Infection Prevention and Control Guidelines: Community Health

First Nations and Inuit Health Branch – Alberta Region

Original: October 2011

Updated: January 2017

The 2011 version of this document was adapted from *PICNet Infection Control Guidelines: Providing Health Care to the Client Living in the Community: August 1, 2009* with permission from the Provincial Infection Control Network of British Columbia.

The PICNet 2014 document: *Infection Prevention and Control Guidelines for Providing Healthcare to Clients Living in the Community,* was used during the revision of this document along with the following resources:

Alberta Health:

- Public Health Notifiable Disease Management Guidelines;
- MRSA Guidelines, Hand Hygiene Strategy
- Tuberculosis Prevention and Control Guidelines for Alberta

FNIHB AB Region:

- Communicable Disease Manual – located on OneHealth
- Reprocessing Reusable Medical and Dental Equipment: Policy and Protocols. Updated 2015
- Home and Community Care Program Policy and Procedures manuals

Health Canada:

- A Guide for First Nations: Developing and Implementing a Facility Operations and Maintenance Management Plan (2010)
- Transportation of Dangerous Goods: Nurses' Training Manual (2014)
- PHAC: Hand Hygiene Practices in Healthcare Settings (2012)
- PHAC: Routine Practices and Additional Precautions (1998 and 2012)

Government of Nunavut

- Nunavut Health, Infection Prevention and Control Manual (2012)

Public Health Ontario

- Provincial Infectious Disease Advisory Committee (PIDAC):
  - Routine Practices and Additional Precautions
  - Environmental Cleaning for Prevention and control of Infections, 2012
  - Infection Prevention and Control for Clinical Office Practice, June 2013
  - Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices in All Health Facilities, 3rd edition, 2013.

Table of Contents

Working group members

First Nations and Inuit Health Branch, Alberta Region would like to acknowledge the contribution and expertise of the Regional Infection Control Advisory Team members who reviewed and participated in the original adaptation of the Provincial Infection Control Network of British Columbia document and this subsequent update. See current PICNet document for more information about the process PICNet used in the development of their documents and background resources. https://www.picnet.ca/guidelines/hcc/

FNIHB AB Region: 2017 Regional Infection Control Advisory Team

Ruth Richardson	Regional CDC Nurse Manager, Chair
Fiona Jakielaszek	Manager Accreditation, Patient Safety and Quality Improvement
Pam Tailfeathers Buffalo	Nurse Practice Consultant, Home and Community Care
Shirley Bourdouleix	Regional Nurse Educator
Christina Smith	Practice Consultant, Public Health
Randy Williamson	NIHB Dental
Brenda Reid	Dental Health Practitioner
Marcy Iwanyk:	Environmental Health Officer
Wadieh Yacoub	Director, Health Protection; Medical Officer of Health
Bill Weeks	Secretariat, Health Protection

FNIHB AB Region: 2015 Regional Infection Control Advisory Team

Ruth Richardson	Regional CDC Nurse Manager, Chair
Fiona Jakielaszek	Nurse Manager Operations (Regional Nursing)
Pamela Tailfeathers Buffalo	Regional Home Care Practice Consultant (and team)
Randy Williamson	NIHB Dental
RoseMarie Kokotailo	Community Dental Health Practitioner (retired but contributor to updating manual)
Candace Fraser	Regional Infection Prevention and Control Project Manager/EHO (primary lead in updating document)
Wadieh Yacoub	Director, Health Protection; Medical Officer of Health
Bill Weeks	Secretariat – Health Protection

FNIHB AB Region: 2011 Regional Infection Control Advisory Team:

Ruth Richardson	Regional CDC Nurse Manager, Chair
Fiona Jakielaszek	Nurse Manager Operations (Regional Nursing)
Robin Cooper	Nurse Practice Consultant - Home and Community Care
Christina Smith	CDC Project Nurse, Community Health Nurse
RoseMarie Kokotailo	Community Dental Health Practitioner
Candace Fraser	Environmental Health Officer
Wadieh Yacoub	Director, Health Protection, Medical Officer of Health
Bill Weeks	Secretariat – Health Protection

Abbreviations

ABHR/AHR:	Alcohol Based Hand Rub
AHW:	Alberta Health and Wellness
APIC:	Association for Professionals in Infection Control and Epidemiology
ARO:	Antibiotic Resistant Organism
CCDR:	Canada Communicable Disease Report (PHAC)
CDC:	Centers for Disease Control and Prevention (Atlanta)
CSA:	Canadian Standards Association
DIN:	Drug Identification Number
FNIHB:	First Nations and Inuit Health Branch, Alberta Region
GI:	Gastro-intestinal
HCW:	Health Care Worker/Provider
HIV/AIDS:	Human Immunotropic Virus/Acquired Immune Disorder Syndrome
MOH:	Medical Officer of Health
MMWR:	Morbidity and Mortality Weekly Report (CDC)
MRSA:	Methicillin Resistant *Staphylococcus aureus*
OHS:	Occupational Health and Safety
PHAC:	Public Health Agency of Canada
PPE:	Personal Protective Equipment
SARS:	Sudden Acute Respiratory Syndrome
TB:	Tuberculosis
VRE:	Vancomycin Resistant Enterococcus
WHMIS:	Workplace Hazardous Materials Information System

1.0 Introduction

A systematic approach to infection prevention and control requires that each health care provider play a vital role in protecting everyone who utilizes the health care system, in all of its many forms: pre-hospital settings, hospitals, clinics, offices, home care and community programs, etc. Health care providers need to follow infection prevention and control practices at all times and use critical thinking and problem solving in managing clinical situations.[1]

Health care provided in the community or home setting is multidisciplinary. It includes, but is not limited to, care provided by nurses, community dental practitioners, community support workers (may include community health representatives, health care aides, maternal child workers, homemakers, etc.), dieticians, social providers, speech therapists, occupational therapists, physiotherapists, and visiting professionals.

Trends in health care have seen many changes that have shifted pressure onto community care givers. Early hospital discharge, increased age and acuity of discharged clients, increasing associated chronic illnesses and lifestyle factors are some of the challenges home health care providers face. New technologies and treatments have permitted clients to live longer in the community with health care provided in their communities. These teams are providing are increasingly more complex and more invasive care, such as intravenous therapy, hemodialysis, wound care, or ventilator therapy. These changes bring about increasing opportunities for transmission of infection.[2]

There is little evidence to suggest that the provision of healthcare in the home setting results in substantial disease transmission. Most infections in this setting are related to procedures and devices such as urinary or intravascular catheters. Risks of transmission mainly relate to hand hygiene and aseptic practices of the caregiver; cleaning and disinfection of equipment and supplies used between clients; and environmental cleanliness.

1.1 Purpose and Scope

This document is intended to provide staff working in, or out of, health centres in First Nation Communities in Alberta with guidance pertaining to infection prevention and control practices within their community. Regional Nursing, Home Care, and Dental programs have developed policies and procedures based on the principles in this document relevant for the services provided within their respective program areas. This document does not address guidelines for private physicians' offices, or private clinics. Physicians, dentists and other external contractors/ providers will be required to follow guidelines set out by their governing professional body or at a minimum, to conform to the infection prevention and control guidelines in this document.

The client, resident, or individual receiving health care, for the purposes of this document, will be referred to as the 'client' throughout. The types of settings covered by this document include health centres, nursing stations, client's homes, schools, daycares, and ambulance/ transportation contexts where health centre staff is providing the service.

At the end of each section, references are provided for additional information and available resources in addition to the references cited throughout the document. All website links were updated March 2016.

2.0 General Information About Infections

Microorganisms are very much a part of our world. They perform a variety of essential functions and interact with every living creature. The majority of microorganisms do not cause illness. There are several categories of microorganisms including: bacteria, viruses, fungi, and parasites. Some of these microorganisms are more pathogenic (likely to cause disease) than others. However, if conditions are favourable, many microorganisms are capable of causing disease in humans.

An infection is an invasion of the body by microorganisms that multiply and cause an interaction between the host and the organism. Usually when an individual develops an infection they will show signs and symptoms such as fever, vomiting, diarrhea, and/or cough. In some instances, the interaction between the individual and the microorganism may only be a detectable immune response such as a tuberculosis (TB) skin test conversion (subclinical infection).[3]

In health care settings, infections are generally categorized into whether the person likely acquired the infection from his or her interaction with health care, or whether it was acquired from the community.

- Community associated infection: An infection that is acquired before admission to hospital or is incubating at the time of admission.
- Health care associated infection: An infection acquired during the course of receiving any type of treatment for other conditions, or that a health care worker acquires while performing their duties within a health care setting.
- Nosocomial infection: An infection that develops during hospitalization or after discharge as a direct result of hospitalization.

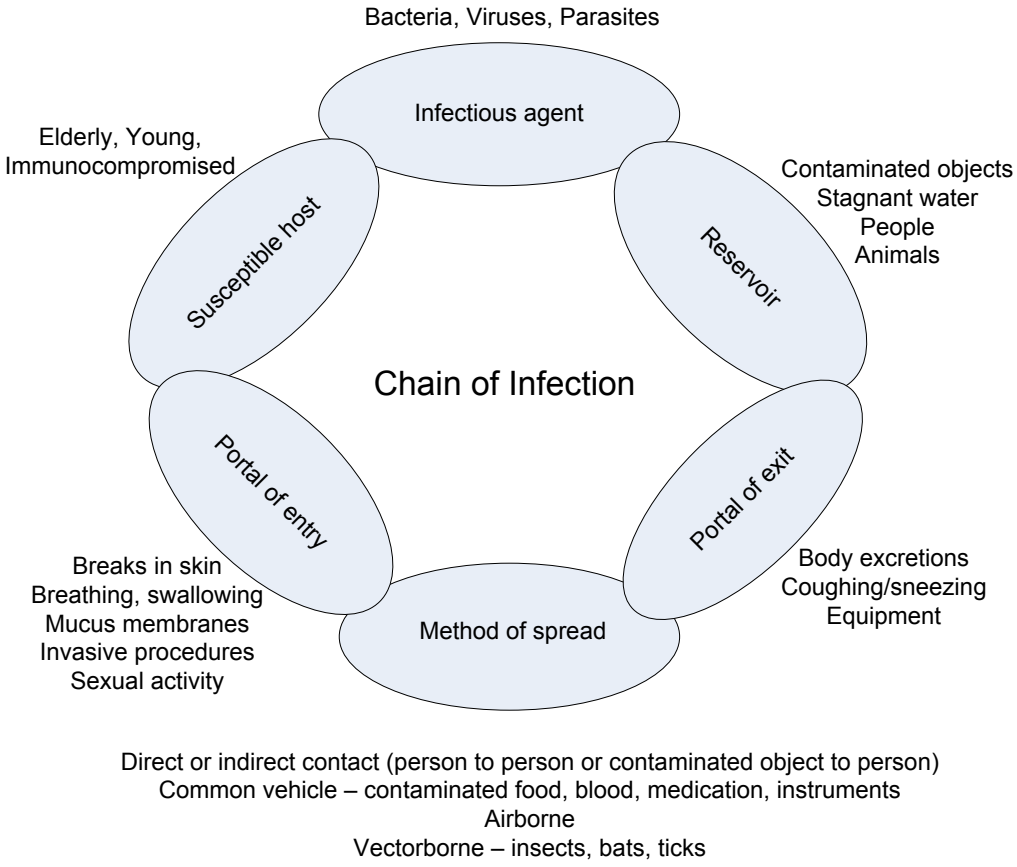
Table 1 Common Clinical Signs of Infection

Inflamed Skin	Skin that is red, hot, swollen, or has a rash
Fever or chills	Temperature above 38°C*
Pus	Green or yellow drainage or discharge from a wound or body cavity
Nausea or Vomiting	Unexplained by change in diet, medications, etc.
Diarrhea	Persistent or copious loose bowel movements, unexplained by diet or medication
Pain	Sore throat or other pain, also pain that is disproportionate to severity of injury
Cough	Productive, persistent or new cough
Painful Urination	Painful and/or frequent urination

* *For the elderly, infants or those taking an immunosuppressant medication, a temperature change may be subtle, no change or higher or lower. Often for the elderly, the first indication of an infection may be a change in their cognitive abilities.*[3]

2.1 The Chain of Infection

Because microorganisms can, in some circumstances, threaten our health, control measures have been developed to inhibit their spread. These control measures are based on knowledge of the six main factors that influence the spread of microorganisms. These factors are collectively known as "The Chain of Infection". The individual links of the chain of infection are explained below:



Adapted from APIC[4]

Infectious Agent: Each microorganism that causes human infections has characteristics that influence its ability to cause an infection. These include the number of organisms required to cause infection, ability of the organism to cause disease, ability of the organism to breech natural barriers, ability to survive in the environment, and ability to develop resistance to antimicrobials.[3]

Reservoir and Source of Infection: All microorganisms have both a reservoir and a source. These may be the same or different. A reservoir is the place where the organism maintains its presence, metabolizes and replicates. Reservoirs of infection include: people (both healthy and ill), animals, or inanimate objects. A source is the place from which the microorganism passes to the host. Sources may be animate or inanimate.

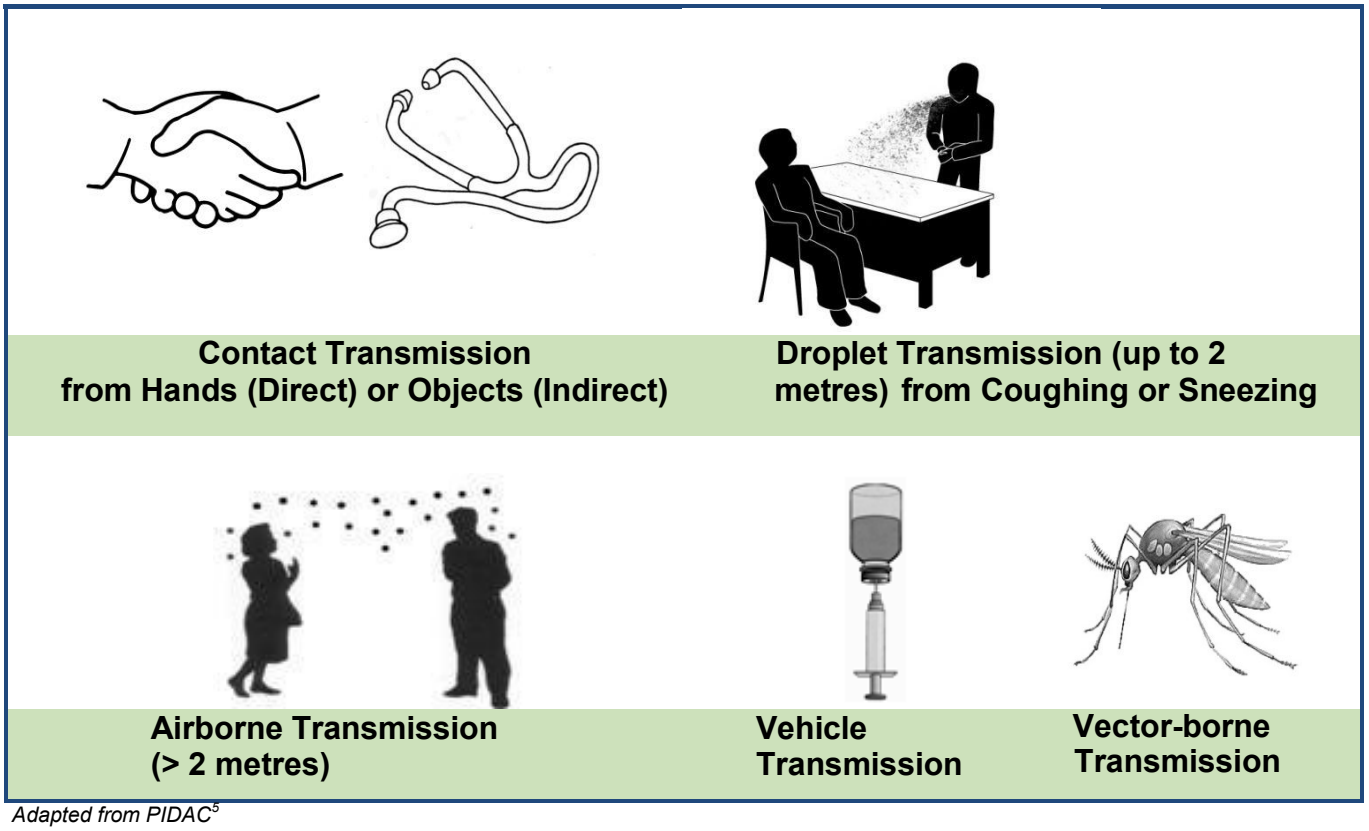
Portal of Exit: The exit of the pathogen is dependent on the location of the microorganism in the body. Microorganisms can be expelled from the respiratory tract during breathing, coughing or sneezing, and from the gastrointestinal tract (GI) via saliva, emesis, feces or drainage from sites within the GI tract. Urine, blood, genital secretions and drainage from wounds may also carry microorganisms out of the body. Hepatitis A or norovirus, for example, exits the body via the GI tract and can be transmitted through vomiting, diarrhea, and/or improperly washed hands after toileting.[3]

Method of Spread: Microorganisms can be transmitted from their reservoir or source to a susceptible host by several routes[3]:

- Direct Person to Person Contact - This is the most common mode of transmission and can occur through skin to skin contact, especially from one's hands following sneezing or coughing or following contact with an open wound.
- Indirect Contact - Hands pick up organisms from contaminated surfaces or equipment and then inoculate the individual or transmit the organisms to others.
- Droplet Contact - This involves exposure of the mucus membranes of the conjunctiva, nose and mouth as a result of sneezing or coughing by an infected person. These droplets are heavy and usually travel no more than approximately two metres (six feet) before falling to the ground.
- Airborne Transmission – This occurs by dissemination of an infectious agent either by droplet nuclei or tiny particles in the air. The agent can be widely dispersed by air currents and remain suspended in the air for extended periods of time (hours), enabling it to be inhaled.
- Common vehicle – A contaminated inanimate vehicle such as food, water, or blood products may serve as a passive vector for transmission or even allow the microorganism to multiply within them.
- Vectors – Vectors (i.e. mosquitoes, flies and bats) carry microorganisms as part of their normal flora, or as an infection, and may infect humans through a bite.

