



**Intent:** The intent of this document is to provide science-based guidance to the University of British Columbia Okanagan community on the use and limitations of using non-medical masks and face shields to prevent the spread of COVID-19.

Visit [ubc.ca/covid19](http://ubc.ca/covid19) and <https://ok.ubc.ca/covid19/> for more information about UBC's response to COVID-19, including frequently asked questions.

*Globally, our scientific knowledge surrounding COVID-19 is changing and expanding daily. This document is based on current scientific knowledge at the time of writing.*

**NOTE:** Effective Wednesday, September 16, 2020, UBC students, faculty, staff and visitors are required to wear non-medical masks, when indoors on our campuses. Please read the [UBC COVID-19 Campus Rules](#) for more information and for a complete overview of the non-medical mask requirement.

### Principles of COVID Prevention

The UBCO Community should make every reasonable effort to adhere to the principles of physical distancing. Where possible, this includes:

- Working from home
- Staying at least 2 meters away from other people
- Using alternate timing to prevent physical contact
- Using physical barriers or alternate procedures to prevent contact within 2 meters

Resources are available to help navigate the choices above on the HSE Infection Control Website: <https://hse.ok.ubc.ca/covid19infectioncontrol/>

If every reasonable step is already taken and two people still need to work within 2 meters of one another, they may use a non-medical mask or shield as a source control. The use of a mask or shield should be considered as a last resort when all other methods of physical distancing are not practicable and the task is still needed.

If non-medical masks or shields are used under these circumstances, the proper use and limitations must be provided to the wearer. This document is intended to provide factual information on their use.

### Source Control: Non-medical / Cloth Masks and Face Shields

The use of non-medical or cloth masks or face shields can be used to prevent the spread of droplets from one individual into the common air stream. Their purpose is not to protect the user, but rather to protect the world from the person wearing the mask.

There are three main choices for source control:

- **Disposable Non-Medical Masks:** disposable fabric face coverings that loop over the wearer's ears and cover the mouth and nose. They are single use and should be discarded after each use. Do not purchase medical masks. Non-medical masks can be identified by:
  - Labelled specifically as "not for medical use"
  - Absence of ASTM, FDA or Health Canada approval
- **Re-Usable Fabric Masks:** fabric masks that loop over the ears or around the head and cover the mouth and nose. They are designed to be worn and washed by a single user. The most effective fabric face masks are at least 2 ply with a heavy weave. Combinations of fabrics (e.g. silk and

cotton) may increase effectiveness.

- **Face Shield:** plastic or polycarbonate clear window that sits in front of the face. Attached to the head by a headband around the forehead. An effective face shield should have a seal to the head where the band attaches, hang below the chin and around to the ears on either side.

The advantages and disadvantages of different non-medical mask types are below:

Type of Source Control	Strengths	Limitations
Disposable Non-Medical Mask <sup>1</sup> 	<ul style="list-style-type: none"><li>• Easy to purchase</li><li>• Inexpensive</li><li>• Disposal directly into trash limits handling of dirty masks</li></ul>	<ul style="list-style-type: none"><li>• Not customized fit</li><li>• May leak around edges</li><li>• Higher chance of contaminating hands, face and other surfaces</li><li>• No standards exist - high variability in filtering efficiency</li><li>• May burn or melt easily</li></ul>
Cloth Re-Usable Non-Medical Mask	<ul style="list-style-type: none"><li>• Can be customized to more fit closely to the individual</li><li>• Can purchase with higher standard of fabric</li><li>• Single purchase means there is no need to worry about future supply chain issues</li></ul>	<ul style="list-style-type: none"><li>• Non-standard construction can lead to large variability</li><li>• Cross contamination can occur to hands when removing / storing</li><li>• Higher chance of contaminating hands, face and other surfaces</li><li>• Need to provide washing</li><li>• May burn or melt easily</li></ul>
Face Shield 	<ul style="list-style-type: none"><li>• Easy to clean</li><li>• Does not interfere as much with communication</li><li>• Less likely to touch as material is not sitting close to the face</li><li>• Cooler for high temperature environments</li><li>• Adds level of protection from large droplets and splatter from impacting eyes of wearer</li></ul>	<ul style="list-style-type: none"><li>• Not as tight to the face which may permit droplet migration from the edges and bottom of the shield</li></ul>

### Use and Care of Non-medical Masks (NMM) and Face Shields (FS)

Donning a non-medical mask: You will be placing this material on or near your face, so you want to protect it from contamination before you use it.

