



*Just Clean Your Hands*  
**Hand Care Program**



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# Hand Care Protection Components For Health Care Providers

A hand care protection program for health care providers is a key component of improving effective and safe hand hygiene practices to protect the health care provider and the patient\* from infections. A proactive program to protect the hands of the health care provider is necessary.

## Overview:

Improved adherence to hand hygiene has been shown to terminate outbreaks, reduce the transmission of antimicrobial-resistant organisms and reduce overall infection rates.

Health care providers (HCPs) may wash hands up to 30 times per shift.<sup>1</sup> It is estimated that 25 per cent of nurses report symptoms or signs of dermatitis involving hands and as many as 85 per cent give a history of having skin problems. Frequent and repeated use of hand hygiene products, particularly soaps and other detergents, is a primary cause of chronic irritant contact dermatitis among health care providers.<sup>1</sup> Therefore, it is vital for the safety of the health care providers and patients to promote skin integrity through:

- Provision of effective hand hygiene products
- Providing teaching of the correct technique for hand hygiene
- Regular assessment of health care providers' hands

## Acknowledgements:

The contents of this booklet have been adapted from the publications listed in the Resources section.

\*In this document, the term patient refers to client/patient/resident.

# Components for an effective hand care program include:

## 1. Occupational Health support of “healthy hands” program

Occupational Health should have a proactive program to support health care providers (HCP) in maintaining healthy hands. This should include:

- a) Reviewing the *Just Clean Your Hands Hand Care Program* booklet including Appendices A, B, C and D.
- b) Providing all health care providers with the “Protecting Your Hands Fact Sheet for Health Care Providers”. It is recommended that the Fact Sheet be provided at the pre-placement health assessment, and as part of other Occupational assessments programs such as T.B., or skin testing.
- c) Reviewing with the HCP the correct hand hygiene technique and how to protect skin integrity.
- d) Encouraging the HCP to have their hands assessed at the first sign of any irritation.
- e) Occupational Health may also refer to the Workplace Safety and Insurance Board (WSIB) assessment tool on WSIB web page.

## 2. Product selection matters

- a) Provide a *60-90 per cent alcohol-based hand rub (ABHR)* at point of care as one of the primary products to be used for hands that are not visibly soiled. Many studies have shown ABHR is more effective and better tolerated than soap and water. ABHR significantly reduces the number of microorganisms on skin, are fast acting and cause less skin irritation. Select ABHR with emollients.<sup>1</sup>
- b) Provide personnel with *efficacious hand hygiene products* that have low irritancy potential, particularly when these products are used multiple times per shift (IB).<sup>†</sup> This recommendation applies to products used for hand antisepsis before and after patient care in clinical areas and to products for surgical antisepsis by surgical personnel.<sup>1</sup>
- c) To maximize acceptance of products by HCPs, *solicit input from the HCPs* regarding feel, fragrance and skin tolerance of any products under consideration. The cost of hand hygiene products should not be the primary factor influencing product selection (IB).<sup>1</sup>
- d) *Solicit information from manufacturers* regarding any effects that hand lotions and creams or alcohol-based hand rubs may have on the persistent effects of antimicrobial soaps being used in the facility (IB).<sup>1</sup>
- e) Provide HCPs with hand *moisturizing skin-care products* (and encourage regular frequent use) to minimize the occurrence of irritant contact dermatitis associated with hand antisepsis and hand washing (IA).<sup>1</sup>
  - Several controlled trials have demonstrated that regular use of lotions and creams (e.g., twice a day) can help prevent and treat irritant contact dermatitis caused by hand hygiene products. In one study, frequent and scheduled use of an oil-containing lotion improved skin condition and thus led to a 50 per cent increase in hand washing frequency among HCPs. It is important to educate personnel regarding the value of regular, frequent use of hand-care products.<sup>1</sup>
  - Barrier creams are absorbed into the superficial layers of the epidermis and are designed to form a protective layer that is not removed by standard handwashing. In general, barrier creams are not effective and, in certain occupational settings, may be harmful as they actually trap agents beneath them, ultimately increasing risk of either irritant or contact dermatitis.<sup>2</sup>

<sup>†</sup> For the explanation of levels of evidence (e.g., IA) refer to Appendix C.

