

The University has established the following guidelines for the use of Personal Protective Equipment (respirators and masks) and Face Coverings by students, faculty, staff and visitors to reduce the spread of Covid-19. This policy supplements but does not supplant requirements for the use of personal protection against other hazards in the workplace (such as in chemical or biological research laboratories).

**A separate Covid-19 policy applies to the use of Personal Protective Equipment by healthcare/clinical workers and patients in USC healthcare facilities.**

**Purpose:**

1. Maintain safe and healthy campuses for the USC community.
2. Ensure compliance with federal guidelines and state and local requirements for use of personal protective equipment (respirators and masks) and face coverings in all campus locations.

**Definitions:**

**Personal Protective Equipment (PPE)** encompasses a range of items, such as gloves and protective clothing as well as face masks and face shields, that are worn to minimize exposure to hazards that can cause serious injuries and illnesses. Occupational requirements for PPEs are established by state and federal regulations.

An **Isolation/Surgical Mask is a loose-fitting, single-use device** that creates a physical barrier between the mouth and nose of the wearer and potential contaminants in the immediate environment. Surgical masks also help reduce exposing others to the wearer's saliva and respiratory secretions. Surgical masks are regulated by the FDA.

An **N95 Respirator** is a respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles. The '**N95**' designation means that the respirator is capable of blocking at least 95 percent of the very small (0.3 micron) particles in a test. Use of a N95 respirator in an occupational setting requires medical clearance, fit testing, training, and participation in a respiratory protection program. Standards for N95 performance are set by the National NIOSH.

A **KN95 Respirator** is a respiratory protective device that meets standards set by China. KN95s do not meet NIOSH standards, and their performance in limited testing has been variable. They are not an appropriate substitute in settings where an N95 mask is required.

**Face Shield** encompasses a variety of devices (typically made of clear plastic) that protect the wearer's face (including the eyes) from fluids (such as splashes or respiratory droplets). In healthcare settings, face shields are worn over required masks. Face shields are not currently approved by the LA Department of Public Health as a substitute for face coverings.

**Cloth Face Covering** refers to any material used to cover the nose and mouth that is not a surgical mask, respirator, or face shield. It can be secured to the head with ties or straps or simply wrapped around the lower face and neck. It can be made of a variety of materials, such as cotton, silk, or linen. According to the California Department of Public Health, a face covering may be factory-made, sewn by hand, or improvised from household items such as scarfs, T-shirts, sweatshirts, or towels. Facing coverings vary greatly in the protection against respiratory spread of infectious particles that they provide to the wearer and to others in the environs.

**Background:**

During April 2020, a number of regulatory agencies made recommendations or issued requirements regarding the wearing of cloth face coverings while out in public:

- [CDC – Centers for Disease Control and Prevention](#)
- [CDPH – California Department of Public Health](#)
- [LAC DPH – Los Angeles County Department of Public Health](#)
- [City of Los Angeles Mayor Eric Garcetti](#)

While cloth face coverings are not traditional PPE, evidence supports their use as a means of reducing dissemination of respiratory droplets and hence the spread of Covid-19.

During the Covid-19 pandemic the particular risk faced by each member of the USC community depends on many factors, such as where they live, work, and study, both on and off a USC campus. USC has implemented a number of risk-mitigation measures, including engineering and administrative controls. Individuals should follow proven prevention strategies, such as physical distancing and hand hygiene. PPE and face coverings offer another means of preventing the spread of the virus, especially when people are in public settings where they cannot fully implement other measures.

Since surgical masks and N95 respirators remain in short supply, their use should be reserved for persons working in higher-risk environments such as hospitals and clinics or providing “first response” in the community. Per [Cal/OSHA Title 8 Section 3380](#), to comply with CDC guidelines and due to the shortage, states “are not recommending respirators or masks for most workers at this time.”

The most effective methods for reducing the spread of Covid-19 continue to be staying at home, including working or studying from home when possible, maintaining the recommended physical distance from others, washing hands frequently, and staying isolated when experiencing symptoms of Covid-19. The use of masks and other face coverings when interacting with others provides some added protection against transmission of the virus by airborne particles, especially since many people with active infections show no symptoms but are capable of spreading the virus.

