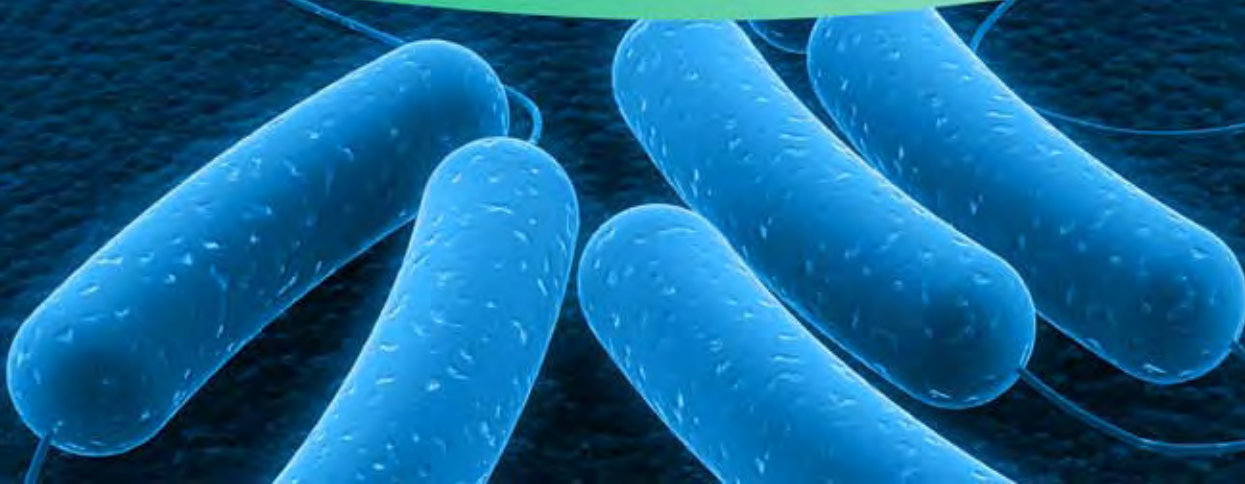




Alberta Health
Services

ALBERTA HEALTH SERVICES

ALLIED HEALTH INFECTION PREVENTION & CONTROL MANUAL: REVISED 2010



ALBERTA HEALTH SERVICES
**ALLIED HEALTH
INFECTION PREVENTION &
CONTROL MANUAL:**
REVISED 2010

The Allied Health (AH) Infection Prevention and Control Manual provides information, support and evidence based resources to Alberta Health Services (AHS) sites providing client care in Allied Health settings. Infection Prevention and Control is a continually evolving discipline which is based on research and evidence based practice. To date the majority of the data has been derived from acute care sites and is now making inroads into sub-acute, long term care settings and community settings. This information and documentation is evaluated and the community based recommendations are developed from this literature. As the evidence based practice changes the information provided will be updated and modified to reflect the most current standards of practice.

Acknowledgments:

AHS Infection Prevention & Control Provincial Initiatives and Services
Allied Health Edmonton Zone
As well as numerous experts who generously donated their time and expertise.

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This edition prepared by:
Gail Meara RN, BScN,
Community Infection Control Practitioner
Health Protection

This manual replaces the AHS - Edmonton Area Community Rehabilitation Infection Prevention & Control Manual: March 2009

LIST OF ABBREVIATIONS

ABG's	Arterial Blood Gases
ABHR	Alcohol Based Hand Rub
AH	Allied Health
AHS	Alberta Health Services
AH&W	Alberta Health And Wellness
APIC	Association for Professionals in Infection Control and Epidemiology
ARO	Antibiotic Resistant Organism
BP	Blood Pressure
CCAR	Canadian Committee Antibiotic Resistance
CDC	Communicable Diseases Control
CHICA	Community and Hospital Infection Control Association-Canada
DIN	Drug Identification Number
EPA	Environmental Protection Agency
HAI	Health Care Acquired Infection
HCW	Health Care Worker
HLD	High Level Disinfectant
ILI	Influenza Like Illness
IPC	Infection Prevention and Control
LLD	Low Level Disinfectant
MRSA	Methicillin-Resistant <i>Staphylococcus aureus</i>
MSDS	Material Safety Data Sheet
MEC	Minimal Effective Concentration
PPE	Personal Protective Equipment
PIDAC	Provincial Infectious Diseases Advisory Committee
RTU	Ready To Use
TB	Tuberculosis

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ALBERTA HEALTH SERVICES ALLIED HEALTH INFECTION PREVENTION & CONTROL MANUAL INTRODUCTION

In 2007, Alberta Health and Wellness (AH&W) undertook a Provincial review of Infection Prevention and Control Practices in the province. This review has resulted in a heightened awareness of the impact that Infection Prevention and Control measures can make during the provision of health care. The opening statement of the document which resulted from the review reveals the importance that Infection Prevention and Control programs have achieved.

The first order of business for the health care system is to provide safe, high-quality health services with a specific goal to improve health service outcomes. Prevention of health care-associated infections is one of the major safety initiatives the health system can undertake. These infections are acquired during treatment in health care facilities and community settings for other illnesses and conditions. Health care-associated infections have a significant impact on health system costs and on health outcomes for patients. The Public Health Agency of Canada estimates the annual burden of illness from health care-associated infections is more than \$453 million. No financial burden, however, is greater than the risk of death that accompanies health care associated infections.

Reference: <http://www.health.alberta.ca/newsroom/pub-infection-prevention.html>

The purpose of this manual is to provide an Infection Prevention and Control (IPC) resource for Allied Health, its health care workers and contracted providers based on related legislation and regulations, published standards, guidelines and supported by evidence based literature.

INTENDED USE

This manual is intended for AHS Allied Health workers.

These areas include:

- Community based areas such as schools, seniors' residences, and client's homes where Allied Health services are provided.
- It can also be used as a reference for contracted facilities (such as private clinics) to develop site specific Infection Prevention and Control (IPC) procedures for their sites.

For Allied Health staff providing care to clients in acute care sites within AHS, the IPC policies and procedures of that site will supersede this manual.

GUIDING PRINCIPLES

Infection Prevention and Control requires a system-wide commitment to ensure the provision of high quality safe health care. This commitment by AH&W is reflected in the following statement from the Provincial Review of Infection Prevention and Control:

Effective IPC requires a system-wide, integrated, responsive process that involves the collaboration of programs, services and settings across the health care continuum. This means developing, maintaining and nurturing a culture of patient safety where IPC is everyone's business. It means being clear about roles, responsibilities and accountability for IPC, implementing and monitoring policies and standards for effectiveness, having appropriately trained IPC professional and health care workers to implement high quality safe practices, ensuring co-ordination across the system and having a legislative framework to support the delivery of safe, quality health care.

Reference: <http://www.health.alberta.ca/newsroom/pub-infection-prevention.html>

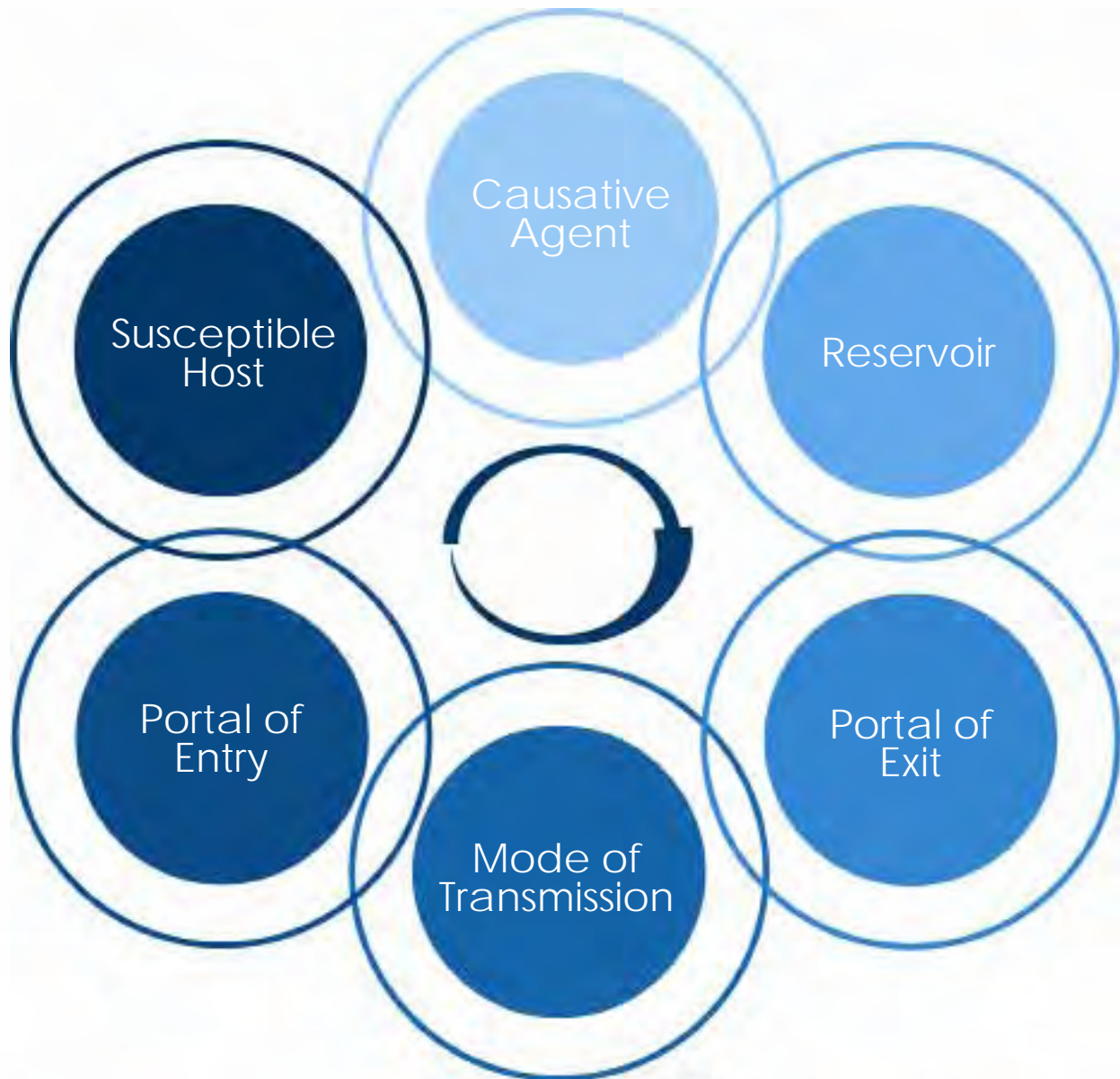
PRIMARY RESOURCES

The primary documents used as resources for the development of this manual include:

- Health Canada's Routine Practices and Additional Precautions for Preventing Transmission of Infection in Health Care, 1999.
- 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 (CCAR), June 2007.
- Centers for Disease Control and Prevention Guidelines for Isolation Precautions Preventing Transmission of Infectious Agents in Health Care Settings 2007, June 2007.
- APIC Text of Infection Control and Epidemiology 3rd Edition, 2009.
- APIC Infection Control in Home Care and Hospice 2nd Edition, 2006.
- Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practices For Hand Hygiene in All Health Care Settings, May, 2008.
- CDC's Guidelines for Disinfection and Sterilization in Health Care facilities, 2008.
- Provincial Infectious Diseases Advisory Committee (PIDAC) Routine Practices and Additional Precautions in All Health Care Settings, August, 2009.
- Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, December, 2009.

CHAIN OF INFECTION

The infection process can be described as a chain.



Reference: APIC Text of Infection Control and Epidemiology (2009), Chapter 2.

For an infection to occur all links in the chain must remain intact. A break in the chain will interrupt the transmission of infections. In order to break a link in the chain, a basic understanding of each link is required.

Causative Agent: This is a micro-organism causing the infectious disease. It is also called a pathogen or infecting organism. This can be thought of as the first link in the chain.

Reservoir: This is the source of the causative agent. It is a place where the organism can survive and where it may or may not multiply. There are three common reservoirs of interest: humans, animals and the environment.

Portal of Exit: The means by which the causative agent leaves the reservoir.

Mode of Transmission: This is the means by which the organism moves from a reservoir to a susceptible host.

Portal of Entry: The means by which the causative agent enters the susceptible host.

Susceptible Host: A person lacking effective resistance to a particular infectious agent.



PREVENTING DISEASE TRANSMISSION

If one link can be interrupted, the chain will be broken and the infection will be prevented. In an Allied Health setting, the easiest link to interrupt is the mode of transmission; therefore, the focus of this manual will be on interrupting the transmission of organisms by the use of Routine Practices. (Refer to Appendix 1 Chain of Infection Example, page 40)

Transmission of infections require 3 elements:

- 1) A source of the causative agent (infecting organism),
- 2) A susceptible host,
- 3) A means for transmission.

CAUSATIVE AGENT

The causative agent can be thought of as the first link in the chain of infection. It is a biological entity capable of causing disease. It can be referred to as a micro-organism, infecting organism or pathogen. The micro-organisms include bacteria, viruses, fungi and parasites which can be transmitted directly or indirectly through the inanimate environment or via vectors such as mosquitoes, flies and vermin.

Human sources of the infecting micro-organism in the community setting may be office workers, health care providers, clients, and family members. These individuals may be infected or colonized with micro-organisms, or be in the incubation or acute phase of a communicable disease or infection. Other sources of infecting micro-organisms include food, water, and inanimate environmental objects that become contaminated (e.g. exercise equipment, computers, countertops, toys).

SUSCEPTIBLE HOST

Resistance to pathogenic organisms varies greatly. Some people may be immune to an infection or be able to resist colonization by an infectious agent. Some may become asymptomatic carriers, while others may develop clinical disease. Host characteristics that can influence susceptibility to infections include attributes such as age, sex, medical history and immunization status.



TRANSMISSION

Micro-organisms are transported by several routes and some organisms can be transmitted by more than one route. Knowing and understanding the mode of transmission of organisms allows the health care worker to determine what precautions are required to protect themselves and their clients.

