

Safety Presentation

Infection Control and Handwashing

Presenter's Notes

These notes are provided as a presenter's guide and can be used alone or with the PowerPoint presentation entitled "Infection Control and Handwashing". Numbered headings in these notes reflect the slide number in the PowerPoint presentation. Presenters may include their own terminology, phrases and situations providing the content/information being disseminated is respectful of the resource material referenced.

Purpose

Safety Presentations may be used to enhance and reinforce safe work practices – they can be used at staff meetings, safety meetings or to assist in the development of workplace health and safety programming.

Presentation Length

Approximately 15 to 20 minutes depending on discussion and hands-on/return demonstration.

Appendices

A list of resources and additional information are included in the appendices.

Formatting

Space in the left margin may be used for presenter's personal notes or comments. Throughout these notes instructions are provided for the presenter along with information that can be used word for word during presentations. The following will explain various formatting used in this material:

- text in ***bold italics*** appears on the corresponding PowerPoint slide
- underlined text will appear in the glossary
- dotted underlined text indicates notes specific for the presenter.

Recommended Training Aides

- access to a handwashing station and waterless hand cleaner
- copy of the agency's/health region's policy and procedures
- awareness posters
- agency/health region notices, memos, etc. on this topic
- copy of the current Saskatchewan occupational health and safety legislation

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1 – Safety Injections: Infection Control and Handwashing

Introduce yourself and the topic.

2 – Routine Practices

"Routine Practices" is a term used to emphasize that this is the level of care that should be used for all clients/patients, regardless of their diagnosis, and tailored to the characteristics of the clients/patients and their environment. Clients/patients known, or suspected, to be infected or colonized with certain microorganisms will require additional precautions based on the mode of transmission (airborne, droplet, contact, etc.) of these microorganisms.

Appropriate interventions can reduce transmission (spread) of infection in health care settings.

Infection control programs are designed to reduce the risk of transmission. Infection control precautions and procedures should be reasonable and practicable for your health care agency/health region. Work procedures and infection control practices must be reviewed regularly in order to reflect the ongoing changes in health care.

3 – The OH&S Regulations

Presenters may wish to include a group activity by providing participants with a copy of the OH&S legislation and have them look up the regulations; the activity could include reporting the meaning of the regulations.

The Saskatchewan OH&S Regulations, 1996, 2(1)(eee) provides the following definition of train:

(eee) "**train**" means to give information and explanation to a worker with respect to a particular subject-matter and require a practical demonstration that the worker has acquired knowledge or skill related to the subject matter;

Section 85 and Part VII - Personal Protective Equipment, sections 86-89, 93, 97 and 98, outline the various responsibilities of both the employer and the employee in regard to exposure to infections materials, organisms and the use of personal protective equipment (PPE).

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4 – Handwashing

Infection control practices and hygiene habits of every health care worker (physicians, nurses, therapists, laboratory/radiology workers, housekeeping, dietary, maintenance workers, etc.) **have an impact on disease transmission** in the health care environment. Lack of adherence to routine handwashing practices can result in adverse client/patient outcomes and cause illness among health care workers. The incidence of health care associated **infections** and pseudo-outbreaks **can be minimized if routine handwashing practices are implemented and consistently followed.**

The *hands of health care workers are continuously in contact with clients/patients and their environments; therefore, they are the surfaces/vehicles most at risk for contamination* during client/patient care. They are the ideal means for transfer of organisms between clients/patients to the health care worker and to environmental surfaces.

5 – Health Care Workers and Handwashing

A major challenge is ensuring that the basic activity of washing your hands is performed routinely. Observational studies have repeatedly documented that health care workers frequently fail to wash their hands, whether they are caring for clients/patients in adult/pediatric/neonatal ICU's, for clients/patients on transmission precautions, for clients/patients in hospitals or long term care centers.

Decreased infection rates in health care settings have been observed when handwashing compliance is improved.

Ongoing direct observation and daily feedback on performance is effective; however, it is not feasible on a continual basis.

6 – Handwashing Hurdles

- *Lack of time*
- *Understaffing*
- *Inaccessibility of sinks; inadequate supplies (e.g., towels, soap)*
- *Poorly accepted handwashing products*
- *Concern over the effects on hands from frequent washing*
- *Belief that washing is not necessary if gloves are worn*
- *Lack of peer pressure to wash hands*
- *Value of washing hands not visibly soiled is not recognized*

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Unless the handwashing hurdles are addressed, recommendations that rely on compliance with routine handwashing to reduce transmission may not be effective.

