



Confronting COVID-19

Use of Masks and Respirators for Worker Protection

May 7, 2020, 11:00 am

Webinar objectives

In this webinar we will review:

- masks and respirators in the hierarchy of controls
- transmission routes of COVID-19
- health care directives as they relate to mask and respirators
- what these directives may suggest to non-health care workplaces
- different types of masks and respirators and their performance

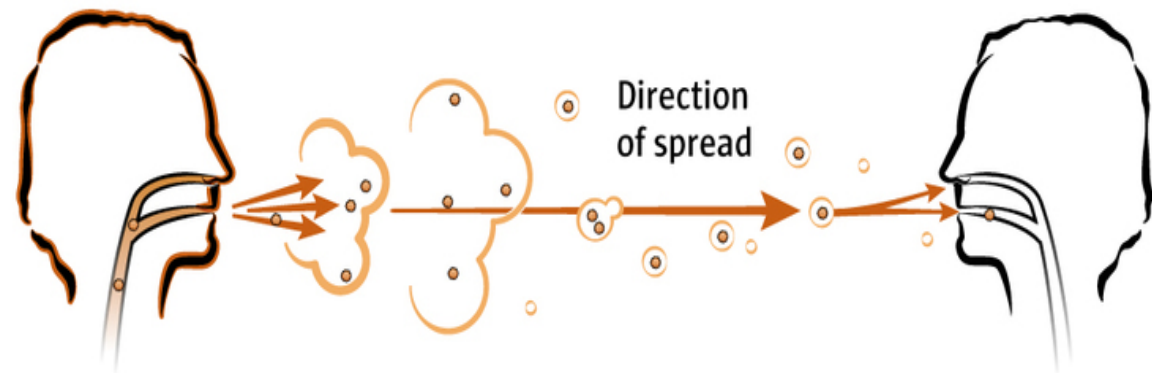
Controlling exposure at the worker

- “take every precaution reasonable in the circumstances for the protection of a worker”
- source, path, worker
- controls at the worker – such as the use of masks and respirators – are only to be used:
 - as a supplement to other controls
 - if other controls are not possible

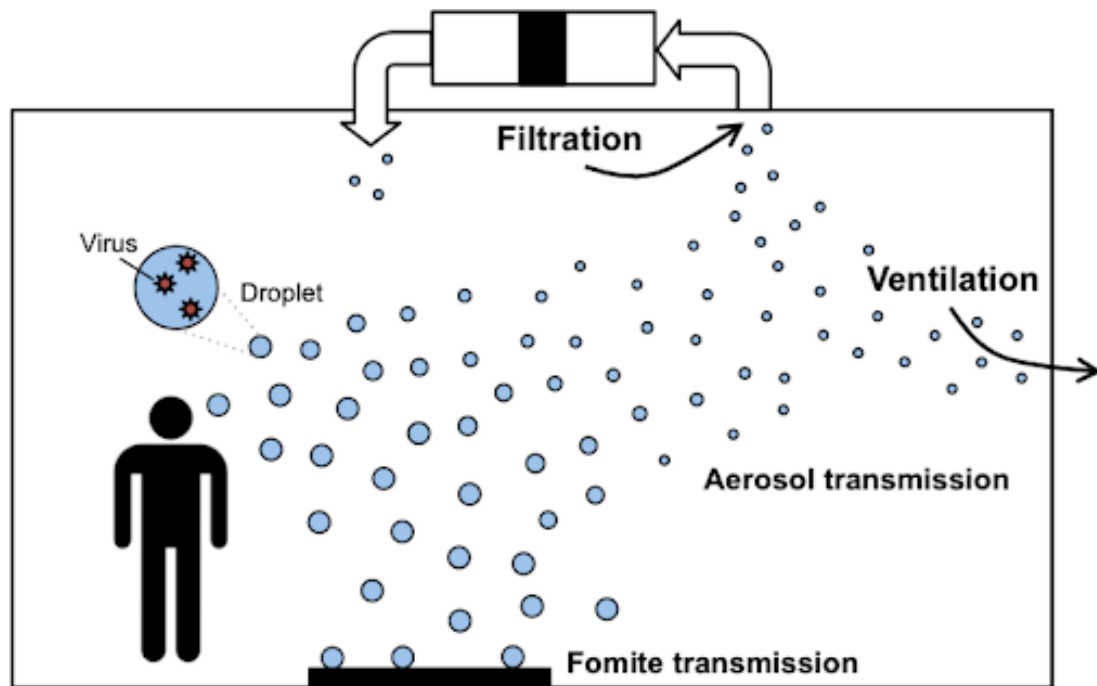
Virus routes of transmission

Possible routes of virus transmission:

- ultra-fine aerosols
- relatively larger respiratory droplets



Virus routes of transmission



- some viruses can travel on droplets or smaller aerosols
- droplet route vs. airborne route
- aerosols can float for hours
- can move around workplace on air currents
- some controversy if COVID-19 can survive on an aerosol

Directives on wearing masks and respirators

Ontario's Chief Medical Officer of Health Dr. David Williams has issued five legally binding directives under section 77.7 of the Health Promotion and Protection Act.