Some microorganisms have single routes of transmission (e.g. TB) while others have two or more routes (e.g. influenza, measles, salmonella).[3]

Figure 1: Method of Spread



Adapted from PIDAC[5]

Portal of Entry: These may be the same as the portals of exit. All of the portals have natural barriers that protect the body from microorganisms. The barriers are normally effective, but microorganisms may enter if the barriers are damaged, or if they have been compromised by invasive medical devices (e.g. catheters, feeding tubes).

Examples of portals of entry include the gastrointestinal tract where the infection is by ingestion, the urinary system via a urinary catheter, or the respiratory system where the infection is through respiration.

Susceptible Host: Humans have defense mechanisms to protect against infections. These include skin; mucous membranes; certain body secretions such as tears; inflammatory response; genetic, hormonal, nutritional and/or behavioural mechanisms; and personal hygiene.[3] The same organism frequently produces different severity of illness in different individuals depending upon host mechanisms.

Occasionally, circumstances arise where the normal balance between microorganisms and their host is disturbed. This may be due to a disease process, altered immune status, extremes of age, invasive procedures, drug therapy, poor nutrition, irradiation, etc. Should the host develop an infection as a result of this disturbance, a new reservoir of microorganisms may be established, thus further increasing the risk of infection to other people.

Interruption of the Chain of Infection

By understanding the basic roles and functions of microorganisms in our environment, principles can be applied to interrupt the chain of infection. Good personal hygiene and proper handling of body excretions and secretions cannot be over-emphasized. **Diligent hand hygiene remains the single most important element in controlling the spread of infections. Attaining target immunization coverage rates remains the single most important element in the preventing vaccine preventable infections.**[6,7] Preventing infections is everybody's business.

3.0 Routine Practices

Routine practices is the term used by Public Health Agency of Canada[2] to describe the system of infection prevention and control practices used to prevent the transmission of infections in health care settings. Routine practices should be used with all clients at all times.

Close attention to routine practices is fundamental to preventing transmission of microorganisms from client to client, client to staff, staff to client, and staff to staff in all health care settings.

The basic elements of routine practices include[2]:

- Point of Care Risk Assessment (PCRA)
- Hand Hygiene
- Source Control
- Client placement, accommodation, and flow *(not addressed in this document)*
- Use of personal protective equipment (PPE)
- Sharps safety and prevention of bloodborne pathogen transmission
- Management of the client care environment
    - Cleaning of the client care environment
    - Cleaning and disinfection of non-critical client care equipment
    - Handling of waste and linen
- Education of Clients

3.1 Point of Care Risk Assessment

Point of Care Risk Assessment (PCRA) is one of the key components of routine practices. It is a method of assessment conducted by the caregiver that must be done at each interaction with the client or their environment to determine potential risks associated with providing care, as well as the implementation of risk reduction strategies or interventions to minimize exposure to these hazards.

The current Infection Prevention and Control Guidelines by the Public Health Agency of Canada[2] emphasize doing point of care risk assessments throughout the spectrum of care, as a critical element of infection prevention and control. Routine practices and additional precautions and their application are based upon the PCRA. A PCRA assesses the variables related to the interaction between the health care worker (HCW), the client, and the client's environment to assess the potential for exposure to infectious agents and identify risks for microorganism transmission. This includes the care that is going to be provided by the HCW, individual client characteristics, and the condition of

the environment. **A PCRA should be done prior to the care of all clients, at all times, across the continuum of care, by all health care workers**.

Based on the assessment, implementation of additional precautions including proper use of personal protective equipment is essential to protect both staff and the client.

Resources

FNIHB AB: Point of Care Risk Assessment

3.2 Hand Hygiene

Hand hygiene is most effective infection control measure to prevent the spread of infections and includes:

- ***Hand washing***: which is the physical removal of soil and transient microorganisms from the hands using mechanical action or scrubbing with soap and water
- ***Hand antisepsis***: is the use of an antiseptic agent such as Alcohol Based Hand Rub (ABHR) or antiseptic soap to decontaminate and disinfect the hands.
- ***Hand health***: actions taken to maintain healthy hands and fingernails

The Public Health Agency of Canada revised the standard of care for hand hygiene in 2012, to **require use of Alcohol Based Hand Rub (ABHR) for hand hygiene by all health care workers across all healthcare settings**. Use of ABHRs reduce bacterial counts on the hands of healthcare workers (HCWs) markedly better than washing hands with plain soap and water, and are as or more effective than handwashing with an antiseptic soap.[6]

Alcohol Based Hand Rubs should be used as the standard practice for all HCWs with the following exceptions:

- when hands are visibly soiled with organic material, or
- if exposure to norovirus and potential spore-forming pathogens such as *Clostridium difficile* is strongly suspected or proven, including outbreaks involving these organisms.

Five Moments Of Hand Hygiene

When providing care there are at minimum five moments of hand hygiene that can be applied in all heath settings for protecting the health care worker and the client from exposure to harmful bugs:

1. Before touching the client
2. Before performing clean or aseptic procedures
3. After exposure to blood or body fluid and after glove removal
4. After touching the client
5. After touching the client surroundings

Hand Health

Since intact skin is the first line of defense for microorganisms. Damaged skin and painful cracked hands and cuticles may shed microorganisms and negatively impact workers adherence to hand hygiene. Attention to maintaining healthy skin and nails to prevent breakdown is required. Regular use of a hand lotion or moisturizing products such as barrier creams is recommended. Care givers with open lesions on their hands should apply an air and water tight bandage before starting work and/or use gloves when in direct contact with any client. If the lesion cannot be covered with either a bandage or gloves, reassignment may be considered until the lesion heals[6].

Clients and Hand Hygiene

Hand hygiene is not only important for the health care workers but also clients:

- Clients who are able to participate in self-care should be taught, encouraged and reminded of the importance of hand hygiene before eating or preparing food, after using the toilet or other personal hygiene activities, before leaving their homes for common/public areas and when returning home from public places.

- Clients who are unable to assume responsibility for self-care should be assisted in performing hand hygiene whenever their hands are soiled or may be contaminated, and as recommended above.

Resources:

FNIHB AB Region:

- Hand Hygiene References and Resources
  - Appendix 1A:Hand Hygiene – Alcohol Based Hand Rub
  - Appendix 1B:Hand Hygiene – Hand Washing
  - Appendix 1C: 5 Moments for Hand Hygiene – community care and dental care

Alberta Health:

- Infection Prevention and Control Strategy, updated 2015

Alberta Health Services

- Hand Hygiene Policy
- How to Hand Wash
- How to Use Alcohol Based Hand Rub

Public Health Agency of Canada:

- It's Your Health: The Benefits of Hand Washing
- Hand Hygiene Practices in HealthCare Settings

World Health Organization

- Your Moments of Hand Hygiene

3.3 Source Control

Source control measures are used to contain organisms and prevent them from being spread from the infectious source. In the community environment, source control measures include:

- Early identification, diagnosis and treatment of infection
- Respiratory hygiene (cough etiquette)
- Hand hygiene
- Spatial separation for symptomatic clients
- Up to date immunizations
- Safe handling of sharps

3.3.1 Early Identification, Diagnosis and Treatment of Infection

Any client receiving health care services in the community may carry potential risks for introducing and transmitting infections within the service; from client to health care worker (HCW), from HCW to client, or from client to client. Early identification through employing a Point of Care Risk Assessment (PCRA), in conjunction with education for the client and family, is an essential component of infection prevention and control in the community.[2,9]

It is important for the health care provider to keep in mind that the information on the referral or authorization form may not present the complete picture. Depending upon the intake process for new Home Care clients there may be two opportunities to perform a risk assessment:

1. While booking the initial appointment, questions regarding potential infectiousness should be asked, such as whether the individual has a fever, cough, rash or vomiting/diarrhea. This risk assessment should be ongoing for all interactions.
2. During the admission process, a more complete health history is performed by using information from the person's intake form, or other documentation as well as interviewing the client.

Resources:

FNIHB Alberta Region:

- Appendix 4: Admission Risk Assessment
- Tuberculosis Program Screening Algorithms
- Home and Community Care admission procedure
- Point of Care Risk Assessment package

Alberta Health:

- Notifiable Disease Management Guidelines
- Notifiable Disease Report Manual

3.3.2 Respiratory Hygiene/Spatial Separation

There is potential for exposure to or transmission of respiratory organisms in any care setting. Personal practices on the part of clients and health care providers can help prevent the spread of the organisms that cause respiratory infections. These practices include:

- Staying home when sick
- Measures to reduce contact with droplets when coughing or sneezing, such as:
  - Turning head away from others
  - Keeping some distance from others (2 metre spacing)
  - Covering the mouth and nose
- Immediate disposal of tissues after use
- Immediate hand hygiene following use of tissues

A client with respiratory symptoms should wear a surgical mask - if they can tolerate wearing a mask - in all health care settings to minimize exposure of others to potential infection.

Resources:

Alberta Health Services:

- Cover Your Cough

3.3.3 Client Immunizations

Immunizations are the most effective method to reduce the potential for transmission of communicable disease in clients, staff and residents. Maintaining up to date immunizations for both the health care worker and client is essential.

Health care providers have a responsibility to ensure that clients under their care have protection against vaccine preventable diseases through appropriate immunization. All clients should be encouraged to discuss their immunization needs with the community health nurse and keep their immunization status current. For adults, the following immunizations are recommended:[7]

- tetanus-diphtheria (Td) vaccine: a booster should be given every 10 years.
- influenza vaccine (FLU): annual immunization is recommended for everyone 6 months of age and older, with a special emphasis on those at greatest risk from influenza disease complications to mitigate impact of influenza.
- pneumococcal vaccine (PPV23): eligible individuals 2 to 64 years of age should receive one dose; individuals over 65 years of age should also receive a dose of polysaccharide vaccine, even if there is history of a prior dose.
- Hepatitis B (HBV): see eligibility criteria.
- Rubella and varicella: documentation of immunity or immunization (MMR, VZV)

Resources

FNIHB Alberta Region:

- Immunization Section: vaccine program summary pages, routine schedule.
- Annual Influenza Program

Public Health Agency of Canada:

- Canadian Immunization Guide
- National Advisory Committee on Immunization Statements (NACI)

3.4 Personal Protective Equipment (PPE)

Using personal protective equipment (PPE) during provision of health care services is another strategy used to reduce risk of transmission of disease or exposure to hazards for staff and clients, by providing effective barriers when used properly. The point of care risk assessment determines the necessary PPE required to safely interact with clients.

Primary PPE includes:

- gloves
- gowns
- masks
- eye protection

PPE is only effective when used properly. All PPE is to be donned immediately prior to client interaction.

The highest risk for contamination occurs during PPE removal. Therefore, strict adherence to doffing protocol is required. Items must be removed and discarded immediately after the provision of care and shall not be worn outside of the client care area.

A sufficient supply of PPE should be available for all health care workers as required and in appropriate sizes.

Education in proper use of PPE is required for all health care workers who provide direct care or who have the potential for exposure to blood and body fluids.

Gloves

Touch is a fundamental part of human interaction and can be an important aspect of quality client care. Gloves are not needed for routine client care when the contact is limited to a client's intact skin (i.e. assisting in bathing, taking a blood pressure, administering an immunization). **Gloves are worn when it is anticipated that the hands will be in contact with non-intact skin, tissue mucous membranes, blood, body fluids, secretions, excretions or equipment or surfaces contaminated by the above.** [2,8] Glove use is not a substitute for hand hygiene. When using gloves:

- wear the appropriate type of glove for the task (see next section)
- wear the correct size of glove
- remove hand jewelry (jewelry reduces the effectiveness of thorough hand hygiene and can tear gloves)
- perform hand hygiene before putting on and after removing gloves
- do not wash gloved hands and re-use gloves
- gloves must be changed between clients
- dispose into regular garbage (if disposable)

The type of gloves that are used should be selected is based on the given task. Gloves may be:

- **Sterile (surgical) gloves** are worn to protect clients from contamination during an aseptic procedure. They also provide protection for the wearer. Use these gloves when performing a sterile procedure (i.e. inserting or changing a urinary catheter).

- **Clean (non-sterile) disposable gloves** (single-use medical examination gloves – vinyl, latex or copolymer nitryl or nitrile) are worn to protect the wearer from sources of contamination. Use these gloves when touching blood or other body secretions and excretions, mucous membranes, undiagnosed rashes, or protecting the care giver's skin if he or she is at risk due to non-intact skin such as dermatitis. Choose the appropriate glove to fit the specific task.

- **Non-disposable rubber gloves** (i.e. rubber household gloves) are for tasks other than client care. Use these gloves to protect the hands from chemicals and detergent solutions while performing routine housekeeping. Rubber gloves used in the health centre are to be designated to specific individuals and should be cleaned after each use; i.e. one pair per individual. Rubber gloves used in the client's home should be cleaned, and then left in the client's home.

Gowns and Protective Apparel (i.e. Aprons)

The routine use of gowns and aprons for basic client care is not necessary. Gowns and/or plastic aprons should be worn as indicated by the PCRA where it has identified that a HCW's clothing is likely to become soiled with spray or splatter, blood, feces, urine or any other secretions, or if significant contamination of the environment is occurring. Examples of need for gown use include:

- Dealing with clients with uncontrolled diarrhea that cannot be contained with incontinence products and resident is not confined to bed
- draining, infected wound in which dressing cannot reliably contain drainage
- provision of foot care
- dental procedures such as extractions

Gowns or aprons should be used for specific clients only and disposed into regular garbage immediately after each use. Gowns/aprons must always be changed and hand hygiene performed between clients.

Lab coats are often used in practice but should not be consider as effective PPE against exposure to blood, body fluid, secretions or excretions. They are to be used as an alternative to uniforms to provide a protective barrier for the health care worker's street clothes. A lab coat is intended for full-day use, removed when outside of client care area and are either discarded if disposable or laundered at the end of the work day or when visibly soiled.

Masks and/or Other Face Protection (Goggles, Face Shield)

Masks are not often required in community settings. The science regarding respiratory protection is still evolving.