ASSESSING RISK OF TRANSMISSION

The first step in effective use of routine practices includes performing a risk assessment before each interaction with a client. This assessment will determine what interventions are required to prevent transmissions of infections.

The risk assessment will be influenced by the:

- Type of interaction.
- Health status of the client.
- Characteristics of the client (i.e. level of co-operation).
- Physical environment and resources.
- Immune status of the health care worker.

Based on the risk assessment appropriate controls must be put into place and appropriate Personal Protective Equipment (PPE) must be used. Procedures which involve exposure to blood, body fluids and secretions, mucous membranes and non-intact skin require appropriate use of PPE. (Refer to Appendix 2 for Routine Practices Risk Assessment Algorithm for all Client Interactions, page 41).

A risk assessment should be performed before each client interaction. The risk assessment will determine what interventions are required to prevent transmission of infections.

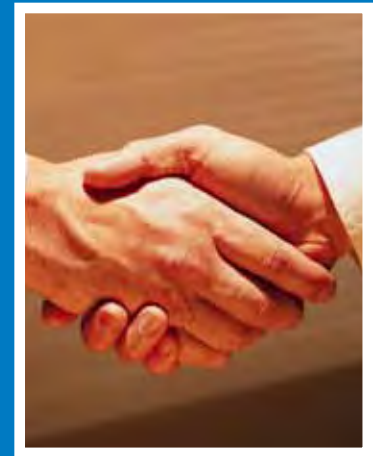
CONTACT TRANSMISSION

This is the most important and frequent mode of transmission of Health Care Acquired Infection (HAI) and it is divided into direct and indirect transmission.

Direct

Direct Contact Transmission

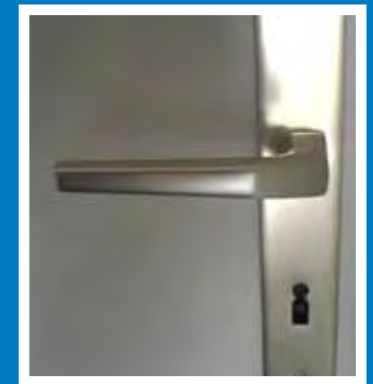
- Involves direct body surface to body surface contact resulting in transmission from one individual to another. The individuals involved could include:
 - Health Care Worker → Client
 - Client → Health Care Worker
 - Client → Client (e.g. in waiting room)
- The most frequent source of this form of transmission is from unclean hands.
- Examples of infections spread by direct contact include: herpes simplex (cold sores), Methicillin-resistant *Staphylococcus aureus* (MRSA), and genital herpes.



Indirect

Indirect Contact Transmission

- Involves contact between a susceptible host and a contaminated inanimate object such as a stethoscope, a treatment mat surface, a measuring tape, or common environmental items such as door knobs. These items can be a source of contamination by being handled with unclean hands or incomplete cleaning between uses.
- Examples of infections spread by indirect contact transmission include antibiotic resistant organisms (e.g. MRSA) and conjunctivitis (pink eye).



DROPLET TRANSMISSION

This is theoretically a form of contact transmission. However, the mechanisms of transfer of the pathogens are quite distinct from either direct or indirect contact transmission. Droplets are generated from the source person primarily during coughing, sneezing, talking, during procedures such as suctioning and when administering medications requiring nebulization. Transmission occurs when organisms are propelled a short distance through the air (usually less than one meter) and deposited on the host's conjunctiva, nasal mucosa or mouth. Droplets do not remain suspended in the air. Droplets can contaminate the surrounding environment and lead to indirect contact transmission. An example of an infection spread in this manner is the common cold.

AIRBORNE TRANSMISSION

This occurs by spreading of either airborne droplet nuclei that are aerosolized during coughing or sneezing or dust particles containing the infectious agent (e.g. dust created by rotary powered foot care tools). Micro-organisms carried in this manner remain suspended in the air for long periods of time and can be dispersed widely by air currents. Examples of micro-organisms transmitted this way are *Mycobacterium tuberculosis* (TB), rubeola (measles) and varicella (chicken pox). Environmental controls are important when managing a condition spread in this way.

The main transmission risk is from contaminated equipment and inadequately cleaned hands.

COMMON VEHICLE TRANSMISSION

Applies to micro-organisms transmitted by contaminated items such as food, water and medications. Examples of infection spread in this fashion include hepatitis A and salmonella.

VECTOR BORNE TRANSMISSION

Occurs when vectors such as mosquitoes, flies, rats and other vermin transmit micro-organisms. Examples of diseases transmitted by vectors include West Nile virus, malaria and lyme disease.

For those working in acute settings, the onsite IPC policies and procedures will provide guidance.

ROUTINE PRACTICES

Routine Practices are a way of thinking and acting that forms the foundation for limiting the transmission of micro-organisms in all health care settings. They should be utilized with all client interactions as they are designed to decrease the risk of transmission of micro-organisms for both recognized and unrecognized sources of infection. Routine Practices form the foundation for the standard of care for all client interactions. (Refer to Appendix 2A Routine Practices, page 42) When there is an indication that these precautions are not sufficient to prevent transmission of organisms then Additional Precautions should be implemented. (Refer to Appendix 3 Additional Precautions, page 43)

The premise is to assume all clients are potentially infectious. Routine Practices form the foundation for the standard of care for all client interactions.

Components of Routine Practices:

- Hand Hygiene.
- Personal Protective Equipment (PPE).
- Respiratory Hygiene.
- Sharps Management.
- Client Care Equipment.
- Environmental Controls.

HAND HYGIENE

Hand hygiene refers to the removing or killing of micro-organisms on hands and maintaining good skin integrity. Removing or killing the micro-organisms found on hands can be accomplished by using plain or antimicrobial soap and water, or Alcohol Based Hand Rub (ABHR). A recent study suggests norovirus is inactivated by alcohol concentrations of 70-90%. Therefore, it is recommended that the minimum concentration of alcohol be 70% in health care settings. These products should have a Drug Identification Number (DIN) from Health Canada. (PIDAC, 2008). **All individuals involved in health care are responsible for ensuring they practice appropriate hand hygiene.**

Hand Hygiene is the single most important measure in reducing the spread of infections.

Even though the indications for and the importance of hand hygiene are well known, there are numerous studies which show that hand hygiene is not performed as frequently as it should be. The product used to perform hand hygiene will depend on the type of soil on the hands, the degree of risk with the client contact and the availability of product. Antimicrobial soaps are more irritating and are only recommended in areas where invasive procedures are common. Therefore, regular liquid soap is recommended in most community settings.

HAND HYGIENE (CONTINUED)

Bar soaps should not be used by health care workers in health care settings. Hand hygiene products should be available at point of care in all health care settings. An integral component of hand hygiene is ensuring that skin integrity is maintained. Health care workers with cracked skin or dermatitis are at increased risk for infection from contact with blood or other potentially infectious agents due to the break in skin integrity. Clients can also be put at risk because hand washing does not effectively decrease the bacterial counts on irritated, dry or cracked skin or dermatitis because of the high numbers of micro-organisms present (Larson, 2001). Hand creams and lotions should be available to help minimize contact dermatitis. Use of these products improves skin integrity and some researchers have observed that improved skin condition resulted in increased hand hygiene (McCormick et al., 2000).

HAND WASHING

- Most transient bacteria present on the hands are removed during the mechanical action of washing, rinsing and drying hands.
- Hand washing with warm running water and soap must be performed when hands are visibly soiled. If running water is not available, a moistened towelette should be used to remove the visible soil, followed with the use of ABHR.
- Antimicrobial soaps are recommended in areas where invasive procedures are performed. In other areas, regular liquid soap and water is suggested. These soaps are less irritating to the skin. Micro-organisms grow and multiply in moisture and standing water, making bar soap an unacceptable form of soap for use in health care settings. (CCAR, 2007)
- Soap should be provided in disposable pump dispensers.

If the dispenser is not discarded when empty:

- o It must not be topped up.
- o It must be thoroughly washed **and dried before refilling.**
- o Routine maintenance schedules must be developed, followed and documented.



ALCOHOL BASED HAND RUB (ABHR)

- An ABHR is the preferred hand hygiene product when hands are not visibly soiled.
 - The most effective products have alcohol concentration between 60-95% by weight. For maximum effectiveness and maintenance of skin integrity it is best to have a product with no greater concentration than 70% by weight.
 - 70% weight = 76.8% by volume. Most ABHR are labelled as a % of volume (Boyce & Pittet, 2005, pp 11).
- Hands should be dry when applying ABHR to prevent dilution.
- It is important to use sufficient product (hand size will influence the amount of ABHR required). Spread it over the entire hand surface and rub the hands until the product is dry. This will take a minimum of 15-20 seconds, if sufficient product is used.
- Hands must be fully dry before touching the client or client's environment/ equipment to be effective (CCAR, 2007).
- An ABHR with a minimum of 70% alcohol content is suggested for health care settings because a recent study suggests that norovirus is inactivated by alcohol concentrations ranging from 70% - 90% (PIDAC, 2008).

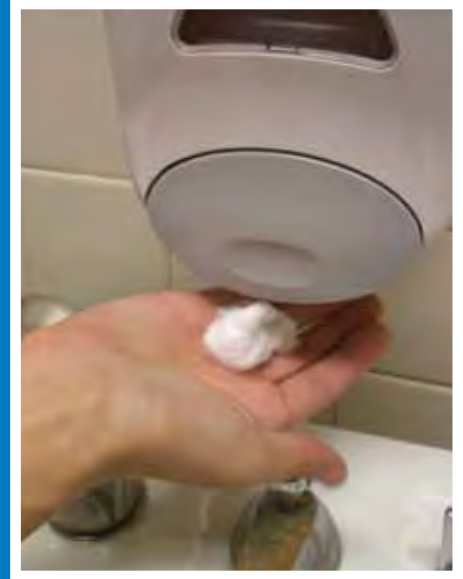
Non-alcohol based waterless antiseptic agents SHOULD NOT be used as hand hygiene agents in any health care setting (PIDAC, 2008).

CONSIDERATIONS FOR HAND HYGIENE

- Alcohol Based Hand Rub is the preferred method for decontaminating hands when hands are not visibly soiled.
- Running water and soap must be used when hands are visibly soiled. If running water is unavailable, moistened towelettes can be used to remove the visible soil, followed by ABHR.
- Jewellery is hard to clean, can make donning gloves more difficult and cause the gloves to tear more readily, thus it is recommended that hand and arm jewellery be limited when providing direct client care.
- Nails:
 - Natural Nails
 - These should be kept trimmed and not longer than 3-4mm (1/4 inch).
 - Longer nails are difficult to clean, harbour more micro-organisms than short nails and can pierce or tear gloves (CCAR, 2007).
 - If nail polish is worn, it must be in good condition and not chipped because it has been shown that chipped nail polish has a higher bacteria count (PIDAC, 2008).
 - Artificial nails
 - There is increased evidence to support that artificial nails or nail enhancements result in an increased risk of the transmission of micro-organisms by health care workers (PIDAC, 2008).
 - In addition, there is evidence that artificial nail products may damage natural nails and lead to fungal or bacterial infections (Saiman, 2002).
 - Artificial nails and/or nail enhancements should be discouraged for anyone providing client care (PIDAC, 2008).

Hand Hygiene should be performed:

- When hands are visibly soiled.
- Before providing care to any client.
- After any client contact.
- Before any invasive procedures.
- Before putting on gloves.
- After removing gloves.
- Between dirty and clean activities.
- After touching blood or body fluids.
- Before contact with clean items.
- When leaving the client.
- Before preparing, handling, serving or eating food.
- After personal body functions (using the toilet or blowing one's nose).
- After contact with inanimate objects (including rehabilitation equipment) in the immediate vicinity of the client.



MAINTAINING HEALTHY SKIN

In addition to ensuring hands have been cleaned it is important to maintain skin integrity.

- *Thoroughly rinsing soap off hands helps to prevent skin irritation.*
- *Pat rather than rub hands to dry.*
- *Regularly apply hand creams and/or lotions.*

(Refer to Appedix 4 Hand Hygiene, page 46)

Maintaining healthy skin condition is a key component of hand hygiene.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Refers to a variety of barriers and respirators used alone or in combination to protect mucous membranes, airways, skin, and clothing from contact with infectious agents (Siegel & Rhinehart, 2007).

It provides protection for the health care worker and the client by providing a physical barrier to contamination from blood and body fluids and other potentially infectious material. PPE is selected based on anticipated exposure due to the type of client/equipment interaction. It is worn to prevent cross contamination which may occur during the provision of care. This contamination may be the result of splashing from health care worker/client to client care equipment or to environmental items/surfaces.

- Hand hygiene must be performed before donning PPE and following removal of PPE.
- All PPE must be removed promptly after use. Care must be taken to prevent cross contamination during removal and disposal of the PPE.
- If the PPE is reusable, it must be appropriately decontaminated and cleaned prior to being reused.

GLOVES

Gloves should be worn when there is a risk of coming in contact with blood, body fluids, or contaminated items. Sterile Gloves should be worn for invasive procedures and procedures requiring sterile techniques. They should be put on just before initiating the task or procedure requiring them. **Hand hygiene should always be performed prior to putting on gloves and immediately after removal.** Gloves are the most commonly used PPE in the community setting.

There are 3 types of gloves available:

Utility Gloves

- o These are used when cleaning the physical environment including reusable non medical devices (e.g. toys, storage containers).
- o It is recommended that anyone using this type of glove have their own pair.
- o These gloves should be inspected prior to each use to ensure there are no rips or tears.
- o They should be replaced on a regular basis and when the integrity of the glove is compromised.
- o These gloves require thorough cleaning (inside and out) between uses (Refer to Appendix 5 PPE and Supplies Used for Equipment and Toy cleaning, page 47).
- o Some individuals prefer to wear disposable gloves inside the utility gloves to decrease the potential contamination of the inside of the gloves.