**Policy:**

Anyone over the age of 2 entering a USC campus must wear a face covering while in any indoor or outdoor public spaces. USC will procure and distribute sufficient Personal Protective Equipment (PPE) and Face Coverings to ensure that all students, faculty, and staff on a USC campus can comply with this policy and with all applicable local and state laws and regulations as well as OSHA mandates regarding protection against Covid-19. **Individuals may also choose to use a face covering of their choosing.**

The Office of Environmental Health and Safety (EH&S) is responsible for assessing and determining the appropriate use of all PPE (N95 respirators, isolation/ surgical masks, gloves, eye protection, face protection, lab coats, etc.). In collaboration with Keck Medicine and the Keck School of Medicine, EH&S has developed a [PPE risk matrix \(see Appendix A\)](#) that follows OSHA’s regulatory guidance for its [Occupational Risk Pyramid](#).

Requests for an exception to a risk assessment should be submitted to the USC Covid-19 Public Health Working Group, which may approve a request supported by need and adequate evidence of safety. In general, exceptions will only be granted if they provide a higher level of protection. If at any time USC’s PPE inventory is not sufficient to support any exceptions that have been approved, distribution of PPE will be made by triaging PPE by risk level (i.e., priority will be given to persons working in higher risk settings). USC’s goal in this regard is always to conserve and safely use PPE.

**Appendix A - PPE Risk Matrix****Appendix B - Keck Evidence Review****Appendix C - USC Cloth Face Coverings Quick Guide****Appendix D - Covid 19 Surgical Mask Quick Guide****Appendix E - Glove Donning and Doffing****Appendix F - N95 Extended Use and Reuse Guidance****Appendix G - Surgical Mask Reuse Option****Appendix H - PPE Distribution Plan**

# GuideSheet

## COVID-19 RISK MATRIX FOR PPE

All personnel are required to wear face coverings and practice proper hand hygiene when they are in any USC area with outdoor or indoor shared spaces.

MINIMUM PROTECTION	RISK LEVEL	PPE	RECOMMENDED FOR
	<p><b>HIGH</b></p> <p>Those with high potential for exposure to known or suspected sources of COVID-19 patients.</p>	N95 or PAPR; face shield, goggles or safety glasses; disposable gowns; disposable gloves	Healthcare workers, first responders, dental care workers, etc; while caring for suspect or confirmed COVID patients
	<p><b>MEDIUM</b></p> <p>Those that require frequent and/or close contact (less than 6 ft.) for 10 minutes or longer with people who may be infected (not known or suspected patients) and which there is no way to re-engineer their work space (e.g., high-population density work environments).</p>	Surgical mask; face shield, goggles or eye protection when splash hazard; disposable gloves	Public facing departments such as DPS, shuttle drivers, kitchen and dining employees
	<p><b>LOW</b></p> <p>Jobs that don't require contact with people known to be infected or suspected patients and who can stay 6 feet away from co-workers and the general public.</p>	Cloth face covering; lab coat if working in lab environment; face shield, goggles, or eye protection when there is a splash hazard; disposable gloves when jobs require frequent handling of high touch items	Outdoor shared spaces, indoor spaces, alone in an office or laboratory
	<p><b>VERY LOW</b></p> <p>Those who are able to maintain a minimum 6 feet distance with other people in their work environment and that require little to no interaction with the general public.</p>	Cloth face coverings when entering indoor or outdoor public spaces. - Wash hands for at least 20 seconds with soap and water.	Alone in personal office space **; should be prepared to don face covering

\*LA County Department of Public Health Guidance for Cloth Face Coverings - <http://tiny.cc/la-face-coverings>; KN95 acceptable alternative

\*\*No mask is acceptable alternative

## KSOM Evidence Review and Recommendations Regarding Face Coverings for the USC Campus

Our KSOM COVID-19 Evidence Summary team scanned the literature, and obtained feedback from several campus experts, to provide guidance on the use of face coverings for Keck School of Medicine employees as they return to campus in a phased manner. This guidance does not represent a formal, comprehensive literature review but rather is the result of a rapid but careful scan for relevant research, coupled with expert feedback. We have indicated which recommendations below come from peer-reviewed studies and which represent “expert opinion.”