Health care providers should wear a mask that covers the mouth and nose, **and** goggles or a face shield during client-care activities when indicated by the PCRA and that are likely to cause airborne debris, splashes or sprays of blood, body fluids, secretions, or excretions onto the face. See the eye protection section for requirements re protection from splash and spray. Masks are selected based on the identified risks.[2,8] This includes:

- Surgical Masks
- N95 Respirators

Table 2 Determining the Appropriate Mask

Mask Use	Surgical Mask	N95 Respirator*
Particle Size	Filter to 5 microns (large droplets)	Filters 95 % of Particles to 1 Micron (droplet nuclei)
Why to Use	Provide a physical barrier against respiratory droplet secretions	Provide a physical barrier AND filter against infectious respiratory particles
When to Use	Wear as determined by the PCRA, when: • within two metres of a client with respiratory symptoms • performing activities that are likely to cause splashes or sprays onto the face • performing aseptic procedures	Wear as determined by the PCRA, when: • caring for individuals who require airborne precautions (measles, tuberculosis, SARS) • performing aerosol generating medical procedures (AGMP). i.e.: intubation and related procedures (e.g. manual ventilation, open endotracheal suctioning), cardiopulmonary resuscitation, sputum induction, nebulized therapy, non-invasive positive pressure ventilation[14].
How to use	• Secure ties or ear loops • Extend mask to ensure full coverage of nose, mouth and chin • Mold nose piece to the bridge of nose	• Fit Testing is required • Seal Check before each use
When to Discard	• Single use • Change mask if becomes wet, soiled or dirty.	• Single use • Change mask if becomes wet, soiled or dirty.

*If a N95 respirator is considered necessary, fit testing is a requirement to ensure that the correct respirator type and size is worn and that the wearer is taught how to do a seal check to ensure a proper facial seal each time the device is worn. Health care workers should only use the type of respirator for which they were successfully fit tested. Fit-testing should be done every two (2) years, or if there is significant weight fluctuation or changes to facial structure.

Eye protection

Eye protection is used by the health care worker to protect the mucous membranes of the eyes when indicated by the PCRA and it is anticipated that care is likely to generate splashes or sprays of blood, body fluid, secretion or excretions or within two metres of a coughing client.

Eye protection includes:

- Safety glasses
- Safety goggles
- Face shields
- Visors attached to masks

Prescription eyewear does not provide adequate protection; therefore goggles or face shields that fit over eyewear must be worn whenever airborne debris, splashes or sprays are anticipated.

Eye protection may be disposable or reusable; if reusable, cleaning and disinfection is required before reuse.

Resources

FNIHB AB Region

- Appendix 3A: Glove Use
- Appendix 3B: Mask Use
- Alberta Region Respiratory Protection Program

Alberta Health Services

- Guide To Personal Protective Equipment
- Donning (Putting on) Personal Protective Equipment poster
- Doffing (Taking off) Personal Protective Equipment poster
- Donning and Doffing video

Canadian Committee on Antibiotic Resistance

- Infection Prevention and Control Best Practices

3.5 Aseptic Techniques

Aseptic techniques[2] are measures designed to render the client's skin, supplies and surfaces maximally free from micro-organisms. These practices are used when performing procedures that expose the client's normally sterile sites (e.g. intravascular system, urinary tract) in order to keep them free from micro-organisms that could cause infection. Components of aseptic technique prior to a procedure involve the following:

- Preparing the client's skin with an antiseptic
- Hand hygiene
- Use of sterile gloves, gown, masks, equipment and drapes as indicated
- Maintaining a sterile field

Common invasive procedures performed in community based care that require aseptic technique include initiating intravenous access, wound care, and insertion of urinary catheters.

Infections (either local or systemic) may result from insufficient skin cleansing prior to injection of medications, vaccines or venipuncture.

Aseptic technique for the withdrawal of medication or other sterile substances from any vial or other container includes: hand hygiene, the use of alcohol to clean the stopper or port, single-use sterile needles and syringes, and following manufacturer's instructions. Transmission of Hepatitis B and Hepatitis C and other agents have been associated with the re-use of needles and/or syringes used to withdraw agents from multi-use vials, inappropriate use of glucose monitoring equipment, and reusing a single needle and syringe to administer medication to multiple clients.

Injection safety procedures include:

- Do not administer medications from the same syringe to more than one client, even if the needle is changed
- Consider a syringe or needle to be contaminated after it has been used to enter or connect to a client's intravenous infusion bag or administration set
- Do not enter a vial or bag/bottle with a used syringe or needle
- Do not use medication packaged as single-use vials for more than one client
- Assign medications packaged as multi-use vials to a single client whenever possible
- Follow aseptic practices during the preparation and administration of injectable medications.

3.6 Sharps Safety and Prevention of Bloodborne Pathogen Transmission

Sharps are objects that are capable of causing punctures or cuts to an individual. When a sharp has been in contact with blood, body fluids or exudates, there is the potential for exposure to bloodborne pathogens (Hepatitis B, Hepatitis C or HIV). All sharps must be handled in such a way as to keep them sterile until use, and then safely disposed of immediately following use to minimize any potential exposure.

Medications and Safe Administration and Storage of Injectables

Blood borne pathogens may be transmitted to clients during the provision of health care services due to unsafe or improper injection, infusion and medication vial practices. Injectable medication must be[5]:

- Administered using aseptic technique
- In single dose format whenever possible
- Stored as per manufacturer's directions, i.e. biological fridge

Safe Handling, Transportation and Disposal of Sharps

Safe handling, transportation and disposal of sharps (i.e. needles, scalpel blades, etc.) minimize the risk of injury and exposure to bloodborne pathogens and is the responsibility of the health care worker. Used sharps are considered biomedical waste and must be transported and disposed according to provincial and federal requirements.

- Needles must **not** be recapped, purposely bent, broken, removed from a disposable syringe or manipulated by hand.
  - Do not uncap a needle unless there is an appropriate container accessible for immediate disposal.
  - Use “point of use” disposal receptacles for sharps.

- Sharps containers should be readily available in all areas of client care at the point of use.
  - Wall mounted units in clinic rooms are preferred as they are secured, however special attention must be given to placement and ease of access.

- Ensure that containers are safely placed in the client’s home, mobile clinic or other settings, to avoid injury or misuse.
  - Take into consideration presence of children, confused adults, IV drug abusers, etc.

- Sharps containers must **not** be over filled.
  - Most containers indicate a “fill line” at about the ¾ full mark, beyond which the container should not be filled. Remove and replace sharps containers when the “fill line” is reached.
    - Broken glass contaminated with body fluids may be disposed of in the sharps containers.

- Sharps containers for use off site will be transported by the health care worker and therefore must be puncture resistant, have a tight fitting lid that seals, and be clearly labelled.

- Teach clients, their family members, friends or other care givers in the home the correct procedures for safe handling and disposal of sharps and sharp containers.
  - Full sealed sharps containers delivered to the health centre by community members can be placed in the health centre’s Medical Waste Box for disposal.

Transporting of Sharps As a Carrier

A degree of precaution must always be taken with any sharp items. Sharps used in direct patient care present an injury hazard to health care personal and waste workers.

Health care workers must follow Transportation of Dangerous Goods guidelines when transporting sharps in their vehicle[10]:

- adequate training on the handling and transportation of dangerous goods has been received
- a Certificate of Training has been issued and is current

Sharps Disposal

- Sharps must be disposed of as biomedical waste
- Containers should be sealed when full. They should never be emptied or reused.
- Place full sharps containers in a biomedical waste box that is lined with a biohazard bag.
- The Biomedical Waste Box shall be stored in the designated biohazardous waste room that is appropriately signed and remains secured.
- Once the waste box is full, the inner bag should be sealed with tape and the outer box should be taped closed.
- Transportation of Medical Waste boxes for disposal must follow Transportation of Dangerous Goods Regulations for packaging, labelling and documentation.

Resources:

FNIHB Alberta Region

- Appendix 5: TDG Fact Sheet

Public Health Agency of Canada

- Laboratory Safety Office, 2014 Transportation of Dangerous Goods, Online Nursing Manual. (Accessed via Regional Nursing)

3.7 Management of Client Care Environment

When providing care or services outside of the health centre[11]:

- Limit the amount of equipment taken off site to only necessary supplies needed to perform care
- Leave any equipment that can be dedicated to the client in the home. Client specific items should not be returned to health centre when no longer needed unless it is a reusable item that can be cleaned and sterilized.
- Clean and disinfect any non-critical client care equipment (i.e. stethoscope) that cannot be left in the home using a low level disinfectant, before taking it from the home. Alternatively, place reusable items in a plastic bag for transport and subsequent cleaning[3] upon return to the health centre.
- Clean any reusable equipment used on the client prior to being reused. Place used items in a designated “dirty” container for transportation and storage until the item can be properly reprocessed.
- Supplies should include appropriate personal protective equipment needed for routine practices and any assessed additional precautions (e.g. a box of disposable gloves, masks, plastic aprons, and hand hygiene supplies as per PCRA).
    - Health Care Workers may find it useful to leave a box in the client’s home along with other necessary supplies. The box should be kept separate in a clean area and should be labelled “for Health Care Worker Use Only”.

Client Care Equipment and Supplies

Clients should be evaluated on a case-by-case basis to determine whether dedicated equipment is indicated. Use of single use (disposable) equipment is the standard of practice when available.

Limit the amount of reusable equipment that is brought into the home of clients who are infected or colonized with organisms such as methicillin resistant *staphylococcal aureus* (MRSA) or vancomycin resistant enterococcus (VRE).

Minimize supplies going into the home. Unused disposable supplies that have been left in the home with the client should be disposed of once the client is discharged from home care services, and should **not** be returned to the health centre.

If loaner equipment is dedicated to a client, it should be left in the home until the client is discharged from home care services. The equipment should be cleaned and reprocessed appropriately before use with another client. This would include items such as tub rails, aids to daily living, wheelchairs, commode chairs, etc.

Clean and disinfect any non-critical client care equipment (i.e. stethoscopes) that cannot remain in the home before leaving the home if possible. Otherwise, place reusable items in a plastic bag for transport to another site for subsequent cleaning and disinfection if necessary.

Reusable semi-critical or critical instruments used in the field, should be stored in a dedicated “dirty” container after use and returned to health centre for reprocessing.

Resources

FNIHB AB Region:

- Section 5.10: Reprocessing Requirements
- Appendix 6: Environmental Cleaning
- Appendix 7: Single Use Policy
- Reprocessing Medical and Dental Re-usable Equipment: Policy and Practices

Supply Bag/Container

The supply bag/container is used to carry essential equipment (non-critical to critical) that is necessary for the provision of care outside of the health centre environment. It is important to maintain the supply bag/container in a clean manner and to establish a clean environment regardless of location, for the provision of care.

- The health care provider’s supply bag/container should be made of material that is easily cleaned or washable. Bio-burden may accumulate on the exterior surface of the bag/container, therefore it should be cleaned and disinfected when visibly soiled or on a weekly basis. Clean the interior surfaces of the bag routinely (every three months) or as required.
- Care providers should perform hand hygiene prior to reaching into the bag to obtain supplies.
- Place the supply bag/container on a cleanable surface such as a table or non-absorbent chair. If general sanitation is a concern in the care environment, create a clean environment by disinfecting the surfaces with a disinfectant wipe or by

placing a barrier such as an unused garbage bag underneath the supply bag/container. The supply bag/container can theoretically act as a vector for the transmission of organisms from one client's home to another, therefore, care should be taken in the placement of the bag/container, as well as for the bag/container to be routinely cleaned and disinfected.

- The supply bag/container should not be taken into dwellings that are infested with cockroaches, ants, rodents, or other vermin whenever possible. In this instance, only those products that would be used during the visit should be taken into the dwelling.
- Inside the supply bag/container, semi-critical items should be kept covered and critical items should be contained in sterile wrappers that will prevent contamination until point of use.

Personal Care Supplies

Personal Care supplies pertain to those items used for elements of a person's routine care such as:

- bathing
- skin care
- nail care
- oral care and denture care
- hair care

It is important that personal care supplies are not shared and are kept clean. This can prevent the transmission of infection or infestations (i.e. conjunctivitis, MRSA, lice, scabies).

Ideally, clients should have their own soaps, lotions or creams, toothbrush, toothpaste, denture box, comb, hairbrush, nail file, nail clippers, shaver (electric or disposable), and bath towel. These items should not be shared with others, including family members.

Toiletries supplies used or supplied at the health centre should be single-use or dispensed in a manner which does not contaminate the bulk container.

Bath towels or other linens should not be shared and should be laundered after use.

Client Records

- Do not take the client record into an area where contamination is likely to take place.
- Perform hand hygiene between client contact and documentation.
- Medical records are confidential and must be maintained in a secure manner.

Environmental Cleaning

Health Care Facilities

The environment is a reservoir for infectious agents especially in settings where there are ill clients that are coughing, sneezing, incontinent, vomiting or having diarrhea. Bacteria and viruses may survive on surfaces for extended periods of time and be transmitted to other susceptible clients or residents. Cleaning alone, will not destroy these unwanted organisms.

Cleaning removes any visible organic debris or foreign material from the surface. Cleaning involves use of water, detergents and mechanical action to remove debris. The mechanical action of cleaning reduces the microbial load on the surface through physical removal.

Disinfection is the inactivation of disease-producing microorganisms. It does not destroy bacterial spores. Disinfection is dependent on several factors including: effective pre-cleaning; concentration, contact time, and amount of disinfectant applied to the surface etc.

Environmental cleaning is one of the most important steps in breaking the chain of infection. Environmental cleaning consists of [12] :

- Routine cleaning followed by disinfection of health facility using hospital grade disinfectants
- Additional cleaning and disinfection of high touch surfaces, medical equipment and devices, hydrotherapy tubs, blood and body fluid spills or in outbreak situations
- Education for janitorial staff
- Auditing and review of cleaning practices

Household Facilities

Consistent, regular cleaning assists in reducing the potential for environmental transmission of microorganisms. Although the requirements are more stringent in a health care setting, cleaning and disinfection of high touch surfaces or areas that are heavily soiled or contaminated in the home is also important.

Encourage clients and their care givers to perform regular cleaning of frequently touched surfaces (i.e. taps, sinks, toilets, bedside tables) as one way to prevent the spread of infection to others in the home.

If there is illness in the home, (e.g. individuals with respiratory or gastrointestinal symptoms), increased cleaning and disinfection is recommended. Good hand hygiene practices are also important in reducing the spread of germs.

Housekeeping routines should involve cleaning followed by disinfecting of surfaces, toys and objects with a household low level disinfectant using the correct concentration and contact time as indicated on the label instructions.

Resources

FNIHB AB Region:

- Appendix 6: Environmental Cleaning

FNIHB National:

- Environmental Training Guide; Modules.

American Cleaning Institute:

- Clean Living at Home
- Hard Surface Cleaning Fact Sheet

3.8 Cleaning, Disinfection and Sterilization of Reusable Medical or Dental Equipment

The level of reprocessing required for reusable dental and medical equipment is determined by the classification of the item according to the level of risk of infection, as indicated by the Spaulding Level of Classification[13]. Medical and dental equipment are classified into three groups:

- Non critical
  - devices that touch only intact skin not mucous membranes or do not come in direct contact with the client. Cleaning followed by low level disinfection is required at minimum.
- Semi critical
  - devices that come in contact with non-intact skin or mucous membranes but usually does not penetrate them. At minimum cleaning followed by high level disinfection is required
- Critical
  - devices that enter sterile issues including the vascular system. They present a high level of risk of infection if the devices is contaminated and cleaning followed by sterilization is required

Resources

FNIHB AB Region:

For detailed policy and procedures regarding cleaning, disinfection and sterilization of reusable medical and dental equipment refer to:

- Reprocessing Reusable Medical and Dental Equipment Policy and Protocols
- Instructional Manual for Reprocessing Reusable Medical and Dental Equipment

3.9 Handling of Linen

Microbial counts on soiled linens are significantly reduced during mechanical action and dilution of washing and rinsing. With the high cost of energy and use of cold water detergents (which do not require heat to be effective), hot water washes may not be necessary. There are several studies that show low temperature laundering will

effectively eliminate residual bacteria to a level comparable to high temperature laundering.[16, 17]

Linens used in the health care setting can be laundered together using detergent, and dried in a hot air dryer to ensure killing of microorganisms. Linens soiled with large quantities of organic material (i.e. stool or vomitus) will require pre-treating to remove the material. It is impossible to clean laundry when organic material is present. Although soiled linen has been identified as a source of microorganisms, the risk of actual disease transmission appears low, provided that hygienic handling, storage and processing of clean and soiled linen are carried out.