Procedure Gloves

- o These are the clean, non-sterile, non-latex gloves used during client interactions.
- o They are always single use and should not be washed.
- o They should fit snugly.

Sterile Gloves

- o They must be donned in a manner which maintains sterility.
- o They are used when performing invasive procedures or those requiring sterile technique.
- o They must be single use and fit snugly.
- o They must be replaced if they become compromised during the procedure.

**GLOVES ARE NOT
A SUBSTITUTE FOR
HAND HYGIENE.**



Procedure Gloves Should be Worn:

- For all procedures or tasks which might involve direct contact with non-intact skin (e.g. skin rashes), mucous membranes (e.g. during an OT oral motor assessment), or body fluids/substances including blood, saliva, urine, stool, wound drainage or moist body parts.
- For handling items visibly soiled with body fluids/substances.
- For blood collection procedures (e.g. venipuncture and arterial blood gases (ABG's)).
- When performing tracheostomy or airway care.
- When attending to a nose bleed (if gloves are not available, use a barrier of several tissues to avoid contact with blood).
- When health care workers have open skin lesions on hands and anticipate direct contact with client's skin.



Important Considerations when Using Gloves:

- Should be changed when torn or leaking.
- Should be changed between tasks with the same client if gloves become soiled or before treating another area of the body.
- Procedure gloves should not be reused or washed.

Gloves Should be Removed:

- Promptly following use and before touching items in the environment.
- Before touching clean items.
- Before touching eyes, nose and mouth.
- Before going on to another client.
- As the first step in removal of PPE.



MASKS, RESPIRATORY PROTECTION, EYE PROTECTION, AND FACE SHIELDS

Face masks are worn to provide protection of the health care worker's nose and mouth from likely splashes and sprays of blood or body fluids. Face shields and eye protection protect the eyes from splashes and sprays of blood or body fluids. Eye protection should protect eyes from all directions. An example of when eye protection (safety goggles or face shield) may be required is when a respiratory therapist is analyzing arterial blood gases (ABG's).

- Masks, goggles and face shields can be used alone or in combination to provide protection to the health care worker from likely splashes or sprays of potentially infectious substances.
- Hand hygiene should be performed prior to applying, prior to removal and following removal of masks or eye protection.
- Masks and eye protection should be adjusted and comfortable before performing procedures or initiating any contact with the client.
- Once the mask and eye protection is in place, it should not be touched until the time of removal.

MASKS

- The type of mask used is determined by the type of protection required.
- The types of masks available are:
 - Surgical/procedure masks
 - Surgical masks have ties and are fluid resistant.
 - Procedure masks have ear loops.
 - N95 Respirator
 - Provides protection from airborne pathogens (e.g. TB).
 - These respirators must be "fit tested" to ensure protection from airborne pathogens.
- Should be changed if they become wet.
- Must not be worn around the neck.
- Must be discarded after each use.
- Remove masks carefully only touching ties or ear loops – do not touch the front of mask.
- The primary reason masks would be worn in community settings is to provide protection from droplet spread infections (e.g. influenza or pertussis).
- **If health care workers are assisting with invasive procedures in an acute care setting, the site based protocols should be followed.**



EYE PROTECTION

- Personal eyeglasses are not considered eye protection.
- Eye protection should provide protection from all directions and should be worn when there is a risk of splashes and sprays of body fluids or infectious agents.
- If the eye protection equipment is reusable, it must be decontaminated and thoroughly cleaned before reusing or storage.



GOWNS

Gowns are used to protect the clothing and exposed skin of the health care worker. Gowns have long sleeves with cuffs at the wrist and tie up at the back. They should be worn if there is a possibility of direct contact with a client's bodily fluids, contaminated equipment or surfaces, or when soiling of the health care worker's clothing is likely.

- Hand hygiene should be performed prior to donning gowns.
- Gowns are the first PPE to don.
- Gowns are single use and must be disposed of in the garbage or laundry as appropriate after use.
- Lab coats and warm up jackets are not suitable substitutes for gowns.



METHOD OF COMBINING PPE

The type of activity and the potential for splashing during the procedure will determine what PPE is required. Following is a brief description of how to apply and remove PPE when it is used in combination. There will be limited situations in community settings when this will be required. (Refer to Appendix 6 Donning and Doffing of PPE, page 49)

Basic Procedure

Applying (Donning)

- Hand hygiene.
- Gown.
- Mask (Fit tested N95 respirator must be worn for airborne precautions).
- Eye protection.
- Glove.

Removal (Doffing)

- Remove gloves and dispose of appropriately.
- Hand hygiene.
- Untie gown.
- Remove gown.
- Discard gown in garbage or laundry.
- Hand hygiene.
- Remove eye protection (discard or place in an area for proper cleaning prior to reuse).
- Remove mask and dispose of appropriately.
- Hand hygiene.



RESPIRATORY HYGIENE

Respiratory hygiene is the recommended protocol for minimizing transmission of respiratory illness particularly in health care settings.

Basic steps:

- Cover cough and/or sneeze using tissue or upper arm – not hands.
- Dispose of tissue, if used, in garbage.
- Perform hand hygiene.

When clients come into a clinic or other community setting with upper respiratory symptoms such as coughing and sneezing encourage them to follow the above steps. It is important to establish separation in the waiting room or within treatment groups to minimize the spread of respiratory symptoms. Prioritize clients to decrease exposure of others waiting to be seen.



SAFE HANDLING OF SHARPS

Safe handling and disposal of sharps are critical to maintaining a safe work environment. Individual sharps must be disposed of in appropriate puncture resistant containers at point of use. These containers must not be overfilled. There must be a clearly developed process for disposing of used sharps containers. If available, a biohazardous waste container can be used to dispose of individual sharps containers. If there are no biohazardous waste containers, the procedure for disposing of the sharps containers must be documented and available for all health care workers requiring the information.

- Safe handling of sharps reduces exposure to blood borne pathogens.
- Always activate safety engineered device with one handed technique prior to disposal.
- **DO NOT recap, bend or manipulate used needles.**
- Dispose of sharps immediately in a clearly labelled, puncture resistant container.
- Point of use sharps containers must be used.
- Containers should have tight fitting lids that prevent leakage.
- Do not overfill containers.
- When $\frac{3}{4}$ full, dispose of container, ensure it is securely closed, carrying by the handles and place in the biohazardous box, if available. Otherwise, follow documented practices for sharps container disposal.
- When biohazard boxes are used, they should be stored in a secure site, away from public access.
- If the storage area for used sharps containers is accessible by the public, a locked/latched cupboard should be used.
- Handling of containers should be kept to a minimum.
- Replace with new container promptly.



CLIENT CARE EQUIPMENT

Client care equipment is any equipment or medical device used by health care workers or clients during client interactions. Used items may be vehicles for transmission of infectious organisms. In the 1970's, E.H. Spaulding devised a system to classify these medical devices. This classification divided medical devices into 3 categories based on the degree of risk that an infection could result from the use of the item. Once the category of the medical device is known, the method of cleaning and the level of disinfection or sterilization is determined (as cited in Rutala & Weber, 2009).

The categories as developed by Spaulding are:

1. **Non-Critical Items:** These are items which come in contact with intact skin but not mucous membranes. Intact skin is an effective barrier against most micro-organisms. These items must be thoroughly cleaned and low level disinfected (LLD) between uses but the item does not need to be sterilized (E.g. stethoscopes, treatment surfaces (mats, plinths, tables), parallel bars, etc.).
2. **Semi-Critical Items:** These items come in contact with mucous membranes or non-intact skin. They should be free of all micro-organisms although a small number of bacterial spores may be present. Mucous membranes such as those in the mouth and the remainder of the gastrointestinal tract are generally resistant to bacterial spores but susceptible to other organisms such as bacteria. These items require a minimum of high-level disinfection (HLD) (E.g. oral motor assessment tools).
3. **Critical Items:** These are items which enter sterile tissue or the blood system. There is a high risk of infection if there is any contamination with micro-organisms. These items must be sterile. (E.g. any surgical instrument, syringes and needles).

(Refer to Appendix 7 Classification of Equipment, page 51).

Note: Alberta Health Services has implemented a policy that has resulted in the recommendation for use of disposable single use equipment for the majority of semi-critical and critical supplies in community settings. If there are supplies in these categories which require reprocessing, AHS Allied Health staff will send the item to a central processing site for reprocessing. The procedure to follow in these instances will be developed on an as needed basis as there are considerations for the preliminary cleaning, handling, transportation, etc. of the item.

At contracted sites where single use supplies are not available or when reusable critical and semi-critical supplies are preferred, the contracted providers must have copies of the manufacturers' written instructions for the cleaning, disinfection and sterilization of the item. In addition, there must be site specific policies and procedures in place that follow the accepted standards for the cleaning, disinfection and sterilization of reusable medical equipment. Resources available to draft these Policies and Procedures include the following documents:

Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for all Health Care Facilities and Settings Alberta Health and Wellness, January 16, 2008. Available at <http://www.health.alberta.ca/newsroom/pub-infection-prevention.html>

Best Practices for Cleaning, Disinfecting and Sterilization in all Health Care Settings by Provincial Infectious Diseases Advisory Committee (PIDAC) of Ontario April 2006. Available on line at no cost at the link listed below. http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cds_2.pdf

GENERAL PRINCIPLES FOR CLIENT CARE EQUIPMENT

Used items may be vehicles for transmission of micro-organisms. General principles which should be considered whenever handling or using client care equipment are:

- Use clean hands to handle clean equipment.
- Keep clean and dirty items separated.
- Surfaces must be cleaned between clients.
- Ensure multi use equipment is properly cleaned.
- Disposable equipment should be used whenever available.
- Do not reuse single use items.
- All surfaces in contact with clients should be intact and easy to clean.
- Damaged surfaces must be repaired or replaced.
- Soiled equipment should be handled in a manner that prevents contamination of staff skin/mucous membranes/ clothing and surrounding environment.

In order to achieve LLD, HLD or sterilization all items must be thoroughly cleaned first.

Note: Soil or blood and body fluids can protect micro-organisms from the action of disinfectants preventing the desired level of disinfection.

(Refer to Appendix 8 Cleaning Schedule for Examples of Common Allied Health Items, page 52).

(Refer to Appendix 8A Regularly Scheduled Cleaning Procedure for Non-Critical Clinic Items, page 53).

(Refer to Appendix 8B Cleaning of Client Care Equipment, page 54).

(Refer to Appendix 8C Cleaning Products, page 55).

PROFESSIONAL SUPPLY BAGS

Professional supply bags are any type of bag or container used to transfer supplies from one place to another. This includes supplies used for home visits or outreach clinics. These bags are considered non-critical items as they do not come in contact with the client. There is no scientific rationale for placing a barrier under these bags. The bag should be placed on a clean dry surface away from small children and pets. If there are concerns about the environment where the practitioner is providing care, it would be preferable not to bring the bag into that site. When it is required that the bag is brought into the site and there are concerns about where to place the bag, a barrier can be placed under the bag. This barrier should then be discarded following use (Home Care and Hospice, APIC, 2006).



Professional Supply Bags:

- Should be constructed of a wipeable fabric or surface.
- Should have multiple compartments for storage.
- The contents should be removed and the inside of the bag should be cleaned with a disinfectant wipe on a regular basis and when visibly soiled.
- Zipper pulls and handles should receive extra cleaning as they are the high touch areas.
- Sealable disposable plastic bags, when used, should be replaced on a regular basis.
- Should be stored closed and in a clean environment.

(Refer to Appendix 8D Regular Cleaning of the Professional Supply Bags, page 61).

Bag Technique:

- ABHR should be stored in an outside compartment.
- Hand hygiene should always be performed before reaching into the bag.
- Sharps containers should be kept in a separate and easily accessible outside compartment.
- If used, sharps container lids should be securely fastened to prevent spillage or protrusion of sharps.
- Non-critical reusable items should be cleaned after use, prior to returning them to the professional supply bag.
- Gloved hands must not enter the professional supply bag.
- If there are concerns about the home environment, supplies needed for the visit should be removed from the bag and placed in a disposable container such as a brown paper bag or a plastic bag. The disposable bag should be discarded following the visit.
- Extra disposable supplies can be left for the next visit. Reusable equipment must be cleaned prior to being returned to the professional supply bag. If this equipment is not easily cleaned in the field, ensure there is a container to secure the item until it can be cleaned. In this situation, the container and the equipment must be cleaned upon return to the office.
- If it is not possible to leave the bag in the car when there are concerns about the environment, a barrier can be used to separate the bag from the environment. This barrier should be discarded following use.
- Bags should not be hung on door handles

Infection Control Supplies Required for Home and Offsite Visits:

- ABHR.
- Moist towellettes.
- Sharps container, if required.
- Non-sterile gloves, where appropriate.
- Impervious container for lab supplies and samples.
- Disinfectant wipes.
- Barrier.
- Lotion.
- Labelled clean/soiled bags or buckets.
- Liquids must be in spill and leak proof containers to prevent contaminating supplies.



STERILE SUPPLIES

Maintaining the sterility of supplies is an important consideration for health care workers in all health care settings.

At contracted sites where medical devices are reprocessed site **specific policies and procedures** must be developed.

Sterile supplies should:

- Always be handled with clean hands.
- Be handled as little as possible.
- Be inspected prior to use to ensure package integrity (e.g. no punctures, package is dry with no evidence of water stains or water damage).
- Be arranged in a manner that prevents crushing, bending, compressing or puncturing the package.
- Be discarded or reprocessed if the package integrity is compromised.
- Have oldest stock used first.
- Be checked for manufacturer's expiry date because some materials can deteriorate over time (e.g. latex rubber).
- Be stored in a clean and dry protected area where they are unlikely to be exposed to moisture, dust, dirt or vermin (not under sinks or near exposed pipes).
- Be stored in areas separate from used equipment.
- Be stored at least 8-10 inches off the floor.

