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CHICA-CANADA POSITION STATEMENT

Hand Hygiene

Hand hygiene is the cornerstone of preventing the spread of infection. Hand hygiene decreases the number of disease-causing organisms on the surface of your skin, and can be achieved by either traditional handwashing, or by using an alcohol-based hand rub (ABHR) on the hands (1).

Recent evidence has demonstrated the superiority of ABHR for decontaminating hands in healthcare settings (2). CHICA-Canada recommends ABHR as the preferred method of hand hygiene unless hands are visibly soiled. If hands are visibly soiled, wash hands with soap and warm, running water.

To be effective, perform hand hygiene:

- Before entering and on exiting the room or bedspace of a patient*
- After removing gloves,
- After care involving the risk of or exposure to body fluids of a patient (e.g. toileting a patient or providing wound care),
- After contact with items in the patient's environment or contact with their body substances,
- Between different procedures on the same patient,
- Before and after performing invasive procedures,
- After performing personal functions such as blowing your nose or using the toilet,
- Before eating, preparing or serving food, feeding a patient,
- Any time hands are visibly soiled.

*patient in this position statement refers to all patients, residents or clients in the healthcare setting.

Techniques:

- For adequate hand hygiene remove all hand and wrist jewelry or keep it out of the way prior to washing or rubbing.
- Rings have been shown to increase the number of microorganisms on hands and increase the risk of tears in gloves; their use while providing care is discouraged (3).
- Artificial nails and nail enhancements have also been associated with increased transfer of microorganisms and glove tears. They should not be worn by healthcare workers providing patient care.

Hand Washing

To wash your hands, use warm, running water, soap, and friction for at least 15 seconds. Wet hands, then lather and clean all surfaces of the hands concentrating on fingertips, between fingers, nail beds, back of hands and base of thumbs and thoroughly rinse after lathering and rubbing. Ideally, use individual paper towels to pat hands dry. Turn off the taps with the paper towel to avoid recontaminating your hands.

Bar soaps are not acceptable in healthcare settings except for single patient use. If used in this context ensure the soap is able to drain when not in use.

Use liquid soap containers until empty and then discard; topping up has been associated with contamination.

Plain soap is appropriate in most areas. Alcohol-based hand rub or antimicrobial soap may be used in critical care areas or in other areas where invasive procedures are regularly performed.

Alcohol-based Hand Rub

Ensure hands are visibly clean; apply the amount of product recommended by the manufacturer into one palm. This is often between 1-2 full pumps of the product or a 'loonie' sized amount. Spread the product over all surfaces of hands, concentrating on finger tips, between fingers, back of hands and base

of thumbs. Rub hands until the product is completely dry; this will take at least 15-20 seconds if sufficient product is used.

ABHRs available for, and widely used in, health care settings range in concentration from 60% to 90% alcohol (4). Concentrations higher than 90% are less effective because proteins are not denatured easily in the absence of water. A recent study suggests that norovirus is inactivated by alcohol concentrations ranging from 70% to 90% (5). Norovirus and other non-enveloped viruses (e.g. rotavirus, enterovirus) cause acute gastroenteritis in humans and are a frequent cause of outbreaks in health care facilities. Since norovirus is a concern in all health care settings, this should be taken into consideration when choosing an ABHR product. It is preferable that a minimum concentration of 70% alcohol be chosen in healthcare settings. The active concentration of alcohol in products may be checked by searching on the DIN number in the Health Canada Drugs and Health Products Database, located at:

<http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php>

When dealing with spore-forming bacteria (e.g. *Clostridium difficile*) handwashing is preferred as ABHRs have limited effectiveness in killing spores; therefore physical removal of spores by handwashing is required. However, when providing patient care where handwashing facilities are not immediately available, hands should be decontaminated with ABHR which is effective against the vegetative forms of the bacteria and then hands washed as soon as possible.

Care should be taken to ensure hands are completely dry after use of ABHR to reduce the fire risk from vapours. While this is a rare event there has been at least one recorded instance of a fire related to use of ABHR in oxygen rich environments. In this case hands of the healthcare worker were still 'wet' with the ABHR when the fire ignited (6).

Ideally ABHR should be available to all healthcare workers (HCWs) at the point-of-care. An

institutional risk assessment should be completed to determine the most appropriate areas for placement of ABHR in every facility. Locked, tamper proof containers should be used.

Skin Care

Hand lotions or creams should be available to minimize any skin irritation or breakdown caused by hand hygiene. To be effective HCWs must use the skin care products regularly. Healthcare facilities should develop a proactive program to keep hands healthy so hand hygiene can be optimal. Engaging HCWs and occupational health experts in design of a program has been shown to increase its effectiveness. Key parts of a skincare program include:

- Provision of efficacious skin care products and barrier creams that do not interfere with the persistent antimicrobial effect of the hand hygiene agent being used
- Positioning of skin care products as close as possible to areas where hand hygiene is performed
- Use of dispensers that are of sufficient quality that they will not clog or leak
- Use of dispensers that can be easily flagged for disposal when empty
- Use of products that do not have adverse effects on gloves
- Use of warm but not hot water for handwashing
- Placement of dispensers to minimize splashing or dripping onto adjacent wall and floor surfaces.

Effective hand hygiene must be an individual and an institutional priority. Literature has shown multifaceted hand hygiene programs developed by multidisciplinary groups within healthcare settings are the most effective; Infection Control Professionals have and continue to play a key role in these programs.

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