Clean laundry must be stored apart from soiled linens. Health care providers should handle any laundry soiled with blood or body fluids with gloves and avoid touching it to their clothes or skin; position the laundry basket nearby to reduce handling (keep off the floor and upholstered furniture); handle with minimal agitation and do not shake; remove fecal material into the toilet. Teach family or care givers how to handle contaminated laundry safely. Wash heavily soiled laundry separately and add bleach to wash water according to the manufacturer's instructions if material is bleach tolerant. Hand hygiene is required when task is complete.

3.10 Waste Disposal

It is important that all waste be disposed of safely and properly. Usually, waste generated in health care settings is no more hazardous than general household waste. Non-biomedical waste, such as general office waste, used gloves or non-sharp medical equipment, requires no special handling other than containment during disposal and removal. Dressings or waste that is soaked with blood or body fluids should be bagged prior to placing into the garbage.

There are certain items that must be treated as biomedical waste, in accordance with local, regional, provincial and federal regulations on waste segregation, handling and disposal. Legislation requires that biomedical waste be handled, transported and disposed of in such a way as to avoid transmission of potential infections. Waste, such as liquid blood or body fluid drainage in containers that cannot be emptied into a toilet, must be packaged as biomedical waste. Ensure that appropriate personal protective equipment consistent with routine practices is used. (See Section 4.3) Contact the Environmental Health Officer for information or direction regarding waste handling and disposal.

3.10.1 Recommendations for Biomedical Waste Handling

- Local municipal regulations on waste segregation must be followed.
- Biomedical waste (sharps) containers and transport packaging can be ordered through Environmental Health Services using the order form located on OneHealth.
- Segregate and package sharps waste in a labelled, puncture resistant container.
- Place biomedical waste in a plastic bag, seal securely and package in a biohazard labelled, leak-proof container which can be disposed of or safely cleaned after emptying.
- Store in a location that protects it prior to pick up/disposal.
- Dispose of waste frequently.

- When handling waste, wear protective apparel (gloves and gown/apron). It is recommended that anyone routinely handling biomedical waste should be vaccinated against Hepatitis B.

Table 3 Types of Waste

Type of Waste	Definition	Examples
Biomedical	Human blood or body fluid waste. Contaminated sharps (materials that can puncture, penetrate or cut the skin and have come in contact with a body fluid or microorganisms)	Human fluids, blood and blood products, items saturated or dripping with blood, body fluids contaminated with blood, needles, lancets, laboratory glass that is broken or easily broken, scalpel blades NOTE: Biomedical waste does NOT include: waste that is of household origin or general waste from clients on additional precautions.
General	Materials that have not been contaminated or excessively soiled with blood or other potentially infectious materials	Examples include: • soiled dressings • dialysis waste (i.e. tubing, filters, towels and disposable sheets) • IV bags/tubing • Diapers, adult incontinence briefs • soiled feminine hygiene products disposable gloves/aprons • catheters • specimen containers • medication containers

Adapted from PIDAC [8]

Resources

FNIHB AB Region Resources:

- Home Care Procedure Manual
- Post-Natal Manual
- Vaccine Management Guidelines

Government of Alberta

- Disposal of Biomedical Waste

4.0 Additional Precautions

Occasionally, routine practices are not sufficient to interrupt the transmission of certain organisms and additional precautions are required. Additional precautions are required in conjunction with routine practices to protect staff, clients, and visitors/family members from suspected or identified infectious agents. These precautions may include use of PPE, special accommodation, environmental cleaning, etc., and are implemented following a point of care risk assessment.

Additional precautions are based upon the actual mode of transmission of the organism and are classified as: [2,8]

- Contact Precautions
- Droplet Precautions
- Airborne Precautions

Additional precautions are implemented differently in various settings: i.e. what is required in a home and community care setting is different from what would be required in a hospital setting or other residential setting where the risk of transmission of infection is higher.

Should a client who requires additional precautions need to seek medical care, the office or site should be notified in advance of the visit of the need for additional precaution requirement. In cases of droplet or airborne precautions the client should be asked to wear a surgical mask and perform hand hygiene prior to leaving their home. Clients should also be instructed to minimize contact with others during transportation to seek medical advice. Clients should not take public transit or utilize volunteer transportation services while they are infectious. Where NIHB transportation services are utilized, it is preferred that the client be transported on their own, or with others who have the need for similar precautions.

In all cases when additional precautions are necessary, clients and family members should receive basic education about how to prevent transmission of the illness and proper use of any personal protective equipment needed. No special treatment is required for linen or dishes and eating utensils for individuals on precautions.

4.1 Contact Precautions

Contact precautions are used for clients known or suspected to have microorganisms that can be spread by direct contact with the client or by indirect contact with environmental surfaces or client care equipment.

Examples of conditions that may require contact precautions are:

- enteric infections
- skin infections (impetigo, scabies, MRSA, non-contained abscesses) and
- respiratory infections, especially when respiratory etiquette is not used.

Contact precautions require that:

- gloves are worn for all direct contact with the client as well as direct contact with the client's immediate environment, personal items and equipment.
- a clean gown be worn to protect the health care provider's clothing from contamination when there is substantial contact with the client or environmental surfaces, as well as when the client is incontinent or has diarrhea, an ileostomy, a colostomy, or uncontained wound drainage. After the gown and gloves are removed, hand hygiene is required.

No special treatment is required for linen, or dishes and eating utensils. Attention should be focused on preventing the transmission of the organisms to the next client or environment visited.[2]

4.2 Droplet Precautions

Droplet precautions are used for clients known or suspected to have microorganisms transmitted by large particle droplets (larger than 5 microns). These droplets may be produced during coughing, sneezing or certain procedures such as suctioning. These particles are propelled a short distance, usually less than two metres (six feet), and do not remain suspended in the air.[2]

Common conditions that may be encountered in the home and community care setting and that may require this level of precaution include:

- acute respiratory infection like rhinovirus, influenza, parainfluenza
- streptococcal pharyngitis, and
- Mumps and rubella (if HCW is not immune)

Droplet precautions require:

- health care providers wear a surgical mask and eye protection when providing direct care to the client or when they are in close proximity (2 metres).
- that symptomatic individuals should be spatially separated from others (2 metres), although they do not require placement in a separate room.

No special treatment is required for linen or dishes and eating utensils.[2]

4.3 Airborne Precautions

Airborne precautions are used for clients known or suspected to have microorganisms spread by the airborne route. These may consist of small particle residue (5 microns or smaller) that result from the evaporation of large droplets or dust particles containing skin squamous and other debris. These can remain suspended in the air for long periods of time and are spread by air currents within a room or over a long distance.[2]

Conditions that require this level of precautions:

- measles (if HCW is not immune)
- infectious tuberculosis
- varicella (if HCW is not immune)
- airborne precautions may also be warranted when involved in aerosol generating medical procedures.

Airborne precautions require:

- health care providers wear an N95 respirator, for which they have been fit tested, upon entering the airspace of clients with known or suspected to have microorganisms spread by the airborne route.

Resources

FNIHB AB Region

- Point of Care Risk Assessment
- Chain of Infection

Public Health Agency of Canada

- Routine Practices and Additional Precautions in Healthcare Settings 2013

5.0 Laboratory Specimens

All clinical specimens are considered potentially infectious and therefore must be handled with care and collected and transported appropriately.

5.1 Collecting Specimens

- Perform Point of Care Risk Assessment (PCRA) and don appropriate PPE
- Use specified sterile container or specimen bottle and fill as per instructions
- Secure the lid to prevent leakage. Do not send leaking or soiled containers.
- If outside of the container is soiled, wipe with disinfectant
- Label all specimens and place into plastic pouch, requisition is to remain in the outside pouch of the bag
- Remove PPE and perform Hand hygiene

Resources

Alberta Health Services

- Laboratory Guidelines - Proper Labelling and Specimen Submission

5.2 Transportation of Specimens

For the purpose of transportation, the Transportation of Dangerous Goods Regulation must be followed for all patient specimens that require road or air transport.

All patient specimens are classified as either:

- Category A, Infectious Substance
- Category B, Biological Substance or
- Exempt Human Specimens

Resources

Transportation of Dangerous Goods Manual: Section 3.0; Class 6.2

6.0 Food Safety

Foodborne illness can be very serious and even life threatening to individuals, especially preschool children, older adults in health care facilities and those who are immunocompromised. Ensuring effective food safety is essential in the health care and community setting. Health care workers involved in food preparation should complete a recognized Food Sanitation and Hygiene Course from Environmental Health Services FNIHB or Alberta Health Services.

6.1 Food Safety Tips

- The food handler represents the most important and controllable source of food contamination. Performing effective hand hygiene is key to breaking the chain of infection. Hand hygiene must be practiced before, during, and after preparing or handling food.
- Many foods are inherently contaminated from the source such as beef with E.coli or eggs with salmonella. Safe food handling practices are key when dealing with hazardous foods.
- Maintain effective temperature control. Ensure there is proper cold and hot holding to keep cold foods cold and hot foods hot
- Minimize the time foods remain in the danger zone during preparation and service. (i.e temperature range between 4^0C and 60^0C where microorganisms may grow and multiply)
- Cook and reheat foods to required internal temperatures, verifying critical temperatures with a thermometer
- Clean fresh vegetables and produce with running water. Rub with hands or scrub with a vegetable brush while rinsing, if skin/rind is firm enough
- Prevent cross contamination during food preparation and storage. i.e. ensure juices from raw meats, seafood, poultry or eggs do not mingle with or touch other ready to eat foods in the fridge or in the preparation area like on cutting boards.
- Keep dry food stored in food grade containers, properly sealed and labelled to prevent contamination by pests.
- Clean and disinfect all food contact surfaces before, during and after preparing food.
- Dishware and utensils may serve as a vector for disease transmission if not properly cleaned. Ensure all dishware and utensils are effectively washed and disinfected using either a three compartment sink method of dishwashing or mechanical dishwashing. All dishes shall be air dried. Tea towels are not permitted for drying.

Resources

FNIHB AB Region

- Food Safe Course (Connect with Environmental Health Officer)

Food Safety Tips:

- Safe Minimum Temperatures for Food

7.0 Pests and Infestations

Occasionally home and community care workers may encounter pests (e.g. bed bugs, mice, cockroaches) in individual residences. Pests such as mice and cockroaches can carry disease and contaminate environmental surfaces through their urine and feces. Hantavirus pulmonary syndrome is an example of a disease that is spread through contact with contaminated urine or feces from deer mice.

Some pests are nuisance pests and are not associated with transmission of disease but health care workers will need to avoid becoming a "vehicle" for their transfer to other houses. Beg bugs are one such example that is commonly found in public places and personal residences. The presence of bed bugs in these environments does not prohibit the delivery of health services but provisions must be taken to prevent spread to other homes or facilities.

HCW may also encounter infestations of lice (pediculosis) and mites (scabies) when providing client care. These pests are ecotoparasites that live off of human hosts but are not associated with disease transmission. However, they can be passed from person to person and therefore the HCW must take care not to pass to another client or work site. Infection control practices for the HCW may include:

- Good hand hygiene
- Contact precautions (gown and/or gloves) for direct client care

Resources

FNIHB AB Region

- Appendix 8: Providing Care in Bed Bug Infested Residences
- Environmental Public Health Services: "Hantavirus: What You Need to Know to Prevent Hantavirus Pulmonary Syndrome (HPS).

Organism specific:

Scabies

- BC Centre for Disease Control, Scabies
- My Health Alberta, Scabies
- CPS: Scabies Position Statement
- Caring for Kids, CPS

Lice

- My Health Alberta ca, Lice

Bedbugs

- Health Canada, Bed Bugs
- PICNET Infection Control Guidelines, Appendix 6.

Rodents

Health Canada

- Rats and Mice
- Hantavirus
- Pest Control Tips

8.0 Healthy Workplace Strategies/Occupational Health

Protecting the health of the HCW is essential in all health care settings, including the home and other community care sites. The HCW's own practices, both personal and professional, should be a role model for the client, family, and other members of the community at large. Health workplace strategies include:[8]

- Immunization
- TB Screening for HCW
- Post Exposure Protocol
- Respiratory Protection Program
- Point of Care Risk Assessment
- Education and Training

8.1 Immunization

The promotion and provision of immunizations to HCW is essential in preventing spread of vaccine preventable diseases. Minimum immunization requirements are based on a risk assessment conducted by the employer for exposure to vaccine preventable diseases related to the work environment.

The employer may develop internal policies requiring immunizations as a condition of employment and should offer appropriate immunizations. There should be a method for documentation of immunization status in HCW.[7,8]

At start of employment, the health care worker should have their immunization history assessed and a record of immunization on file in their confidential employee health record. They also should maintain their immunizations as per the Alberta routine immunization program throughout their employment. Recognition and awareness of the HCW's immune status helps define the susceptibility of the provider in the event of exposure to a communicable disease. The health history also helps identify any work limitations or risk factors for the provider or client.

Resources

FNIHB AB Region

- Vaccine Program Summary Sheets

Alberta Health

- Alberta Immunization Policy

Public Health Agency of Canada

- Canadian Immunization Guide
    - HCW Immunization Recommendations

8.2 TB screening for Health Care Workers

FNIHB AB Region Tuberculosis program focuses on early detection and treatment, prevention and reduction of transmission in First Nations communities in Alberta. Screening is a comprehensive component of the program which includes screening for Health Professionals.

Baseline screening for single step tuberculin skin testing is recommended for healthcare workers at risk for potential occupational exposure to infectious TB. Two step testing may be required for those that work at high risk settings as based on the Care Algorithm.

Resources

FNIHB AB Region

- Vaccine Program Summary – Tuberculin
- Tuberculosis section of CDC Manual on OneHealth: includes resources for staff and clients

Alberta Health Services

- Care Algorithm: TB Screening in Health Care Workers *(accessed through OneHealth)*

8.3 Blood and Body Fluid Post Exposure Protocol

Effective management of staff exposures to blood or body fluids is essential. Health Care Workers who may be exposed to blood and body fluids (i.e. recipients) are at increased risk of contracting Hepatitis B, C, and/or HIV. A timely assessment is required should an exposure occur.

The FNIHB Alberta Region "Management of Blood and Body Fluid Exposure Protocol" is available to all community health care staff, and is summarized below:

> If a HCW is potentially exposed to blood and body fluid (cerebral spinal fluid, semen, vaginal fluid) via contact of the mucous membranes, non-intact skin or subcutaneous tissue:
>
> 1. Administer immediate first aid
> 2. Call health protection 24 hour number **(780) 218-9929** for assessment and follow-up
>   - Information that will be assessed includes: details of incident and source, HBV immunization history and anti-HBs information for recipient

Resources

FNIHB AB Region:

- Poster: "Needlestick & Blood/Body Fluid Exposure Protocol"

8.4 Respiratory Protection Program

Staff who may potentially be required to wear N95 masks must comply with the regional respiratory protection protocol.

Resources

FNIHB AB Region:

- Respiratory Protection Program, Policy Statement
- Point of Care Risk Assessment

8.5 Education and Training

Keeping current and up to date on infection prevention and control is essential for all health care workers. Participation in education and training sessions should be documented by their supervisor/manager. Staff should be familiar with infection prevention and control policies and they relate to the work environment.

The HCW should provide education for the client and family as appropriate for the presenting condition. Education should include information on:

- hand hygiene: before leaving their residences for public areas and upon returning home from outings; after using the toilet; and before eating or preparing food.
- respiratory etiquette: staying home if sick, covering cough, hand hygiene, and keeping proper separation from others.
- chain of infection: including minimizing mucous membrane exposure (hand contact with eyes, mouth and nose).
- environmental cleaning and
- use of personal care items such as foot care products, toothbrushes, etc.,

Resources:

FNIHB AB Region:

- *Introduction to Infection Prevention and Control and resources*: annual videoconference, OneHealth
- *Seasonal Influenza Inservice and resources*: annual videoconference; seasonal influenza program resources posted to OneHealth
- AB Region Nursing Education Department:
  - Workplace Hazardous Materials Information Systems (WHMIS)
  - Transportation of Dangerous Goods (TDG)

Alberta Health Services:

- Respiratory Hygiene

CDC Atlanta

- *Cover Your Cough*

9.0 Outbreak Management

An outbreak is defined as the occurrence of more cases of disease than expected in a given area or among a specific group of people, over a particular period of time.