<sup>1</sup> Nurses All-Together. Wikimedia Commons. <https://www.nursetogether.com/>



- Wash your hands or sanitize with hand rub before handling
- For a non-medical mask:
  - Handle the mask by the handles or edges.
    - For ear loop models, put one ear loop in each hand, put the mask over the face and pull the loops over your ears.
    - For tied models, tie the top strings first and the bottom
  - Adjust the mask to fit securely on your nose and the sides by adjusting the edges.
  - Do not adjust the mask once in place
- For Face Shields:
  - Place the shield on your head and adjust the strap to fit snugly
  - Using the edge of the shield, ensure the shield is adjusted to cover the face well
- Wash or sanitize your hands

Removing (Doffing): You have been breathing into the mask / shield so it will now contain a concentrated population of exhaled particles. Avoid contact with the contaminated surface.

- Wash your hands or sanitize with hand rub
- For Non-medical Masks:
  - Ear Loop Model: Grab each ear loop and remove from the face.
  - Tied Model: First, untie the bottom tie. Second, untie the top ties.
  - Only handle by the ties or ear loops.
  - Disposable models should immediately be put into a trash bin
  - Re-Usable models should be put in a plastic box / container. Wash them before re-use. Unsure the holding box / bag is also washed prior to putting a clean mask back in it.
- For Face Shields:
  - Handle the face shield by the headband and lift off the head.
  - Place the face shield on the table so that the part that was closest to your face is facing up.
  - Using wipe or other cleaner, clean the face shield and the table underneath. Your cleaning should focus on the surface that was in front of the mouth and nose.
  - Follow the instructions of the cleaner / disinfectant being used. Ensure that the cleaner contacts the surface for the amount of time specified.
  - Flip the face shield over once clean to prevent contamination of the part that will be closest to your face.
- Wash your hands after handling

### **Rules to Follow and Pitfalls to Avoid**

- Always wash your hands before and after touching / handling a non-medical face mask or face shield
- Never wear a mask below your chin, above your forehead, around your neck or anywhere else on your body (elbow, hand, arm, etc.)
- Store safely when not in use
- A clean / new mask will be very close to your face. Protect it well.
- A used mask is a concentrated contaminated surface. It may contaminate anything it touches.
- Do not shake used masks - this can result in re-aerosolization of particles
- Fabric masks should be at least double-ply with tightly woven fabric (cotton or linen recommended)
- Masks should fit snugly
- Masks should not gape at nose or on the sides - ideally every breath should go through the mask, not around it
- You should be able to breathe freely while wearing



- Do not wear an uncomfortable mask – you will negate any benefit of wearing it
- Remove and dispose of wet or soiled masks
- Consider other aspects of your work when using a face covering.
  - If working with flammables or open flame, consider the flame resistance of coverings.
  - If working with biohazards or chemicals, consider the use of disposables. Non-disposable masks may provide a pathway for laboratory biohazards and chemicals out of the lab.

**Further Resources:**

Coronavirus disease (COVID-19) advice for the public: When and how to use masks. World Health Organization. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>

COVID-19 Infection Control. UBC Okanagan. HSE. <https://hse.ok.ubc.ca/covid19infectioncontrol/>

Face Masks: How are they Different. BC Centers for Disease Control and the Public Health Authority. <http://www.bccdc.ca/Health-Professionals-Site/Documents/Face-masks.pdf>

Masks. Public Health Agency of Canada. <http://www.bccdc.ca/health-info/diseases-conditions/covid-19/prevention-risks/masks>

Non-medical Masks and Face Coverings: About. Public Health Agency of Canada.

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks/about-non-medical-masks-face-coverings.html>