- The product selection committee must evaluate the efficacy and acceptability of hand-care products, and be aware of the potential damaging effects that oil-containing products may have on the integrity of gloves and the other antiseptic agents used in facility.
  - Moisturizing products are to be provided by the facility and not brought from home. (Products from home may not be dispensed safely, compatible with gloves or hand hygiene products.)
- f) When selecting non-antimicrobial soaps, antimicrobial soaps or alcohol-based hand rubs, solicit information from manufacturers regarding any known interactions between products used to clean hands, skin care products, and the types of gloves used in the facility (II).<sup>1</sup>
- g) Do not add soap to a partially empty soap dispenser. This practice of “topping off” dispensers can lead to bacterial contamination of soap (IA).<sup>1</sup> (Note: All hand care products including alcohol-based hand rub and moisturizers must be dispensed in a disposable pump container that is not topped-up or refilled, to prevent contamination)
- h) Select paper towels that are non-irritating.
- i) Select gloves that are non-irritating.

### 3. Educate health care providers frequently and in a variety of venues

Provide education to health care providers at orientation and on an ongoing basis about when and how to protect their hands in order to promote skin integrity. HCPs frequently think that nothing can be done for their irritated hands. A proactive message encouraging them to have an assessment, and education on how to protect their hands, will assist in early intervention to protect their hands.

- Verify HCPs are familiar with the correct hand hygiene techniques and have seen the Ministry of Health and Long-Term Care (MOHLTC) Hand Hygiene education module.
- Educate personnel regarding the need to use regular, frequent use of hand-care lotions provided by the facility.
- Educate personnel regarding wearing protective gloves correctly to decrease irritation from the gloves.
- Emphasize HCPs should have their hands assessed by Occupational Health as soon as any skin irritation occurs.

### 4. Technique matters

- a) Remove hand and arm jewellery when performing hand hygiene/surgical antisepsis. Jewellery is very hard to clean, and hides bacteria and viruses from the cleaning process. Eczema often starts under a ring finger as irritants may be trapped under the ring causing an irritation.
- b) To reduce skin dryness and irritation when washing:
- Use warm running water. *Avoid hot water* as repeated hot water may increase the risk of dermatitis (IB).<sup>1</sup> Hot water is an irritant.
  - Rinse thoroughly.
  - Pat hands dry with paper towel instead of rubbing them.
  - At work apply the provided moisturizer frequently.
  - If performing hand washing, do not follow by alcohol. Routinely washing hands with soap and water, followed immediately with alcohol-based hand rub, may lead to dermatitis.
  - Dry hands well before donning gloves.

c) Surgical hand antisepsis/scrub

- Surgical hand antisepsis using either an antimicrobial soap or an *alcohol-based hand rub* with persistent activity is recommended before donning sterile gloves when performing surgical procedures (IB).<sup>1</sup>
- When performing surgical hand antisepsis using an antimicrobial soap, scrub hands and forearms for the length of time recommended by the manufacturer, which is usually two to six minutes. Long scrub times are not needed (e.g., 10 minutes). (IB)<sup>1</sup>
- When using an alcohol-based surgical hand rub product with persistent activity, follow the manufacturer's instructions (IB).
- Before applying the alcohol-based surgical hand rub, pre-wash hands and forearms with a non-antimicrobial soap and then dry hands and forearms completely. After application of the alcohol-based product as recommended, allow hands and forearms to dry thoroughly before donning sterile gloves (IB).<sup>1</sup>

d) To reduce skin irritation when using alcohol-based hand rub:

- Remove hand and arm jewellery when performing hand hygiene. Jewellery is very hard to clean, and hides bacteria and viruses from the antiseptic action of the alcohol.
- Ensure hands are visibly clean (if soiled, follow hand washing steps).
- Apply between one to two full pumps of product, or squirt a loonie-sized amount onto one palm.
- Spread product over all surfaces of hands, concentrating on fingertips, between fingers, back of hands, and base of thumbs. These are the most commonly missed areas.
- **Rub hands until product is DRY. This will take a minimum of 15-20 seconds if sufficient product is used.**
- Hands must be dry before donning gloves.

e) To reduce skin irritation from gloves:

- Protective gloves should be used when necessary, but for as short a time as possible.
- Protective gloves should be intact and clean and dry inside. Hands must be clean and dry when donning the gloves.