Early identification and prompt reporting of suspected outbreaks is very important as it can allow for early implementation of control measures that interrupt transmission, reducing the spread of illness and the number of people affected. If you suspect an outbreak, contact the Regional CDC Nurse Manager at 780-495-5439.

Resources

FNIHB AB Resources

- Outbreak Management.

Definitions

Aseptic Technique: Practices based upon the principle that infection may be introduced into the body from the outside. These practices prevent the introduction of microorganisms into the body and maximize and maintain asepsis (absence of pathogenic organisms).

Additional Precautions: These precautions (i.e. contact precautions, droplet precautions, and airborne precautions) are carried out in addition to routine practices when infections caused by organisms transmitted by these routes are suspected or diagnosed. They include the physical separation of infected or colonized clients/residents from other individuals and the use of barriers (i.e. gowns, gloves, masks) to prevent, or limit, the transmission of the infectious agent from colonized or infected individuals to those who are susceptible to infection or to those who may spread the agent to others.

Alcohol-based Hand Rub (ABHR): A waterless hand antiseptic that can be used for performing hand hygiene if hands are not visibly soiled. The optimal strength of alcohol-based hand rubs is 60% to 90% alcohol.

Antibiotic Resistant Organism (ARO): A microorganism that has developed resistance to the action of several antimicrobial agents and that is of special clinical or epidemiological significance.

Cleaning: The physical removal of foreign material (i.e. dust, soil, organic material such as blood, secretions, excretions and microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. Thorough and meticulous cleaning is required before any equipment/device may be decontaminated, disinfected and/or sterilized.

Colonization: The presence and multiplication in or on the body of microorganisms without any symptoms of infection or detected immune reaction. Colonization is often a natural process in the development of naturally occurring “normal flora”.

Community Associated Infection: An infection that is acquired before admission to hospital or is incubating at the time of admission.

Community Health Nurse: A nurse who collaborates in the delivery of comprehensive Health Programs which include promoting, protecting and preserving the health of First Nations populations on reserve. Can include Public Health Nurse and the Home Care Nurse.

Direct Care: Providing hands-on care, such as bathing, washing, turning client/resident, changing clothes/diapers, dressing changes, care of open wounds/lesions or toileting. Feeding and pushing a wheelchair are not classified as direct care.

Environmental Health Officer (EHO): EHOs work in an inter-professional and cross-sectorial manner to ensure that clients are protected from environmental public health risks such as infectious diseases, chemical contaminants, and physical hazards.

Health Care Associated Infection: An infection acquired during the course of receiving any type of treatment for other conditions, or that a Health Care Worker acquires while performing their duties within a health care setting.

Hand Hygiene: A process for the removal of soil and transient microorganisms from the hands. Hand hygiene may be accomplished using soap and running water or by the use of alcohol-based hand rubs. Optimal strength of alcohol-based hand rubs should be 60% to 90% alcohol.

Health Care Provider/Worker: Individual providing or supporting health care services that will bring them into contact with clients. This includes, but is not limited to: nurses, community health representatives, health care aids, dental therapists, support services (e.g. housekeeping, dietary, maintenance, hairdressers), allied health care professionals, and external health care providers.

Home and Community Care: A wide-range of medical, nursing, rehabilitation, hospice, and social services delivered to clients in their place of residence (i.e. private residence, senior living centre, assisted living facility). Home health care services include care provided by home health aides and skilled nurses, respiratory therapists, dieticians, physicians, chaplains, and volunteers; provision of durable medical equipment; home infusion therapy; and physical, speech and occupational therapy.

Home Care Nurse: A nurse whose focus is clinical care and treatment that is directed towards health restoration, health maintenance and palliation in order to enable the client to live in their home.

Hospital-grade Disinfectant: A disinfectant that has a drug identification number (DIN) from Health Canada indicating its approval for use in Canadian hospitals.

Infection: An invasion of the body by microorganisms that multiply and cause an interaction between the host and the organism. The interaction may only be a detectable immune response such as a TB skin test conversion (subclinical infection) or produce signs and symptoms resulting from the altered physiology and/or associated cell damage (clinical disease).

Infection Prevention and Control: Evidence-based practices and procedures that, when applied consistently in health care settings, can prevent or reduce the risk of transmission of microorganisms to and between health care workers, clients/patients/residents and visitors.

Loaned Equipment: Medical equipment that is borrowed, shared or consigned to be used for clients. Reprocessing is carried out at both loaning and receiving sites.

Medical Officer of Health (MOH): A medical practitioner with training, knowledge, skills and experience in community medicine who is designated by the Minister of Health under the Public Health Act. The MOH provides advice and direction on public health issues including health promotion and health protection and related practices, bylaws and policies. The MOH has jurisdiction for public health issues and reports to the public those matters which are deemed to be in the public interest.

Nosocomial Infection: An infection that develops during hospitalization or after discharge as a direct result of hospitalization.

Personal Protective Equipment (PPE): Clothing or equipment worn by staff for protection against hazards such as blood, body fluids, and infectious secretions.

Routine Practices: Routine practices is the term used by Health Canada/Public Health Agency of Canada to describe the system of infection prevention and control practices recommended in Canada to be used with all clients/patients/residents during all care to prevent and control transmission of microorganisms in all health care settings.

Appendices

1A: Hand Hygiene: Alcohol Based Hand Rub

1B: Hand Hygiene: Hand Washing

1C: 5 Moments of Hand Hygiene

2A: Donning PPE

2B: Doffing PPE

3A: Glove Use

3B: Mask Use

4: Admission Risk Assessment

5: Transportation of Dangerous Goods, Fact Sheet for Road Transport

6: Environmental Cleaning

7: FNIHB Alberta Region: Single Use Policy, January 14, 2014

8: Providing Care in Bed Bug Infested Residence

References

Appendix 1A: Hand Hygiene- Alcohol Based Hand Rub

To be effective alcohol based hand rubs (ABHR):

- Shall contain one of the following: ethanol (ethyl), isopropanol (iso-) and n-propanol
- Contain a minimum Alcohol concentration of 60%.
  - ABHR have been proven effective at 60-90% alcohol content
- Must be provided at the point of care where HCW can clean their hands without leaving the client
- Must be accepted by the HCW to encourage use.
  - Consistency, dry times, residual build up may affect product acceptance and use.
- Must be rubbed thoroughly into all surfaces of the hands and allowed to air dry
- Must be washed off hands with soap and water when there is a residual build-up
- Are flammable and bulk products must be stored according to fire code regulations
- Have the potential for misuse or illegal ingestion and therefore choice of product and placement of dispenser is important

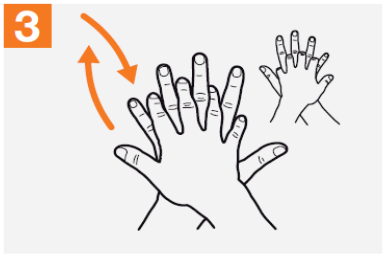
How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds

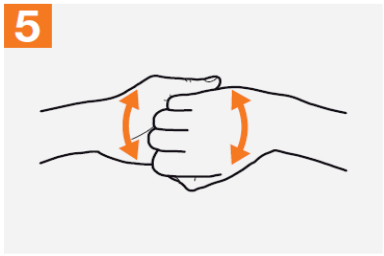
Apply a palmful of the product in a cupped hand, covering all surfaces;

Rub hands palm to palm;



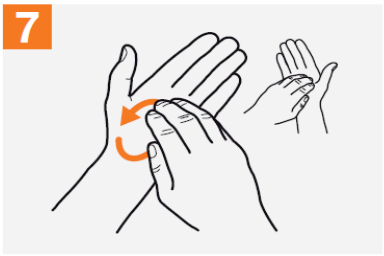
Right palm over left dorsum with interlaced fingers and vice versa;

Palm to palm with fingers interlaced;

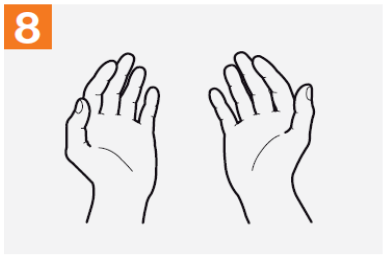


Backs of fingers to opposing palms with fingers interlocked;

Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

World Health Organization | Patient Safety — A World Alliance for Safer Health Care | SAVE LIVES Clean Your Hands

May 2009

Appendix 1B: Hand Hygiene- Hand Washing

When hands are visibly soiled or where hand washing is indicated by PCRA, hand wash with soap and water:

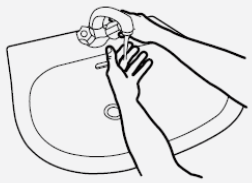
- A neutral soap from a disposable dispenser should be used for hand washing.
  - The routine use of antimicrobial soaps for hand hygiene is not necessary. However, antimicrobial soap with residual antimicrobial activity should be used for aseptic procedures.
- Remove jewelry prior to washing. Fingernails should be kept short. Artificial nails and nail extenders are not acceptable in health care settings, as they are known to harbour infectious organisms
- Wash all surfaces of the hands, in between fingers, knuckles and wrists for at least 15 seconds
- Use single-use disposable paper hand towels to dry hands, not multi-use hand towels for drying

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

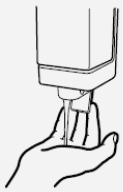
Duration of the entire procedure: 40-60 seconds

0



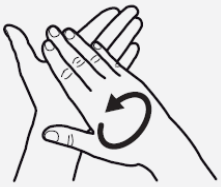
Wet hands with water;

1



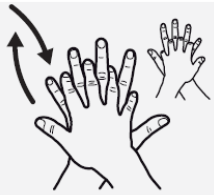
Apply enough soap to cover all hand surfaces;

2



Rub hands palm to palm;

3



Right palm over left dorsum with interlaced fingers and vice versa;

4

Palm to palm with fingers interlaced;

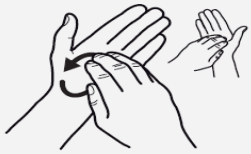
5

Backs of fingers to opposing palms with fingers interlocked;

6

Rotational rubbing of left thumb clasped in right palm and vice versa;

7



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

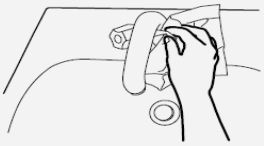
8

Rinse hands with water;

9

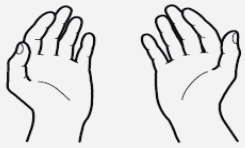
Dry hands thoroughly with a single use towel;

10



Use towel to turn off faucet;

11



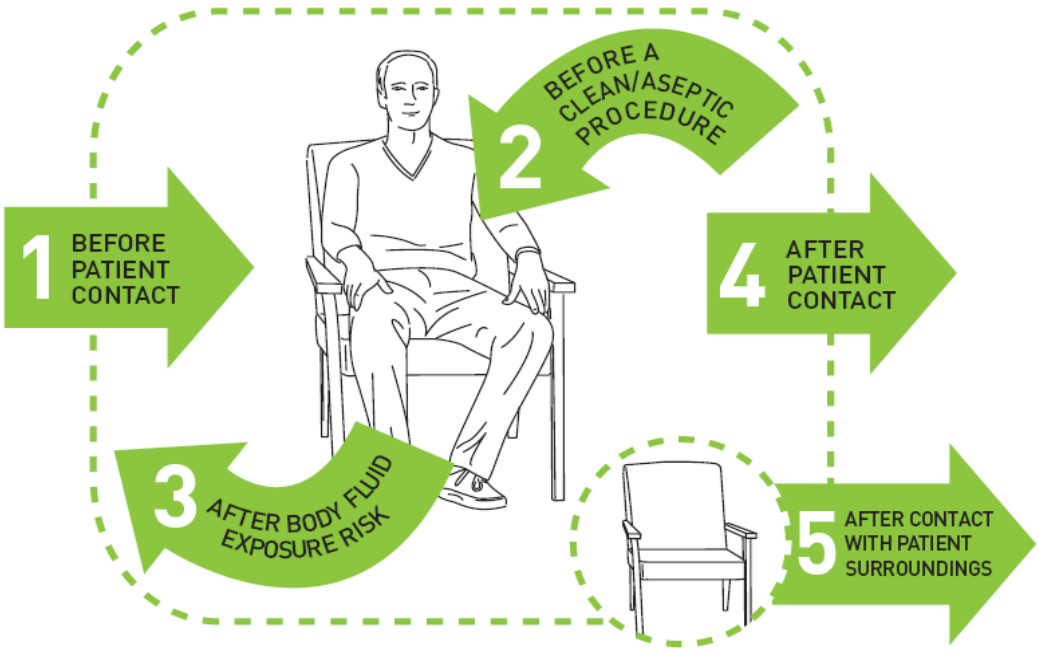
Your hands are now safe.

World Health Organization | Patient Safety — A World Alliance for Safer Health Care | SAVE LIVES Clean Your Hands

Appendix 1C: 5 Moments of Hand Hygiene

NHS National Patient Safety Agency

Your 5 moments for hand hygiene at the point of care



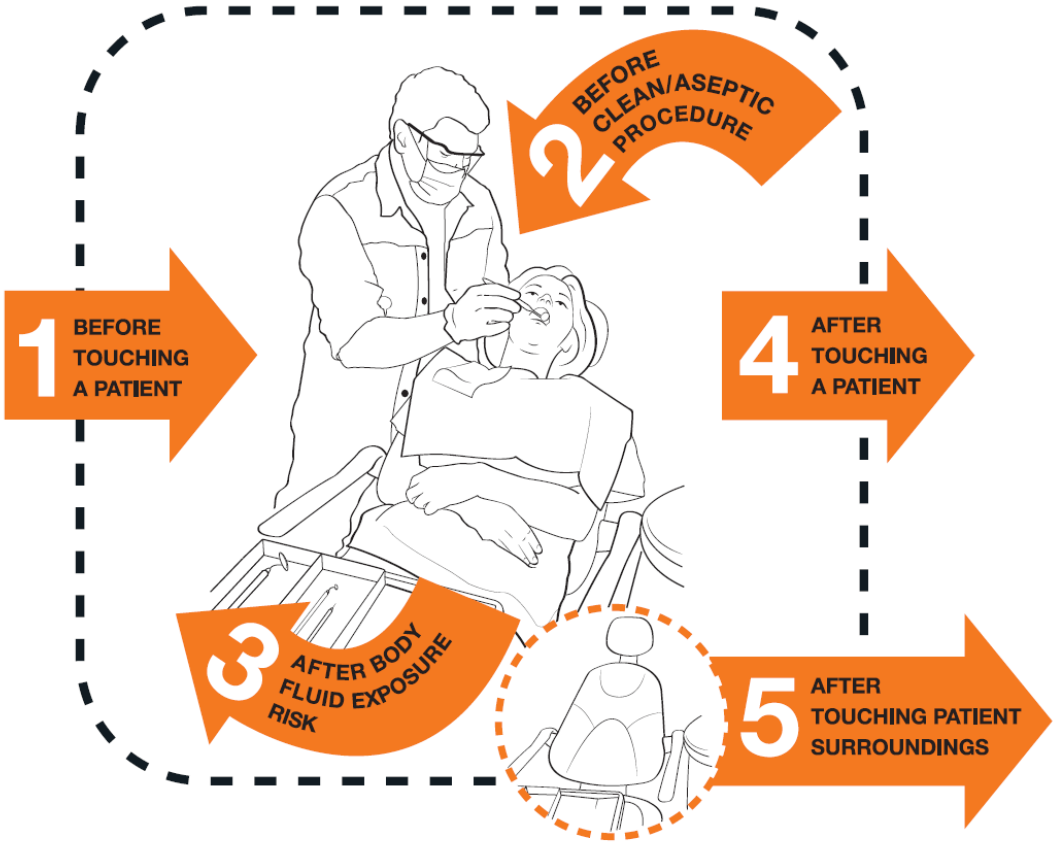
1 BEFORE PATIENT CONTACT	**WHEN?** Clean your hands before touching a patient when approaching him/her **WHY?** To protect the patient against harmful germs carried on your hands
2 BEFORE A CLEAN/ASEPTIC PROCEDURE	**WHEN?** Clean your hands immediately before any clean/aseptic procedure **WHY?** To protect the patient against harmful germs, including the patient's own, from entering his/her body
3 AFTER BODY FLUID EXPOSURE RISK	**WHEN?** Clean your hands immediately after an exposure risk to body fluids (and after glove removal) **WHY?** To protect yourself and the healthcare environment from harmful patient germs
4 AFTER PATIENT CONTACT	**WHEN?** Clean your hands after touching a patient and her/his immediate surroundings when leaving the patient's side **WHY?** To protect yourself and the healthcare environment from harmful patient germs
5 AFTER CONTACT WITH PATIENT SURROUNDINGS	**WHEN?** Clean your hands after touching any object or furniture in the patient's immediate surroundings when leaving - even if the patient has not been touched **WHY?** To protect yourself and the healthcare environment from harmful patient germs

Based on WHO poster 'Your 5 moments for hand hygiene' and reproduced with their kind permission

cleanyourhands® campaign

Your 5 Moments for Hand Hygiene

Dental Care



1	BEFORE TOUCHING A PATIENT	WHEN?	Clean your hands before touching a patient.
		WHY?	To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ ASEPTIC PROCEDURE	WHEN?	Clean your hands immediately before performing a clean/aseptic procedure.
		WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN?	Clean your hands immediately after a procedure involving exposure risk to body fluids (and after glove removal).
		WHY?	To protect yourself and the environment from harmful patient germs.
4	AFTER TOUCHING A PATIENT	WHEN?	Clean your hands after touching the patient at the end of the encounter or when the encounter is interrupted.
		WHY?	To protect yourself and the environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	WHEN?	Clean your hands after touching any object or furniture in the patient surroundings when a specific *zone* is temporarily and exclusively dedicated to a patient - even if the patient has not been touched.
		WHY?	To protect yourself and the environment from harmful patient germs.

