

Respiratory Protection for Essential Personnel

As COVID-19 coronavirus spreads in Philadelphia, an increasing proportion of people that everyone encounters are likely to be infected. The City has enacted a [“stay at home” order](#) and [recommendations on social distancing](#) to reduce the number of person-to-person interactions that could lead to spread of the infection. Personal protective equipment should not be seen as an alternative to following these recommendations. However, essential workers may need to come in close contact with others, and it is possible that simple interactions such as talking may put others at some risk. Use of barrier protections to shield the nose and mouth during these face-to-face interactions may reduce this risk. In addition, use of a face mask helps prevent transmission of the virus from the user to others nearby.

The most effective personal protective equipment to prevent acquisition of COVID-19 are medical-grade devices that cover the eyes, nose and mouth, such as clear plastic face shields, N95 face masks, and surgical face masks. Medical-grade face shields, N95 respirators, and surgical face masks are in limited supply and should be reserved for use by healthcare workers, who have the greatest risk of infection. Other workers may use simple cloth face masks and alternative face shields that are less effective but nevertheless provide some protection when contact with others is unavoidable.

The Centers for Disease Control and Prevention recommends “wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission.” The guidance below is for workers in Philadelphia, where there is significant community-based transmission, and it aligns with the CDC recommendations.

Types of respiratory protection:

- **Surgical masks** – commercially produced ear-loop or tie masks suitable for use in medical settings that do not require N95 respirator use
- **N95 respirators** – commercially produced, fit-tested masks suitable for use by those conducting aerosol-generating procedures. Note that N95 respirators can be difficult to tolerate for more than a few minutes due to the need for increased work of breathing created by the high-grade filter.

- **Cloth masks** – non-medical grade masks made from tight-weave cloth intended for non-health-care workers who are interested in some form of respiratory protection.
 - To be effective, the mask should fit well around the mouth and nose without gaps at the sides and should be comfortable enough for the user to be willing to keep it on.
 - Masks should be made of soft, tight-weave fabric. A cotton-poly mix is a reasonable choice for materials.
 - Users should avoid touching the mask while in use and should wash hands or use hand sanitizer before and after removing or adjusting the mask.
 - Cloth face masks should be laundered daily. They should be washed in hot water with ordinary detergent and do not have to be separated from other laundry.

- **Locally-produced face shields** – another [effective](#) alternative to protect against the spread of droplet-borne viruses like coronavirus.
 - Face shields should fit snugly on the forehead area to prevent slippage. For improved protection from infectious agents, face shields should be, at a minimum, full face length with outer edges of the face shield reaching at least to the point of the ear, and cover from the forehead to the chin. A cushion over the forehead can help to ensure that there is adequate space between the wearer’s face and the inner surface of the visor.
 - Cleaning instructions:
 - While wearing gloves, carefully wipe the *inside*, followed by the *outside* of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe.
 - Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with [EPA-registered hospital disinfectant solution](#) (or a household cleaner that contains bleach).
 - Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
 - Fully dry (air dry or use clean absorbent towels).
 - Remove gloves and perform hand hygiene.

Recommended respiratory protection for workers and volunteers who may come in contact with others

Public-facing community outreach, food distribution, homeless outreach, warehouse stocking/packing, maintenance and repair, shelter workers, security, and others who work with the public:

- Use of cloth masks is recommended when workers cannot maintain social distancing measures and come in proximity to others.

Law enforcement personnel

- Use of cloth masks is recommended when workers cannot maintain social distancing measures and come in proximity to others. This includes when transporting persons in vehicles. During transport, vehicle ventilation should be on non-recirculated mode to maximize air changes that reduce potentially infectious particles in the vehicle. If possible, open the windows next to both the driver and the client to improve ventilation.
- Law enforcement personnel should refer to the Officer Safety Protocols developed by the Philadelphia Police Department for PPE selection procedures according to different response types.

Fire & EMS personnel

- Use of cloth masks is recommended while on duty in firehouses, in front-line response vehicles, and other situations in which personnel cannot maintain social distancing measures
- When conducting intubation or other aerosol-generating procedures, use of N95 respirators or higher level of protection (e.g., APR, PAPR, or SCBA) is required. Fire & EMS personnel should follow applicable Philadelphia Fire Department guidance on respirator selection for different incident types.

Healthcare workers

- At all times while on duty, use of commercially-produced surgical masks is recommended, with extended use in accordance with the [PDPH guidance on conservation and mitigation in settings with shortages of personal protective equipment](#) and health system protocols.
- When conducting aerosol-generating procedures, use of N95 respirators is recommended in accordance with the [PDPH guidance on conservation and safe use of N95 respirators](#) and health system protocols.