Concerns over the lack of time and the deleterious (harmful) effects of handwashing lead to the question of whether current expectations for handwashing frequency, especially in intensive care units (ICUs), are realistic!

7 – Hands Must Be Washed

- ***After direct contact with a client/patient.***
- ***Before contact with the next client/patient.***
- ***Before performing invasive procedures.***
- ***After contact with bloody/body fluids/secretions/excretions from wounds.***
- ***After contact with items known or considered to be contaminated with blood/body fluids/secretions/excretions (e.g., bedpans, urinals, wound dressings).***

8 – Hands Must Be Washed, continued

- ***Immediately after removing gloves.***
- ***Between certain procedures on the same client/patient where soiling of hands is likely (to avoid cross-contamination of body sites).***
- ***Before preparing, handling, serving or eating food.***
- ***Before feeding a client/patient.***
- ***When hands are visibly soiled.***
- ***After personal use of toilet or wiping nose.***

Handwashing, if properly performed, eliminates cross-contamination from contact with the client/patient or with contaminated inanimate objects.

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9 – Antisepsis (Sterile) Handwashing

Hand antisepsis/washing with an antiseptic soap or hand sanitizer is required:

- *before performing invasive procedures*
- *before contact with clients/patients with an increased susceptibility to infection (immunocompromised)*
- *before contact with clients/patients who have extensive skin damage*
- *before contact with devices planted under clients/patients skin (percutaneous).*

10 – Waterless Antiseptic Hand Rinses

Contrary to common belief, *antiseptics are not necessarily harsher on the skin than bland soap.*

Hand cleansing products have to be gentle enough to protect the hands during repeated washings and yet potent enough to eliminate microorganisms.

Hand sanitizers are *superior to soap and water in removing microorganisms* from the skin and are an *effective alternative to hand washing* (when appropriate). Hand sanitizers with emollients such as glycerol have been better tolerated than liquid soaps or antiseptics. They are also more convenient when there is *limited time for handwashing or access to sinks*. They may be located at the client's/patient's bedside or on a mobile chart rack and require less time to use.

There is controversy over whether antiseptics or plain soap should be used. Plain soap should remove most of the transient flora; however, antiseptics are more effective than plain soap when heavy contamination occurs. Studies have shown that hand contamination with *Enterobacter cloacae* was eradicated with the use of alcohol-chlorhexidine hand rinse when bland soap hand wash failed. Handwashing with soap may not remove Vancomycin-resistant enterococcus (VRE). Studies comparing chlorhexidine with soap for removal of *C. difficile* have had contradictory results.

Presenters may have waterless antiseptic hand rinses available for participants to use during this session.

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Increased compliance was observed with introduction of alcohol-chlorhexidine hand sanitizer in one centre. Hand sanitizers are particularly useful in situations where access to appropriate handwashing facilities (e.g., sinks, hand towels, soap) may be limited, such as in health care in the home.

When there is visible soiling, hands should be washed first with plain soap and water (if available) and then washed again using a hand sanitizer.

Organisms that are transiently carried on the hands should be removed by handwashing and, in most instances, handwashing should be as effective as using gloves.

11 – Additional Recommendations

The following additional recommendations are applicable to all health care settings at all times.

- ***Instruct clients/patients and family members in proper handwashing techniques.***
- ***Wash client's/patient's hands before they eat, after they toilet and when their hands are soiled.***
- ***Plain soap may be used for routine handwashing.***

12 – Health Care Workers

By ***minimizing unnecessary direct contact*** with clients/patients and their immediate environments, health care workers may reduce the frequency of handwashing required.

Examples of unnecessary direct contact techniques are:

- ***Avoid personal direct touch*** of client/patient unless required to provide comfort or to provide appropriate support/guidance, etc.
- Do not unnecessarily lean on bedside tables or equipment in the room.
- Do not touch personal items belonging to a client/patient unless required to do so.
- Do not touch/handle dirty plates – remove the entire tray contents of dirty dishes and utensils rather than individual plates, glasses, etc.
- ***Pre-plan your required tasks*** in order to minimize unnecessary direct contact with the client/patient and with the environment (whether in the client's/patient's home, clinical setting or client/patients room, etc.).

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- During home visits in the community, limit direct contact with client/objects and ***ensure good hand washing techniques are used consistently*** after, between, and prior to the next scheduled home visit. Cleanse hands prior to getting into your vehicle. ***Take only the required equipment/supplies/files*** into the home to provide services at that specific time.

