



**BC NURSES'  
UNION**

*Standing up for health care*

## POSITION STATEMENT



# PERSONAL PROTECTIVE EQUIPMENT (PPE)

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## BC NURSES' UNION BELIEVES THAT:

- > Nurses and other health-care workers should have both easy and timely unrestricted access to appropriate personal protective equipment (PPE);
- > Adequate supplies of PPE should be available to meet current and anticipated future needs;
- > While employers may determine the minimum level of PPE required, nurses should be allowed to use their clinical judgment to determine if a higher level is required;
- > The precautionary principle must prevail at all times. The highest level of PPE should be available until there is definitive, scientific proof that such PPE is not required; and
- > Administrative and engineered controls generally offer superior protection to PPE and should always be considered both ahead of and in concert with the use of PPE.

## BACKGROUND

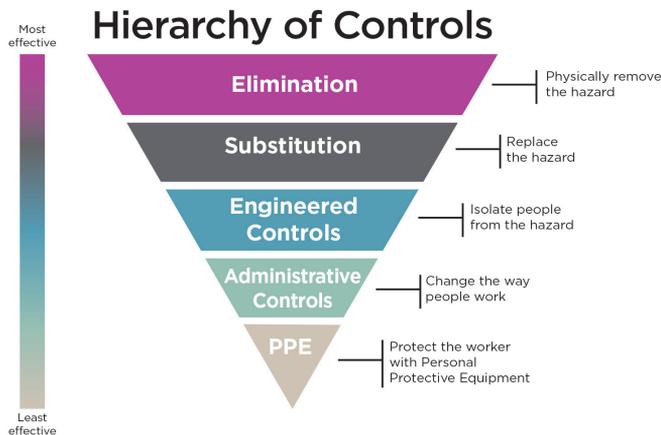
PPE is the specialized safety equipment worn by workers to prevent workplace injury and occupational disease. In health care, commonly used PPE may include gloves, respirators, face masks/face shields, eye protection, gowns, bouffant head covers or surgical caps, and foot coverings. When worn correctly, PPE forms a barrier against pathogens, blood and body fluid exposure and other hazards common in health-care workplaces.<sup>1</sup>

## A HIERARCHY OF CONTROL

While vital in its role in protecting workers, PPE is the least effective measure taken to minimize the risk of workplace injury.<sup>2</sup> Use of PPE as the sole control to reduce the risk to workers should only be considered in extreme circumstances. Whenever possible, steps should be taken to minimize or eliminate risk that expose a worker to harm. Failing this, careful design of both work spaces and work practices should be considered well before a worker is forced to rely on PPE.<sup>3</sup>

Several occupational health and safety organizations have codified this process into an easy-to-understand hierarchy.<sup>4 5 6</sup>

An example can be seen below:



Control	Definition	Examples
Elimination	Completely eliminating exposure to the hazard. The most effective control	Limited options exist within health-care settings
Substitution	Replacing the hazard with a non-hazardous object, device or substance	Limited options exist within health-care settings
Engineered Controls	Isolating people from the hazard through physical or mechanical means	Physical barriers, negative pressure rooms
Administrative Controls	Changing the way people work	Signage, education, infection control practices, patient screening
PPE	Equipping people with PPE to protect them from real or potential hazards	The use of masks, gloves, gowns face shields and N95 respirators

Visually represented, this hierarchy clearly demonstrates the increased effectiveness of other forms of system control. Engineered and administrative controls should always be considered first, and where possible, elimination and substitution controls should be examined. It should also be noted that PPE must always be combined with an administrative control, such as training in understanding the hazards present in the workplace and the effective use of the PPE itself.<sup>7</sup> For example, the repeated donning and doffing of PPE, combined with

extended wear over long hours, has a negative impact on nurses' workload and their physical and mental well-being.

