International Federation of Perioperative Nurses

IFPN Guideline for General Handwashing in the Perioperative Setting

PURPOSE:

Handwashing is universally considered to be the most basic as well as the most vital infection control measure (Horton, 1995; Larson, 1992; O'Donnell, 2000; Garner & Favero, 1985). Handwashing is also a simple but effective means of protecting patients from hospital acquired infections also known as nosocomial infections (Horton, 1995; Garner & Favero, 1985; Handwashing Liaison Group, 1999).

The purpose of handwashing is to remove dirt and to reduce the level of microorganisms present on the hands. Handwashing reduces the number of potential microorganisms and interrupts the opportunity of transferring microorganisms to patients.

Thorough, regular, and consistent handwashing is essential because research has established the link between the contaminated/non contaminated status of the hands of health-care workers and the cross-transmission and spread of microorganisms. Each facility should have a policy and procedure for handwashing that considers the resources available in that facility. The following recommendations should be considered when drafting the policy and procedure for handwashing.

RECOMMENDATIONS:

A. HANDWASHING INDICATIONS:
   Handwashing is Recommended Before & After:
   1. Touching all patients

      Rationale: Hands to skin contact is a most convenient transport mechanism for microorganisms.
   2. Performing invasive procedures such as urinary catheterization, central line placement, and tracheostomy care.

      Rationale: Patients who require frequent invasive procedures and devices area at an increased risk of transmission of micro-organisms.
   3. Caring for susceptible patients, such as those who are severely immunocompromised.
      Rationale: Immuno-compromised patients are easily infected by their own organisms and their immune system is compromised by disease or toxic medical treatments.

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4. Caring for newborns.

   Rationale: The immune system of a new born does not function properly immediately after birth. Thus a newborn infant has little natural resistance to microbes and needs maternal antibodies for its protection.
5. Caring for patients infected or colonized with important bacteria such as methicillin-resistant Staphylococcus aureus where there is a risk of serious cross-infection.
6. Preparing or handling food.

   Rationale: Hands to food to mouth or other hands is another convenient mode of transport for microorganisms.

Handwashing is recommended after:

7. After situations during which microbial contamination of hands is likely to occur, such as contact with mucous membranes, blood or body fluids, secretions, excretions, touching wounds and dressings of any type, whether surgical or traumatic.
8. Personal contamination such as using the toilet and blowing or touching one's nose.
   Rationale: Body excretions and fluids are sources of microorganisms.
9. Leaving a work area and upon returning to the work area.

   Rationale: Reduces potential for transmission to and from non health care locations.
10. Removing gloves.

    Rationale: Hands must be washed even after gloves have been worn, because they may be punctured or may leak, and hands can become contaminated during removal.
11. Whenever there is a question about doing so.

B. HANDWASHING TECHNIQUE:
   1. Wet hands with running water.

      Rationale: Wetting hands is an important component of effective handwashing.
   2. Apply a hand washing agent and thoroughly cover hands. If the operator is using an antimicrobial hand washing agent, the manufacturer's recommendations must be followed.

      Rationale: Soaps or detergent base in antiseptic agents facilitate physical

removal of organic material and the microbes. Antiseptics kill or inhibit microorganisms and reduce the level further by their residual effect, but are inactivated by organic material.

3. Vigorously rub hands (mechanical friction) together for 10 to 15 seconds, covering all surfaces of the hands and fingers.

   Rationale: The mechanical friction is the most important component in effective handwashing.
4. Thoroughly rinse hands under a stream of water.

   Rationale: Thoroughly rinsing hands is important to reduce the number of microorganisms and prevent skin irritation. Skin irritation is known to decrease the compliance of handwashing.
5. Thoroughly dry hands.

   Rationale: Thoroughly drying hands is important to prevent skin irritation. Skin irritation is known to decrease the compliance of handwashing. Wet surfaces also transfer microorganisms more effectively than dry ones.
6. After drying hands, the operator must turn off the water. If the elbow or foot does not operate the water controls, a disposable paper towel should be used to turn off the water without touching the contaminated water controls.

   Rationale: The sink operated by the elbow or foot allows the operator to turn off the water without touching the contaminated sink or water controls. The disposable paper towel allows the operator to turn off the water without touching the contaminated sink or water controls.
7. For general patient care, a plain, non-antimicrobial soap is recommended in any form (bar, liquid, powder).

   Plain soap should be used for handwashing unless otherwise indicated such as invasive procedures or immuno-compromised patients.

   Rationale: Washing hands for 10-15 seconds with plain soap and running water and mechanical friction removes most microorganisms on the surface of the skin.

   If bar soap is used, small bars that can be changed repeatedly and soap racks that allow for drainage of water should be used.

   Rationale: The small bars last a short duration, in turn this greatly decreases contamination by microbes. A wet bar of soap will transfer microorganisms

more effectively than a bar of soap that is allowed to dry completely.

If liquid soap is used, the dispenser should be replaced or cleaned and filled with a fresh handwashing agent when empty; liquids should not be added to a partially full dispenser.

Rationale: A disposable container is the most effective against microorganisms, because it is changed and disposed frequently which decreases the microorganisms. A reusable container must be cleaned and allowed to dry completely before liquid is added. Frequently cleaning and allowing the container to dry properly greatly decreases the microorganisms. Adding liquid to a partially full dispenser greatly increases the microorganisms.

8. Handwashing with antimicrobial agents is recommended:

   Before performing invasive procedures and before caring for newborns and immuno-compromised patients.

   Rationale: Antiseptics kill or inhibit microorganisms and reduce the level further by their residual effect, but are quickly inactivated by organic material. The detergent base in antiseptic agents, however, physical removes both the organic material and the microbes. Newborns, immuno-compromised patients and those having invasive procedures can benefit from the use of an antimicrobial agent.

9. Additional Considerations:
   a. Alcohol based detergents can be used without initial or final water rinse as permitted by the manufacturer's directions.

      Rationale: Alcohol kills bacteria more effectively than most other handwashing agents do.
   b. Complete coverage of hands with the handwashing agent is important.

      Rationale: Research has shown that part of the thumbs; backs of fingers and hands and underneath the fingernails are repeatedly missed.
   c. Fingernails should be cleaned with a scrub brush or a nail stick.

      Rationale: Debris can collect under fingernails and result in a high microbial count
   d. Fingernails should be kept short.

Rationale: Most microorganisms are found under or around the fingernails.

e. Rings should be limited to wedding bands in the clinical setting.

   Rationale: Bacterial counts are higher under and around rings. Removal is improved by rotating rings during handwashing.

f. Hand lotions should be available.

   Rationale: Hand lotions are used to prevent skin dryness. Preventing skin dryness on health-care workers hands will increase handwashing compliance. Bacterial counts increase when the skin is damaged. Care must be taken to prevent cross-contamination from multiple use bottles.

References:

- ACORN (2018) Australian College of Perioperative Nurses: **Standards for Perioperative Nursing in Australia.**

- AfPP (2016) Association for Perioperative Practice: Harrogate UK: **Standards and Recommendations for Safe Perioperative Practice.**

- AORN (2019) American Operating Room Nurses Association: Denver USA: **Guidelines for Perioperative Practice.**

- ORNAC (2017) Operating Room Nurses Association of Canada**: Standards for Perioperative Nursing Practice.**

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