

Hand Health - Frequently Asked Questions

Section 1: What everyone needs to know about Hand Health

1.1 Hand Hygiene Basics

What is proper Hand Hygiene?

Proper hand hygiene requires that all surfaces of the hand (including the backs of the hands, thumbs, wrists, nail beds, and between the fingers) be cleaned using either an Alcohol Based Hand Rub (ABHR) or Soap and Water. Refer to the specific steps in the HHPP.

I have been told that ABHR is not as good as hand washing. Is this true?

No. Evidence shows the use of ABHR is as good as or better than hand washing with soap and water. For example, a randomized clinical trial conducted in France in 2001 found that “the **reduction** of total bacterial contamination of participants’ hands was significantly higher after hand rubbing (with alcohol hand rub) than after antiseptic hand washing (with antimicrobial soap).” ABHR is also faster, more convenient, and causes less skin irritation with repeated use (due to the presence of emollients) (Boyce, et al. 2000).

Are there a maximum number of times I should use ABHR?

There is no maximum number of times to use ABHR. ABHR is recommended to be the first choice for hand hygiene according to Centre for Communicable Disease Control (CDC). Review the AHS HHPP to guide you when to use soap and water for hand hygiene.

How much ABHR is enough?

Depending on the size of your hands, the amount of ABHR may vary. It is recommended you use enough product to cover your hands (approximately one palm full) and vigorously rub product over hands until all surfaces are completely dry.

Can I use a non-alcohol based hand rub product to perform hand hygiene?

No. Non-alcohol based hand rub products contain benzalkonium chloride which is effective against gram positive bacteria but not against all gram negative bacteria such as *E-coli* and *Pseudomonas*. Therefore, they cannot be used in healthcare settings due to the potential risk for outbreaks associated with these microorganisms. Currently there are no non-alcohol based products approved by Health Canada for use in healthcare facilities.

How should I dry my hands after I wash with soap and water?

Pat hands dry with a disposable paper towel from a closed paper towel dispenser; don't rub. For healthcare settings, closed paper towel dispensers are preferred over a roll or stack of paper towels sitting beside the sink because the risk of re-contamination through splashes. Periodically apply AHS provided hand lotion to assist in maintaining skin integrity.

Can I wear gloves as a substitute for hand hygiene?

No. Gloves are not a substitute for hand hygiene. When gloves are removed hand hygiene must be performed. Gloves must be removed and discarded between each patient contact and when changing procedures on the same patient (e.g., performing personal care and then setting up a food tray).

Why do I need to perform hand hygiene after I remove my gloves?

Gloves provide an extra barrier when in contact with blood and body fluids; however, 5% of gloves have micro-tears and these micro-tears can increase the longer gloves are worn. This can allow microorganisms to contact the skin. Also, when gloves are removed, the hands can become contaminated by the gloves as they are pulled off. Therefore, hands are considered contaminated even when gloves have been used.

I am wearing a cast/splint or dressing. Can I wear gloves on my hands and continue to work?

Wearing gloves over a splint or cast or dressing is not a substitute for hand hygiene. You must be able to perform proper hand hygiene. If the cast/splint or dressing prevents you from performing proper hand hygiene, you should always consult AHS OHN/WCB for further direction.

In my daily work environment I do not always have access to wall mounted ABHR or soap dispensers to perform hand hygiene. What can I do?

Small, portable, pocket size bottles of ABHR are available for Health Care Workers (HCW) who work in areas where access to ABHR may be limited (e.g., mental health or community settings). Small bottles of AHS provided hand hygiene products are also available for HCW who work in the community (e.g., Home Care).

What do I do when there is no running water or clean water available?

Hand cleaning wipes/towelettes can be used for removing visible soil from hands when running water is not available. ABHR shall be done following the use of a hand cleaning wipes/towelettes. Hands shall be washed once running water is available.