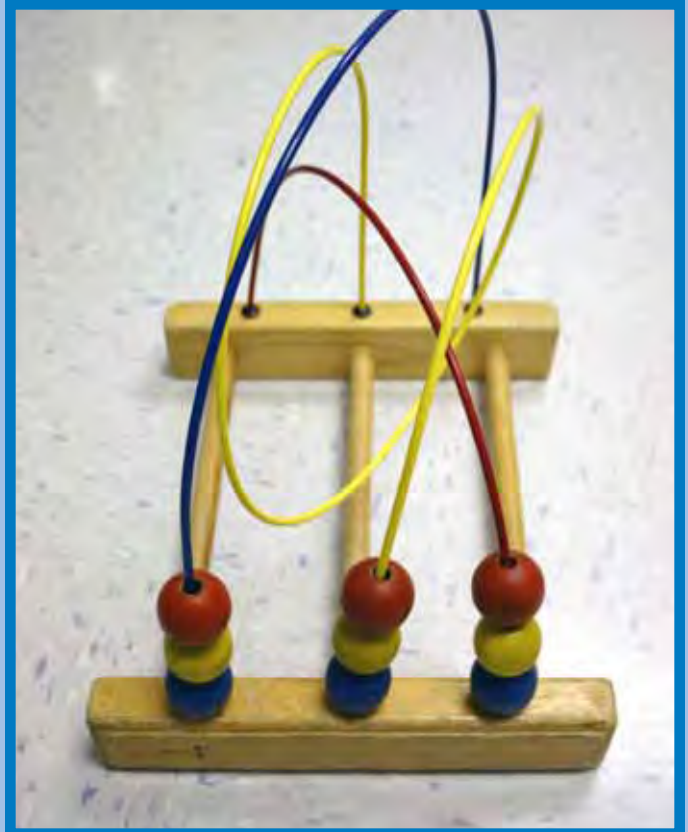
Storage areas should be cleaned on a regularly scheduled basis – a log should be kept. During cleaning of storage area, care must be taken to prevent damaging the sterile packages.



TOYS

Children should be encouraged to clean their hands before playing with toys used as part of the health care service/program. Toys should be cleaned on a regular basis. The frequency of cleaning and the procedure for cleaning is dependent on the type and use of the toy. Toys should be made of materials that are compatible with the cleaning process.

- Toys used by children should be inspected regularly for safe construction, broken parts and cleanliness. If the toy is broken or it is unable to be cleaned, it must be discarded.
- Toys which are not “mouthed” should be cleaned and disinfected regularly or when visibly soiled. A record or log of the cleaning should be maintained.
- Toys which are “mouthed” by children must be inspected, cleaned and disinfected between children.
- Toys which will require cleaning between children must be stored in clearly labelled containers to prevent reuse of a toy prior to cleaning.



Children should be encouraged to clean their hands before playing with toys or books.

Cleaning Process Mouthed Toys

Small “mouthed” toys should be cleaned after each use.
(APIC Home Care and Hospice, 2006)

- Clean and disinfect designated sink or basin and countertop to be used for toy cleaning.
- The area should allow for separation of clean and dirty toys.
- Gather toys to be cleaned.
- Assemble cleaning supplies:
 - Cleaning solution (detergent and LLD).
 - Cleaning cloths (either disposable or clean and dry reusable cloths).
 - Brush if required.
 - PPE (Refer to Appendix 5 PPE and Supplies Used for Equipment and Toy Cleaning, page 47).
 - Utility gloves.
 - Eye protection if splashing is expected.
- Wash hands and put on gloves and eye protection if needed.
- Fill sink or large basin with warm water and detergent diluted according to the manufacturer’s recommendations.
- Scrub the toys thoroughly. A brush may be required to clean in the crevices. When using a brush, ensure the toy and brush remain under the surface of the water to prevent splashing.
 - Fresh detergent and water must be used for each sink or basin full of toys.
 - Clean the sink or basin between each load and refill with fresh detergent and water.
 - Cloths should be changed between loads.
 - Gloves and brushes should be washed and rinsed well between loads using soap and running water.
- Rinse toys thoroughly under running water to remove soap residue.
- Arrange toys on a clean surface and allow to dry.
 - Toys may be dried with clean dry towels.
- When dry, wipe the entire surface of each toy with a clean cloth soaked in an approved LLD.
- Premoistened LLD wipes may be used. A new wipe must be used when the wipe no longer leaves the item damp.
- Allow the toys to dry for the manufacturer’s recommended time. This is usually around 3-5 minutes. (This contact time is required to ensure that the product is effectively disinfecting the surface.)
- The toy must be thoroughly rinsed under running water and left to air dry again before returning to the “clean” container if the LLD is not a food grade disinfectant.

The clean toy container should be cleaned on a regular basis. The cleaning should be logged. The used toy container should be cleaned when the toys are cleaned. If the container does not fit into the sink, care must be taken to ensure it is thoroughly cleaned.

Cleaning Process Non-Mouthed Toys

These should be cleaned on a regular basis and when they are visibly soiled.

- Determine which toys can be moved to a central cleaning area and which toys will need to be cleaned in the area of use.
- Ensure sink or basin which will be used is cleaned prior to use with detergent and water.
- Assemble cleaning supplies:
 - Cleaning solution (detergent).
 - Cleaning cloths (either disposable or clean and dry reusable cloths).
 - Brush if required.
 - PPE (Refer to Appendix 5 PPE and Supplies Used for Equipment and Toy Cleaning, page 47).
 - Utility gloves.
 - Eye protection if splashing is expected.
- Wash hands and put on gloves and eye protection if needed.
- Fill a basin with warm water and detergent diluted according to the manufacturer's recommendations.
- Take a clean cloth and soak it in the soapy water. Thoroughly wipe all surfaces of the toy. A brush may be required to clean the surface if it is not smooth. The water may require changing, depending on the size or number of toys. If the water requires changing the sink or basin should be cleaned before refilling.
 - The cleaning cloth should be changed with each change of water.
 - Gloves and brushes should be washed and rinsed well with each change of water.
- Once the toy has been thoroughly washed, a fresh basin of water and a fresh cloth is required to rinse all the soap off the surfaces. The basin may require emptying, cleaning and refilling with fresh water to complete the rinsing depending on the size or number of toys.
- The toy should be allowed to air dry.

For small toys that are not mouthed and can be immersed follow the cleaning in mouthed toys in all steps up to the use of LLD.



For toys cleaned in the area of use, a procedure must be developed to ensure that children are not exposed to the cleaning products. There should also be a process to ensure the toys are not used until the cleaning process has been completed.

ICE MACHINE AND ICE

Micro-organisms may be present in ice machines, ice or ice storage chests. The main potential sources of micro-organisms are from the water source and hands. The ice from the contaminated ice machines has been associated with clients becoming colonized with micro-organisms. Micro-organisms can also secondarily contaminate clinical specimens and medical solutions that require cold temperatures for either transport or holding (CDC, 2003). Regular maintenance and cleaning of ice machines and ice storage chests following the manufacturers' instructions should be adhered to. If there are no manufacturers' instructions available, refer to general steps for cleaning and maintaining ice machines, dispensers and storage chests. (Refer to Appendix 8E Ice Machines, Dispensers and Storage Chests, page 62).

The ice and ice machine can become contaminated by improper storage and handling of ice. In order to decrease the risk of contamination, it is recommended direct hand contact with the ice be avoided. This can be accomplished by using a smooth hard surface scoop to dispense the ice or by installing machines that automatically dispense the ice directly into the required container. If a hard surface scoop is used, it should be stored on a clean uncovered tray beside the ice machine and not left in the ice. The scoop and tray should be thoroughly washed in hot soapy water, rinsed and dried at the end of every day. Logs must be kept of the cleaning of the ice machines, ice storage chests, ice scoops and scoop storage tray.

Ice and ice machines can become contaminated by improper storage and handling of ice. Hand hygiene before collecting ice will minimize the potential for contamination.

Important Considerations:

- Remove all extraneous equipment and items from around or on the ice storage chests and ice-making machines.
- Do not return unused ice to the ice machine or storage chest.
- The door of the dispenser should be kept closed except when removing ice.
- The tray used to store the ice scoop should be an uncovered, stainless steel, impervious plastic, or fiberglass tray.
- Do not store food or any other items in ice chests or machines.

Cleaning Schedule

Daily

- Ice scoop and tray

Quarterly

- Ice machine, dispenser and storage chests

Prior to the dispensing the ice:

- Perform hand hygiene.
- Collect a clean container for the ice.
- Dispense the ice carefully to avoid direct contact with the ice.
- If a scoop is used, care should be taken when handling it to avoid touching of the portion which will contact the ice.
- Following use, the scoop should be replaced on the tray located beside the ice machine.

HYDROTHERAPY TANKS

The warm water in these tanks, the constant agitation and aeration as well as their design provide ideal conditions for bacterial proliferation if the equipment is not properly maintained, cleaned and disinfected. Equipment used or stored in close proximity to these tanks (E.g. parallel bars, plinths and wheelchairs) can also become potential reservoirs of micro-organisms depending on the material from which they are made (E.g. porous or non porous material). Contamination from spilled water can affect the floors, walls, and drains in the surrounding area. Clients with active colonization or wound infections can serve as a source of the contamination of this equipment (CDC, 2003). It is recommended that these small pools be drained and thoroughly cleaned and disinfected according to the manufacturers' instructions after each use. In addition to the regular cleaning, the tank must also be maintained according to the manufacturers' recommendations. The maintenance and cleaning of these tanks must be logged. Hydrotherapy tanks require stringent maintenance and the cleaning and disinfection practices must follow the manufactures instructions and recommendations. Alberta Health Services Environmental Public Health does not recommend hydrotherapy tanks with jets because the internal plumbing is difficult to properly clean and disinfect. It is recommended that prior to replacing or purchasing this type of equipment an evaluation be conducted for potential infection control problems; due to inaccessible surfaces that are difficult to clean, be conducted.

Hydrotherapy tanks can be a source of transmission of micro-organisms.

Potential Routes of Transmission from Hydrotherapy Tanks:

Directly by:

- Ingestion of water sprays and aerosols.
- Contact with wounds and intact skin.

Indirectly by:

- Contact with equipment or supplies that have been contaminated by aerosolized spray.

PARAFFIN WAX BATHS

It is essential that the heating vessel and the wax are prevented from becoming contaminated. There should be no “double dipping” into the primary wax container either by the client or any tools used for application of the wax. This type of treatment is not suitable for clients with open wounds. Prior to the application of the heated wax, ensure the client thoroughly cleans and dries the body part that is to be treated. All wax must be dispensed in a manner that does not contaminate the remaining wax. If a spatula type of applicator is used to apply wax, it must be washed, disinfected and dried before re-entering the primary wax vessel if it is a reusable product. Disposable spatulas must be discarded after each use and must not re-enter the primary wax vessel.

The wax may be transferred into a secondary vessel (bowl or a disposable plastic bag) and from there applied to the client. In this case, the client can immerse the affected limb or the spatula can be redipped into the wax. Remaining wax must be discarded. If the secondary vessel is re-useable it must be washed, rinsed, and disinfected before reuse. DO NOT place contaminated items into the primary heating vessel.

Once the affected limb has had the wax applied, it may be wrapped in a plastic bag or covering. The plastic bag should be discarded following use. If the plastic bag is covered with another cover, this cover must be washed and dried before using for another client, or discarded if it is single use.

Wax applied to a client must be discarded when removed.

Clean splashes or spillage of wax immediately after treatment.

Ensure that the heating vessel is cleaned and maintained according to the manufacturers' instructions.

**Never double dip.
Always discard used
wax.**

INTERFERENTIAL THERAPY MACHINE

In laboratory and clinical situations, this treatment modality has resulted in the transfer of micro-organisms from one individual to another. It is therefore recommended that suction cups and sponges be disinfected according to the manufacturers' recommendations and instructions after each use. The use of disposable electrodes could be considered (Lambert, I, Tebbs, S. E., et al 2000 pg 59). This treatment should be limited to clients with intact skin due to the risk of infection.

Be sure to clean between each client:
sponges, suction cups, and cables

Can be a means of spreading infections.

Sponges, suction cups and cables must be cleaned and disinfected between uses.

MEDICAL GELS

Medical gels are often used when providing care to clients. In order to ensure that these gels are not a source of a health care acquired infection (HAI), care must be taken when using and storing these products. If the procedure the gel is being used for will result in contact with mucous membrane or non intact skin, the gel must be sterile. In order to maintain sterility, the gel must be in single use packages and used according to the principles of aseptic technique. If the procedure the gel is being used for is on intact skin only, the gel is not required to be sterile. It is recommended that the non-sterile gel be provided in single use containers that are discarded when empty. If the bottles are reused, (Refer to Appendix 8F Medical Gels and Containers, page 63) for cleaning instructions.

Must never be "topped-up".



LAUNDRY

Laundry includes items such as:

- Bed sheets.
- Blankets.
- Pillow cases.
- Towels.
- Cloth wraps for ice packs or hot packs.

Laundry should be handled in such way that transmission of micro-organisms from one client to next is minimized or prevented. Laundry should be:

- Considered contaminated after use.
- Handled as little as possible with a minimum of agitation and shaking after use.
- Held away from the body to prevent contamination of personal clothing.
- Discarded directly into a laundry hamper and never placed on the floor.
- Washed and dried between uses.

Laundry bags should be:

- Of sufficient strength to hold the linen.
- Leak resistant if soiled linen is wet and capable of leaking through the bag.
- Easy to launder.
- Tied securely when transporting by cart or hand
- Filled no more than $\frac{3}{4}$ full before being changed.
- Laundered after each use.

All sharps and instruments should be removed prior to placing items in the laundry hamper.

Laundry Hampers/Carts should be:

- Cleaned daily.
- Easily accessible at point of use of the linen.