## IMMEDIATE ACCESS REQUIRED

Speaking to its position as a safety control, WorkSafeBC, the

1. U.S. Food and Drug Administration. (2020, February 10). Personal Protective Equipment for Infection Control. Retrieved from <https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/personal-protective-equipment-infection-control>
2. Government of Canada, C. C. (2020, May 29). Hazard Control: OSH Answers. Retrieved from [https://www.ccohs.ca/oshanswers/hsprograms/hazard\\_control.html](https://www.ccohs.ca/oshanswers/hsprograms/hazard_control.html)
3. Morris, G., & Cannady, R. (2019). Proper Use of the Hierarchy of Controls. *Professional Safety*, 64(8).
4. Center for Disease Control. (2015, January 13). Hierarchy of Controls. Retrieved May 29, 2020, from <https://www.cdc.gov/niosh/topics/hierarchy/default.html>
5. Government of Canada, C. C. (2020, May 29). Hazard Control: OSH Answers. Retrieved from [https://www.ccohs.ca/oshanswers/hsprograms/hazard\\_control.html](https://www.ccohs.ca/oshanswers/hsprograms/hazard_control.html)
6. Health and Safety Executive. (n.d.). Management of risk when planning work: The right priorities. Retrieved May 29, 2020, from <https://www.hse.gov.uk/construction/lwit/assets/downloads/hierarchy-risk-controls.pdf>
7. Doll, M., Feldman, M., Hartigan, S., Sanogo, K., Stevens, M., McCreynolds, Bearman, G. (2016). Acceptability and Necessity of Training for Optimal Personal Protective Equipment Use. *Infection Control & Hospital Epidemiology*, 38(2), 226-229. doi:10.1017/ice.2016.252

provincial occupational health and safety regulator, states:

*“PPE is a worker’s last defence against injury and death, when eliminating workplace hazards is not possible.”<sup>8</sup>*

As the last line of defence against injury, workers may need to don PPE on very short notice in order to maintain their safety. This is especially true in health-care settings. In many circumstances, nurses and other health-care workers must don PPE prior to commencing life-saving treatments such as CPR.<sup>9</sup>

As such, access to PPE should be readily available and PPE access should not be restricted. Locking away or otherwise restricting access to PPE in order to preserve supply, places an unnecessary burden of risk on both nurses, and patients who need immediate care. Imagine a firefighter having to delay response to a burning building while they seek permission to unlock their helmet and boots. This circumstance would be intolerable for those firefighters, just as it should be for nurses and other health-care workers who may have their PPE stored in locked cabinets and not be provided with keys.

All health-care workers should have access to any necessary PPE, free from unreasonable restrictions or rationing. This should include any processes required to safely use PPE, such as being appropriately trained and fit-tested.

## SUPPLY-SIDE AND DEMAND-SIDE ISSUES

It is vital that PPE supplies are available to meet current and foreseeable future needs. This includes a robust, permanent stockpile of all classes of PPE. In times of global pandemic, such as those which have occurred several times in the last decades, demand for PPE can increase rapidly and with little warning, causing acute shortages. Most recently, during the COVID-19 pandemic, PPE demand exceeded global production

capacity, resulting in prolonged, widespread supply-chain disruptions.

Pandemics occur at a frequent, if not entirely predictable, rate.<sup>10</sup> Adequate stockpiles must be maintained at all times to ensure that there is a sufficient quantity of PPE available for nurses and other health-care workers during these pandemics. While these stockpiles may go unused for years and a certain amount of PPE needs to be turned over each year, the stockpiling of PPE is an effective safeguard against shortages and supply-chain disruptions that could negatively impact both patient care and worker safety.<sup>11</sup>

If conditions exist where stockpiles deplete, health officials have considered processes that prolong the use of PPE. This includes the use of expired PPE or the reprocessing of single-use PPE for multiple uses. BCNU does not support such practices and believes they should be considered only as a last resort during desperate PPE shortages. Any practice that involves the extension of PPE use beyond its intended lifespan should be definitively and scientifically validated to cause no decrease in protection level prior to its adoption. Additionally, complete training and communication should be provided for all end-users prior to procedure changes or the deployment of expired or reprocessed PPE.

## PRECAUTIONARY PRINCIPLE

Understandably, determining the right forms of PPE may be difficult when dealing with a novel pathogen such as a coronavirus or other relatively poorly studied disease(s). Following the 2003 SARS outbreak in Ontario, a commission led by Justice Archie Campbell issued a comprehensive report which recommended, among other things, that in any future infectious disease crisis, a precautionary principle should guide the development, implementation, and monitoring of the means of protecting workers.<sup>12</sup>