The focus of this review is face coverings for the general campus population in public spaces; offices; classrooms; and research work spaces. It does not apply to specialized environments, such as healthcare facilities or environmental health workers where additional personal protective equipment may be indicated.

We also provide specific recommendations for the KSOM community based on our findings.

### The Need for Face Coverings in Public Spaces

Because COVID-19 spreads via respiratory droplets that typically travel up to 6 feet under normal circumstances (dispersion can be further in some settings, e.g. aerosolizing medical procedures), face coverings worn by infected individuals (both symptomatic and asymptomatic) may reduce viral dispersion, reducing both direct infection of those within a 6-foot radius as well as environmental contamination. For this reason, face coverings limit infection spread to others, but may not provide significant protection to the wearer unless there is sufficiently fine filtration (e.g. an N95 mask).

Our team was not able to identify rigorous public health or clinical randomized trials to assess the efficacy of face coverings for reducing COVID-19 transmission. However, high quality [research](#) does demonstrate that face coverings can substantially reduce viral dispersion via respiratory droplets. In addition, [compelling anecdotal data](#) and [epidemiologic studies](#) suggest that face coverings may meaningfully reduce infection spread.

## Centers for Disease Control and Prevention Face Covering Recommendations

Based on the experimental and anecdotal data mentioned above, the Centers for Disease Control and Prevention (CDC) updated its [guidelines](#) in early April to recommend face coverings by the general public using cloth masks. The CDC recommendations emphasize that:

- Cloth masks are recommended in public settings when physical distancing is difficult to achieve, particularly in communities where there is substantial community spread;
- Wearers of cloth masks should be advised to avoid direct contact with the face when removing the mask; practicing hand hygiene when handling the mask; and laundering the cloth mask routinely.
- Cloth mask use does not diminish the importance of other preventive measures;
- Medical masks should not be used by the general public to ensure adequate supply in healthcare settings.

### What Type of Face Covering is Best?

#### Medical (Surgical) Masks (Excluding N95 Masks)

Medical masks (also known as surgical masks) are the best studied face coverings. The CDC’s recommendation to support face coverings by the general public were largely based on the experimental and anecdotal data noted above, which was generated using medical masks. Because of the shortage of medical masks, however, their use has been discouraged outside of the healthcare setting to ensure adequate supply at medical facilities. In addition, USC contracting reports that securing adequate medical (surgical) masks except for healthcare operations and specific high risk employees is challenging in the current environment.

#### Cloth Face Coverings

Cloth face coverings are recommended by the CDC and the LA County Department of Public Health and have previously been used in resource-poor regions of the world during infectious disease outbreaks. However, some peer-reviewed research, as well as anecdotal experiences, have raised concerns about cloth face coverings:

- A 2015 [cluster randomized trial](#) published in BMJ Open comparing cloth masks vs. medical masks in healthcare workers found a relative risk of 13.00 (95% CI 1.69-100.07) for the spread of influenza-like illness with cloth mask vs. medical mask use. The authors postulated that “moisture retention, reuse of cloth masks and poor filtration may result in increased risk of infection.”
- An [experimental study](#) of cloth masks found wide variation in the penetration levels of respiratory droplets based on the type of fabric used, and concluded that “only marginal respiratory protection can be expected for submicron particles” with the use of cloth face masks.
- A rapid [expert consultation](#) published this April found that “overall, the available evidence is inconclusive about the degree to which homemade fabric masks may suppress spread of [novel coronavirus) from the wearer to others.”
- Anecdotal, it has been observed that many USC employees find cloth masks to be quite uncomfortable and compliance has been inconsistent.

### Face Shields

Due to the limitations of cloth masks, face shields have been suggested as an alternative face covering for the general public to limit viral dispersion from respiratory droplets. Guidance from the CDC and LA County Department recommend cloth face masks for use by the general public, but does not comment on the use of face shields as an alternative.

