgical mask if doing so is contrary to your health or safety because of a medical condition. In this case, do not enter the laboratory. Contact EHS to determine if alternative protections can be provided.
- As with a face covering, a surgical mask is not required when working alone, away from others, in an isolated laboratory room.
- You should wear a surgical mask when working alone in a small room that is shared by several people, such as a scheduled microscope or instrument room.
- A surgical mask may be used as a face covering outside of the laboratory, but do not wear the same mask both inside and outside of the lab. As you do with other laboratory PPE—such as a lab coat and gloves—the surgical mask you wear in the laboratory should be removed when leaving the laboratory.
- Laboratories that use pyrophoric chemicals will be provided with FR-rated face masks.
- Wearing a mask can lead to problems with fogging of your eyewear. **Note:** The most effective products to prevent fogging of glasses and face shields consist of siloxane in alcohol (e.g., Rain-X), which create a hydrophobic film that bonds to the glass or plastic's interior surface. Fogging can also be prevented by sealing the mask at the nose ridge. Paper tape has been successfully used for this by many users.
- Behind-the-head mask holders are available commercially. Some people prefer these for ear loop masks.

In some cases, EHS will provide researchers with other means of respiratory protection specific to their work, such as a KN95 mask, an N95 respirator, or a powered air-purifying respirator (PAPR).

## **KN95 Masks**

KN95 masks are made to standards established by China and other Asian countries. Most do not fit tightly, so they cannot be used as a respirator for medical personnel. They are water resistant and provide good filtration, some may be used as a face covering if specified by EHS.

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<sup>1</sup> Note that some surgical masks are certified to meet ASTM standards. ASTM standards are referenced by the FDA specifying performance requirements for medical face masks. Basic criteria in specifying these standards include high levels of bacterial, particulate and fluid resistance. Healthcare workers require surgical masks with ASTM ratings. EHS may specify their use in clinics, with research animals, or for other research procedures. Surgical masks lacking the ASTM rating must also demonstrate fluid resistance and particulate filtration efficiency, and often visually appear similar to surgical medical masks.

## N95 Respirators



An N95 mask is a tight-fitting respirator that is designed to protect the wearer from aerosols or fine particles. Although primarily used by frontline medical personnel, EHS may specify their use with research animals or for other research procedures.

EHS specifies use of an N95 respirator following a hazard assessment to determine if the exposure risk to aerosols or fine particles. EHS may inspect the lab and assess the exposure risks. Although an N95 respirator may be appropriate, EHS might alternatively determine that sufficient protection can be provided via more room air changes, different work practices, or some other safety measure. Moreover, because laboratories are well ventilated with fresh air and higher air changes, individuals are working six feet apart, and droplet transmission is a primary means of COVID-19 transmission, an N95 respirator is not indicated for most research work at Yale. With respect to work with research animals, EHS occasionally allows the use of an N95 respirator or a PAPR for certain tasks, but an N95 respirator is not necessary for most work with research animals.

Individuals who use an N95 respirator must be medically cleared, trained, and fit tested to the proper style and size. It is important for the wearer to understand that, to be effective, an N95 respirator must be tight-fitting and—at all times during its use—must fit snugly against the sides of the face so there are no gaps. During use, unfiltered air cannot be allowed to pass between the respirator and the wearer's skin. If this occurs, the purpose of the respirator is defeated and the N95 respirator offers no more protection than a surgical mask. Many models and sizes of N95 respirators are made, and—because everyone's face is shaped differently—it is likely that only a few types can fit tightly on any person's face. Fit testing involves trying on different models and sizes of N95s on each person, and testing their effectiveness to select the type with the best fit. This is why fit testing is so important prior to using an N95 respirator.

When worn for extended periods many people find wearing an N95 respirator to be uncomfortable.

N95 respirators are in short supply and should be reserved for healthcare workers unless otherwise specified by EHS. Because of this:

- While N95 respirators are designed to be single use-disposable, EHS has created a procedure that allows users to reprocess their N95 themselves (using a disinfectant and a three-day rotation) during the pandemic shortage. View the procedure at <https://ehs.yale.edu/sites/default/files/files/mask-reprocess-guidelines.pdf>.
- As of June 2020, because of the national shortage, EHS is collecting used N95 respirators and reprocessing them for reuse. Do not discard used N95s—collect them and call EHS for reprocessing.

If you have not been trained and fit-tested for using an N95 respirator, contact EHS to discuss appropriate respiratory protection or requirements for voluntary use.

**Powered Air-Purifying Respirator (PAPR)**

EHS has a separate fact sheet on Powered Air-Purifying Respirator (PAPR) which is an expensive specialty respirator used for special circumstances. View the fact sheet at

<https://ehs.yale.edu/sites/default/files/files/paprs.pdf>.

**Face Shields**

While they do not offer respiratory protection, EHS may specify the use of a face shield for necessary work done when individuals must be within six feet of each other. Face shields offer excellent droplet protection.

**Questions?**

For more information about masks, face coverings and respiratory protection, please contact Yale Environmental Health and Safety at [ehs@yale.edu](mailto:ehs@yale.edu) or 203-785-3550.

**Concerns?**

For personal health concerns and questions about Yale's COVID-19 response and policies, you may call 203-432-6604 (toll-free at 866-924-9253). Available 8 am–5 pm, 7 days a week.

If you are comfortable doing so, you may report a concern about compliance with COVID-19 health and safety policies or regulations directly to your staff supervisor, your human resources representative, or a supervising faculty member. You may also make an anonymous or identified report through Yale's hotline at 877-360-9253, or online at [your.yale.edu/hotline](http://your.yale.edu/hotline). Available 24 hours a day, 7 days a week.

You may also report a concern or seek additional COVID-19 information by contacting the 2-1-1 Connecticut Hotline.