8. WorkSafeBC. (n.d.). Personal protective equipment. Retrieved May 29, 2020, from <https://www.worksafefbc.com/en/health-safety/tools-machinery-equipment/personal-protective-equipment-ppe>
9. BC Centre for Disease Control. (2020). Respiratory Protection for Health Care Workers Caring for Potential or Confirmed COVID-19 Patients. Retrieved May 29, 2020, from <http://www.bccdc.ca/Health-Info-Site/Documents/Respiratory-protection-COVID19.pdf>
10. Morens, D. M., Daszak, P., Markel, H., & Taubenberger, J. K. (2020). Pandemic COVID-19 Joins History’s Pandemic Legion. *MBio*, 11(3). doi:10.1128/mbio.00812-20
11. Chen, Y., Chiang, P., Cheng, Y., & Huang, C. (2017). Stockpile Model of Personal Protective Equipment in Taiwan. *Health Security*, 15(2). doi:10.1089/hs.2016.0103
12. Campbell, A. (2006). The SARS Commission Report: (Vol. 1, Spring of Fear) (Canada, The SARS Commission, Commission to Investigate the Introduction and Spread of SARS in Ontario). Toronto, Ontario. Retrieved from [http://www.archives.gov.on.ca/en/e\\_records/sars/report/index.htm](http://www.archives.gov.on.ca/en/e_records/sars/report/index.htm)
13. Ibid

Justice Campbell defines the precautionary principle as one where “safety comes first, [and] that reasonable efforts to reduce risk need not await scientific proof.<sup>13</sup>” More plainly, this precautionary principle dictates that it is appropriate to use the highest level of PPE available until there is definitive, scientific proof that such PPE is not required.

In practical terms, we can see this most easily with PPE that is used in respiratory protection. The protection factor offered by a respirator, such as the commonly used N95, is considerably higher than that offered by a face mask at protecting against aerosolized pathogens. Utilizing the precautionary principle, an N95 respirator should be worn until such time as there is definitive evidence that a pathogen is not spread in aerosols.

This principle offers enhanced levels of certainty to health-care workers and their patients, even in an environment where contradictory evidence may emerge, as they can be assured that the level of PPE they have utilized is the highest level potentially required.

## CLINICAL JUDGMENT SHOULD BE RESPECTED

Even when disease processes and transmission methods are well understood, unforeseen risks may still be present that will only come to light at the point of interaction with a patient. Nurses and other health-care workers are specifically trained to constantly assess their patient and to use their clinical judgment to ensure the safety of the patient, the safety of their colleagues and the safety of themselves.

This is often conducted in the form of a point-of-care risk assessment (PCRA). If a health-care worker believes, based on this PCRA, that a higher level of PPE is required at the point of care, that decision should be respected and they should be immediately allowed to utilize the level of PPE they believe is required, without question. Even after definitive, scientifically complete guidelines on PPE use for a work process exist, these guidelines should be seen as a minimum, not a maximum, level of protection, and final PPE selection should be guided by the judgment of the health-care worker.

## SYSTEMS THINKING

BCNU is unwavering in our belief that nurses and other health-care workers be provided with the safest workplaces possible. We believe that safety systems, with interlocking robust controls, are both a right of our membership and readily achievable by their employers. We call on all health-care employers to strengthen each line of defence against workplace injury and occupational exposure by fully considering the hierarchy of controls in all occupational activities. Through complete, careful systems-based thinking, the reliance on PPE may be reduced. When PPE is required as a final safeguard, we believe that it must be readily available and in adequate supply for current and future anticipated use. In the event of a pandemic or novel pathogen outbreak, PPE use policies should be fully aligned with the precautionary principle and necessitate that the most protective forms of PPE are used until clear, unequivocal evidence shows they are not required. Finally, the clinical judgment of nurses and other health-care workers

should always be respected, and they should be permitted to avail themselves of higher levels of PPE should they deem it necessary.

## BCNU EXPECTATIONS

### EMPLOYERS

- > Consider the most effective controls first, including engineered controls, for reducing the risk to patients and health-care workers;
- > Make PPE readily available to all nurses and other health-care workers by removing locked storage areas or providing other methods of immediate access;
- > Train all health-care workers in the correct use of PPE, including fit-testing and other similar procedures;
- > Establish appropriate minimum standards for PPE use;
- > Respect the PCRA as well as the individual judgment of nurses and other healthcare workers in the selection of PPE, beyond the minimum standard.

### GOVERNMENT

- > Invest in adequate stockpiles of PPE to ensure continuous supply during a prolonged global pandemic;
- > Ensure that any non-conventional use of PPE such as reprocessing is scientifically validated as safe prior to deployment;
- > Affirm the precautionary principle in the use and selection of PPE throughout the province.
- > Policy decisions should be based on emerging evidence with the understanding that new research may lead to policy changes.