If water is not available, and you need to remove visible food, dirt, blood, or body fluids or have been caring for a patient who is vomiting or had diarrhea, the procedure below is suggested. The Public Health Agency of Canada recommends that in the absence of running water, you can use two separate containers to wash your hands: one for holding the clean water supply and a second for the water used to wash your hands. Refer to AHS Emergency Operations guidelines in the event of a water interruption.

The procedure suggested is as follows:

1. Pour sufficient water to cover hands into the hand washing container
2. Wet your hands up to the wrists
3. Apply enough soap to cover all hand surfaces
4. Work soap under the fingernails and around and between joints and fingers
5. Remove all soap and dirt residue by moving your hands around to replicate the action of running water
6. Dry your hands with a clean cloth or paper towel while taking special care to dry thoroughly between the fingers

7. Throw out the water from the hand washing container following each individual use

In a similar manner when clean water is not available, you can:

1. Treat water by boiling for one minute, or
2. Treat water with chemicals, e.g., chlorine bleach in liquid or tablet form
3. Follow the directions above for washing hands when running water is not available

1.2 Hand Health – Prevention Measures

Does Alcohol Based Hand Rub (ABHR) cause skin irritation?

ABHR is generally well tolerated by staff. The most common reason for adverse effects from ABHR is a pre-existent skin irritation from washing with soap and water.

ABHR used on healthy skin should rarely cause skin problems. ABHR products do less damage to the lipid layer of the skin than soap and water, consequently, regular use of ABHR results in healthier hands.

The most common type of skin reaction to hand hygiene products is called *contact dermatitis* which includes symptoms that can vary from mild to debilitating including dryness, irritation, itching, and even cracking and bleeding. These problems are more likely to occur with the use of soap and water.

NOTE: In the dry winter season, hands will be much more susceptible to irritation; however, the irritation isn't necessarily due to the use of ABHR. While the ABHR products selected for use in AHS contain emollients, regular use of AHS provided hand lotions is recommended to increase the moisture content of the hands.

Can skin irritation compromise the effectiveness of hand hygiene?

Skin irritation or dermatitis may place you or a patient at risk for exposure to bacteria as hand hygiene products are not as effective in reducing the bacterial count on skin affected by dermatitis. When a HCW has non-intact skin there is increased risk of contact with blood borne pathogens and/or infection.

Does the alcohol in ABHR used on my hands dry out my skin?

No, alcohol does not leach out the lipids in the skin as much as soap does. The lipids in the skin play an important role in maintaining the skin's moisture. In addition, AHS uses ABHRs that contain emollients, and emollients, irrespective of the type of alcohol or percentage used (n-propanol, isopropanol or ethanol), are well tolerated and do not dry out or irritate the skin (Girou, 2002). Regular use of ABHR has been shown to increase the moisture content of hands thus causing less dryness and irritation.

How can I avoid adverse reactions from hand hygiene?

There are a number of factors that can impact the integrity of your skin from hand hygiene. These include how hand hygiene products are used, the use of multiple different hand hygiene products, use of procedure gloves, water intake, and the weather.

1. **ABHR should be your first choice and recommended product of choice for performing hand hygiene.** Hand washing with soap and water should be performed when hands are visibly soiled with food, dirt or blood and body fluids and during food preparation or following glove removal for care of patients with diarrhea and/or vomiting.

2. **Do NOT wash hands with soap and water after applying ABHR.** It is not necessary and will remove the skin moisturizers in the ABHR.
3. **Do NOT wash hands with soap and water before applying ABHR.** It is not necessary and will increase skin irritation and reduce tolerance to the alcohol in the ABHR.
4. **Use AHS provided hand lotion** as a supplement to the moisturizer contained in the ABHR. AHS provided hand lotion will not impair the disinfectant activity of ABHR. Non AHS provided hand lotions may cause chemical incompatibilities and lead to the transmission of microorganisms and/or skin integrity issues.
5. **Tips for winter and around home**
 - a. Drink lots of water; dry weather dries out the natural moisture in skin
 - b. Wear gloves or mitts to protect your hands from cold air
 - c. Use rubber gloves to protect your hands from further irritation from chemicals at home (e.g., when doing dishes, gardening, etc.)