Traditionally face shields have been classified as “adjunctive personal protective equipment (PPE)” used along with masks, however [experts](#) have proposed face shields for use by the general public to prevent COVID-19 spread as stand-alone PPE. For this purpose, [it has been recommended](#) that face shields “extend below the chin anteriorly, to the ears laterally, and there should be no exposed gap between the forehead and the shield’s headspace.” Anecdotally, many users report greater comfort with face shields vs. face masks. In addition, there is greater supply of face shields, both through external vendors as well as USC teams that have begun producing face shields using 3D printing technology.

Furthermore, face shields are easier to clean than cloth and medical masks, enabling reuse. And unlike masks, face shields enable visualization of facial expression and lip movements. Nevertheless, evidence regarding the efficacy of face shields for limiting novel coronavirus transmission – as well as for other respiratory illnesses with droplet spread – are limited:

- A 2016 [review of face shields for infection control](#) concluded that “little [clinical] research is available regarding their efficacy.”
- A 2014 [simulation study](#) found that “during testing of an influenza-laden cough aerosol with a volume median diameter (VMD) of 8.5 μm, wearing a face shield reduced the inhalational exposure of the worker by 96% in the period immediately after a cough. The face shield also reduced the surface contamination of a respirator by 97%.”
- There are no studies evaluating the effects of face shields on [“source control, i.e. containing a sneeze or cough, when worn by asymptomatic or symptomatic infected persons.”](#)

### KN95 Masks

Another recently proposed face covering option to protect the general public are so-called [KN95 masks](#). These are non-medical grade masks that claim to filter the majority of respiratory particles 0.3 microns and larger, similar to medical-grade N95 masks, which are used as PPE for infection diseases like measles and tuberculosis that aerosolize and spread distances longer than 6 feet. The FDA authorized the sale of these masks to the general public in the U.S., since they would not compete with the purchasing of medical grade N95 masks by healthcare facilities. Recently, however, many brands of these KN95 masks were [banned by the FDA](#) when testing failed to support the marketing claims. There is no rigorous research available on KN95 masks that we could find. Anecdotally, they may be associated with even greater discomfort than medical or cloth facemasks or face shields.

### N95 Masks

Medical grade N95 masks protect wearers from infection via small airborne particles. There are appropriate



uses of N95 masks in specialized settings within healthcare facilities. While N95 masks are effective in preventing infection spread, these masks are in short supply and should be reserved for settings in which they are really necessary, e.g. certain situations in the hospital (which is beyond the scope of this evidence review).

### **When Should Face Coverings Be Used?**

CDC guidance has been nebulous regarding when face coverings should be used. As noted above, their [recommendations](#) indicate that face coverings are recommended in public settings when physical distancing is difficult to achieve. However, the CDC recommendations do not address specific details such as: should face coverings be used in public spaces when physical distancing (e.g. 6-foot separation between individuals) is generally achievable? Should they be used in semi-private work spaces?

### **Summary and Recommendations for the KSOM Community**

Based on the data and expert opinions noted above, our KSOM COVID-19 evidence-based review committee makes the following recommendations regarding the use of face coverings by employees returning to campus:

1) Face coverings by employees should be expected under the following circumstances for the purposes of protecting spread of the novel coronavirus. It should be understood that the primary purpose of face coverings by the general public is not to protect the wearer but rather to protect others on campus; thus, employees should be expected to wear face coverings, even if they are not personally worried about themselves:

- In public areas, e.g. the quad, stairwells and hallways, food service areas, shared office space including laboratories, classrooms and parking structures.
- The use of face coverings is not necessary when an employee is in a private office space or in an enclosed room by him/herself; employees should be prepared to don face coverings when others enter the room.
- Appropriate provisions will be needed to ensure space for employees to eat on campus without face coverings.

2) It is important to emphasize to employees that the use of face coverings is not a substitute for other preventive measures, many of which are also important for preventing infection spread. In particular, the use of face coverings is not a substitute for meticulous hand hygiene, the regular cleaning of surfaces with EPA-approved cleaning solutions that kill novel coronavirus, and appropriate physical distancing (i.e. maintaining at least 6 feet of space between individuals to the extent possible).