13 – Ambulance/EMS

Hands must be washed:

- ***Between clients/patients and certain procedures*** on the same client/patient in which soiling of hands is likely, to avoid cross-contamination of body sites.
- ***Before contact with immunocompromised clients/patients.***
- ***Before performing invasive procedures.***
- ***After contact with blood, body fluids, secretions and excretions, drainage from wounds.***
- ***After contact with items*** known or considered likely to be ***contaminated*** with blood, body fluids, secretions or excretions (e.g., wound dressings).
- ***Immediately after removing gloves.***
- ***When hands are visibly soiled.***

Ambulance and emergency medical services should follow the same principles as previously outlined for health care workers.

Waterless antiseptic hand rinses are an acceptable alternative to soap and water in reducing hand contamination. When hands are visibly soiled, it is best to use soap and water and not just rely on an alcohol-based gel.

14 - Ambulatory Care Settings

Principles outlined for ambulance/EMS also apply in ambulatory care settings.

Ambulatory care settings may include the following:

- ***day wellness/respiratory/diabetic/child health/staff health clinics***
- ***physician's office and outpatient clinics***
- can also refer to ***unique specific ambulatory care settings***, such as day treatment centers providing prolonged therapy to immunocompromised clients/patients, in which case these may warrant more intensive procedures and "additional precautions".

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15 - Long Term Care

Special considerations – the line between casual contact, such as a handshake or holding a client's hand, and health care is difficult to define. ***For casual and social contact that involves direct contact*** between the skin of the caregiver and the client, ***consider the likelihood of the client's skin being contaminated*** or colonized with significant organisms, the ***extent of the contact (e.g., handshake, hug, vs. holding the client for prolonged period), and whether or not the client is immunocompromised.***

The need for handwashing after casual contact, unrelated to health care, should be judged on an individual basis, otherwise routine practices would be the same principles as previously outlined.

16 – Community Services

Home care, public health, etc.

Special considerations – the need for ***handwashing after casual or social contact unrelated to health care should be judged on an individual basis*** – the line between casual contact, such as a handshake or holding the hand of a client/patient, and health care can be difficult to define.

For casual or social contact that involves direct contact between the skin of the health care worker and the client/patient, consider the likelihood of the client's/patient's skin being contaminated or colonized with significant organisms, the extent of the contact (e.g., handshake, hug vs. holding client/patient for prolonged period) and whether or not the client/patient is immunocompromised.

Routine practices previously outlined are to be followed.

17 – Environment

Handwashing sinks should be available in sufficient numbers and readily accessible. Hand sanitizers should be made available in those environments ***when time for handwashing and/or access to sinks is limited.***

Hand sanitizers/washes must be used properly to ensure they are effective. Research indicates poor technique has resulted in no reduction of bacterial counts on hands – these findings highlight the need to provide health care workers with specific education on how best to apply hand sanitizers. Consult and follow the product manufacturer's guideline for proper use of individual hand sanitizers.

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18 – Handwashing and Jewelry

It is recognized that if rings are worn, hands will not be washed as clean as when rings are taken off. ***Microorganisms may remain under rings even after handwashing.*** It is ***best practice to take off all rings prior to washing your hands.*** Plain bands can be worn; however, discourage the wearing of jewelry with intricate designs or crevices that could provide a haven for microorganisms to collect.

Avoid wearing jewelry – especially those pieces to which you have a sentimental/strong attachment. These pieces could be lost or damaged while you work.

19 – Hand Hygiene - Fingernails

Clear nail polish that is well maintained does not result in an increase in microbial counts on nails.

Colored nail polish makes it difficult to see dirt/debris under the nails.

Artificial nails are associated with an increase growth of gram-negative bacteria and fungi, and compromise the integrity of gloves.

Avoid wearing artificial nails in health care!!

20 – Hand Hygiene - Hand Lotions

Lotions are recommended to ***reduce the dryness from frequent handwashing and to prevent dermatitis from glove use.***

Ensure lotions in your workplace are compatible with the type of gloves being provided. Consult with materials management/supplier to see which products are compatible.

To avoid contamination with microorganisms, ***use disposable lotion containers and dispensers instead of refillable containers.***

Never top up lotion bottles!

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21 – *Handwashing Procedure*

- Remember to **remove all** rings/watches/*jewelery* prior to washing hands.
- **Adjust taps** (hand controlled or otherwise) **to obtain a warm temperature level.**
- **Dispense paper towel** if no automatic hand dryer is available.
- **Wet hands and wrists** under warm running water.
- **Apply soap or antiseptic wash/gel to hands.**
- **Using a friction motion, lather hands for at least 15 seconds.**

22 – *Handwashing Procedure, continued*

- **Cover all skin surfaces paying particular attention to fingernails and areas between fingers. Do not allow water to run from the unwashed part of the arm back down to your fingertips.**
- **Rinse hands** under running water **and dry your hands on the clean paper towel/warm air dryer.**
- **Use a clean, dry paper towel to turn off taps and** if necessary **to open bathroom door,** then discard paper towels in an approved receptacle.