Can the use of ABHR products result in allergic reactions?

Allergic contact dermatitis although rare may occur as a result from the use of ABHR products. Symptoms of allergic contact dermatitis can range from a mild localized reaction to more severe generalized reactions. While rare, in its most severe form, allergic contact dermatitis may be associated with respiratory distress and other symptoms of anaphylaxis.

Persons with a predisposition toward developing certain allergic hypersensitivity reactions are also more prone to respiratory irritation from noxious fumes of any type, not just alcohol fumes. You need to be aware that bronchospasm from noxious fumes is not the same as anaphylaxis (a true allergic reaction).

I experience respiratory irritation (i.e. Bronchospasm) when I use ABHR. What could be the cause?

Pumping of too much ABHR product into your hand can produce excess fumes which may result in bronchospasm. Use the recommended amount of ABHR to avoid this situation.

1.3 Hand Hygiene Product Information

What considerations are made when AHS chooses hand hygiene products?

Hand hygiene products are chosen and provided by AHS for a variety of considerations, including:

- The effectiveness of the product in reducing the microorganisms on the hands
- If emollients/moisturizers are added to improve the health of the hands
- The amount of the product is needed on the hands
- How quickly the product works
- If it is safe to use on all patients
- If it is safe for staff to use repeatedly over time
- If all the products are scent free
- If all the products are compatible with each other which can reduce the number of chemicals on hands and potentially reduce the risk of skin integrity issues such as dermatitis

- If the product containers have anti-reflux valves that stop the product from drawing back into the dispenser/container and to prevent the product from becoming contaminated.

Can I bring in my own products and lotions from home to use at work for hand hygiene?

No. Only use AHS provided hand hygiene products to perform hand hygiene. If you experience issues with skin integrity, please notify WHS/OHN. In collaboration with IPC and the CPSM and /or an AHS selected vendor (e.g. Deb Med representative), an alternate AHS provided hand hygiene product will be recommended.

- Often store bought products contain petroleum based ingredients that can deactivate antimicrobial agents found in ABHR.
- Store bought products often don't have an anti-reflux valve that prevents back flow of product which can cause the product to become contaminated.
- To prevent over exposure to multiple types of chemicals which can increase the risk of dermatitis, it is recommended to use one line of products for hand hygiene.

Section 2: Skin Integrity Issues – Assessment Process

What should I do if I am having ongoing irritation or skin problems on my hands?

Consult Workplace Health and Safety. The OHN will review your current practices for hand hygiene, including options for using alternate products on the AHS provided inventory.

Employees are discouraged from seeking alternate products without consultation with OHN.

Section 3: Relevant Documents and Links:

Policy: Hand Hygiene

<https://extranet.ahsnet.ca/teams/policydocuments/1/clp-hand-hygiene-ps-02-policy.pdf>

Procedure: Hand Hygiene

<https://extranet.ahsnet.ca/teams/policydocuments/1/clp-hand-hygiene-ps-02-01-procedure.pdf>

References

Boyce, JM, Kelliher, S., Vallande, N. (2000). Skin irritation and dryness associated with two Hand-hygiene regimens: soap-and-water hand washing versus hand antiseptics with an alcoholic hand gel. *Infection Control Hospital Epidemiology* 21(7); 442-8. Abstract Available at: <http://www.ncbi.nlm.nih.gov/pubmed/10926393>.

Girou, E., Loyeau, S., Legrand, P., Oppein, F., & Brun-Buisson, C. (2002). Efficacy of With Alcohol based solution versus standard handwashing with antiseptic soap: randomized clinical trial *BMJ* 325:362 doi: 10.1136/bmj. 325.7360.362 Available : <http://www.bmj.com/content/325/7360/362.full.pdf>