3) Because the evidence regarding face coverings is nascent, we support a variety of options to best meet the needs of individual employees. The matrix below offers guidance for specific circumstances. In general, our team believes that existing evidence coupled with expert opinion supports the use of either cloth face masks or face shields under most circumstances. Until more evidence is available, the decision between these two options might be left to employee discretion based on personal comfort and preference. Importantly, use and provision of face shields as an alternative to cloth face masks would require approval by the Los Angeles Department of Public Health to ensure compliance with their regulations.

4) Notably, our team recommended the use of medical masks (rather than cloth masks or face shields) for employees whose jobs require prolonged exposure (10 minutes or more) to others at a distance <6 feet since risks among these employees may be similar to those of healthcare workers. In addition, our team indicated that N95 masks are acceptable for high risk employees (e.g. those >65, chronic conditions, pregnancy) to provide greater protection, however cloth masks and face shields are still the preferred option.

5) During the course of conducting this review, we have recognized a need for a review regarding other PPE items for employees returning to campus, such as gloves, disposable gowns and shoe coverings. Of note, current USC recommendations for the use of gloves may be inconsistent with CDC guidance.

## Matrix Offering Guidance on Face Coverings for Specific Situations

The matrix below provides guidance about which face covering to use and when, based on a review of the evidence and expert consultations. Only one mask is recommended for each circumstance, though multiple options may be acceptable for the same circumstance. Importantly, these guidelines are intended for the general campus community, with the exception of healthcare facilities (e.g. Keck Medicine of USC, LAC+USC, USC Student and Employee Health) which have their own protocols. In addition, these guidelines do not apply to special situations, e.g. environmental health workers or laboratory staff working with pathogens who face unique risks; these employees should seek guidance from their supervisors.

**P=preferred**

**A=acceptable**

**D=discouraged**

**U=unacceptable**

### Matrix A: For Employees Under 65 Without Underlying Medical Considerations

Circumstance	Surgical Mask	N95 Mask	Face shield	Cloth Face Covering	KN95 Mask	No Mask
Outdoor and indoor public and shared work spaces on campus	D	D	P	P	A	U
Alone in an office or laboratory (all doors closed)	D	D	P	P	A	A <sup>a</sup>
Employees Whose Jobs Require Prolonged Exposure to Others at a Distance <6 Feet <sup>b</sup>	P <sup>c</sup>	D	A	A	A	U

<sup>a</sup> Employees should be prepared to don a face covering immediately when someone else enters the room.

<sup>b</sup> Prolonged exposure is defined by the CDC as 10 minutes or longer. Examples include residence hall desk staff, or employees in security, hospitality, transportation, childcare, mail delivery, hospitality, maintenance, and facilities.

<sup>c</sup> In recognition of the appropriate anxiety of some employees whose jobs do not permit physical distancing, we recommend medical masks – due to their longer track record – for infection prevention. We believe this recommendation is justifiable because, like healthcare workers, these employees are at elevated risk. We acknowledge this recommendation is based on “expert opinion” rather than rigorous evidence.

**Matrix B: For Employees 65 and Older and Those with Underlying Medical Considerations (e.g. chronic heart or lung disease, diabetes, or pregnancy)**

Circumstance	Surgical Mask	N95 Mask	Face shield	Cloth Face Covering	KN95 Mask	No Mask
Outdoor and indoor public and shared work spaces on campus	D	D	P	P	A	U
Alone in an office or laboratory (all doors closed)	D	D	P	P	A	A <sup>a</sup>
Employees Whose Jobs Require Prolonged Exposure to Others at a Distance <6 Feet <sup>b</sup>	P <sup>c</sup>	D	A	A	A	U

<sup>a</sup> In recognition of the appropriate concerns some high risk employees might feel, we believe it is appropriate – though not necessary – for high risk individuals to use N95 masks, which may provide additional protection for them. These masks should be appropriately fitted.

<sup>b</sup> Employees should be prepared to don a face covering immediately when someone else enters the room.