World Health Organization

SAVE LIVES
Clean **Your** Hands

WHO acknowledges the Ministry of Health of Spain and the Hôpitaux Universitaires de Genève (Infection Control programme) for their active participation in developing this material.

March 2012

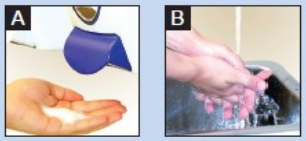
Appendix 2A: Donning PPE

Alberta Health Services

Infection Prevention and Control

Putting on (Donning) Personal Protective Equipment (PPE)

1 HAND HYGIENE



A Using an alcohol-based hand rub is the preferred way to clean your hands.

B If your hands look or feel dirty, soap and water **must** be used to wash your hands.

2 Gown

A Make sure the gown covers from neck to knees to wrist.

B Tie at the back of neck and waist.

3a Procedure/Surgical mask

- Secure the ties or elastic around your head so the mask stays in place.
- Fit the moldable band to the nose bridge. Fit snugly to your face and below chin.

3b N95 respirator

There are different styles of N95 respirators (pictured below). They include: a) molded cup, b) duckbill, c) flat-fold and d) v-fold

All styles have the same basic steps for donning; molded cup and duckbill are pictured below. Refer to the manufacturer for specific donning instructions.

A Pre-stretch both top and bottom straps before placing the respirator on your face.

B Cup the N95 respirator in your hand.

C Position the N95 respirator under your chin with the nose piece up. Secure the elastic band around your head so the N95 respirator stays in place.

D Use both hands to mold the metal band of the N95 respirator around the bridge of your nose.

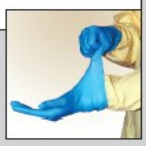
E Fit check the N95 respirator.

4 Eye protection or face shields

- Place over the eyes (or face).
- Adjust to fit.

5 Gloves

- Pull the cuffs of the gloves over the cuffs of the gown.



May 2014

www.albertahealthservices.ca

Appendix 2B: Doffing PPE

Alberta Health Services

Infection Prevention and Control

Taking off (Doffing) Personal Protective Equipment (PPE)

1 Gloves

A Grasp the outside edge of the glove near the wrist and peel away from the hand, turning the glove inside-out.

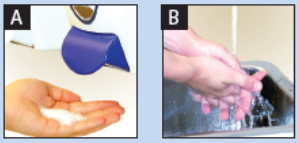
- Hold the glove in the opposite gloved hand.

B Slide an ungloved finger or thumb under the wrist of the remaining glove.

C Peel the glove off and over the first glove, making a bag for both gloves.

- Put the gloves in the garbage.

2 HAND HYGIENE



A Using an alcohol-based hand rub is the preferred way to clean your hands.

B If your hands look or feel dirty, soap and water must be used to wash your hands.

3 Gown

A Carefully unfasten ties.

B Grasp the outside of the gown at the back of the shoulders and pull the gown down over the arms.

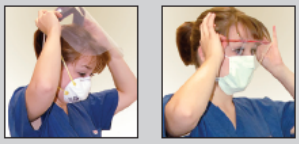
C Turn the gown inside out during removal.

- Put in hamper or, if disposable, put in garbage.

4 HAND HYGIENE

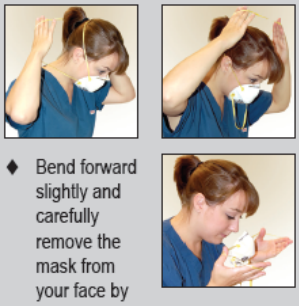
- Clean your hands. (See No. 2)
- Exit the patient room, close the door and clean your hands again.

5 Eye protection or face shield



- Handle only by headband or ear pieces.
- Carefully pull away from face.
- Put reusable items in appropriate area for cleaning.
- Put disposable items into garbage.

6 Mask or N95 respirator



- Bend forward slightly and carefully remove the mask from your face by touching only the ties or elastic bands.
- Start with the bottom tie, then remove the top tie.
- Throw the mask in the garbage.

There are different styles of N95 respirators but all styles have the same basic steps for doffing.

7 HAND HYGIENE

- Clean your hands. (See No. 2)

May 2014

www.albertahealthservices.ca

Appendix 3A: Glove Use

The choice of glove should always be made according to the task that is being done and only worn for that task. **Hand hygiene is performed before and after any glove use**.

Medical Gloves

Type	Use	Advantages	Disadvantages
Vinyl	• Protection for: ○ Minimal exposure to blood/body fluids/infectious agents ○ Contact with strong acids and bases, salts, alcohols • Protection for staff with documented skin breakdown	• Good level of protection but based on the quality of the manufacturer • Medium chemical resistance	• Not recommended for contact with solvents, aldehydes, ketones • Quality varies with manufacturers • Punctures easily when stressed • Rigid – not elastic
Latex	• Activities that require sterility • Protection for: ○ Heavy exposure to blood/body fluids/infectious agents ○ Contact with weak acids and bases, alcohols	• Good barrier qualities • Strong and durable • Has re-seal qualities • Good comfort and fit • Good protection from most caustics and detergents	• Not recommended for contact with oils, greases and organics • Not recommended for individuals in the vicinity of those who have allergic reactions or sensitivity to latex
Nitrile	• Protection for: ○ Heavy exposure to blood/body fluids/infectious agents ○ Tasks of longer duration ○ Tasks with high stress on glove ○ Tasks requiring additional dexterity ○ Chemicals and chemotherapeutic agents ○ Recommended for contact with oils, greases, acids, bases ○ Sensitivity to vinyl • Preferred replacement for vinyl gloves when a documented allergy or sensitivity occurs	• Offers good dexterity • Strong and durable • Puncture resistant • Good comfort and fit • Excellent resistance to chemicals	• Not recommended for contact with solvents, ketones, esters
Neoprene	• Replacement sterile gloves for latex when a documented allergy or sensitivity occurs • Recommended for contact with acids, bases, alcohols, fats, oils, phenol, glycol ethers	• Good barrier qualities • Strong and durable • Good comfort and fit • Good protection from caustics	• Not recommended for contact with solvents

Source: PIDAC: Routine Practices and Additional Precautions in All Health Care Settings, November 2012. Appendix M: Advantages and Disadvantages of PPE[9]

Glove Use:

APPROPRIATE USE OF GLOVES

1. Wear gloves for contact with mucous membranes, non-intact skin including undiagnosed rashes, blood, body fluids, secretions, excretions or equipment and environmental surfaces contaminated with any of these.
2. Perform hand hygiene before putting on gloves.
3. Remove gloves and discard immediately after the activity for which they were used. Do not re-use or wash gloves.
4. Change gloves between care for each patient.
5. Perform hand hygiene after gloves are removed due to possible contamination of hands during glove removal.

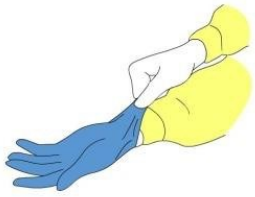


Figure 10: Putting on gloves

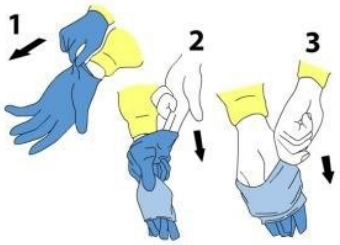


Figure 11: Taking off gloves

Adapted from PIDAC [5]

Appendix 3B: Mask Use

Principles for using masks and respirators:

- perform hand hygiene before putting on a face mask
- the mask should fit snugly over the face and should fully cover the nose, mouth and chin
- the metallic wire part of the face mask should be fixed securely over the bridge of the nose to prevent leakage, if using a N95 respirator, use three finger method to fix the nose clip over the bridge of the nose, being careful to avoid crimping in order to prevent a gap
- tie all strings that keep the mask in place or fix the ear loops of the mask around the ears properly. Do not dangle the mask around your neck
- if using N95 respirator, a seal check should be conducted each time the respirator is donned.
- change mask if it becomes wet, soiled or dirty
- perform hand hygiene after removing and discarding the mask

APPROPRIATE USE OF SURGICAL MASKS

- Put on mask immediately before the activity for which it is indicated.
- Secure mask over the nose and mouth.
- Remove mask immediately after the activity for which it is used.
- Change mask if it becomes wet.
- Do not touch mask while being worn.
- Do not allow mask to hang around the neck.
- Do not fold mask or store in a pocket.
- Do not re-use mask.
- Perform hand hygiene after removing mask

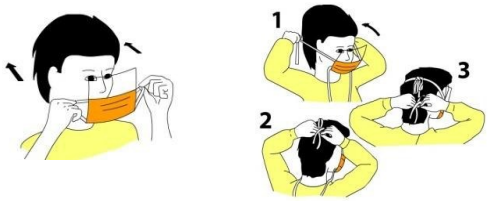


Figure 14: Putting on mask

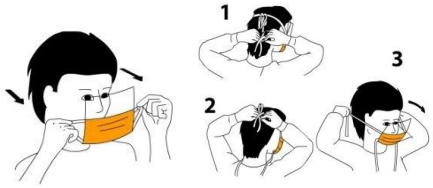


Figure 15: Taking off mask

APPROPRIATE USE OF RESPIRATORS

- Put on respirator immediately before the activity for which it is indicated.
- Remove respirator as soon as it is safe to do so.
- Use only a fit-tested respirator.
- Perform a seal-check each time a respirator is applied.
- Change respirator if it becomes wet or soiled.
- Remove respirator correctly and discard immediately after use.
- Perform hand hygiene after removing the respirator.

Figure 16: Putting on respirator

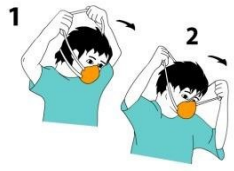


Figure 17: Taking off respirator

Adapted PIDAC[5]

Appendix 4: Admission Risk Assessment

The admission risk assessment of the client should include, but not be limited to:

- tuberculosis: previous or present evidence (if the client is from an identified risk group)
- antibiotic-resistant organisms such as Methicillin Resistant *Staphylococcus aureus* (MRSA), Vancomycin Resistant Enterococci (VRE)
- the presence of any chronic infections
- skin and soft-tissue infections (boils, cellulitis), determine if secretions are contained
- infestations (i.e. scabies, head or body lice)
- gastrointestinal illness (nausea, vomiting, diarrhea)
- any acute respiratory infection (fever, cough)
- the client's ability to comply and cooperate
- continence issues

Ongoing assessment of the client should include:

- skin and soft-tissue infections (boils, cellulitis), determine if secretions are contained
- infestations, if previously identified (i.e. scabies, head or body lice)
- gastrointestinal illness (nausea, vomiting, diarrhea)
- any acute infection (fever, cough)
- the client's ability to comply and cooperate
- continence issues
- concerns identified during initial assessment

Factors demonstrated to increase one's risk of developing infections include[7]:

- extremes of age
- recent or extended stay in an acute care facility, or recurrent hospitalizations
- invasive procedures and presence of invasive devices (i.e. IV, urinary catheter, tracheostomy, gastrostomy feeding tube)
- recurrent antibiotic use
- presence of a surgical wound, decubitus ulcer, or other chronic wound
- exposure to a person who is infected with an organism and had draining skin lesions or wounds or copious respiratory secretions
- age or medication-related malnutrition and/or immunosuppression
- chronic illness and/or underlying medical conditions (e.g. HIV/AIDS)
- conditions requiring extensive hands-on care
- poor personal and/or household hygiene
- cognitive challenges (i.e. brain injury, dementia, mental health conditions)

NOTE: The presence of a microorganism such as MRSA or VRE should not exclude the client from home or community care as long as they meet the criteria for home nursing services[18].

Appendix 5: Transportation of Dangerous Goods, Fact Sheet for Road Transport of Sharps as A Carrier

Sharps Road Transport

When a health professional must transport sharps (i.e. needles, syringes and other sharps) from one location to another for use in service delivery which is not the final disposal, the individual is acting as a carrier.

Used sharps are considered Dangerous Goods Class 6.2 (Infectious Substances) for transporting between facilities. As such, transportation of dangerous goods regulation requires the following:[48]

- Sharps contaminated with blood or body fluids, including needles are considered infectious and must be handled as such.
- Sharps must be contained in a leak proof, rigid, puncture resistant primary container; i.e. sharps container.
- The container is then placed in a rigid outer container such as a hard plastic cooler. Soft side coolers or nursing bags are ***not*** considered appropriate outer packaging.
- If the sharps container contains liquid, an absorbent should be placed between the primary and outer container to ensure no leakage will occur during transport.

Labelling and Documentation

When carrying **used** sharps, the outer package must be labelled with a Class 6 label (Infectious Substance).

- The class 6 label is only used when transporting **USED** sharps, otherwise, the label on the outer package must be covered or removed. Simple solutions may include utilizing a double sided label with one side indicating **EMPTY** and the other side **Class 6**. It may be fastened to the rigid outer package with double side tape or Velcro.
- As a carrier an inventory list is required and is to be placed within the cooler

Example inventory list:

Date:	**January 23, 2014**	
Transported by: (name)	**Sally Smith**	
Item	Number of containers	Class
Sharps Container with dental sharps	**1**	**6.2 infectious Substance**

- The inventory list shall be retained in records for 2 years.
- Carriers must have a valid TDG certificate and carry it on your person when transporting dangerous goods including used sharps.

Securing and transporting

- Ensure all items are properly stowed and secured.
- Rigid outer packs must have securely fitted lids and be able to withstand transport conditions.

Resources:

Public Health Agency of Canada, Laboratory Safety Office, 2014. Transportation of Dangerous Goods, Online Nursing Manual

Appendix 6: Environmental Cleaning

Environmental cleaning is one of the most important steps in breaking the chain of infection. Environmental cleaning consists of :

- Routine cleaning followed by disinfection of health facility using hospital grade disinfectants
- Additional cleaning and disinfection of high touch surfaces, medical equipment and devices or in outbreak situations
- Education for janitorial staff
- Auditing and review of cleaning practices

Disinfectants

Hospital grade disinfectants must be registered with a Drug Identification Number (DIN) and must be used in accordance to manufacturer's instructions. Products such as vinegar, baking soda, tea tree oil are not considered hospital grade disinfectants, have no registered DIN and cannot be used in the health care setting for disinfection purposes.

Manufacturer's instructions must be followed for use to ensure adequate concentration and contact time is achieved.