LAUNDRY (CONTINUED)

Other considerations:

- Separate carts should be used for clean and dirty linens.
- Gloves should be worn to sort laundry for washing. Hand hygiene must always be performed when gloves are changed or removed.
- Additional PPE required to sort and process laundry is dependent on the soil level.
- Linens with organic material on them require pre-treating to remove the organic material. It is impossible to clean laundry when organic material is present.
- Procedures should be implemented to prevent sharps from being discarded with the laundry.
- The antimicrobial action of the laundering process is a result of the combination of mechanical, thermal and chemical factors. Suitable products must be used to ensure that the laundered items are not a source of transmission of infection (E.g. if low temperature water is used for the laundry cycle, chemicals suitable for low temperature washing at the appropriate concentration should be used). Low temperature washing with bleach is an effective method (Rutala & Weber, 1997).
- Use of commercial laundry detergent with household bleach (according to product instructions and where suitable for fabrics) and a normal machine wash are sufficient to clean soiled linen.
- Use complete wash and rinse cycles.
- Avoid over loading the washing machine.
- The manufacturers' recommendations for the maintenance and cleaning of the washing machine and drier must be followed. These activities must be logged.
- Clean linens must be handled in a way that prevents contamination and ensures its cleanliness.
- Clean linen must be stored apart from soiled linens.



AUDIOLOGY EQUIPMENT

- All medical equipment used to provide client care must be cleaned and disinfected between clients.
- The Middle Ear Analyzer probe tips should be cleaned of any visible soil after each use. Following the removal of the visible soil, the tip must be disinfected. The removal of the visible soil can be done with soapy water. If the soil is easily removed, a LLD which has cleaning and disinfecting properties can be used in a 2 step process to clean, then disinfect the tip. Tips should be inspected following the cleaning and disinfection to ensure that the integrity of the tip remains intact.
- Any equipment in contact with clients must be cleaned and disinfected between uses. This includes but is not limited to head sets, cables, and tubing. The manufacturers' cleaning instructions should be used when cleaning the items. If the instructions are unclear, then the manufacturer should be contacted to obtain clarification of the instructions. It is important to ensure that the product recommended for use has disinfecting properties.

Before items can be disinfected or sterilized they must be cleaned. Always refer to the manufacturers' instructions when reprocessing medical devices.



MANAGING LABORATORY SPECIMENS

- All specimens should be treated as if they are infectious.
- Specimens should be collected and processed in a manner that prevents transmission of micro-organisms to anyone handling the containers.
- Health care workers must wear gloves to collect and handle specimens.
- Specimens should be collected in appropriate containers, labelled, closed tightly, and placed in biohazard bags prior to placing in transport container.
- Specimens should be handled with care to prevent damage, leakage or spillage.
- Specimens should be stored separately from other refrigerator contents.



ENVIRONMENTAL CLEANING

The high contact clinic areas should be cleaned on a daily basis. This includes clinic rooms, waiting rooms, restrooms and door handles.

In treatment or procedure rooms, surfaces that are in direct contact with clients should be cleaned between clients. This includes, but is not limited to, the surfaces which are visibly soiled (APIC Ambulatory Care, 2004).

Cleaning is the physical removal of organisms, soil or other material such as urine, stool etc. The soiled environment can contribute to transmission of infections by contaminating hands or by contact with equipment that will subsequently come in direct contact with clients. Blood, mucous, or other body fluids can rapidly deactivate the chemical action of disinfectants and protect micro-organisms from contact with the disinfectant. Regularly scheduled cleaning prevents the build up of soil, dust or other foreign material that can harbour germs and support their growth (APIC Text of Infection Control and Epidemiology, 3rd Edition, 2009, Chapter 100).

General principles for cleaning are:

- Cleaning should proceed from least soiled to most soiled and from high to low surfaces.
- The most effective way to clean and disinfect environmental surfaces is accomplished with water, detergents, and friction (elbow grease) to physically remove soil and micro-organisms.
- All soil must be removed before disinfection of surfaces can be achieved because soil blocks the action of the disinfectant. This necessitates a **two step** cleaning process for high touch or heavily soiled areas. This means these areas are cleaned twice and that new cloths and solution are used for the second cleaning.
- All blood and body fluids are considered potentially infectious and should be cleaned up immediately when spills occur. After cleaning, the area should be disinfected with a low-level disinfectant. (Refer to Appendix 9 Blood Spills, page 65).
- A dry environment is important because moisture supports the growth of micro-organisms.
- All detergents and disinfectants must be used with strict adherence to manufacturer's recommendations regarding dilution, shelf life, storage conditions, method of application and use of personal protective equipment.
- Cloths and buckets of cleaner/disinfectant should be changed frequently to prevent overloading with soil and micro-organisms.
- When buckets are emptied, they must be cleaned prior to refilling. Gloves should be cleaned as well to prevent transferring the soil to the fresh solution.

CLIENT CONTACT AREAS

The client contact area is the clinical space within the physical environment where a health care service is provided to a client by a health care provider. There is the potential for transmission of infectious organisms between people (health care workers or clients), between contaminated equipment or surfaces and people during interactions with clients.

General principles to consider when using client contact areas:

- Client contact areas must be cleaned between clients.
- Clean items must be handled with clean hands.
- Minimize supplies and equipment in the clinical rooms.
- Ensure used and soiled items remain separated from clean and sterile items and clean surfaces.

General Clinic Space

- Gloves should be worn for cleaning and disinfecting activities.
- Housekeeping of the clinic space should be done on a daily basis.
 - This includes horizontal surfaces and high touch surfaces (door handles, taps, sinks and bathrooms).
- Visibly soiled or contaminated surfaces require immediate attention.
- Linens must be changed after each use.
- Paper drapes must be changed after each use.
- Treatment surfaces must be cleaned after each client.
- Minimal clutter allows for better cleaning.
- Wall dispensers for soap, ABHR and paper towels require routine maintenance and regular cleaning.
- Refrigerators should be cleaned quarterly and a log should be maintained.
- Walls should be cleaned on a regularly scheduled basis and when splashes or visible soiling occurs.
- Curtains and blinds should be changed and cleaned on a regularly scheduled basis and when splashes or visible soiling occurs.
- Privacy curtains should be changed and cleaned on a regularly scheduled basis and when splashes or visible soiling occurs.
- Shared items should be kept to a minimum in waiting rooms and reception areas. Use only items which can be cleaned (toys with smooth non-porous surfaces).
- Ensure waste containers are placed for easy access.
- Clean items including procedure gloves should be stored away from the “splash zone” around the sink to avoid contamination from micro-organisms found in tap water. Do not place under the soap or ABHR dispensers.

STORAGE AREAS

The area where sterile and clean supplies are stored should be cleaned on a regularly scheduled basis. It should be done carefully to avoid contaminating supplies. Clean storage areas should have limited access and should not be in a throughway. Supplies should be stored to ensure that the oldest product is used first. (APIC, Ambulatory Care, 2004).

- Items should be removed from shipping boxes before storage to prevent contamination with soil/debris that might be on the packing container.
- Paper products (e.g. paper towels) stored in the janitor closet must not be stored on the floor.

OFFICE AND OFFICE EQUIPMENT CLEANING

Keyboard and Mouse

- Keyboard and mouse should be cleaned regularly even if the keyboard is covered with a plastic cover.
- Plastic keyboard covers should be cleaned monthly and when visibly soiled.
- Check with the manufacturer regarding types of disinfectants that are safe to use (APIC, Home Care and Hospice, 2006).
- Hand hygiene before using the keyboard will reduce risk of contamination.
- When replacing the keyboard and/or mouse it is recommended that wipeable products be selected.

Phones and Pagers

- Should be cleaned monthly and when visibly soiled.

Desk Tops

- Should be cleaned monthly and when visibly soiled.

Environmental Controls

- Regular schedules for daily cleaning are required, cleaning duties must be assigned, and the completion of the cleaning must be logged.
- Regular schedules for cleaning storage areas should be established.
- Logs of cleaning for the areas should be maintained.

GENERAL WASTE

Waste generated in health care settings is no more hazardous than household waste. Therefore, general office waste does not require special disposal methods. Examples of general waste include cotton balls, gauze, dressings, gloves, disposable gowns, tissues, disposable needle guide tubes, alcohol wipes and band-aids. Waste should be managed in such a way that it is handled as little as possible. A garbage container should be available at each work station in an area not easily accessible by young children.

- All waste containers should be lined with a plastic bag.
 - Double bagging is not necessary unless the integrity of the bag is jeopardized or the outside is visibly soiled.
- Waste containers should be cleaned inside and out regularly and when visibly soiled.
- Waste should be picked up regularly. If pick up is delayed, garbage should not be placed in hallways or common traffic areas.

Biohazard Waste Containers (where available)

- Corrugated cardboard box lined with yellow plastic bag clearly labelled as a biohazard container.
- Biohazardous waste (materials dripping with blood) should be discarded directly into biohazard container.
- Used sharps containers that have been securely closed should be placed in the biohazard waste containers.
- Biohazardous waste containers should be filled to a maximum of $\frac{3}{4}$ capacity, the yellow plastic bag closed and the box sealed.
- These boxes should be stored in an area separated from public access.
- They should be handled as little as possible.



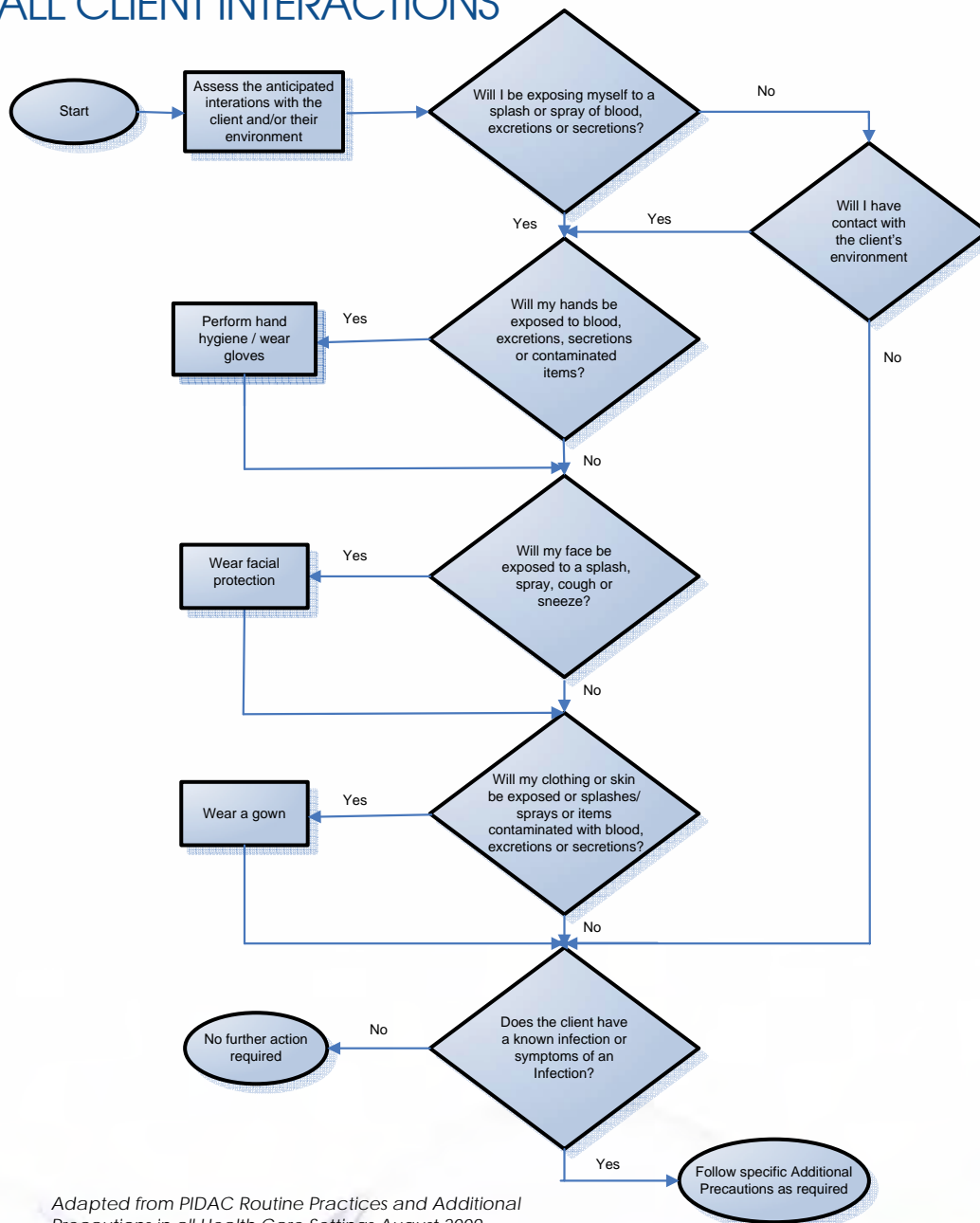
APPENDIX 1 - CHAIN OF INFECTION EXAMPLE

TRANSMISSION AND ASSOCIATED INFECTION CONTROL MEASURES FOR MRSA
Causative agent: <i>Staphylococcus aureus</i>
Reservoirs: <ul style="list-style-type: none"> • Humans (e.g. carrier, active case) • Animals (pets) • Environment (patient care equipment – environmental surfaces)
Portal of Exit: <ul style="list-style-type: none"> • Any exudate from skin lesion or wound
Mode of Transmission: <ul style="list-style-type: none"> • Direct person → person spread • Direct contact through touching contaminated objects or surfaces in environment • Zoonotic transmission (from animals → humans) has been documented
Portal of Entry: <ul style="list-style-type: none"> • Invasive device • Non-intact skin
Susceptible Host: <ul style="list-style-type: none"> • Anyone • Examples of high risk populations: <ul style="list-style-type: none"> ○ Young people – community acquired – age distribution younger than for hospital associated MRSA ○ More common in children than adults ○ Athletes – mainly involved in contact sports ○ Inmates of correctional facilities ○ Individuals with chronic skin disorders ○ Overcrowded groups – e.g. outbreaks in correctional facility, neonatal intensive care unit

INFECTION PREVENTION AND CONTROL MEASURES TO BREAK THE CHAIN
Environment <ul style="list-style-type: none"> • Cleaning and disinfection of client care equipment • Cleaning and disinfection of environmental surfaces
Host <ul style="list-style-type: none"> • Frequent hand washing • If skin lesions present: <ul style="list-style-type: none"> ○ Cover with appropriate dressing to contain drainage ○ Do not share creams, lotions, soaps, cosmetics and other personal products that are in contact with the skin
Agent <ul style="list-style-type: none"> • Antibiotics may not be required • When antibiotics required – consider possibility of resistant organisms

APPENDIX 2 - ROUTINE PRACTICES - ALGORITHM

ROUTINE PRACTICES RISK ASSESSMENT ALGORITHM FOR ALL CLIENT INTERACTIONS



Adapted from PIDAC Routine Practices and Additional Precautions in all Health Care Settings August 2009

APPENDIX 2A - ROUTINE PRACTICES

Routine practices are based on the premise that all clients are potentially infectious. They should be used routinely in all client interactions to prevent exposure to blood, body fluids, secretions, excretions, mucous membranes, non-intact skin or soiled items. The use of PPE is based on the risk assessment which should precede all client interactions.

