



# Creating COVID-19 secure working environments

**Using Personal Protective  
Equipment (PPE) in Laboratory  
and Workshop Environments**

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# Using Personal Protective Equipment (PPE) in Laboratory and Workshop Environments

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## Introduction

This guidance is designed to aid in the correct use of Personal Protective Equipment (PPE) during the COVID-19 pandemic.

This guidance is suitable for laboratory and workshop activities where a risk assessment has identified a need for PPE to be worn. This guidance is not suitable for use in a highly infectious environment such as an infectious disease ward e.g. NHS, where additional procedures will be in place and will need to be followed.

According to the hierarchy of control PPE is the least effective form of control. However, it does still have a role to play after more effective control measures such as engineering controls and safe systems of work have been put in place.

All PPE should be selected based on a risk assessment and should be suitable and sufficient for the tasks being done or the environment they are being performed in.

PPE is **not a substitute** for regular hand washing or social distancing.

## Equality, Inclusivity and Diversity (EDI)

When carrying out a risk assessment for PPE requirements for a process, or to create a COVID-19 safe environment, consideration must be given to the EDI policy and principles to ensure employees and students are not disadvantaged. For example, this may mean considering the procurement of clear facemasks, where it is safe to do so, where there is an impact on people with hearing difficulties that need to be able to lip read. PPE should fit with a reasonable degree of comfort in order to be effective.

## PPE for laboratory and workshop environments

### 1. Face coverings

Face coverings are expected to be worn inside all University buildings and in areas where safe distancing is difficult to achieve. Face coverings are **not PPE** as they do not provide protection to the wearer, however, there is evidence that they do provide some protection to others from droplets formed through coughs and sneezes etc. from the wearer. Face coverings cannot be face fitted and are **not a substitute** for hand washing or social distancing.

A face covering is anything that covers your mouth and nose while allowing you to breathe comfortably. The University provides reusable face coverings.

#### 1.1 Donning a face covering

Beforehand, wash your hands with soap and water or use hand sanitiser if hand washing is not possible. Without touching the front, cover your mouth and nose with the fabric. It should go all the way up to the bridge of your nose and down under your chin. Hook the straps around your ears or tie them around the back of your head so there are no gaps between your face and the material. Avoid touching your eyes, mouth or nose at all times.

#### 1.2 Doffing a face covering

Beforehand, wash your hands with soap and water or use hand sanitiser if hand washing is not possible. Do not touch the front, unhook the straps around your ears or untie. Holding

the face covering by the straps drop it into a plastic bag until it can be washed. Wash or sanitise your hands again after removal of the face covering.

### **1.3 Cleaning a face covering**

Face coverings should be washed regularly. They can be washed with other laundry using your normal detergent. Remember to remove and dispose of the kitchen paper filter before washing. Wash your hands with soap and water after putting the mask in to the wash.

## **2. Face shield / visors**

Face shields (known as visors) are less effective in preventing you from catching COVID-19 from someone else. They may protect you from small droplets that other people create when they talk, cough or sneeze. They may not be as effective as a two or three-layer face mask in preventing the spread of coronavirus. For specific cases where a face covering cannot be used a clear visor option will be available.

A full-face visor will not prevent a person inhaling any contaminants present in the air unless it is fully enclosed at the top, sides, and bottom. However, a face visor offers a wide area of protection with all round ventilation, which helps it to remain mist free. A visor will protect the whole face from splashes of liquid but if there is a danger of splashes deflecting upwards from the work surface a visor with a chin guard should be used. If respirable contaminants are present, e.g. dust, then a FFP2 or FFP3 mask should be worn in addition to a visor.

### **2.1 Donning a face shield or visor**

Face shields and visors must not be shared with others. Wash your hands with soap and water and/or use hand sanitiser before touching the visor; carry out a visual check to ensure there is no damage. When positioning the visor, the headband should sit just above the eyebrows (not near the hairline) and the shield should be long enough to extend beyond the chin. Adjust the headband strap(s) to create the best fit for your head size and shape.

### **2.2 Doffing a face shield or visor**

Avoid touching the front of the face shield or visor, handle it only by the headband. Tilt your head forward slightly, grab the strap at the temples, and pull it forward and over your head allowing the face shield to fall from your face. If it is a single use shield, dispose to hazardous waste or place in a plastic bag and leave for 72 hours before disposing to a standard waste bin.

### **2.3 Cleaning a face shield or visor**

For re-usable face shields or visors, remove the shield from the front plate, wash each part with soap and water, rinse, and dry with tissue. Isopropyl alcohol can be used to clean and disinfect plastics but over time, this can cause a film to build up so washing with soap and water is recommended. Wear gloves while cleaning the visor and remove following the glove removal procedure below. Wash and dry hands.

## **3. Laboratory (lab) coats**

The type of lab coat or coveralls required should be identified by prior risk assessment in advance of the work and must always be worn when there is the possibility of splashes of harmful liquids, contamination from toxic solids or when regular clothes need to be protected.

### **3.1 Donning a lab coat**

Put your arms into the sleeves and settle the lab coat comfortably at the shoulders. Close the front fastenings all the way down and do not roll up the sleeves.

### 3.2 Doffing a lab coat

Extra precautions such as disposable gloves should only be taken when doffing a lab coat when there is a significant chance of harmful exposure.

### 3.3 Laundering

You do not need to take your lab coat home to wash, a clean one will be provided for those requiring a lab coat for practical teaching.

Students will be able to get a clean coat at the start a class, used lab coats are left in the laboratory entry at the end of a class. The cleaning of lab coats is coordinated by the Technical Services staff supporting the space, they will also ensure there is an adequate supply.