<sup>c</sup> Prolonged exposure is defined by the CDC as 10 minutes or longer. Examples include residence hall desk staff, or employees in security, hospitality, transportation, childcare, mail delivery, hospitality, maintenance, and facilities.

<sup>d</sup> In recognition of the appropriate concerns of some employees whose jobs do not permit physical distancing, we recommend medical masks – due to their longer track record – for infection prevention. We believe this recommendation is justifiable because, like healthcare workers, these employees are at elevated risk. We acknowledge this recommendation is based on “expert opinion” rather than rigorous evidence.



# COVID-19 Cloth Face Covering Quick Guide

**Cloth face coverings** may help reduce the spread of potentially infectious droplets within the community when combined with physical distancing and hand washing.

## How to Use

The Los Angeles County Department of Public Health encourages the public to wear a cloth face covering over your nose and mouth when you must be in public for essential activities (e.g., shopping at the grocery store). Face Coverings are for those who can maintain a minimum of 6 feet distance with other people in their work environment and require little to no interaction with the general public. Wearing a face covering does not eliminate the need to physically distance yourself from others and to wash your hands frequently.

## Cloth Face Covering Care

- Wash cloth face covering frequently, ideally after each use, or at least daily
- Launder with detergent and hot water
- Dry on hot cycle
- Wash your hands when putting on and removing your face covering and avoid touching your face

## Examples of Face Coverings:

- Bandana
- Neck Gaitor
- Homemade sewn cloth
- Scarf
- Tightly woven fabric, such as cotton t-shirts

## Differences Between Face Coverings and Personal Protection Equipment (PPE)

A cloth face covering is not considered PPE. PPE is worn by healthcare workers or those who provide services for a person who is suspected to have COVID-19. A face covering is recommended for the general public (including someone who has COVID-19 but feels well) to reduce the spread of infectious particles into the air when the wearer speaks, coughs, or sneezes.

## Resources:

- LA County Public Health Guidance for Cloth Face Coverings- <http://tiny.cc/la-face-coverings>
- USC EH&S PPE Risk Matrix - <http://tiny.cc/ppe-risk-matrix>
- Cloth Face Covers (CDC) - <http://tiny.cc/cdc-diy-face-cover>

# COVID-19 Surgical Mask Use Quick Guide

**Surgical masks** are designed to block and contain respiratory secretions from the wearer from being spread.



## Who Should Use

Those that require frequent and/or close contact (< than 6 ft.) for 10 minutes or longer with people who may or may not be infected people and who are not known or suspected patients.

## How to Use

- Mask should cover your mouth, nose and chin, with the color side facing outwards
- The thin metal wire along the upper edge of the mask should be pressed gently against the bridge of your nose
- To dispose, please remove by the straps, do not touch the surface of the mask

## Extended Use

- Only needed when within 6 feet of others
- It can be used for an entire day, unless soiled or damaged
- If you need to remove the mask, it should be carefully folded so that the outer surface is held inward against itself to reduce contact with the outer surface during storage. The folded mask can be stored between uses in a clean sealable paper bag or breathable container.

Please remember to practice hand hygiene after touching or adjusting your mask. Wash hands with soap and water or use an alcohol-based sanitizer.

# GuideSheet

## GLOVE DONNING AND DOFFING





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he following guidance should be followed when donning (putting on) and doffing (removing) nitrile gloves. This applies to all personnel who may come in contact with objects or surfaces potentially contaminated with an infectious virus, blood, or body fluids.

### DONNING (PUTTING ON) GLOVES

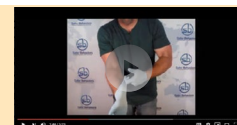
- 1 Hold glove at cuff
- 2 Ease first hand into glove with fingers outspread
- 3 Grab second glove and ease onto hand with fingers outspread

### DOFFING (REMOVING) GLOVES

- 1 Pinch thumb and forefingers together on both hands 
- 2 Pinch outside of first glove at palm or wrist and pull inside out 
- 3 When first glove is half off, start removing the second one 
- 4 Using clean interior, remove both gloves completely 
- 5 Dispose of gloves in provided trash receptacle

#### RESOURCES

"Beak" Method Video Demonstration - <https://youtu.be/YfGivTv3wbc>



# GuideSheet

## N95 Respirator Extended Use and Reuse

**E**xtended use and reuse of N95 respirators may be necessary during pandemic crises, widespread outbreaks, or non-emergency situations, especially when resources become depleted. The Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health (NIOSH) offer guidance for these practices.