Hand Hygiene	<ul style="list-style-type: none"> • Performed with alcohol based hand rub (ABHR) or soap and water.
Mask and Eye Protection	<ul style="list-style-type: none"> • Protect eyes, nose, and mouth during procedures and care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. • Wear within 2 meters of a coughing client who is unable to perform respiratory hygiene.
Gown	<ul style="list-style-type: none"> • Wear a long sleeved gown if contamination of skin or clothing is anticipated.
Gloves	<ul style="list-style-type: none"> • Wear gloves when there is a risk of hand contact with blood, body fluids, secretions, excretions, non-intact skin, mucous membranes or contaminated surfaces or objects. • Remove immediately after use. • NB: Gloves are not a substitute for hand hygiene.
Environment and Equipment	<ul style="list-style-type: none"> • Equipment must be cleaned between clients. • High touch surfaces must be cleaned daily
Linen and Waste	<ul style="list-style-type: none"> • Handle soiled linen and waste carefully to prevent self contamination.
Sharps Injury Prevention	<ul style="list-style-type: none"> • Never recap used needles. • Use point of use sharps containers. • Use safety-engineered sharps.
Client Placement	<ul style="list-style-type: none"> • Minimize time in waiting areas for clients with known infections

APPENDIX 3 - ADDITIONAL PRECAUTIONS

GENERAL PRINCIPLES

- *Additional Precautions are used in addition to Routine Practices when there is a documented or suspected infection or colonization with highly transmissible or epidemiologically important pathogens for which additional precautions are needed to prevent transmission (Siegal, Rhinehart, & Jackson et al, 2007 p. 83).*
- *Individuals known to require extra precautions should be scheduled at the end of the day to minimize transmission.*

CONTACT PRECAUTIONS

- For known or suspected infections that represent an increased risk for contact transmission. E.g. MRSA, scabies.

Physical Placement	<ul style="list-style-type: none"> • Move to an exam or clinic room as soon as possible and limit movement within clinic.
PPE	<ul style="list-style-type: none"> • Gloves <ul style="list-style-type: none"> ○ Whenever touching intact skin or surfaces and articles in close proximity to patient. ○ Don gloves upon entry to room. • Gowns <ul style="list-style-type: none"> ○ If clothing will have direct contact with client or potentially contaminated environmental surfaces or equipment in close proximity to client.
Equipment Handling	<ul style="list-style-type: none"> • All multi-use equipment and medical devices must be decontaminated, cleaned, and disinfected prior to being used for another client.
Home Visits	<ul style="list-style-type: none"> • Whenever possible, reschedule visit to occur after infectious stage has passed. • When rescheduling is not possible, limit amount of equipment and supplies taken into the home. • Non-critical equipment (e.g. stethoscope) must either be cleaned and disinfected prior to removal from home or placed in a sealable plastic bag or other container for transport and subsequent cleaning and disinfection.
Environmental Measures	<ul style="list-style-type: none"> • Ensure all exposed surfaces in clinic room are cleaned and disinfected prior to room being used by another client.

CONTACT AND MODIFIED DROPLET PRECAUTIONS

For clients known or suspected to be infected with Influenza Like Illness (ILI) when contact or treatment can not be rescheduled.

Physical Placement	Move to exam room or clinic room as soon as possible and limit movement within the clinic.
PPE	<ul style="list-style-type: none"> • Mask: <ul style="list-style-type: none"> ○ Surgical/procedure <ul style="list-style-type: none"> • Mask within 2 meters of client unless specified below. ○ N95 <ul style="list-style-type: none"> • For non compliant forcefully coughing clients and all aerosol generating medical procedures. E.g. BiPAP, intubation, suctioning, tracheotomy care, chest physio therapy, nebulization, bronchoscopy, CPR, NP swab etc. • Eye Protection: <ul style="list-style-type: none"> ○ Whenever a mask or N95 respirator is worn eye protection must be worn. ○ NB: Personal eye wear does not provide eye protection. • Gown <ul style="list-style-type: none"> ○ For direct contact of clothing or forearms with client or clients' environment. • Gloves <ul style="list-style-type: none"> ○ Non sterile gloves on entry into clients space.
Equipment Handling	All multi-use equipment and medical devices must be decontaminated cleaned and disinfected prior to being used for another client.
Home visits	<ul style="list-style-type: none"> • Whenever possible, reschedule visit to occur after infectious stage has passed. • When rescheduling is not possible, limit amount of equipment and supplies taken into the home. • Non critical equipment (e.g. Stethoscope) must either be cleaned and disinfected prior to removal from the home or placed in a sealable plastic bag or other container for transport and subsequent cleaning and disinfection.
Environmental Measures	Ensure all exposed surfaces in clinic room are cleaned and disinfected prior to room being used by another client.

DROPLET PRECAUTIONS

Used for clients known or suspected to be infected with pathogens transmitted by respiratory droplets that are generated by coughing, sneezing, or talking. If possible, rescheduling the appointment would be preferred.

Physical Placement	<ul style="list-style-type: none"> Instruct client regarding Respiratory Hygiene. Place in an exam or clinic room upon arrival. Encourage to maintain a distance of 1 meter (3 feet) from others while in waiting room.
PPE	<ul style="list-style-type: none"> Mask: <ul style="list-style-type: none"> Surgical or procedure mask when within 1 meter of the client. Eye Protection: <ul style="list-style-type: none"> Wear a face shield or goggles when within 1 meter of the client. NB: Personal eye wear is not eye protection.
Environmental Measures	<ul style="list-style-type: none"> Clean and disinfect room between clients as normal protocol.

AIRBORNE PRECAUTIONS

For clients known or suspected to be infected with infectious agents transmitted person-to-person by airborne route. E.g. *M. tuberculosis* (TB), measles, chicken pox. If possible, rescheduling the appointment would be preferred. **They should not wait in a common waiting room.**

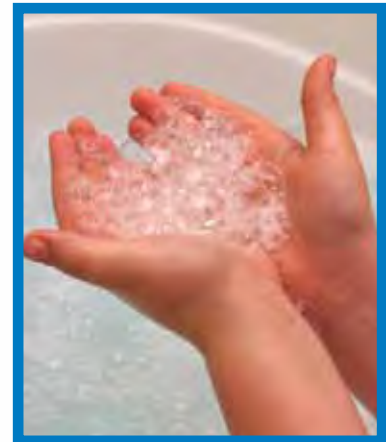
Physical Placement	<ul style="list-style-type: none"> In clinic setting <ul style="list-style-type: none"> Place in negative pressure room if available. Ensure door remains closed to maintain negative pressure. If negative pressure room is unavailable, place client in single room with a door and close door. Place an airborne precautions sign on the door.
PPE	<ul style="list-style-type: none"> Client <ul style="list-style-type: none"> If a negative pressure room is unavailable, place a surgical mask on client, place client in exam room, and close door. Client must wear surgical mask while in exam room. Health Care Worker <ul style="list-style-type: none"> Must wear a fit tested N95 mask, prior to entering the room or home with the client. The mask is removed following exit from the room. Client transportation <ul style="list-style-type: none"> Client wears a mask and infectious skin lesions are covered. Those transporting the client do not require a mask.
Environmental Measures	<ul style="list-style-type: none"> Once client leaves the room the door should remain closed and the sign should remain on the door until there has been a complete air exchange. Indicate when the room was vacated and when it can be entered. <ul style="list-style-type: none"> Generally one hour. Once the room has experienced the air exchange it should be cleaned as per protocol prior to use by the next client.

APPENDIX 4 - HAND HYGIENE

HAND WASHING PROCEDURE WITH:

I. Running Water and Soap

- Turn on water and adjust temperature. Avoid extremes in temperature as this increases skin irritation.
- Wet hands under running water.
- Add soap to hands.
- Lather soap and rub over all surfaces for minimum of 15 seconds. Pay attention to finger tips, between fingers, back of hands and base of thumbs, as these are commonly missed areas.
- Thoroughly rinse hands to remove soap residue. Soap residue can cause the skin to become dry and irritated.
- Pat hands dry with paper towel.
- Turn off taps with paper towel.



II. Alcohol Based Hand Rub (ABHR)

- Apply ABHR (hand size will influence the amount of product required.)
- Spread product over all surfaces concentrating on finger tips, between fingers, backs of hands and base of thumb.
- Rub hands until product is dry.
- This should take 15-20 seconds.



HAND WASHING PROCEDURE WITHOUT RUNNING WATER:

I. Visible Soiling on Hands and No Access to Running Water

- Clean hands with premoistened towelette to remove visible soil.
- Discard towelette.
- Use ABHR as described above.

APPENDIX 5 - PPE AND SUPPLIES USED FOR EQUIPMENT AND TOY CLEANING

GLOVES

- Utility gloves are the gloves recommended for cleaning equipment and toys.
- It is suggested that disposable gloves are worn inside utility gloves to decrease micro-organisms present inside gloves.
- These gloves can be multi-use.
 - They should be inspected prior to each use to ensure there are no tears or holes.
 - They should be replaced on a regular basis and when damaged.
- It is recommended that these gloves are labelled to facilitate a single user.
- They must be cleaned between uses and if visibly soiled during use.
- Outside cleaning is accomplished by washing in warm soapy water followed by disinfecting with LLD.
- When washing the inside of gloves ensure they are stored in a manner which will allow complete drying. This will help to decrease the number of micro-organisms present in the glove.

GOWNS

- Should have long sleeves with cuffs and tie at the back.
- Are worn to protect clothing from splashes when cleaning.
- Should only be used once before discarding into garbage or laundry.
- Lab coats and warm up jackets should not be used as gowns (PPE).



MASK/FACIAL PROTECTION



• **NB: Hand Hygiene must be completed following removal of PPE.**

- Are used to protect mucous membranes of the nose, mouth and eyes when it is anticipated that the cleaning activity is likely to generate splashes or sprays.
 - Masks
 - Should securely cover the nose and mouth and should be changed if they become wet.
 - Must never be reused.
 - Must be removed immediately upon completion of the task.
 - Eye protection
 - Reusable eye protection must be washed, rinsed, dried and disinfected between uses.
 - Single use eye protection must be discarded after use.
 - Personal eye wear is not considered eye protection.

BRUSHES

- Brushes must be cleaned following each use.
 - Thoroughly wash in warm and soapy water.
 - Ensure brush remains submerged to prevent splashing.
 - Rinse with warm running water.
 - Immerse in LLD for manufacturer's recommended time.
 - Allow to air dry.
 - Ensure stored in a manner which allows brush to dry completely.
 - Replace as required to maintain integrity of brushes.

CLEANING CLOTHS

- Cloths can be disposable or reusable.
- They should be changed between loads.
- If they are reusable, they should be washed and dried between uses.

APPENDIX 6 - DONNING AND DOFFING OF PPE

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.

3 **Procedure/surgical mask**

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

N95 respirator

- 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 face and eyes and adjust to fit.

5 **Gloves**

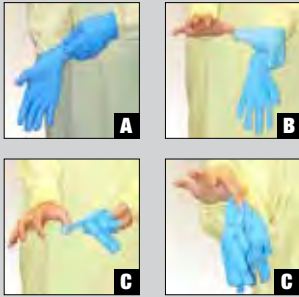
- ◆ Pull the cuffs of the gloves over the cuffs of the gown.



APPENDIX 6 - DONNING AND DOFFING OF PPE

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.
- ◆ Throw 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.

7 HAND HYGIENE

- ◆ **Clean your hands.** (See No. 2)

APPENDIX 7 - CLASSIFICATION OF EQUIPMENT

CLASSIFICATION OF EQUIPMENT			
	NON-CRITICAL ITEMS	SEMI-CRITICAL ITEMS	CRITICAL ITEMS
Definition	<ul style="list-style-type: none"> Items that ordinarily do not touch the patient or touch only intact skin, but no mucous membranes. 	<ul style="list-style-type: none"> Items that come into contact with non-intact skin and mucous membranes, but do not ordinarily penetrate body surfaces. 	<ul style="list-style-type: none"> Items or instruments directly introduced into the blood stream or another normally sterile area of the body. Semi-critical items with the potential of contact with open lesions or irritated mucous membranes are treated as critical items.
Rationale	<ul style="list-style-type: none"> Intact skin is an effective barrier to most micro-organisms, and sterility is not critical. Generally little risk of transmitting infections by non-critical items. However, these items could potentially contribute to secondary transmission by contaminating the hands of the health care worker, or by contact with equipment that subsequently comes in contact with the client. 	<ul style="list-style-type: none"> Mucous membranes are generally resistant to infection by common bacterial spores, but are not resistant to micro-organisms such as viruses. There is potential for secondary transmission from equipment not cleaned completely between uses. 	<ul style="list-style-type: none"> If these items become contaminated with any micro-organism they present a high infection risk.
Reprocessing Requirements	<ul style="list-style-type: none"> Disposable items can reduce even the low risk of disease transmission. Reprocessing involves meticulous cleaning and/or low-level disinfection (LLD). 	<ul style="list-style-type: none"> Disposable items minimize the cost of health care workers time and reduce the hazards of using these strong chemicals. Items that are not disposable must receive high level disinfection between clients. Reprocessing involves meticulous cleaning followed by high level disinfection. 	<ul style="list-style-type: none"> Disposable items are recommended as they provide a standard of sterility. Items that are not disposable must be sterilized between clients following instructions provided by the manufacturer. Reprocessing involves meticulous cleaning followed by sterilization.
Examples	Environmental surfaces such as: shared wheel-chairs, treatment surfaces (mats, plinths, tables), BP cuffs, toys, stethoscopes, ear pieces to stethoscopes, ear specula, audiometers, shared walking aids, electronic equipment parts that come into direct contact with the client.	Nasal specula, oral motor therapy equipment.	Syringes, needles, wound debridement equipment, needle injectors, footcare instruments.