Do Not Use client's/patient's bathroom to wash your hands!

Note: Clean between fingers and under nails by rubbing tips of the fingers against the palms of the opposite hand.

When running water is not easily accessible, a hand sanitizer product (rinse/foam/gel) may be used as an alternative. Follow the recommended manufacturer guidelines for the quantity of the product to be used (usual portion recommended is the size of a quarter). Be sure to rub hands vigorously, covering all parts of hands and skin surfaces, and continue to rub your hands until they are dry.

Studies indicate that repeated washing with hand wash products is generally no more damaging than washing your hands with plain water. Skin dryness is to be expected if you are washing your hands properly and as required throughout your shift. Dryness may be controlled with the use of approved hand lotions.

SASWH recommends that presenters demonstrate these techniques and have participants provide return demonstrations to ensure they understand the procedure.

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23 – Summary

Infection rates can be decreased with improved handwashing behaviour.

Glove usage should never replace handwashing.

24 – Infection Control (IC)

There are specific infection control precautions and procedures that health care workers are required to follow. Please refer to/consult the following resources for further information:

- 1. the approved infection control manual/policies/procedures for your agency/health region;*
- 2. the designated agency/health region IC professional; or*
- 3. your supervisor.*

Do you know who your IC professional is?

25 – Resources

Information in this presentation is obtained from Health Canada:

<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hands-mains-eng.php>

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Appendices

Some interesting information you may want to share with your participants:

- Numerous studies have documented that health care workers frequently do not wash their hands with soap and water for the recommended amount of time (15 seconds). TIP: if you repeat the song “Row, row, row your boat, Gently down the stream. Merrily, merrily, merrily, merrily, Life is but a dream” to yourself two times, you will have washed your hands for the recommended time period.

Resources

Information in this presentation is obtained from Health Canada:

<http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/diseases-maladies/hands-mains-eng.php>

Note: Information and resources provided in this presentation were current at the time of publication. As information and new technologies continue to be developed, SASWH recommends and encourages health care workers to keep abreast with advances and guidelines related to this subject matter.

Continue to update your own knowledge of best practices by reviewing guidelines produced by:

- World Health Organization (WHO)
- Health Canada
- Centre for Disease Control (CDC)
- Saskatchewan Health
- Community and Hospital Infection Control Association – Canada (CHICA)
- Saskatchewan Professionals in Infection Control (SASKPIC) – your local chapter of CHICA

It is your responsibility to keep yourself up to date with current recommended standards – it may also be part of your position duties.

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Glossary

Colonized – the presence of microorganisms in or on a host with growth and multiplication but without tissue invasion or cellular injury.

Contaminated – the presence of microorganisms on inanimate objects (e.g., clothing, surgical instruments) or microorganisms transported transiently on body surfaces such as hands or in substances (e.g., water, food, milk).

Direct Contact – refers to hand contact with a client's/patient's skin.

Immunocompromised – the increased susceptibility to infection. In this presentation the term refers to clients/patients with congenital or acquired immunodeficiency, or immunodeficiency due to chemotherapeutic agents or hematologic malignancies.

Invasive Procedures – procedures during which transmission of Hepatitis B, Hepatitis C, and/or human immunodeficiency virus (HIV) that can cause AIDS, from health care workers to clients/patients are most likely to occur.

Some examples of invasive procedures are:

- Digital palpation of a needle tip in a body cavity (e.g., hollow space within the body or one of its organs) or the simultaneous presence of the health care worker's fingers and a needle or other sharp instrument or object, in a blind or highly confined anatomic site (e.g. during major abdominal/cardio thoracic/vaginal, and orthopedic operations, or repair of traumatic injuries, or surgical entry into cavities or organs), or
- Repair of major traumatic injuries, or
- Manipulation, cutting or removal of any oral or perioral tissue, including tooth structures, during which blood from an injured health care worker might transmit infection to the client/patient.

It is difficult to determine every situation where there is a risk of transmission of a blood borne pathogen (BBP), and therefore this definition is meant as a guide to decision-making.

Outbreak – an excess over the expected incidence of disease within a geographic area during a specified time period, synonymous with epidemic.

Percutaneous – means through the skin, applying a medicated ointment by friction, or removal or injection by needle.