f) To minimize skin irritation:

- Frequently apply moisturizing products that are provided by the facility

## 5. Protection of hands is a 24 hour/7day a week commitment

To protect hands from chemicals and extreme conditions at home and work:

- Continue hand protection for all gardening, cooking, cleaning, bathing and child care duties. Often products used at home can cause or aggravate a condition.
- Avoid chemicals on skin that may cause reactions such as glutaraldehyde, thiuram, and nickel found in jewellery.
- Take care when doing work at home to use protective gloves when indicated and use moisturizers frequently.
  - For example, when dishwashing, going outside in the winter or any time there is low relative humidity.

# Resources

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# Appendix A: Protecting Your Hands Fact Sheet for Health Care Providers

## Protecting Your Hands Fact Sheet for Health Care Providers

This fact sheet can be used to help you assess and identify skin problems on your hands so that you can be proactive in protecting your hands from skin breakdown. It will help you identify what causes irritation to hands so that you can take the necessary actions to keep your hands healthy.

### Why is hand care assessment important?

Maintaining the skin integrity of your hands is a safety issue for both you and the patient\* as non-intact hands harbour an increased number of organisms. It is very important to have healthy hands with intact skin that is free of irritation at all times.

### Steps to keep your hands healthy

- Review the *Just Clean Your Hands (JCYH)* Hand Care Program booklet. You will learn that consistently using the correct hand hygiene technique, selecting the right products and protecting your hands is a 24-hour/7-day-a-week commitment.
- Review this fact sheet to learn what practices might cause irritation to your hands and suggestions on how to maintain healthy hands.
- Verify that you clean your hands correctly in order to maintain healthy hands. Have you received workplace training on how to protect and care for your skin? It is important for you to evaluate whether you are using the correct technique in hand washing to decrease irritation to hands. Know what hand care products to use to avoid skin breakdown and irritation. Note: Alcohol-Based Hand Rub (ABHR) is known to be easier on hands than hand washing, so the preferred method of cleaning hands when not visibly soiled is to use ABHR.
  - Review the technique tips on page 4 of the *JCYH* Hand Care Program booklet.
  - Watch the *JCYH* DVD for health care professionals on "How to hand wash" and "How to handrub."
  - The Ministry of Health and Long-Term Care has an interactive hand hygiene education module under Training and Education at [www.justcleanyourhands.ca](http://www.justcleanyourhands.ca).
  - If you require additional information, visit the Just Clean Your Hands website at [www.justcleanyourhands.ca](http://www.justcleanyourhands.ca) for training and education on hand hygiene and correct hand washing techniques.
- If you have concerns about your hand skin integrity, Occupational Health will assist in developing a program for you to prevent hand skin irritation.



\*In this document, the term patient refers to client/patient/resident.



### Did you know?

#### 1. Common irritants to skin health (not all inclusive)

- |   |   |
|---|---|
| a. Detergents (soaps)                     | h. Rubber and latex gloves  |
| b. Hot water                              | i. Quality of paper towels  |
| c. Wet work                               | j. Shear forces associated with wearing or removing gloves                                  |
| d. Low relative humidity                  | k. Use of traditional surgical scrub brushes and surgical scrub times over recommended time |
| e. Failure to use lotion/cream            | l. Nickel sulfate (e.g., found in jewellery)  |
| f. Not drying hands before donning gloves |   |
| g. Powdered gloves                        |   |

#### 2. The skin on hands can be adversely affected by many factors

Some examples to consider are:

- Certain climate conditions, such as dry, humid, cold or hot conditions (e.g., not wearing gloves in the winter can increase hand dryness and irritation)
- Hands frequently in water and detergents
- A history or work involving "wet work" or "wet gloves"
- A chronic or recurrent skin condition, such as eczema, psoriasis or hives
- Some allergies (e.g., fragrances, preservatives)
- Smoking outside in dry, cold conditions
- Gardening
- Mechanics (e.g., where chemicals are used)
- Taking care of small children due to frequent changing of diapers, bathing and cleaning up of children
- Incorrect technique when cleaning hands
- Lack of frequently moisturizing hands

#### 3. Protecting hands is a 24-hour/7-day-a-week consideration

Protect hands from chemicals and extreme conditions at home and work:

- Avoid chemicals on skin that may cause reactions, such as glutaraldehydes, theinam, and nickel found in jewellery.
- Take care when doing work at home to use protective gloves when indicated and use moisturizers frequently (e.g., for dishwashing, when going outside in the winter or any time there is low relative humidity).