APPENDIX 8 - CLEANING SCHEDULE FOR EXAMPLES OF COMMON COMMUNITY REHABILITATION ITEMS

AFTER EACH USE	WEEKLY AND WHEN VISIBLY SOILED	REGULARLY SCHEDULED BASIS AND WHEN VISIBLY SOILED
<ul style="list-style-type: none"> • Mouthed toys • BP cuffs • Stethoscopes • Thermometers • Exam table 	<ul style="list-style-type: none"> • Desk top containers • Laundry hamper/cart • Logs should be kept of the cleaning of these items <p>NB. Logs should be kept of the cleaning of these items</p>	<ul style="list-style-type: none"> • Non-mouthed toys • Storage cupboards • Shelving • Professional Supply Bags • Drawers for sterile supplies (quarterly) • Ice Machines (quarterly) • Medical Gel containers <p>NB. Logs should be kept of the cleaning of these items</p>



APPENDIX 8A: REGULARLY SCHEDULED CLEANING PROCEDURE FOR NON-CRITICAL CLINIC ITEMS

These are non critical items and require thorough cleaning with soap and water followed by thorough rinsing with clean water. These items must be completely dry prior to refilling with sterile supplies.

- Ensure sink or basin which will be used for soap and water and the counter area to be used for drying are cleaned prior to gathering of items to be cleaned.
- Gather items to be cleaned.
- Assemble cleaning supplies:
 - Cleaning solution (detergent)
 - Clean dry cloths
 - Brush (if required)
 - Utility gloves
 - Eye protection if splashing is a concern
 - Gown if concerned about soiling or splashing of clothes
- Disassemble all multi-part items to ensure all surfaces are cleaned and disinfected (e.g. medical gel containers).
- Use friction to remove any soil, dust, blood or body fluids from the surface of the equipment.
- If there are crevices that require cleaning, a brush may be required. When using a brush ensure the equipment and brush remain under water to prevent splashing.
- Each "load" of equipment requires a fresh preparation of warm water and detergent diluted as indicated by the manufacturer. The container used to wash the item should be cleaned between loads to minimize risk of cross infection. A fresh cleaning cloth should be used for each "load".
- Following thorough cleaning, the items must be thoroughly rinsed under running water to remove soap residue.
- Allow the items to air dry.
- Gloves and brushes should be washed between loads to prevent cross-contamination.
- When these items are dry, they should be wiped with LLD and allowed to air dry again.
 - Review the manufacturer's instructions to determine the length of contact time required to provide the required level of disinfection. The premoistened wipes will need to be replaced when they do not leave the item damp long enough to be effective. When using the prepared product ensure that the amount of product used provides for the recommended contact time.



APPENDIX 8B: CLEANING OF CLIENT CARE EQUIPMENT

Equipment:

- BP cuff
- Stethoscope
- Thermometer
- Treatment surface such as a mat, hand table
- Goniometer
- Measuring tape
- Doppler probe
- Audiology head sets
- Any cables or reusable connecting tubing

Procedure:

- These items require cleaning and disinfection between clients.
- In order to achieve this, they must be wiped to remove any soil followed by wiping again to disinfect.
- A LLD premoistened wipe can be used to disinfect the surface.
- Follow the manufacturer's recommendations for using the wipe.
- Allow the item to dry before returning it to the Supply bag or storage container.



APPENDIX 8C - CLEANING PRODUCTS

LOW LEVEL DISINFECTANTS (LLD)

When cleaning it is important to select the correct product for the intended task. The following tables outline information about the different types of products available for cleaning. It is always important to be aware of the manufacturers' recommendations for the specific product being used. **Always check expiry date on product container prior to use.** The presence of organic soil reduces the effectiveness of disinfectants, therefore all devices and environmental surfaces must be thoroughly cleaned prior to disinfection. **All of these products must be stored out of the reach of children.**

Alcohol			
PRODUCT	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Alcohol, Isopropyl 60-95%	<ul style="list-style-type: none"> Low level disinfection 	<ul style="list-style-type: none"> Small surface decontamination Skin antisepsis 	<ul style="list-style-type: none"> Allow to dry on surface
Comments: <ul style="list-style-type: none"> Fast acting. No residue. Non staining. No cleaning properties. Concentrations above 95% are not effective – requires combination of alcohol and water to destroy the proteins, therefore, concentrations of 60-90% are most effective. Alcohol swabs are used on the rubber stoppers of multi-dose vials. Documented shortcomings when used on equipment include: <ul style="list-style-type: none"> Damages the shellac mountings of lensed instruments. Tend to swell and harden rubber and certain plastic tubing after prolonged and repeated use. Flammable and consequently must be stored in a cool, well ventilated area. Evaporates rapidly, therefore, extended exposure time difficult unless immersed. Inactivated by organic material. 			

Accelerated Hydrogen Peroxide (AHP)			
PRODUCT EXAMPLES	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Virox™ 5 RTU PerCept Wipes (0.5%) Accel® TB (0.5%)	<ul style="list-style-type: none"> Low level disinfection 	<ul style="list-style-type: none"> Surface disinfectant 	<ul style="list-style-type: none"> 5 minutes or until dry
Comments: <ul style="list-style-type: none"> AHP is more stable and faster acting than hydrogen peroxide. Available as liquid or wipes. 			

Chlorine Compounds (Bleach Products)			
PRODUCT	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Household bleach E.g. 5.25%-6.15% Chlorine and Chlorine compounds, 500ppm Sodium hypochlorite	<ul style="list-style-type: none"> Low level disinfection 	<ul style="list-style-type: none"> Surface disinfection 	<ul style="list-style-type: none"> 10 minutes Allow to dry on surface
Comments: <ul style="list-style-type: none"> Clean surface first, because bleach has no cleaning properties. Diluted 1:100 – for general surface disinfection. Diluted 1:10 – for disinfection following cleaning of blood or body fluid spills. Must be made fresh daily – maximum expiration 24 hours. Use only fresh tap water for mixing Corrosive and harmful to clothing and other fabrics. Use in well ventilated areas. Irritant to skin and mucous membranes. Corrosive to metals. 			

Directions for Preparing and Using Chlorine-based Disinfectants			
PRODUCT	INTENDED USE	RECOMMENDED DILUTION	LEVEL OF AVAILABLE CHLORINE
Household bleach (5% sodium hypochlorite solution with 50,000 ppm available chlorine)	Cleanup of blood spills	Use concentrations ranging from 1 part bleach to be mixed with 99 parts of tap water (1:100) 10 ml bleach : 990 ml tap water or one part of bleach to be mixed with 9 parts of tap water (1:10) 50 ml bleach : 450 ml tap water.	0.05% or 500 ppm 0.5% or 5,000 ppm

Enhanced Quaternary Ammonium Compounds (Enhanced Quats)

PRODUCT EXAMPLES	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Metriguard [®] CaviWipes [™]	<ul style="list-style-type: none"> • Low level disinfection 	<ul style="list-style-type: none"> • Small surface decontamination • Unacceptable for semi-critical and critical items 	<ul style="list-style-type: none"> • Generally 5 minutes or until dry

Comments:

- Most commonly used as cleaner-disinfectant solution for environmental surfaces.
- Available as liquid or wipes.
- Non corrosive.
- Enhanced Quats are Quaternary Ammonium Compounds combined with a low concentration of alcohol. This addition of alcohol creates cleaners with a broad spectrum of antimicrobial activity. The addition of alcohol provides the effectiveness against the hepatitis B virus.

Phenolics

PRODUCT	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Sanicleen [®]	<ul style="list-style-type: none"> • Low level disinfection 	<ul style="list-style-type: none"> • Surface decontamination • Clean hard surfaces and equipment that do not touch mucous membranes 	<ul style="list-style-type: none"> • Minimum 10 minute contact time

Comments:

- **Not to be used on surfaces that infants may contact as it is a neurotoxin.**
- Phenol – more difficult to rinse from equipment.
- Not recommended for use on food contact surfaces.
- May be absorbed through skin or by rubber.
- Some synthetic flooring may become sticky with repetitive use.

HIGH LEVEL DISINFECTANTS (HLD)

General Information

- High Level Disinfection is used for reusable semi-critical devices, that contact mucous membranes and are heat sensitive or incompatible with other sterilization methods.
- Each device must have the manufacturer's instructions for cleaning and disinfection available. Instructions for cleaning, HLD product selection and disinfection process must be followed according to the equipment manufacturers' instructions and the HLD manufacturer's instructions.
- These solutions should always be kept in covered containers to reduce the escape of fumes (toxic vapors) or spillage of chemical product that can be toxic to health care workers (HCW). Any item placed in a chemical sterilant must be fully submerged and all surface areas must make contact with the solution. If evaporation occurs and items are prevented from being fully covered, the solution must not be "topped-up". The solution remaining in the container must be discarded, the container washed, rinsed, and dried. The container can then be filled with fresh solution.
- These types of products must be used in well ventilated areas.
- Due to the toxic nature of these products, all individuals working with them must be aware of the pertinent information regarding toxicity, reactivity, required PPE, storage, and disposal. The material safety data sheet (MSDS) information must be readily available to all HCW using these chemicals.
- Monitoring of and recording the minimal effective concentration (MEC) of the HLD solution following manufacturers' recommendations is required. Testing the solution daily or with each use by using the manufacturers' approved test strips and recording the information will ensure the acceptable MEC of the disinfectant has been used. If the MEC does not meet the recommended level, the solution must be discarded and fresh solution prepared.
- The life of the solution varies with the product used. The manufacturers' instructions must be followed to ensure the correct use of the product.
- Required contact time and temperature varies with the product and device being processed. These parameters must be measured and logged.



Accelerated Hydrogen Peroxide (AHP) (7.0%)			
PRODUCT EXAMPLES	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
AHP 7 Accel CS 20	High Level Disinfection	Chemical Sterilant for decontamination of heat-sensitive medical devices	30 min @ 20°C
	Sterilization		6 hr @ 20°C
<p>Comments:</p> <ul style="list-style-type: none"> • No activation required. • 21 day re-use. • Can cause serious eye damage. • Requires use of PPE. • No odor or irritation issues. • Does not coagulate blood or fix tissues to surfaces. • Material compatibility concerns, (brass, zinc, copper, and nickel/silver plating) both cosmetic and functional. • Fast-acting. • Breaks down into water and oxygen. • Can be corrosive to aluminium, copper, brass, or zinc. 			

Gluteraldehyde (>2%)			
PRODUCT	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Metricide ® Metricide ® 28	<ul style="list-style-type: none"> • High Level Disinfection • Chemical Sterilant • Sterilization 	HLD	Will vary depending on the concentration and product. Always consult manufacturers' instructions.
<p>Comments:</p> <ul style="list-style-type: none"> • Highly toxic. • Requires well-ventilated setting. • Requires use of PPE. • Are fixatives therefore all items must be thoroughly cleaned before contacting this product. • Once activated they have limited shelf life. • Must be thoroughly rinsed from equipment. • Strong odor – pungent and irritating. • Coagulates blood and fixes tissue to surfaces. • Gluteraldehyde vapour monitoring recommended. 			



Ortho-phthalaldehyde (OPA)			
PRODUCT	LEVEL OF DISINFECTION	TYPICAL APPLICATION	EXPOSURE TIME
Cidex ® OPA	<ul style="list-style-type: none"> • High Level Disinfection • Sterilization 	For reprocessing of heat sensitive devices	Varies – check manufacturers' recommendations
<p>Comments:</p> <ul style="list-style-type: none"> • Clear pale blue liquid. • Stable over wide pH range. • Not a known irritant to eyes and nasal passages. • Barely perceptible odor – odor not significant. • Stains proteins gray (including unprotected skin and mucous membrane). • Requires use of PPE. • Requires copious rinsing. • Fast-acting. • No activation required. • Excellent material compatibility. • Does not coagulate blood or fix tissues to surfaces claimed. • Unopened solutions should be stored in cool, well ventilated area at the temperature recommended by the manufacturer. 			



APPENDIX 8D: REGULAR CLEANING OF THE PROFESSIONAL SUPPLY BAGS

NOTE: ALSO APPLIES WHEN BAGS ARE VISIBLY SOILED.

- Remove all contents from the bags.
- Examine all packages to ensure that packages are intact – discard all damaged packages.
- Wipe the inside of the bag with a premoistened LLD wipe.
- Allow to air dry.
- Plastic containers should be washed and cleaned according to the process for clinic items.
- If sealable disposable plastic bags are used, they should be replaced on a regular basis.
- When the inside of the bag is dry, restock as required.
- Do not store bags on the floor.
- Professional Supply Bags that will withstand being laundered should be laundered on a regular basis and when visibly soiled.
- The outside of all bags should be cleaned regularly and as required if visibly soiled.
- Wipe the outside of bag paying attention to handles, shoulder straps and bottom of bag.
- Cleaning logs should be maintained.