Selecting a Disinfectant

When choosing a disinfectant consideration should be given to:

- Broad antimicrobial spectrum: review the product specifications and microbiological testing data
- Stability: Review shelf life information for concentrate and in-use dilution
- Toxicity: Review material safety data sheets for health hazards associated with product use
- Odour (absent or mild): To reduce possible sensitivity, allergic or asthmatic reactions
- Cost-Review: cost of pre-diluted, ready-to-use product versus concentrate
- Water Solubility: important if concentrate is under consideration
- Cleaning ability: Evaluate for surfactants or other cleaners that are important for mechanical removal of soil and organic material
- Rinsing: If rinsing is needed, the entire cleaning procedure will take longer
- Contact time: check product monographs - usually less than or equal to 10 minutes

Not all disinfectants are appropriate for all surfaces or applications. Choosing the best disinfectant to satisfy the specific needs of the facility or environment is essential. Often one disinfectant may not be appropriate for all applications, therefore staff education and training is essential

Hospital grade disinfectants must be registered with a Drug Identification Number (DIN) and must be used in accordance to manufacturer's instructions. Products such as vinegar, baking soda, tea tree oil are not considered hospital grade disinfectants, have no registered DIN and cannot be used in the health care setting for disinfection purposes.

Disinfectants may include:

- Accelerated Hydrogen peroxide
- Alcohols (60-90% ethyl or isopropyl alcohol)
- Chorines; sodium hypochlorite or calcium hypochlorite (bleach)
- Iodophors
- Phenolics (not to be used on toys or in daycares)
- Quaternary Ammonium compounds

Disinfectant wipes (hospital grade) may be used at point of care for disinfecting patient care surfaces and equipment but should not be used as a primary disinfectant product for routine cleaning.

Preparing Household Bleach As a Disinfectant

Hypochlorite (bleach) is an effective low and intermediate level disinfectant, depending on the concentration of solution prepared and contact time. Most environmental surfaces can be disinfected with a low level disinfectant with recommendations for concentrations to a 1000 ppm.[12] Environmental cleaning with bleach solutions greater than 1000 ppm are during an outbreak or for blood and body fluid clean up. Solutions at these higher concentrations can also be used for disinfection of semi-critical medical equipment.

Table 4: Dilution of Household Bleach to Achieve Desired Chlorine Levels

Dilution*	**Preparation**	**Level of Available Chlorine**		**Contact Time for Inactivation of *C.Difficile* Spores**
		% Chlorine	**# ppm**	
1:100	1 part bleach + 99 parts water	0.05%	500 ppm	
1:50	1 part bleach + 49 parts water	0.1%	1000 ppm	30 minutes
1:10	1 part bleach + 9 parts water	0.5%	5000 ppm	10 minutes
*Dilution of household bleach containing 5% sodium hypochlorite with 50,000 parts per million (ppm) available chlorine.				

Adapted from PIDAC

PIDAC: Best Practices for Environmental Cleaning for Prevention and Control of Infections | May, 2012[12]

Bleach solution must be made fresh daily to preserve effectiveness. Standard household bleach solution ranges from 5% to 6% sodium hypochlorite solution (50,000 ppm available chlorine).If using chlorine bleach as a disinfectant for environmental surfaces or on some non-critical items, the following dilution tool is helpful for determining ratios of chlorine to water:

Public Health Ontario Chlorine Dilution Calculator.

For example: Preparing a one litre low level disinfectant solution of 500 ppm with 5.25 % bleach.

- The dilution ratio of bleach to water is 1:100. You would need 10 mL of bleach to 990 mL of water.

Cleaning Basics

1. Work from highest part of room to lowest part of room, start by cleaning lights, ceilings and then working towards floor

2. Work from Outside to Inside: Clean all wall attached object first before horizontal surfaces like counters and sinks, then finish with client contact areas

3. Work from cleanest surfaces of rooms to dirtiest. For example when cleaning the bathroom start with mirrors or lights, work to sink and tub and then to toilets and floor.

Tips for Effective Cleaning

- Remove gross soil prior to cleaning
- Dry mop before damp mop
- Do not double dip cloths
- Change cloths and mop heads frequently
- Change cleaning solutions as recommended by manufacturer's instructions, when visibly soiled
- And after a blood and body fluid spill cleanup
- Be alert for needles and sharp instruments
- Never top up dispensers when refilling is required. Clean dispenser first and then refill
- Perform hand hygiene
- Avoid spraying of cleaning solutions onto a surface to reduce exposure to aerosolized chemicals, spray directly on cleaning cloth instead
- Equipment used for cleaning must be cleaned, disinfected and dried after use, or disposed of if single use.
- Cleaning carts/waste disposal carts should be cleaned daily.

Storage and Use of Cleaning Supplies:

All chemicals used for cleaning must be;

- Appropriately labelled and stored as per manufacturer's instructions
- MSDS sheets must be maintained up to date and accessible
- Staff must be trained and current in WHMIS (workplace hazardous materials information systems)
- If dilution is required, follow manufacturer's instructions for mixing and verify end concentration is achieved. Never top up bottles
- If dispensing chemicals into secondary containers, all containers must be appropriately labelled, and concentration must be monitored as the chemical may loose its effectivity over time
- Janitorial staff should be made aware of basic infection prevention and controls practices and ensure that appropriate PPE is worn for the cleaning task.
- Cleaning chemicals should be maintained secured and not accessible to general staff and clients

Cleaning Frequency

The frequency of cleaning depends on the type of activity occurring in the room, if the surfaces are high touch, the vulnerability of the clients, if there are out conditions such as outbreak in the facility, amount of contamination on the surface.

The following is a guideline for minimum environmental cleaning schedule for a community/ambulatory care centre:

RECEPTION AREAS, GENERAL OFFICE AREAS, MEETING ROOMS AND HALLWAYS
Daily
• Spot clean desks, walls and doors with neutral cleaner
• Dust mop, sweep and/or vacuum and damp mop all hard-surface floor areas with neutral cleaner
• Vacuum* all carpeted areas and walk-off mats
• Empty waste receptacles and dispose of items marked for garbage removal; liners should be changed at least weekly, or more often if odorous; transport waste to designated location; transport recyclables to designated location
• Damp wipe reception and waiting area countertops and chairs using a low-level disinfectant solution
• Spot clean windows, mirrors and other reflective surfaces
• Damp wipe light switches, telephones, doorknobs and handles with a low-level disinfectant solution
Weekly
• Damp wipe all fixtures and office furniture using a low-level disinfectant, including: desks, countertops and computers (not screen or keyboard)
Monthly
• Clean desk policy: on the last cleaning day of each month tops of all desks, credenzas, file cabinets, etc., to be damp wiped using a low-level disinfectant solution. Staff responsible for clearing horizontal surfaces.
• Vacuum* fabric furniture, damp wipe plastic and leather furniture with low-level disinfectant.
• Vacuum* around all furniture and baseboards
• Dry dust all blinds and damp wipe window ledges
• Dry dust all light fixtures, ceiling vents, and areas above 2 metres (6 feet) such as corners and horizontal surfaces

**Note: vacuum should have a Hepa Filter if possible.*

MEDICAL EXAMINATION, LABORATORY AND TREATMENT ROOMS
Daily for every day used
• Damp wipe all counters, sinks, dispenser surfaces, cabinet doors and fixtures using a low-level disinfectant solution
• Damp wipe all examination beds and tables using a low-level disinfectant solution, including top, undersides and supports), recliners and bedside tables
• Empty waste receptacles and wash using a low-level disinfectant solution; liners should be changed; transport waste to designated location; transport recyclables to designated location
• Damp wipe all equipment arms and bases using a low-level disinfectant solution, including exam room computer sides/tops, but not screen or keyboard
• Damp mop all floors using a low-level disinfectant solution
• Vacuum* all carpeted areas
Weekly
• Wipe down all walls using a neutral cleaner
Monthly
• Dry dust all blinds and damp wipe window ledges
• Dry dust all light fixtures, ceiling vents, and areas above 2 meters (6 feet) such as corners and horizontal surfaces
BATHROOMS
Daily for every day open
• Restock all dispensers (paper product, soap, sanitizer, etc.)
• Damp wipe all dispensers and surrounding wall areas using a low-level disinfectant solution
• Polish mirrors, glass and other reflective surfaces
• Disinfect all toilets, toilet seats and handles inside and out, including urinals
• Disinfect sinks, faucets and door locks/handles, including showers, tubs, and their plumbing and fixtures, if applicable
• Remove liners and empty waste receptacles, including sanitary containers, and wash using a low-level disinfectant solution as required
• Spot clean walls as required
• Dust mop, sweep and/or vacuum and damp mop all floor areas using a low-level disinfectant solution
Monthly
• Damp wipe walls up to 2 metres (6 feet) using a neutral cleaner
• Dry dust all blinds and damp wipe window ledges
• Dry dust all light fixtures, ceiling vents, and areas above 2 metres (6 feet) such as corners and horizontal surfaces

COFFEE AREAS AND LUNCH ROOMS
Daily for every day that staff are working
• Damp wipe counter tops, chairs, and table tops as required with neutral cleaner
• Damp wipe exterior of all appliances and cupboards with neutral cleaner
• Empty waste receptacles and dispose of items marked for garbage removal
• Clean sinks, faucets and handles with a low-level disinfectant
• Dust mop, sweep and/or vacuum and damp mop hard-surfaces floor areas with neutral cleaner
Weekly
• Clean drinking fountains or water dispensers with non-phenolic disinfectant
Monthly
• Detail edge vacuum around all furniture and baseboards
• Damp dust all blinds and damp wipe window ledges
• Damp dust all light fixtures, ceiling vents, and areas above 2 metres (6 feet) such as corners and horizontal surfaces
STAIRWELLS
• Clean handrails, ledges, stairs, risers, landings, etc.; professionally scrub, water extract
ANNUALLY FOR ALL AREAS
• Clean walls and doors to full height, windows, ducts, grills, vents and radiators with appropriate cleaning solution, including any other vertical surfaces and high ceilings
ADDITIONAL SPECIFICATIONS
• Surfaces should be cleaned using a low-level disinfectant. Accelerated hydrogen peroxide and quaternary ammonium compounds are appropriate for use in daily cleaning and disinfection of surfaces. Phenolics are also suitable unless this surface could come in contact with an infant or small child (e.g. toys, weight scale, change table). Disinfectant strength should correspond to instructions on the bottle.
• Blood and body fluid spills should be cleaned using a detergent to remove organic material. The area should then be disinfected with a disinfectant solution (i.e. one part of household bleach [5.25%] added to nine parts of water applied for at least 60 seconds or any other hospital approved disinfectant). Gloves should be worn during cleanup of any blood or body fluid.
• HEPA-filter vacuum cleaners are preferred for all vacuuming.
• Double-bucket method *(one bucket is disinfectant and the other is clean water)* should be used for all mopping.
• Cleaning solutions, cloths, mops and tools should be changed frequently, and cleaned and dried between uses.
• **Frequent-touch areas should receive special attention: at least daily if not more often.** (i.e. light switches and doorknobs)

Clean-up Procedure for Blood and Body Fluids

Spills of blood and body fluid such as urine, feces, vomit must be contained and cleaned and disinfected immediately. Staff must be familiar with procedure for clean-up and respond in a timely manner. Appropriate PPE and proper waste disposal are essential.

- Assemble materials required for dealing with the spill prior to putting on PPE.
- Inspect the area around the spill thoroughly for splatters or splashes.
- Restrict activity around the spill until the area has been cleaned.
- Put on gloves; if there is a possibility of splashing, wear a gown and facial protection (mask and eye protection or face shield).
- Confine and contain the spill; wipe up any blood or body fluid spills immediately using either disposable towels or a product designed for this purpose. Dispose of materials by placing them into regular waste receptacle, unless the soiled materials are so wet that blood can be squeezed out of them, in which case they must be segregated into the biomedical waste container (i.e., yellow bag).
- Disinfect the entire spill area with a hospital-grade disinfectant and allow it to stand for the amount of time recommended by the manufacturer.
- Wipe up the area again using disposable towels and discard into regular waste.
- Care must be taken to avoid splashing or generating aerosols during the clean up.
- Remove PPE as per doffing sequence and perform hand hygiene.

Resources

FNIHB: Environmental Services Training Guide

PIDAC: Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 2nd Edition, May 2012

Hydrotherapy Tubs [1]

Good personal hygiene should be encouraged for all clients. Clients at home or in a group living arrangement may not have access to private bathroom facilities; bath tubs should therefore be cleaned before and after each use.

When selecting a hydrotherapy tub[2] for healthcare settings:

- Tubs purchased for use in healthcare facilities must be non-jetted. This includes air and water jets. Do not purchase tubs with jets or whirlpools.
- Tub surfaces should be constructed of a smooth, non-porous material to facilitate frequent, vigorous cleaning and disinfection. Non-slip surfaces must allow for effective cleaning and disinfection.
- Tubs with personal care product dispensing systems should use replaceable bottles for the products instead of reservoirs.
- Detailed cleaning, disinfection procedures and preventative maintenance information must be provided in writing by the manufacturer. Manufacturer's recommended disinfection products must have a DIN from Health Canada and be approved for use.

Cleaning, Low level Disinfection and Maintenance of Patient Care Tubs

- There must be a written procedure for **daily** cleaning and low level disinfection of tubs that follows the manufacturer's instructions. Responsibility for daily cleaning and disinfection must be identified in the procedure.
- Daily cleaning of tubs must be documented. Instructions should be posted and/or readily available to staff.
- There must be a written procedure for cleaning and low level disinfection of tubs and lifting devices **between patients** that follows the manufacturer's instructions. Responsibility for cleaning and disinfection between patients must be identified in the procedure. The procedure should be posted and the information readily available to staff.
- There must be a written procedure for routine and preventative maintenance of tubs that follows the manufacturer's instructions. Responsible person(s)/departments for preventative maintenance must be identified in the procedure. Maintenance of tubs must be documented, the procedure should be followed and the information readily available for maintenance staff.
- Multi-patient use product bottles in tub dispensing systems (e.g. body soap, hair shampoo and/or other personal care products) should be disposable and discarded when empty; not refilled or topped up
    - If the tub has a reusable reservoir for dispensing personal care products, the reservoir must be cleaned and dried before refilling. **Do not top up.**

Clients infected or colonized with an antibiotic resistant organism (ARO) or who have diarrhea or fecal incontinence, with resulting extensive fecal contamination of skin, can be bathed in the bathtub as necessary for healthy skin care regardless of diagnosis. Special considerations:

- Bathe colonized or infected client at end of the day wherever possible
    - Antimicrobial soaps are not require for routine bathing
- After use, thoroughly clean the bathtub or shower stall with a hospital approved disinfectant, according to the manufacturer's instructions.

---

[1] Alberta Health Services: Selection, Cleaning, Disinfection and Maintenance of Patient Care Tubs

[2] Jetted Hydrotherapy tubs are no longer permitted in health care facilities due to the high biofilm burden in the water lines and inability to effectively disinfect jetted tub surfaces

Hydrotherapy (Jetted)Tubs Cleaning Protocol

Although best practice standards no longer allows for facilities to be built with jetted hydrotherapy tubs, there are still some tubs remaining in Alberta Region.

As long as these tubs are still in place, The Virox™ cleaning and disinfection protocol is provided as a guideline for use on existing jetted hydrotherapy tubs.

The Virox Hydrotherapy Tub Disinfectant® and other related products can be accessed through the Drug Distribution Centre (DDC).

Cleaning and Disinfection Protocol for Hydrotherapy Tubs

This document has been developed in accordance with current applicable infection control and regulatory guidelines. It is intended for use as a guideline only. At no time should this document replace existing documents established by the facility unless written permission has been obtained from the responsible facility manager.

PREFACE

The overall goal of infection prevention practices is to eliminate the risk of the transmission of pathogens between patients and between patients and the health care worker. The following recommendations should be implemented when cleaning and disinfecting. These procedures follow the Spaulding Classification of the level of care required for surfaces and instruments.

Environmental surfaces and non-critical equipment are surfaces or equipment that come in contact with intact skin but not mucous membranes. Intact skin acts as an effective barrier to most microorganisms. There is virtually no risk of transmitting infectious agents to patients via non-critical items; however, these items could potentially contribute to secondary transmission by contaminated hands for Health Care Workers or by contact with medical equipment that will subsequently come in contact with patients.