#### Sample of general hand care instructions

- At work, use Alcohol-Based Hand Rub (ABHR) for hand hygiene when hands are not visibly soiled. Many studies have shown that ABHR is better tolerated than soap and water.
- When washing hands use lukewarm water and unscented irritant-free soap or hand cleanser.
- Remove rings when cleaning hands as cleaning product can be caught under rings, which can cause dermatitis to flare.
- Rinse hands thoroughly and pat hands dry.
- Protective gloves should be intact and clean and dry inside. Hands must be clean and dry when donning gloves.
- Apply fragrance-free, non-irritating moisturizing cream dispersed in a bottle to hands frequently.
  - It is important to use a protective hand lotion/cream frequently during your work and at home to protect your hands from irritation caused by any of the factors listed above. The lotion must be compatible with the gloves, hand rub and hand washing soap used. Products are to be dispensed correctly to prevent contamination.
- Avoid skin contact with detergents, strong cleaning agents, shampoos, various waxes and polishes, solvents and thinners.
- Don't apply hair lotion, cream, gels or dyes with bare hands.
- Continue hand protection for all gardening, cooking, cleaning, bathing and childcare duties.
- Protect your hands from the dry cold. Wear mitts or gloves at all times when in the cold. Even one minute of unprotected cold exposure may dry out hands. Be sure to wear gloves/mitts when handling a cold steering wheel.
- Avoid irritants and allergens.

#### Reference:

Adapted from Contact Dermatitis Clinic General Hand Care Instructions, St Michael's Hospital, Toronto, Ontario.

## Your Hand Care Assessment Tool

These questions can be used for assessing your hand hygiene practices and identifying changes that might become the cause of hand irritation.

### Evaluation of frequency of hand hygiene practices

Average number of hours worked per week \_\_\_\_\_

### Hand cleaner (Please indicate all used)

	Number of times/day	Number of months used
Alcohol-Based Hand Rub	_____	_____
Water and antimicrobial soap	_____	_____
Water and liquid/foam/gel non-antimicrobial soap	_____	_____
Water only	_____	_____
Brush	_____	_____
Antimicrobial sponge	_____	_____

How many times do you wash/cleanse your hands during a working day?

- 0-5  6-10  11-20  greater than 20

### Education

Did you receive workplace training on how to protect and care for your skin?  Yes  No

### Exposure assessment (gloves)

Gloves (indicate which glove types you use):

- |   |                                   |                                       |
|---|-----------------------------------|---------------------------------------|
| <input type="checkbox"/> Latex                        | <input type="checkbox"/> powdered | <input type="checkbox"/> non-powdered |
| <input type="checkbox"/> Vinyl                        | <input type="checkbox"/> powdered | <input type="checkbox"/> non-powdered |
| <input type="checkbox"/> Nitrile                      | <input type="checkbox"/> powdered | <input type="checkbox"/> non-powdered |
| <input type="checkbox"/> Glove liners                 | <input type="checkbox"/> powdered | <input type="checkbox"/> non-powdered |
| <input type="checkbox"/> Other, please specify: _____ |                                   |                                       |

How many times during a working day do you put on gloves?

- 0-5  6-10  11-20  more than 20 times

During a working day, is the total time you wear gloves:

- less than 1 hour?  between 1 to 2 hours?  greater than 2 hours?

Are your hands wet inside the gloves?  Yes  No

### Hand product changes

Have there been any changes in the soap or hand products used at your workplace?  Yes  No

If yes, what? \_\_\_\_\_

Have you been exposed to any new products at your workplace?  Yes  No

(This could be chemicals or materials being used.)