Lab coats used in Geoffrey Pope and LSI are collected twice a week by the NHS laundry service, and as such, do not need to be autoclaved.

All other lab coats should be autoclaved if there is reason to believe there may have been an exposure to COVID-19 before they are sent to the laundry or washed on site.

## 4. Disposable aprons

Disposable aprons should be put on before PPE face masks, gloves, and eye protection. Remove gloves then unfasten or break apron ties. Pull the apron away from the neck and shoulders, touching the inside only. Fold or roll into a bundle and discard in a waste bin.

## 5. Fluid repellent masks

Fluid resistant surgical masks should be reserved for use in clinical settings where possible. Users must follow the NHS advice for the donning, doffing and disposal of these masks.

## 6. Respiratory protective equipment (RPE) – Face masks

RPE is equipment to protect a person from inhaling contaminants present in the air in order to preserve the health of the respiratory tract. RPE equipment should not be worn 'just in case' in addition to engineering controls.

There are several types of facemask, it is important that the type of mask required for the process is identified by prior risk assessment and **must be fit tested** by the Health and Safety team before use. Where goggles or safety glasses are to be worn with the respirator, these must be worn during the fit test to ensure compatibility.

All facemasks must meet the European standard EN149:2001 and must be marked as CE approved. There are three classes of protection against solids, water-based aerosols and oil-based aerosols detailed in the standard – FFP1, FFP2 and FFP3. The University does not recommend using FFP1 masks. FFP2 masks should only be used where FFP3 masks are unavailable or the risk is low. FFP3 masks are recommended for tasks with significant airborne contaminants.

Follow the product instructions for the storage of masks.

### 6.1 Donning a mask

Wash your hands and/or use hand sanitiser before touching the mask. Make sure there is no damage to the mask then position the upper straps on the crown of your head, above the ears and the lower strap at the nape of your neck. Adjustable straps will need tightening for a firm and comfortable fit. Ensure that the respirator is flat against your cheeks.

With both hands, mould the nosepiece from the bridge of the nose firmly pressing down both sides of the nose with your fingers until you have a good facial fit. Avoid touching the mask while using it, if you do, clean your hands with soap and water or hand sanitiser. If you are wearing gloves, change them after touching the mask.

If the facemask becomes damp, replace it with a new one. Do not re-use single-use masks.

## 6.2 Doffing a mask

Wash your hands with soap and water and/or use hand sanitiser before removing the mask. If gloves have been worn, replace with clean ones before removing the facemask. To remove, place a finger or thumb under the straps at the back and remove the respirator as shown below:



Avoid touching the main body of the respirator during its removal and dispose to hazardous waste or place in a plastic bag and leave for 72 hours before disposing to a standard waste bin. Remove the gloves (see below), dispose then wash hands with soap and water for at least 20 seconds.

## 7. Gloves

The type of glove required for the process will have been identified in the process risk assessment and must be used; otherwise, standard nitrile gloves will be available for use. If you have a sensitivity or allergy to nitrile, other types are available.

### 7.2 Donning disposable gloves

When wearing gloves, it is important to extend the glove to cover the wrist over the sleeve cuff if possible. Gloves should be changed regularly, do not touch your face, eyes or nose while wearing them.

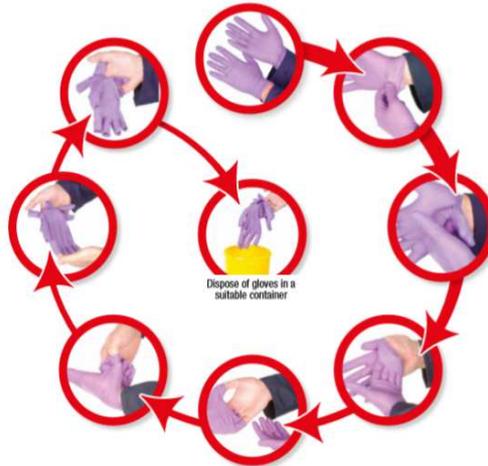
### 7.3 Doffing disposable gloves

Clean gloves should be worn to remove other PPE. In order to remove gloves safely follow these steps:

- i. Peel downwards, away from the wrist, turning the glove inside out
- ii. Pull the glove away until it is removed from the hand and hold the inside out glove with the gloved hand
- iii. With your un-gloved hand, slide your finger(s) under the wrist of the remaining glove, taking care not to touch the outside of the glove
- iv. Again, peel downwards, away from the wrist turning the glove inside out
- v. Continue to pull the glove down and over the inside-glove being held in your gloved hand
- vi. This will ensure that both gloves are inside out, one glove enveloped in the other, with no contaminant on bare hands

## Single use, splash-resistant gloves

Follow the simple steps below to remove gloves correctly:



Remove carefully to protect your skin from contamination.

### 7.4 Disposal

Once the gloves have been removed, they must be disposed into a closed bin for disposal to hazardous waste or place in a plastic bag and leave for 72 hours before disposing to a standard waste bin.

## 8. First aid

Administering first aid requires a first aider to go into close proximity to their patient. This may involve heavy breathing and bodily fluids. In line with advice from the ambulance service the University has provided the following items to all our first aiders returning to work:

- Splash resistant surgical masks\* (type IIR which conform to EN14683:2005)
- Face visors (re-usable to be worn with the mask)
- Aprons (disposable)
- Gloves (disposable)

\*Surgical masks do not form a perfect seal and can therefore not be face fitted. To don and doff a surgical mask follow the guidance in section 6.1 and 6.2.

In addition, first aiders have been advised to only use chest compressions when performing CPR.