PREPARATION

Although microorganisms are ubiquitous in health care settings, inanimate materials are seldom responsible for the direct spread of infections. Cleaning and maintenance prevent the build-up of soil, dust or other foreign material that can harbour pathogens and support their growth. Daily cleaning and disinfection of environmental surfaces and patient care equipment are important in limiting the transmission of organisms.

Appropriate personal protection should be taken for those responsible for the decontamination of a room or area.

PROTECTIVE BARRIERS

1. Disposable gloves. Gloves should be changed as required, i.e., when torn, when hands become wet inside the glove or when moving between patient rooms.
2. Household gloves can be worn, but they must be discarded when the cleaning is complete.
3. Protective Eye wear (goggles, face shield or mask with eye protection) should be worn when mixing concentrates.
4. Masks (surgical or procedural masks sufficient) should be used when working with concentrates.
5. Gowns should be used when working with concentrates.

PRODUCTS

Accelerated Hydrogen Peroxide (AHP) 4% Concentrate Hydrotherapy Disinfectant (sold as 4% Accel Hydrotherapy+ Concentrate™)

Determine method for the Dispensing of solution - 4% AHP Concentrate at a ratio of 1:16 for purging or disinfecting, 1:128 for sanitizing.

Note: Accelerated Hydrogen Peroxide Surface disinfectants (Accel TB Ready to Use™) can be used on hand contact surfaces of tubs where a greater degree of care is required or desired.

HYDROTHERAPY STANDARD DILUTIONS

RATIO	PER US GALLON	PER 15 L WATER
1:128	1 OZ.	128 ml
1:16	8 OZ.	960 ml

PRODUCT GERMICIDAL EFFICACY

AHP Hydrotherapy products are based upon Accelerated Hydrogen Peroxide™ – and carries a Broad-Spectrum Sanitizing claim against vegetative bacteria, and a Bactericidal claim against gram negative and gram positive vegetative bacteria.

SUMMARY OF PROCEDURES

Dilute AHP Hydrotherapy+ in the tub that is to be cleaned and disinfected. Turn jets on to circulate. Turn off jets and allow AHP Hydrotherapy+ solution to sit in the lines. Clean and disinfect the surfaces of the hydrotherapy tub using a cloth, sponge or brush. Turn jets on to circulate a second time. Drain tub and refill with clean water. Turn jets on to rinse and drain tub.

Recommended Procedures for Initial Purging When Biofilm* is Known to be Present:

1. Gather all equipment, cleaning solutions and materials required to disinfect and clean the tub.
2. For jetted tubs, fill the tub with cool water to above all of the water jets. Measure the volume of the water. Add AHP Hydrotherapy+ at 1:16 (refer to dilution table).
3. To reduce the generation of foam, add Dow Corning Antifoam (Antifoam 1410 or Antifoam C) at the rate of 5% of the amount of Accel Hydrotherapy+. Antifoam is available through most retailers of carpet care and cleaning products.
4. Turn on the jets and circulate for 5 minutes.
5. Turn off jets and allow Hydrotherapy+ to sit in the lines for another 5 minutes.
6. Turn on jets and circulate for another 5 minutes.
7. Drain Tub.
8. Refill tub with cool water to above the jet lines.
9. Turn on jets to circulate and rinse for 30 seconds.
10. Turn off jets and drain.

* Biofilm strength can vary dramatically. Purging may have to be repeated depending upon the level of contamination and/or age of the tub.

Recommended Procedures for Disinfecting and Prevention of Biofilm Formation:

1. Gather all equipment, cleaning solutions and materials required to disinfect and clean the tub.
2. For jetted tubs, fill the tub with cool water to above the water jets. Measure the volume of the water. Add AHP Hydrotherapy+ at 1:16 (Refer to Dilution table).
3. Turn on the jets until they circulate solution. To reduce the generation of foam, add Dow Corning Antifoam (Antifoam 1410 or Antifoam) at the rate of 5% of the amount of Accel Hydrotherapy+. Antifoam is available through most retailers of carpet care and cleaning products.
4. Turn jets off and allow Hydrotherapy+ to sit in the lines for 5 minutes.
5. Surfaces inside tub can be cleaned with a brush.
6. Turn on jets until they circulate solution.
7. Drain Tub
8. Refill the tub to above the jets.
9. Turn on jets for 5-30 seconds to rinse
10. Drain Tub

Recommended Procedures for Sanitizing and Regular Maintenance between Low Risk Bathers:

1. Gather all equipment, cleaning solutions and materials required to sanitize and clean the tub.
2. For jetted tubs, fill the tub with cool water to above all of the water jets. Measure the volume of the water. Add AHP Hydrotherapy+ at 1:16 (refer to dilution table).
3. Turn on the jets until they circulate solution. To reduce the generation of foam, add Dow Corning Antifoam (Antifoam 1410 or Antifoam) at the rate of 5% of the amount of Accel Hydrotherapy+. Antifoam is available through most retailers of carpet care and cleaning products.
4. Turn jets off and allow Hydrotherapy+ to sit in the lines for 30 seconds
5. Surfaces inside tub can be cleaned with a brush.
6. Turn on jets until they circulate solution.
7. Drain Tub
8. Refill the tub to above the jets.
9. Turn on jets for 5-30 seconds to rinse

Instructions for Confirmatory Testing of 4% AHP Hydrotherapy+

The Accelerated Hydrogen Peroxide Test Strip (Part No. AHP500) can be used for confirmatory testing when the 1:16 dilution is used and disinfection required. The AHP100 Test Strips can be used for confirmatory testing of the 1:128 dilution when sanitizing is desired. These strips are easy to use dip-and-read reagents strips for a pass or fail determination of the hydrogen peroxide concentration.

1. Remove a test strip and immediately close the container.
2. Dip the test strip into the diluted AHP solution to be tested for 1-second ensuring that the reaction zone is completely wetted.
3. Remove the test strip and shake of excess liquid.
4. Wait for required time period (AHP500 – 120 seconds; AHP100 – 30 seconds) then compare the reaction zone with the color scale.
5. The in use concentrations will be: 2500ppm = 1:16; 315ppm – 1:128.

References:

Provincial Infectious Diseases Advisory Committee, Best Practices for Cleaning, Disinfection and Sterilization in All Healthcare Settings, 2006

Public Health Agency of Canada, Infection Control Guidelines for Hand Washing, Cleaning, Disinfection and Sterilization in Healthcare, Volume 24S8, 1998

Appendix 7: FNIHB Alberta Region: Single Use Policy, January 14, 2014

Infection Prevention and Control Best Practice Guideline for Medical and Dental Equipment and Devices.

Statement

When delivering medical and dental services, single use equipment is best practice. If single use equipment is not available, multi-client reusable equipment can be used as outlined in the FNIHB Reprocessing Reusable Medical and Dental Equipment Policy and Protocol, 2011.

Rationale

Use of disposable instruments eliminates the need for reprocessing and minimizes the risk of exposure, injury and prevents transmission of micro-organisms to clients and personnel[3].

Guideline Details

"Single use instruments" are defined as equipment designated by the manufacturer as one time use only and are not designed to be reprocessed or used on multiple clients. Single use instruments, when available for semi-critical and critical procedures, are the preferred instruments of choice as they can be discarded after use, therefore eliminating the need for reprocessing.

"Multiple client reusable equipment" is defined as equipment that can be reused on several clients when properly reprocessed according to its classification for use. All reusable equipment must be reprocessed according to its defined classification as per the FNIHB Reprocessing Reusable Medical and Dental Equipment Policy and Protocol, 2011.

Reusable Equipment is classified into categories based on the risk of infection involved with its use[5]. There are three categories of device classifications each with its prescribed level of reprocessing requirements as summarized in the chart below.

Table 5: Classification of Equipment and Required Level of Reprocessing

Classification of Equipment	Examples of Equipment	Minimum Level of Reprocessing Required:
Noncritical equipment: Equipment that touches only intact skin and not mucous membranes, or does not directly touch the client.	• Bed pans, urinals, commodes • Stethoscopes • Blood pressure cuffs • Oximeters • Glucose meters • Electronic thermometers • ECG machines/leads/cups etc. • Baby scales • Environmental surfaces (e.g.wheelchairs, beds) • Examination tables • Dental chairs • Hand mirrors	**Cleaning* followed by Low-Level Disinfection** Low-level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses. Low-level disinfectants do not kill mycobacteria or bacterial spores. Low-level disinfection is required when processing noncritical equipment or some environmental surfaces.
Semi critical equipment: Equipment that comes in contact with non-intact skin or mucous membranes but does not penetrate them.	• Specula - nasal, anal, vaginal (disposable equipment is strongly recommended) • Diaphragm fitting rings • Alligator forceps • Ear cleaning equipment, ear syringe nozzles, ear curettes, otoscope tips • Fingernail care equipment used on multiple clients • Nebulizer cups • CPR face masks	**Cleaning* followed by High-Level Disinfection** High-level disinfection destroys vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores.
Critical equipment: Equipment that enters sterile tissues, including the vascular system.	• Surgical instruments • Foot care equipment • Fish hook cutters • Dental equipment including dental hand pieces	**Cleaning* followed by Sterilization** Sterilization results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi. Steam sterilization or liquid chemical sterilization may be appropriate.

Applicability

This guideline is a directive for FNIHB Regional Nursing staff, Home Care, and Dental programs for the services provided within their respective program areas and within the community setting. External providers such as private practitioners, dentists, etc., are required to follow guidelines set out by their governing professional bodies but may conform to this infection control guideline as a minimum standard. In the absence of infection control guidelines, these guidelines may be used by staff as a best practice guideline.

Compliance/Implications

Programs are responsible to develop policies according to these guidelines. Policies should be inclusive of requirements for equipment storage, disposal as well as risks of misuse.

References

1. Alberta Health. 2012. Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Health Care Facilities and Settings.
2. Public Health Agency of Canada. 2013. Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings
3. Alberta Health Services,2013. Infection Prevention and Control IPC Best Practise Guideline for Foot Care Devices.
4. Health Canada, First Nation and Inuit Health Branch.2011. Reprocessing Reusable Medical and Dental Equipment Policy and Protocol.
5. Ontario Ministry of Health and Long-Term Care, Provincial Infectious Diseases Advisory Committee.2013. Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment Devices in all Health Care Settings.
6. Canadian Standards Association. 2008.Z314.8 Decontamination of Reusable Medical Devices

Appendix 8: Providing Care in Bed Bug Infested Residences

If entering an environment that is known or suspected to be infested:

- Schedule visits for the end of the day
- Conduct a risk assessment of the situation
- Use Personal Protective Equipment based on PCRA
- Shoe covers should be worn routinely on home visits and discarded upon exiting
  - Alternatives may include dedicated shoes that can be changed into at the time of entry, stored in a sealed bag upon exit and that can be easily washed and dried in a dryer
- Clothing: nursing uniform or light coloured clothing to allow for ease of identification if in contact with bed bugs; avoid cuffed pants or pant legs that touch the ground
- Only bring items that are required for service delivery into the home. Carry these supplies in a sealed bag and only open when retrieving supplies
  - Do not bring unnecessary equipment or supplies into the home
    - If this is not possible and the nursing bag must be brought into the house, consider using a disposable barrier for the bag to rest on or placing it into a protective sealed case or disposable bag
    - Leave personal belongings in the vehicle, i.e.) coats, bags.
- Meet clients in settings of the home that are less likely to be infested, i.e.) avoid providing service in beds, sleep areas or on upholstered furnishings
  - Create a controlled environment through use of barriers
    - Do not sit or place personal belongings on the floor or upholstered surfaces without a barrier;
      - try to place on smooth, easily cleanable surfaces like a kitchen table or chair
    - Anything that is removed in the home to provide care and must be returned to the health centre should be place in a sealed bag and inspected before returned
      - i.e. blood pressure cuff, client files
    - Dispose of all barriers upon exiting the home
    - If garbage disposal is not available at time of exit, place all outer coverings and PPE into a sealed bag for later disposal
      - A plastic sealed container may be used in the vehicle to house items for return to health centre
- Inspect your clothing and belongings upon exiting the home for any noticeable signs of “hitchhikers”

Before Return to the Health Centre or home:

- Before entering your home it is recommended that all clothing including shoes, are removed and placed in a sealed bag followed by placing in a hot dryer for 30 minutes. Dispose of any garbage before entering your home.

Reporting an Infestation:

If bed bugs are found, retain one in a sealed container for identification purposes, otherwise adult bugs can be killed using alcohol or mechanical force. If during your home visit, evidence of infestation is visible:

- Advise and educate clients of the potential problem being mindful that pest infestation is a sensitive subject matter
- Advise your immediate supervisor
- Each community may have different response plans however the health director may advise the local public works or housing departments

If pests are found in a community facility (school, daycare, community hall) or in a food service area, the community's Environmental Health Officer should be notified.

Resources:

- Environmental Public Health Officers, Health Canada FNIHB
- Alberta Health Services. Bedbug Management Protocols for Health Care Workers.

References

1. Canadian Committee on Antibiotic Resistance. *Infection Prevention and Control Best Practices for Long Term Care, Home and Community Care including Health Care Offices and Ambulatory Clinics*; 2007.

2. Public Health Agency Of Canada, *Routine Practices and Additional Precautions for Preventing the transmission of Infection in Healthcare Settings*, 2012. http://publications.gc.ca/collections/collection_2013/aspc-phac/HP40-83-2013-eng.pdf

3. Jarvis W, editor. *Bennet and Brachman's Hospital Infections*. 5th ed. Philadelphia: Lippincott & Wilkins; 2007.

4. Association for Professionals in Infection Control and Epidemiology, editor. APIC *Text of Infection Control and Epidemiology*. 2nd ed.; 2005

5. Public Health Ontario. *Provincial Infectious Diseases Advisory Committee, Infection Prevention and Control for Clinical Office Practice*, June 2013. http://www.publichealthontario.ca/en/eRepository/IPAC_Clinical_Office_Practice_2013.pdf

6. Public Health Agency of Canada, *Hand Hygiene Practices in Health Care Settings*, 2012 http://publications.gc.ca/collections/collection_2012/aspc-phac/HP40-74-2012-eng.pdf

7. Public Health Agency of Canada, *Canadian Immunization Guide*. Evergreen edition. http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php

8. Public Health Ontario. *Provincial Infectious Diseases Advisory Committee: Routine Practices and Additional Precautions in all Health Care Settings*, 2012. http://www.publichealthontario.ca/en/eRepository/RPAP_All_HealthCare_Settings_Eng2012.pdf

9. Public Health Agency of Canada. *Guidance: Infection Prevention and Control Measures for Health Care Workers in Acute and Long Term Care Settings: Seasonal Influenza*, 2010. http://www.phac-aspc.gc.ca/nois-sinp/guide/pdf/ac-sa-eng.pdf

10. Public Health Agency of Canada, Laboratory Safety Office, *Transportation of Dangerous Goods Nursing Manual*, 2014.

11. Nunavut Department of Health, *Infection Prevention and Control Manual*, 2012. http://www.gov.nu.ca/health/information/infection-prevention-and-control

12. Public Health Ontario. *Provincial Infectious Diseases Advisory Committee: Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* 2nd edition, 2012. http://www.publichealthontario.ca/en/eRepository/Best_Practices_Environmental_Cleaning_2012.pdf

13. Public Health Ontario. *Provincial Infectious Diseases Advisory Committee: Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices in All Health Care Settings, 3rd edition*, 2013. http://www.publichealthontario.ca/en/eRepository/PIDAC_Cleaning_Disinfection_and_Sterilization_2013.pdf

14. Public Health Agency of Canada: *Guidance: Infection Prevention and Control Measures for Health Care Workers in Acute and Long Term Care Settings: Seasonal Influenza,* 2010. http://www.phac-aspc.gc.ca/nois-sinp/guide/pdf/ac-sa-eng.pdf

15. Fallis P. *Infection Prevention and Control in Office-based Health Care and Allied Services*. Canadian Standards Association; 2004

16. Janecek, C., Manikowske, L., & Bromel, M. *Sanitation of Low Temperature Home Laundry*.

17. Nordstrom, J. *Evaluation of the Occurrence and Risk of Microbes in Laundry and Laundry Associated Surfaces,* in Department of Soil, Water and Environmental science. 2009. University of Arizona.

18. Alberta Health. *MRSA Guidelines*. 2007