- directives limited to hospitals, long-term care companies, ambulance services, etc.
- can require employers to ensure workers wear PPE or set up certain protocols

Directive 1: health care workers and entities

Airborne precautions during aerosols-generating medical procedures: N95 respirator



Droplet precautions during “suspected, presumed, confirmed” interactions: surgical or procedural mask



Directive 4: ambulance services and paramedics

At minimum, use contact/droplet precautions with all suspected, presumed or confirmed cases

- surgical or procedure mask

With suspected case anticipated to require aerosol generating medical procedure, paramedics should

- use point of care assessment and clinical and professional judgement
- N95 respirator

Directive 5: hospitals and long term care homes

Directive 5 prevails over Directive 1

- use contact/droplet precautions for interactions with suspected, presumed or confirmed
 - surgical or procedure masks
- if within two metres of suspected, presumed or confirmed case
 - N95 respirator

Directive 3: long term care home workers

- surgical or procedural mask to be worn at all times



Advice on PPE for other workers?

- how can principles behind medical mask (surgical and N95) be applied in non-health care workplaces?
- research indicates the disease can be transmitted by individuals who are asymptomatic (infected but no symptoms)

Spread of COVID-19 in the workplace

Twenty-five percent of cases may be due to transmission by asymptomatic or para symptomatic individuals.

- role in COVID-19 outbreaks in non-health care workplaces, including emergency shelters, grocery stores and meat-packing plants?
- must now presume anyone could be infected and transmit
- where physical distancing cannot be consistently maintained, wear a mask or respirator to protect you and co-workers.

Overview of masks

Surgical, procedure or medical masks are generally worn by operating room workers during surgical procedures. They:

- do not fit securely to the face (cannot be fit tested)
- capture particulates or droplets expelled by the wearer
- are generally single use and disposable.

Surgical, procedure and medical masks



Putting on a surgical mask



Put your fingers through the elastics. Nose bar should be found above. Place the mask on your nose and mouth.



Put the elastics on your ears. Pull the mask by its upper and lower edges to fully unfold it. That will ensure maximum face protection and minimize the number of layers you need to breathe through.



Put on and form a stiffener above the bridge of the nose to minimize air leakage.

Overview of N95 respirators

Medical N95 respirator



Non-medical N95 respirator



Medical N95 respirators

Medical N95 respirators:

- can (and must) be fit tested to wearer to ensure tight seal
- filter 95 per cent of particles 0.3 microns (μm) diameter (aerosols)
- certified by National Institute for Occupational Safety and Health
- are identified by an approval number
- have an expiry date

N95 equivalents

Other respirators of an equivalent standard approved for use in Canada:

- FFP2 and P3 (Europe)
- PFF2 and PFF3 (Brazil)
- P2 and P3 (Australia)
- Specialist 1 (Korea)
- N95, R95 and P95 (Mexico)
- KN/KP 95 and 100 (China)

N95 equivalents from other countries



Non-medical N95 respirators

Non medical grade N95 respirators:

- similar structure and design as medical N95
- not tested for resistance to fluids
- effective against COVID-19 transmission by respiratory droplets not liquid (water or blood borne).

Reusing a N95 respirator

N95 respirators can be reused up to five times but must:

- be put on and taken off carefully avoiding contamination
- hung to dry for at least 72 hours (or three days)
- stored in a clean breathable bag

Using an expired N95 respirator

- Health Canada says expired N95s can be used if:
 - straps are intact
 - no visible damage (respirators are not wet or soiled)
 - fit-tested
- fit test vs. seal check

Home-made cloth masks

- Health Canada says home-made cloth masks are not:
 - proven to protect wearer
 - a substitute for ventilation, distancing and hand hygiene
- but they are important



Which protection for which situation?

- can physical distancing can be established and maintained?
- is aerosol transmission a problem?



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