



NIPISSING UNIVERSITY  
ENVIRONMENTAL HEALTH AND SAFETY

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# Standard Operating Procedure for Personal Protective Equipment for CL2 Laboratories



## 1.0 Purpose

This standard operating procedure (SOP) outlines the requirements and use of Personal Protective Equipment (PPE) in Containment Level 2 (CL2) laboratories within Nipissing University. PPE includes protective equipment and clothing that are designed to minimize the **risk of exposure to pathogens and toxins**. PPE is to be used as a supplement to but not as a substitute for engineering controls.

## 2.0 Application

This SOP applies to all personnel working in CL2 areas within Nipissing University including faculty, lab techs, lab instructors, students, caretaking staff and visitors. The specific requirements for PPE will be dictated by the nature of the work undertaken and the pathogens involved as determined by a Local Risk Assessment (LRA).

## 3.0 Procedure

The following PPE and attire must be worn and used in CL2 laboratory while conducting work. Note that all PPE must be worn and stored exclusively within the CL2 laboratory.

### 3.1 Eye Protection

Wearing eye and/or face protection protects personnel from exposure by preventing infectious material and toxins from coming into contact with the mucous membranes of the eyes, and where full-face protection is worn, also the nose and mouth.

- a. Safety glasses with side shields or safety goggles are to be worn by all faculty, laboratory staff and students while working in the laboratory.
- b. Safety glasses or goggles are to be worn over top of prescription glasses. Contact lenses are permitted to be worn in the laboratory as long as safety eyewear is also worn. See *Biosafety Manual* for more details on wearing contact lenses in the laboratory.



### 3.2 Gloves

Wearing appropriate gloves protects personnel from exposure and prevents the spread of contamination by protecting hands from contamination.

- a. Gloves should be well-fitting and of appropriate material and thickness for the work being completed.
- b. Gloves must be worn by all persons in the laboratory when handling infectious material, toxins, waste or any other potentially biohazardous agent.
- c. Workers are to be trained in the proper method for contaminated glove removal.
- d. Contaminated gloves are to be placed in the appropriate biohazard waste container for disposal.

*Follow these steps to protect hands:*

1. Always wash your hands **after** removing gloves.
2. Gloves may not be worn outside of the laboratory and disposable gloves must not be reused. In the case where gloves must be worn outside the laboratory to transport samples, you must use the 'one glove rule'. This rule requires that one hand must always be free from gloves when using door handles or depressing buttons in elevators. One hand may be gloved for direct contact with the hazardous materials.
3. Unless otherwise written, **DO NOT** "sterilize" your gloves with alcohol prior to use due to the possibility of micro-hole formation in the gloves.

### 3.3 Lab Coats

Wearing lab coats protects personnel from exposure and prevents the spread of contamination outside the containment zone.

- a. A buttoned lab coat is to be worn by all faculty, laboratory staff and students while working in the laboratory. Sleeves should reach the wrists.
- b. Lab coats must be removed before leaving the containment area.



### 3.4 Footwear

Appropriate closed-toe and heel, slip-resistant shoes must be worn by all faculty, staff and students working in the laboratory and by all caretaking staff and visitors entering the laboratory.

### 3.5 Donning and Doffing

PPE can only protect you if it is used properly. How you put on (don) and remove (doff) PPE is vitally important for proper protection from infectious material and toxins. Follow the procedure below unless otherwise stated in a specific SOP as determined by an LRA.

#### *Donning:*

- a) Check your PPE for integrity as you are putting it on. There should be no holes, rips, or tears and eyewear and respirators/masks (when required) should fit snugly.
- b) Remove jewelry that could cause snagging or tearing of PPE and place in personal area outside of containment zone.
- c) First, put on your lab coat or gown and ensure it is properly fastened. If you will be double-gloving then the first set should be put on *before* your lab coat.
- d) Put on respirator or face mask, if required.
- e) Put on eyewear, if required.
- f) Put on your gloves and fit them over the cuffs of the lab coat.

#### *Doffing:*

- a) Remove your PPE very carefully to minimize contamination of your skin and hair. You should start with items most likely to be contaminated.
- b) First, remove your gloves (outer only if wearing two pairs) using the glove-to-glove/skin-to-skin method and discard immediately in the appropriate receptacle.

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- c) Remove your lab coat/gown by unfastening and then peeling away from your body. Remember that the front and sleeves could be contaminated and should be kept away from your body.
- d) If you are wearing other PPE such as eyewear and respirator/mask they should be removed next. Contamination of your face is the most likely way to transmit an infectious pathogen or toxin so you should wash your hands first unless you were wearing two sets of gloves (you may use inner gloves to remove these items). Eyewear should be removed before respirator/mask if wearing both). Place items in appropriate bins for either waste or decontamination.
- e) Remove inner gloves if you were double-gloving and then perform proper hand hygiene.

#### **4.0 Responsibility**

##### **4.1 Supervisor**

- a. Reviews operations within their lab and determines the correct PPE necessary to perform activities in a safe manner.
- b. Ensures PPE is adequately available for all working in lab area and that it is in good condition ex. No torn lab jackets, broken goggles etc.
- c. Ensures that all working in the lab area have read PPE standard operating procedure and are familiar with the requirements.
- d. Ensures that all workers utilize PPE while working within the lab space.

##### **4.2 Staff and Students**

- a. Understand the hazards presented in the laboratory.
- b. Is informed and aware of various standard operating procedures applicable to the laboratory.
- c. Wear and/or use PPE required for lab activities.
- d. Immediately report any missing or defective PPE to supervisor.
- e. Follow the guidelines for the use and care of the required PPE.
- f. Inform the supervisor of changing conditions and new hazards as they present themselves incase additional PPE is required.

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## **5.0 Hand Washing and Decontamination**

Hand washing is essential for preventing laboratory acquired infections. Hands should be washed immediately after removing PPE and at any time after handling materials known or suspected to be contaminated. Please see *Biosafety Manual* for additional details on hand washing and decontamination.