APPENDIX 8E: ICE MACHINES, DISPENSERS AND STORAGE CHESTS

General steps for cleaning and maintaining ice machines, dispensers and storage chests for use only when manufacturers' recommended methods and Environmental Protection Agency (EPA) registered disinfectants are not available.

- Disconnect unit from power supply.
- Remove and discard ice from bin or storage chest.
- Allow unit to warm to room temperature.
- Disassemble removable parts of machine that make contact with water to make ice.
- Thoroughly clean machine and parts with water and detergent.
- Dry external surfaces of removable parts before reassembling.
- Check for any needed repair.
- Replace feeder lines as appropriate (e.g. when damaged, old or difficult to clean).
- Ensure presence of an air space in tubing leading from water inlet into water distribution system of machine.
- Inspect for rodent or insect infestations under the unit and treat as needed.
- Check door gaskets (open compartments models) for evidence of leakage or dripping into the storage chest.
- Clean the ice-storage chest or bin with fresh water and detergent; rinse with fresh tap water.
- Sanitize machine by circulating a 50-100 parts per million (ppm) solution of sodium hypochlorite (i.e. 4-8 ml sodium hypochlorite/gallon of water) through the ice making and storage systems for 2 hours (100 ppm solution) or 4 hours (50 ppm solution).
- Drain sodium hypochlorite solution and flush with fresh tap water.
- Allow all surfaces of equipment to dry before returning to service. (Manangan et al.1998)
- Log date of cleaning.



APPENDIX 8F: MEDICAL GELS AND CONTAINERS

- Single use containers are recommended for non-sterile gels.
- The bottles must never be “topped up” (i.e. refilled when partially empty or before being thoroughly cleaned).
- If reusable containers are used, they must be emptied, thoroughly washed (inside and out) in hot soapy water, rinsed completely and dried prior to refilling. A brush may be required to ensure the inside of the bottle is cleaned completely. Special attention must be paid to the dispensing spout (both the outside and the inner lumen).
- During the washing process, the bottle and top should be examined to ensure they remain intact.
- Once the bottle has dried, it is ready to refill. The bottle should be clearly labelled indicating contents, the date of filling and the date of discard.
- When filling a reusable container, ensure that the large bulk container has not passed the expiration date.
- Ensure that the dispensing of the gel from the bulk container is done in a manner which will not contaminate the gel or bottle.



- Bottles should be refilled as close as possible to the time of use.
- The gel bottles should be replaced on a regular basis.
- Tips of containers or dispensing nozzles must not come in direct contact with the client, health care worker, instrumentation or environment. Ideally gel should be dispensed into a medicine cup or on a clean disposable cloth and then to the patient's skin.
- If a medicine cup or a disposable cloth is not used, wipe the dispensing nozzle clean with an alcohol swab and wipe the outside of the container with a disinfectant between patients.
- If a gel is being used on a patient who is on droplet or contact isolation, use a single-use gel container, or leave the reusable container in the room if repeat procedures are necessary and discard the gel when isolation of the patient is discontinued.
- For infrequent procedures, use small or single-use containers.

Warming the Gel

- Gel should only be warmed when required.
- Bottles should be removed from warmer as soon as possible and dried immediately.
- Gel warmers must be cleaned and maintained according to manufacturers' instructions using an approved disinfectant at least weekly and when visibly soiled.

Adapted from the CHICA position statement on Medical Gels.



APPENDIX 9 - BLOOD SPILLS

Blood is potentially infectious and must be cleaned up immediately.

- Appropriate PPE must be worn when cleaning up blood spills. Gloves should be worn during the cleaning and disinfection procedures. Utility gloves are recommended because they are more durable.
- For large spills, where there is a possibility of splashing, eye protection and a gown should be worn for the cleaning procedure.
- The blood must be cleaned from the area before applying the disinfectant to prevent inactivation of the disinfectant.
- Blood and body fluids should be blotted up with disposable towels.
- Used disposable towels can be discarded into the regular plastic-lined waste container. Once clean up is completed, tie garbage bag and place in the regular garbage.
- After cleaning, the area must be disinfected with a low-level disinfectant that is effective against hepatitis B. The most common product used is a dilution of household bleach. The required concentration is dependent on the amount of organic material. Therefore, it is recommended that 1:10 dilution be used.
- Bleach solution should be prepared on an as needed basis. It only remains stable for 24 hours following preparation.
- Other low level disinfectants (LLD) that are effective against blood borne pathogens can be used in place of bleach, if preferred.

To clean a hard non-porous surface:

- The first step in cleaning the area is to remove the visible blood with absorbent material (e.g. disposable paper towels). These towels should be placed directly in a plastic lined waste container. (If the disposable towels used to absorb the fluids are saturated and dripping with blood, the plastic liner should be placed in the biohazardous container when the clean up is completed). (If available)
- Once the excess blood has been removed, the area should be cleaned with detergent and water to remove the remaining blood or body fluids.
- Following the cleaning, the area should be disinfected with a freshly prepared solution of 1:10 (50 ml bleach : 450 ml of tap water) of household bleach.
- The plastic liner and contents should be removed from the waste containers and discarded in the appropriate place at the completion of the cleaning.
- If a mop is used to clean the area, the mop head must be changed before cleaning any other area.

BLOOD SPILLS (CONTINUED)

- Remaining cleaning solution in the bucket should be discarded and the bucket should be cleaned and disinfected prior to removal of PPE.
- When dry, return the cleaning equipment to the appropriate storage area.
- Hand hygiene should be performed following the removal of gloves prior to removal of any other PPE.
- PPE items should be removed and discarded or set aside for cleaning and disinfection as appropriate when the cleanup is completed.
- Following the removal of the remaining PPE and appropriate disposal, hand hygiene must be performed.

To clean a porous surface: (Rhinehart, E & McGoldrick, M, 2006)

- Using a bleach solution on carpets and upholstery will remove the color and chemically damage the tensile strength of the fibers and backing on carpet.
- An extraction cleaning process with standard cleaning products is recommended.
- Used towels and disposable gloves should be discarded in a plastic lined garbage can.
- Perform appropriate hand hygiene following removal of gloves.
- The bucket used must be emptied and cleaned following use.

Blood or Body Fluid Spill in Conjunction with Sharps

- Utility gloves should be worn and other PPE as required.
- If there is an excess amount of fluid, disposable paper towels may be placed over the area to absorb the fluid.
- Use a brush and dust pan to collect the sharps and paper towels if used.
- Small broken pieces can be placed in sharps container, if it can be done safely.
- If the sharps cannot be safely placed in a sharps container, place them directly into a biohazardous container. (If available)
- When determined that the area is free from sharps, proceed with cleaning.



APPENDIX 10 - KEY TERMS AND DEFINITIONS

Antiseptic:

Chemicals formulated to kill micro-organisms on living skin or mucous membranes. Should not be used in housekeeping.

Antibiotic Resistant Organisms (ARO):

An individual form of life (e.g. bacteria) that can withstand the effects of an antibiotic.

Antimicrobial:

An agent that destroys or prevents the development of micro-organisms.

Asepsis:

The absence of infection or infectious materials or agents; prevention of contact with micro-organisms. The state of being free of pathogenic organisms.

Bacteria:

Single celled micro-organisms that lack chlorophyll. Some are capable of causing human, animal or plant diseases.

Bacteriostatic:

Prevents growth of bacteria.

Bloodborne Pathogen:

Disease producing micro-organisms spread by contact with blood or other body fluids contaminated with blood from an infected person.

Causative Agent:

A micro-organism which can possibly cause an infectious disease. Also called a pathogen.

Chemical Sterilant:

Liquid chemical placed on an inanimate object that destroys all forms of microbial life including fungal and bacterial spores.

Cleaning:

Removal of all foreign material from objects (e.g. removal of dirt or grossly visible body fluids from surfaces). Consists of washing, rinsing and drying an item.

Colonization:

Presence of micro-organisms at a body site not associated with infection of the host. The individual is not ill as a result of the micro-organism.

<i>Communicable:</i>	<i>Capable of being transmitted from one person to another.</i>
<i>Contamination:</i>	<i>The presence of micro-organisms on inanimate objects (e.g. blood pressure cuffs, fetal monitors) or in substances (e.g. water, food, milk).</i>
<i>Critical Items:</i>	<i>Devices that enter sterile tissue or spaces and thus must be sterile for use (e.g. needles).</i>
<i>Decontamination:</i>	<i>The removal of disease-producing micro-organisms to leave an item safe for further handling.</i>
<i>Denature:</i>	<i>To modify the molecular structure of a protein so as to destroy or diminish some of the original properties and especially the specific biological activity.</i>
<i>Disinfectant:</i>	<i>A chemical used to eliminate pathogenic micro-organisms from inanimate objects and surfaces.</i>
<i>Disinfection:</i>	<i>A process that eliminates many or all micro-organisms except bacterial spores.</i>
<i>Doffing:</i>	<i>To remove (an article of clothing or wear) from the body.</i>
<i>Donning:</i>	<i>To put on (an article of clothing or wear).</i>
<i>Event-Related Packaging:</i>	<i>A storage practice that recognizes that a package and its contents should remain sterile until some event causes the items to become contaminated (e.g. wetting, tearing or dropping).</i>
<i>Fixative:</i>	<i>A solution used to preserve or harden fresh tissue of cell specimens for microscopic examination. When used medical devices are in contact with a HLD prior to cleaning, debris on the item is fixed to the surface and becomes very difficult to remove.</i>
<i>Germicide:</i>	<i>An agent that destroys micro-organisms on both living tissue and inanimate objects. There are three types of germicide. See also antiseptic, disinfectant, and chemical sterilant.</i>

Gown:

Cover garment with long sleeves and cuffs at the wrist that tie up at the back. Often they are moisture resistant.

Hand Hygiene:

A general term that applies to hand cleaning by using antiseptic handwash, antiseptic handrub and surgical hand antiseptics. It includes care of hands to maintain skin integrity.

Health Care-Associated Infection:

Any infection associated with receiving health care. Replaces "nosocomial" which is limited to adverse infectious outcomes occurring in hospitals.

High Level Disinfection (HLD):

Destroys all vegetative bacteria, fungi, mycobacteria and viruses but not necessarily bacterial spores. Level of disinfection required for semi-critical items.

Infection:

Invasion and multiplication of micro-organisms in body tissues which may be clinically unapparent or result in local cellular injury. The infection may be localized, subclinical, and temporary. It may persist and spread to become an acute, subacute or chronic clinical infection or disease state. A local infection may become systemic when the micro-organisms gain access to the lymphatic or vascular system. A condition in a host resulting from the presence and invasion of micro-organisms. Entry of a pathogenic organisms resulting in clinical signs and symptoms of infection.

Low Level Disinfectants (LLD):

Will kill most vegetative bacteria, and some viruses and fungi. LLD cannot be relied on to kill mycobacteria or bacterial spores. This category of disinfectant is the one most commonly used in community facilities (e.g. Metriguard, CaviWipes, Virox). Used to clean environmental surfaces.

<i>Low Level Disinfection:</i>	<i>A process that inactivates the majority of vegetative bacteria, certain fungi and certain viruses, but cannot be relied on to inactivate resistant micro-organisms (e.g. mycobacteria or bacterial spores). Required level of disinfection for non-critical items.</i>
<i>Mode of Transmission:</i>	<i>The means by which the organism moves from a reservoir to a susceptible host.</i>
<i>Nebulization:</i>	<i>Reduce to fine spray.</i>
<i>Negative Pressure Room:</i>	<i>Room with monitored negative pressure relative to surrounding area.</i>
<i>Non-Critical Items:</i>	<i>Equipment that contacts only intact skin or does not directly touch the client. Should be clean for use, requires low level disinfection (e.g. stethoscopes, blood pressure cuff).</i>
<i>Portal of Entry</i>	<i>The means by which the causative agent enters the susceptible host.</i>
<i>Portal of Exit:</i>	<i>The means by which the causative agent leaves the reservoir.</i>
<i>Personal Protective Equipment (PPE):</i>	<i>Specialized clothing or equipment worn by an employee for protection against a hazard (e.g. gloves, mask, eye protection, gown).</i>
<i>Reservoir:</i>	<i>A place in which an infectious agent can survive but may or may not multiply.</i>
<i>Resident Bacteria:</i>	<i>Micro-organisms normally located on the skin.</i>
<i>Routine Practices:</i>	<i>A way of thinking that forms the foundation for limiting the transmission of micro-organisms in all health care settings. Activities to be used with all clients. A term used by Health Canada/Public Health Agency of Canada to describe the system of Infection Prevention and Control practices recommended in Canada to prevent and control transmission of micro-organisms in health care settings.</i>

<i>Semi-Critical Items:</i>	<i>Devices that contact mucous membranes and non-intact skin (e.g. vaginal speculum). These items require intermediate or high level disinfection.</i>
<i>Single Use Device:</i>	<i>A device intended to be used on one client and then discarded appropriately.</i>
<i>Sterile:</i>	<i>Free from all living micro-organisms.</i>
<i>Sterilization:</i>	<i>A process that completely eliminates or kills all micro-organisms.</i>
<i>Susceptible Host:</i>	<i>A person lacking effective resistance to a particular infectious agent.</i>
<i>Transient Bacteria:</i>	<i>Micro-organisms that are recent contaminants that survive for a limited time and are readily removed by hand washing. They are present when hands have touched something with microbes.</i>
<i>Transmission:</i>	<i>A link in the chain of infection in which passing of infection to a host occurs.</i>
<i>Transmission Based Precautions (Additional Precautions):</i>	<i>A set of practices that apply to patients with documented or suspected infection or colonization with highly transmissible or epidemiologically important pathogens for which practices beyond Routine Practices are required.</i>
<i>Viruses:</i>	<i>An ultra microscopic micro-organism parasitic within living cells and may can cause disease in humans.</i>



APPENDIX 11 - REFERENCES

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