Note that extended use and reuse recommendations are intended for healthcare professionals and caregivers, however, this information is beneficial to non-healthcare workers as well.

Implementation of extended use and reuse is contingent upon prevailing conditions (e.g., respiratory pathogen virulence, N95 respirator availability) and must be made under the auspices of the organization's respiratory protection program and local, state, and federal public health departments.

### Definitions

**Extended Use** refers to wearing the same N95 respirator continuously (without removal) during encounters with multiple patients (usually infected with the same respiratory pathogen).

**Reuse** refers to wearing ("donning") and removing ("doffing") the same N95 respirator between patients. The respirator is stored between patient encounters.

### Recommendations

**Extended Use.** N95 respirators can function for eight hours of continuous or intermittent use per design specs. In non-dusty healthcare settings, maximum continuous use is usually determined by hygienic concerns (possible contamination) or practical considerations (real breaks).

Use the following guidelines for extended use:

- One user, one respirator.
- Avoid N95 respirator surface contamination from droplet sprays.
- Inspect the respirator for physical damage.
- Discard N95 respirators:
  - After aerosol generation procedures.
  - Contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.
  - After close contact with, or exit from a care area where an infectious disease requires contact precautions.
  - If damaged or difficult to breathe through.
- Consider wearing a cleanable face shield (if available) over the N95 respirator.
- Wash hands with soap and water or use an alcohol-based hand sanitizer after touching or adjusting the respirator.

**Reuse.** Follow all guidelines listed for extended use. In addition:

- Store used respirators in a designated storage area or in a clean, breathable container (e.g., paper bag) between uses. Keep respirators from touching each other to minimize potential cross-contamination.
- If you have multiple N95 respirators, ensure the order of each so that there is a minimum of five days between each use (e.g., if N95 #1 is used on Monday, it cannot be reused until Saturday).
- Ensure that the storage containers are discarded or cleaned regularly.
- ID each respirator on the strap with employee's name.
- Avoid touching the inside surface of the respirator.
- Use clean (non-sterile) disposable gloves to:
  - Inspect the respirator for physical damage (e.g., holes, faulty straps or seal).
  - Don used N95 respirators and perform user seal check. Discard gloves once inspection, adjustments, and seal check are complete.
- Discard the respirator after five uses.

### Risks

The most significant risk encountered is contact transmission from touching the surface of a contaminated respirator. Respiratory pathogens on the respirator surface can potentially be transferred to the wearer's hands. Subsequent touching of the mucous membranes of the face (i.e., self-inoculation) may then lead to infection. The best way to counteract this is by washing hands thoroughly after removing a respirator.

**Questions?** Contact [injuryprevention@usc.edu](mailto:injuryprevention@usc.edu) or Occupational Health and Safety at (323) 442-2200.

### Reference

CDC/NIOSH [Pandemic Planning](#)

## Appendix G – Surgical Mask Reuse Option

### Reuse of Surgical Masks

Surgical masks may be reused by the following method:

- Assign one respirator or surgical mask per workday to each individual required user. At the end of the shift, store the used respirator/surgical mask in a breathable paper bag labeled with the date of use and name of the user. Use one respirator per day with reuse allowed 7 days later by the original user.
- If the surgical mask is soiled, damaged, or difficult to breathe through, dispose of it and use a new one.



## Centralized Personal Protective Equipment (PPE) Procurement and Distribution

May 27, 2020

### Overview

Historically, PPE has been procured and distributed in a decentralized model facilitated by Procurement and Safety departments on campus. The Covid-19 pandemic has caused significant disruption in the PPE supply chain and many unvetted, non-traditional vendors have entered the marketplace. In order to maintain due diligence on vendor selection and to ensure appropriate PPE inventory to facilitate a return to campus, a centralized model is proposed.

