8. PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment IS NOT the first/only strategy used to prevent the transmission of microorganisms.

Focusing only on availability and use of various protective equipment will result in less than ideal protection of all persons, including those receiving care, and staff.

Personal protective equipment (PPE) provides a physical barrier between the uninfected and an infectious agent/infected source. It protects the user from exposure to bloodborne and other microorganisms (germs) (e.g., sprays of blood, body fluids, respiratory tract or other secretions or excretions).

Appropriate PPE must be available for use to prevent exposure to an infectious agent/infected source. Effective and appropriate use of PPE is reliant on the user's adherence and competence. Health care workers HCWs should determine what PPE is needed by performing a Point of Care Risk Assessment (PCRA).

Appropriate and proper use of PPE includes:

- PCRA to determine need for PPE
- Correct technique for donning and doffing PPE
- Correct technique when wearing PPE (e.g., not contaminating self)
- Discard into designated receptacles immediately after use, followed by hand hygiene, preferably with ABHR

Following the PCRA, required PPE may include:

- Gloves
- Gowns
- Facial protection
  - Masks (medical)
  - Eye protection (safety glasses. goggles or face shields)
    NOTE: prescription or fashion glasses are NOT considered eye protection
  - Masks with visor attachment.

Over-reliance on PPE may result in a false sense of security; misuse (e.g., surgical caps and bouffants when caring for a patient/resident/ client [P/R/C] with lice); or increased waste. Putting on or removing PPE incorrectly can result in inadvertent exposure of the user or the P/R/C to infectious agents or contamination of the healthcare (external) environment. Faith or cultural head coverings shall be covered in

areas where hair must be covered (e.g., Operating Room bouffant cap) but do not require covering or removing in isolation rooms.

8.1. Gloves

The use of gloves is NOT a substitute for hand hygiene, but an additional measure of protection.

For Routine Practices, glove use is dependent on a PCRA of the P/R/C, the environment and the interaction. Gloves are not required for routine care activities when contact is limited to the intact skin of the P/R/C.

Gloves include:

- Procedure
- Surgical (i.e., Sterile).

Gloves are used to reduce the transmission of microorganisms from one person to another or from one body site to another, and to reduce the risk of exposure of staff to blood, body fluids, secretions and excretions, mucous membranes, draining wounds or non-intact skin and for handling items or touching surfaces visibly or potentially soiled. **Hand hygiene is ALWAYS necessary after the removal of gloves**, as they may have microscopic holes, or hands may become contaminated during glove removal.

Wear gloves as determined by the PCRA:

- For anticipated contact with blood, body fluids, secretions and excretions, mucous membranes, draining wounds or non-intact skin (including skin lesions or rash)
- For handling items or touching surfaces visibly or potentially soiled with blood, body fluids, secretions or excretions
- While providing direct care if the user has an open cut or abrasions on the hands. If gloves are used for this reason they should be changed every time hand hygiene is required.

8.1.1. Appropriate Glove Use

- Perform hand hygiene prior to putting on gloves for tasks requiring clean, aseptic or sterile technique
- Put gloves on directly before contact with the P/R/C or just before the tasks or procedure requiring gloves

- Ensure gloves are the correct size to maximize protection, dexterity and comfort.[13.3]
- Select type of glove appropriate to the task. [13.1]
- Wear disposable procedure or surgical gloves or reusable utility gloves for cleaning the environment or medical equipment.[13.1] If using reusable utility gloves for cleaning of the environment or medical equipment be sure to disinfect with a healthcare approved disinfectant after the task and allow to air dry away from sources of contamination
- ***DO NOT reuse single use gloves. DO NOT clean gloves with alcohol-based hand rub or wash for reuse***. Washing affects integrity and has not been shown to be effective in removing microorganisms
- Remove gloves and perform hand hygiene immediately after care activities. If gloves are still indicated, replace with a clean pair
- Remove gloves and dispose into a hands-free waste receptacle immediately following their intended use. Follow immediately with hand hygiene.
- Change gloves between the care of each P/R/C.

DO NOT DOUBLE GLOVE

Wearing extra PPE may affect fit and complicates the doffing process which may increase the risk of self-contamination.

To reduce hand irritation related to gloves:

- Wear gloves for as short a time as possible
- Ensure hands are clean and dry before putting on gloves
- Ensure gloves are intact and clean and dry inside.

8.2. Long-Sleeved Gowns and Other Apparel

Long sleeved cuffed gowns are worn for Routine Practices as indicated by the PCRA:

- During procedures and patient/resident/client care activities likely to soil clothing and/or generate splashes or sprays of blood, body fluids, secretions or excretions
- To protect uncovered skin
- To prevent soiling of clothing.

Gowns include:

- Isolation gown
- Reusable/disposable
- Fluid repellent/resistant
- Sterile.

The type of gown selected is based on the:

- Anticipated degree of contact with infectious material
- Potential for blood and body fluid penetration of the gown (fluid repellence/resistance when heavy liquid contamination is anticipated (e.g., operating theatre, dialysis)
- Requirement for sterility (e.g., operating theatre, central line insertion).