If yes, list: \_\_\_\_\_

Has anything changed in your work recently that may impact the skin on your hands?  Yes  No

If yes, what? \_\_\_\_\_

Do your hands improve after being away from work?  Yes  No

(i.e., improve on days off and get worse when working)

Have you changed any personal care products at home, such as soap, lotions, sunscreen, laundry detergent/softening agents, etc.?  Yes  No

If yes, list: \_\_\_\_\_

Have you done anything different outside of work recently that may impact the skin on your hands?  Yes  No

(e.g., yard work, travel, hiking, contact with poison ivy)

If yes, what? \_\_\_\_\_

List any chemical exposures to hands, including cosmetic products that may be an irritant:

\_\_\_\_\_

After completing this review, identify changes that will assist in improving the skin integrity of your hands to keep them healthy:

\_\_\_\_\_

\_\_\_\_\_

### Evaluation of skin condition

Self-assessment of the skin on hands:

- |  |  |  |
|--|--|--|
| Appearance (swollen, red, itchy, rash) | Abnormal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Normal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| Intactness (cracks, open areas)        | Abnormal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Normal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| Moisture content (dryness)             | Abnormal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Normal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| Sensation (itchy, burning, soreness)   | Abnormal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Normal <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

How would you assess the overall health of the skin on your hands? Very altered           Perfect

If you develop skin problems, irritations or cracks on your hands, it is recommended that you contact an Occupational Health Professional at your health facility for an assessment and recommendations on how to attain and maintain healthy hands.

## Appendix B: Common Irritants to Skin Health (not all inclusive)

- Detergents (soaps) damage skin
- Hot water
- Wet work
- Low relative humidity
- Failure to use lotion/cream
- Not drying hands before donning gloves
- Powdered gloves
- Rubber and latex gloves
- Quality of paper towels
- Shear forces associated with wearing or removing gloves
- Use of traditional surgical scrub brushes and surgical scrub times over recommended time
- Nickel sulfate (e.g., found in jewellery)

## Appendix C: Grading of Centers for Disease Control Recommendations (CDC/HICPAC)

October 25, 2002<sup>1</sup>

Each recommendation is categorized on the basis of existing scientific data, theoretical rationale, applicability, and economic impact for strength of each recommendation.

### Category IA

Strongly recommended for implementation and strongly supported by well-designed experimental, clinical, or epidemiologic studies.

### Category IB

Strongly recommended for implementation and supported by certain experimental, clinical, or epidemiologic studies and a strong theoretical rationale.

### Category IC

Required for implementation, as mandated by federal or state regulation or standard in USA.

### Category II

Suggested for implementation and supported by suggestive clinical or epidemiologic studies or a theoretical rationale.

### No recommendation

Unresolved issue.

# Appendix D: Sample of General Hand Care Instructions

Maintaining intact skin on hands is important to protect you and the patient from infections.

## Care for hands is a 24 hour/7 day a week consideration

1. At work, use alcohol-based hand rub (ABHR) for hand hygiene when hands are not visibly soiled. Many studies have shown ABHR is better tolerated than soap and water.
2. When washing hands use lukewarm water and unscented irritant-free soap or hand cleanser.
3. Remove rings when cleaning hands as cleaning product is caught under rings, which can cause dermatitis to flare.
4. Rinse hands thoroughly and pat hands dry.
5. Protective gloves should be intact and clean and dry inside. Hands must be clean and dry when donning gloves.
6. Apply fragrance-free, non-irritating moisturizing cream dispensed in a bottle to hands frequently.
  - It is important to use a protective hand lotion/cream frequently during your work and at home to protect your hands from irritation caused by any of the factors listed. The lotion must be compatible with the gloves, hand rub and hand washing soap used. Products are to be dispensed correctly to prevent contamination.
7. Avoid skin contact with detergents, strong cleaning agents, shampoos, various waxes and polishes, solvents and thinners.
8. Don't apply hair lotion, cream, gels or dyes with bare hands.
9. Continue hand protection for all gardening, cooking, cleaning, bathing and child care duties.
10. Protect your hands from the cold. Wear warm mitts or gloves at all times when in the cold. Even one minute of unprotected cold exposure may dry out hands. Be sure to wear gloves/ mitts when handling a cold steering wheel.
11. Avoid irritants and allergens.

List other recommendations as indicated:

Adapted from *Contact Dermatitis Clinic General Hand Care Instructions*,  
St. Michael's Hospital, Toronto Ontario.

For more information, please contact [handhygiene@oahpp.ca](mailto:handhygiene@oahpp.ca)  
or visit [publichealthontario.ca/JCYH](http://publichealthontario.ca/JCYH)