### Current State

- The absence of a centralized strategy for PPE results in uncertainty and anxiety as departments plan for re-opening.
- Some departments, including lab and clinical environments, have existing infrastructure to procure PPE. The current state of the PPE market has resulted in inconsistent availability and/or the inability to procure more than historical purchase levels
- Other departments lack the infrastructure to procure PPE and historical purchase levels have limited their access to PPE markets and availability.
- Environmental Health & Safety (EH&S) is positioned to assess the risks within individual departments and provide guidance on required PPE allocations.
- EH&S is required to maintain PPE inventory and distribution tracking for FEMA reimbursement.
- Procurement is positioned to identify and vet legitimate vendors who can meet the PPE demands of the campus.
- Bookstore is positioned to facilitate orders, receipts, storage and distribution to campus.
- Specialized PPE includes niche items that are used by a limited number of, or are unique to specific, departments.
- Bookstore will procure and distribute general PPE to ensure a consistent supply chain for ALL departments approved to return to campus.
  - General PPE includes,
    - Isolation Masks
    - Face Coverings
    - Face Shields
    - Eye Protection
    - Nitrile Gloves
    - Disposable Gowns
    - Hand Sanitizer
- Due to the Cal OSHA Respiratory Protection Program requirements, EH&S will enroll and manage participants who require respirators that fall under this program. This includes N95 fit testing and distribution.
- EH&S approves specific PPE requirements and allocations.
- Departments are responsible for controlled distribution in their areas.
- PPE expenses will be charged to departments during the monthly JV deadline.

### NEW Standard Operating Procedure

#### Policy

- Departments with the existing infrastructure and access to procure both specialized and general PPE will continue to do so.



## Procedure

### • Step 1: Set-up

- EH&S conducts PPE assessments for all departments who have been approved to return to campus.
  - Departments, schools or personnel can contact EH&S by emailing [ehs@usc.edu](mailto:ehs@usc.edu).
- EH&S determines your PPE requirements and allocations to maintain safe operations.
- During the assessment, departments must designate the following,
  - An authorized contact (e.g. Facilities Manager) to manage the department's PPE ordering and distribution.
    - **Reminder:** Departments are responsible for controlled distribution in their areas and PPE expenses will be charged to departments during the monthly JV deadline.
  - An account number for monthly PPE charge.
  - A delivery method (delivery, pickup UPC, pickup HSC)
    - **Note:** In order to expedite deliveries to all departments, on and off campus, please only choose delivery for shipments requiring truck delivery. All hand carry sized orders should be picked up.
- Once your assessment is complete, your designated department contact will receive an invitation to complete a profile in the Bookstore PPE Order Portal at [ppe.uscbookstore.com](http://ppe.uscbookstore.com).

### • Step 2: Ordering

- Log-in to your profile at [ppe.uscbookstore.com](http://ppe.uscbookstore.com).
- Add items to your shopping cart up to your monthly allocated quantity.
  - **Note:** The system will track your monthly orders and not allow you to exceed your allocated monthly quantity.
- Submit your order.
- You'll receive an e-mail confirmation in your designated department contact's e-mail inbox.

### • Step 3: Distribution

- When your order is ready, you'll receive a fulfillment confirmation e-mail in your designated department contact's e-mail inbox.
- Deliveries will be arranged with the Bookstore Distribution Center and delivered to the address in the department profile.
- UPC Pickups can be made between ?am and ?pm at,
  - USC PPE Distribution Center  
(formerly Surplus Sales)  
3427 S Grand Ave  
Los Angeles, CA, 90007
- HSC Pickups can be made between ?am and ?pm at,
  - USC Health Sciences Bookstore  
1969 Zonal Avenue  
Los Angeles CA 90033

### • Step 4: Exceptions

- Any changes to your department's PPE allocation must be approved by EH&S
- Individual, one-time PPE exceptions will be issued a waiver from EH&S which can be redeemed at PPE pickup locations on both the UPC and HSC campuses.