8.2.1. Appropriate Gown Use

- Perform hand hygiene before putting on a gown
- Ensure gown is long enough to cover the front and back of the user, from the neck to mid-thigh and the sleeves no shorter than just above the wrist
- Put gown on with the opening at the back, with edges overlapping, thus covering as much clothing as possible
- Ensure cuffs of the gown are covered by gloves
- Tie the gown at the neck and waist
- Remove gown by undoing the neck and waist ties, starting with neck ties, and remove the gown without touching the clothing or agitating the gown unnecessarily; then turn the gown inside on itself, and roll it up
- Remove gown immediately after the indication for use and place in a hands-free waste receptacle (if disposable), or in a soiled linen bag (if reusable), and perform hand hygiene before leaving the care environment
- Remove wet gowns immediately to prevent a wicking action that facilitates the passage of microorganisms through the fabric
- **DO NOT** reuse gowns once removed, even for repeated contacts with same P/R/C
- **DO NOT** wear the same gown between successive P/R/Cs
- Perform hand hygiene after removing the gown due to possible contamination of hands during removal of the gown.[13.3]

There is no evidence the routine use of gowns for all P/R/C care is beneficial in the prevention of HAIs, even in high risk units such as intensive care or haematopoietic stem cell transplant units.

Universal gown use has had no effect on HAI rates in neonatal or paediatric ICUs or on rates of neonatal colonization on post-partum wards.

In the laboratory setting, wearing of laboratory coats is considered PPE. PPE worn inside the laboratory setting should not be worn outside the laboratory containment area (e.g., should not be worn in cafeteria, lunchroom, or P/R/C areas). [13.10]

Several gown sizes should be available in a health care setting to ensure appropriate coverage of staff. [13.8]

Staff Apparel / Uniform Considerations

For aesthetic purposes and professional etiquette, staff apparel and uniforms shall be clean.

- Sleeves shall not interfere with or become wet when performing hand hygiene
- It is safe to launder staff uniforms at home
- Adhere to organizational policies regarding the laundering of scrub suits and uniforms supplied by the organization
- Personal clothing that cannot be completely covered by surgical attire shall not be worn by staff required to perform a surgical scrub.

Outside of the laboratory setting, apparel such as uniforms, laboratory coats or scrub suits may be worn by staff for purposes of comfort, convenience or identity, but DO NOT have a role in prevention of infection (i.e., they are not considered PPE).

8.3. Facial Protection

Facial protection includes medical masks (procedure or surgical mask), eye protection (safety glasses, goggles or face shields).

8.3.1. (Medical) Masks

Medical masks include procedure or surgical masks, and have several uses:

- To protect from sprays or splashes
- As a barrier for and from infectious sources
- As a barrier when performing aseptic/sterile procedure.

- To protect susceptible hosts when within two metres/six feet of patient/resident /client (P/R/C) with respiratory signs/symptoms.

8.3.2. Eye Protection

The eye is an important portal of entry for some pathogens. Pathogens may be introduced into the eye directly via respiratory droplets generated during coughing or suctioning, or by self-inoculation if the eyes are touched with contaminated fingers.

Eyes may be protected through use of regionally approved:

- Safety glasses,
- Goggles or
- Face shields.

Users should avoid touching their faces with their hands during P/R/C care.[13.3]

The need for facial protection during routine care is determined by the PCRA:

- Interactions involving activities likely to generate coughing, splashes or sprays of blood, body fluids, secretions or excretions
- Procedures that potentially expose the mucous membranes of the eyes, nose or mouth, require facial protection. Transmission of hepatitis C and HIV has been reported by splashes of blood to the mucous membranes of the face
- When caring for a coughing and sneezing P/R/C

8.3.2.1. Appropriate Use of Facial Protection

- Perform hand hygiene before putting on facial protection
- Put on facial protection immediately before the activity that requires you to wear a medical mask and eye protection
- Remove medical mask and eye protection immediately after the activity for which it is used
- Perform hand hygiene prior to putting on facial protection
- Users should avoid touching their faces with their hands during P/R/C care[13.3]
- Wear and discard facial protection appropriately to prevent self-contamination

- Ensure nose, mouth and chin are covered when wearing a medical mask
- Avoid self-contamination by not touching facial protection on its external surface during use and disposal
- Wear disposable eye protection or face shields only once to avoid self-contamination
- When eye protection is required, wear eye protection over prescription or fashion glasses; ***prescription or fashion glasses alone are NOT adequate for eye protection***
- Remove facial protection carefully by the straps or ties. Bend forward to allow the medical mask to fall away from the face[13.1]
- Discard facial protection immediately after the intended use into a hands-free waste receptacle (i.e., dispose of as soon as removed from the face) and perform hand hygiene
- If eye protection or face shields are reusable, clean and disinfect as per organizational policy before reuse
- ***DO NOT dangle a medical mask around the neck or ears when not in use***
- ***DO NOT reuse medical mask***
- ***DO NOT place on top of head or around the neck for later use***
- Change the medical mask if it becomes wet or soiled (from the wearer's breathing or due to an external splash)
- Change the medical mask if breathing becomes difficult
- **Do not** fold or store medical mask in a pocket.[13.3]

8.4. Respiratory Protection

Respiratory protection from airborne infection requires the use of a respirator with NIOSH-approved N95 or higher filtration to prevent inhalation of microorganisms. Respiratory protection may be necessary as a component of airborne precautions or recommendations for performing AGMPs on certain P/R/C. The need for respiratory protection is determined by a POINT OF CARE RISK ASSESSMENT (PCRA). Factors to be considered are the specific infectious agent, known or suspected, infection status of the P/R/C, the care activity to be performed, the immune status of staff involved in care and the ability of the P/R/C to perform respiratory hygiene.[13.1]