

INFECTION PREVENTION AND CONTROL GUIDELINES FOR SPEECH-LANGUAGE PATHOLOGY

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INTERORGANIZATIONAL GROUP FOR SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

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Update and Review

It is recommended that the contents of this document be reviewed and updated every three years, or as required based on substantial changes in accepted infection prevention and control practice.

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INTRODUCTION

Infection prevention and control (IPC) in speech-language pathology practice refers to *“the conscious management of clinical environments for purposes of minimizing or eliminating the potential spread of disease.”*¹³

All **health care workers**, including speech-language pathologists (S-LPs), are accountable for providing safe and ethical care to the public. S-LPs play a critical role in the development and maintenance of IPC programs, whether they work on their own or on interprofessional teams.¹⁵

PURPOSE AND SCOPE

The purpose of these guidelines is to provide S-LPs with succinct and practical IPC information that is applicable across clinical practice settings. These may include but are not limited to ambulatory and community clinics (including private practice settings); childcare and school settings; long term care facilities (i.e., nursing homes, homes for the aged, retirement homes, group homes); private homes; and hospital settings (i.e., patient care units or services).

This document reviews **standard or routine precautions** and **additional precautions** of relevance to the profession. Health Canada uses the term **routine practices** to describe the system of IPC practices recommended in Canada to prevent and control transmission of **microorganisms**.⁸ According to the World Health Organization (WHO),¹⁵ standard or routine precautions are to be applied to all clients at all times, regardless of diagnosis or infectious status. Additional precautions, including **airborne, droplet, and contact precautions**, are taken while ensuring that standard precautions are also maintained.

This document is intended to guide clinical practice and decision-making on IPC issues. S-LPs are encouraged to reflect on their individual practice, and their typical assessment and intervention procedures as they review the contents of these guidelines. In some instances the documented recommendations will already be an integral component of an S-LP’s IPC practice, where in other instances, a change or shift in clinical practice may be required in order to integrate use of the IPC guidelines. S-LPs should also be aware of and comply with employer and/or agency policies, occupational health and safety legislation, and any additional provincial standards related to IPC, where they exist.

GUIDING PRINCIPLES

- IPC strategies are designed to protect clients, S-LPs, other service providers, and the community.
- **Health care associated infections** can be prevented and/or minimized by following IPC strategies.
- A systematic approach to IPC requires each S-LP to play a vital role in protecting each client regardless of practice setting. S-LPs follow IPC practices at all times and use critical thinking and problem solving in managing clinical situations.
- S-LPs have an understanding of CHICA (2006) *Core Competencies for Infection Prevention and Control for Health Care Providers*⁵ (Appendix A) and apply them according to the needs of individual practice settings. These competencies focus in the following areas: critical assessment skills, understanding the basic rationale for routine practices, personal safety, use of routine practices, cleaning, disinfection, sterilization, waste management, and additional precautions.

Adapted from: Ontario Ministry of Health and Long Term Care IPC Core Competencies Education¹¹

(http://www.health.gov.on.ca/english/providers/program/infectious/infect_prevent/ipccce_mn.html)

Table 1: Overview of infectious diseases and common microbes, microbial category of the causative or microbial agent, and associated complications relative to the speech-language pathology environment

Disease	Microbial Category	Complications
AIDS	virus (HIV)	wide range of opportunistic infections causing malaise, hearing disorders, systemic infection, death
<i>Aspergillus</i>	fungus	cutaneous infection
<i>Candida</i>	fungus	candidiasis, cutaneous disease of the skin and nails, mucousal infection of the oral, esophageal, bronchial, and/or vaginal surfaces, systemic infection, meningitis, endocarditis, pulmonary infection
Chicken pox	virus	conjunctivitis, shingles, encephalitis
Coag neg <i>staphylococcus</i>	bacterium	folliculitis, furuncles, boils, carbuncles, bacteremia, endocarditis, pneumonia, osteomyelitis
Common cold	virus	cough, occasional low-grade fever, malaise
Cytomegalovirus	virus	mild flu-like symptoms, moderate to severe generalized infection, liver or spleen damage, sensorineural hearing loss, visual impairment, cognitive dysfunction
Hepatitis B (HBV)	virus	flu-like symptoms, jaundice, fever, liver damage, death
Herpes simplex	virus	herpetic conjunctivitis, pain, discomfort, suppurative inflammation of digits
Herpes zoster	virus	painful vesicular eruptions, discomfort
Influenza	virus	respiratory infection, fever, chills, headache, myalgia, cough, sore throat
Otitis externa	bacterium, fungus	itchy, dry ear canal skin, redness, edema, pain

Disease	Microbial Category	Complications
<i>Pseudomonas aeruginosa</i>	bacterium	bacteremia, endocarditis, chronic otitis externa, malignant otitis, otitis externa, pulmonary infections, eye infections
SARS	Prion (virus)	fever, headache, body aches, discomfort, dry cough, respiratory distress, death
<i>Staphylococcus aureus</i>	bacterium	folliculitis, furuncles, boils, carbuncles, bacteremia, endocarditis, pneumonia, osteomyelitis
Streptococcal infection	bacterium	pneumonia, suppurative inflammation, endocarditis, kidney problems
Tuberculosis	bacterium	persistent, dry cough, chronic lung infection, malaise, weakness, loss of appetite, weight loss, fever, chills, night sweats

RATIONALE FOR STANDARD/ROUTINE PRACTICES

Adapted from: Public Health Agency of Canada (1999)¹³ (<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html>) and Infection Control Guidelines for Early Learning and Child Care⁹ (<http://www.gov.mb.ca/fs/childcare/pubs/healthypractices/infection-control.pdf>)

While typically healthy individuals will face infection from time-to-time, a proportion of speech-language pathology clients may be immunocompromised in some way. Harmless microbes existing throughout the environment and under the right conditions can cause serious, life-threatening illnesses in individuals with some level of immunocompromise.¹ Infections that take advantage of weakness in the immune defenses are called “opportunistic infections”. It is important that S-LPs consider these opportunistic infections and the impact they may have on select clients.

The Chain of Transmission

Transmission of infection requires three elements: a **source** of infecting microorganisms, a susceptible host, and a means of transmission for the microorganism.

Sources of the infecting microorganisms may be human (e.g., clients, S-LPs, other employees, family members, etc.), they may include food and water, inanimate environmental objects that have become contaminated (e.g., toys, other equipment, etc.), and vectors such as insects and vermin. Microorganisms include **bacteria**, **viruses**, **fungi** and **parasites**, and can be transmitted through any of the above means.

Microorganisms may be transmitted via four main routes. These include: contact, airborne, common vehicle, and vectorborne.

Contact transmission may occur via direct or indirect means:

Direct contact transmission involves direct body-to-body surface contact and physical transfer of microorganisms between an infected or **colonized** person and another individual (e.g., when an S-LP assists with transfer of a client or touches a preschool-aged client during a circle time activity; when two clients have direct body-to-body surface contact while sitting next to one another, etc.). The S-LP must wash his/her hands at the beginning and end of each session to prevent the transfer of organisms from one person to another.

Indirect contact transmission involves contact between an individual (susceptible host) and, for example, a contaminated inanimate object such as motivational therapy toys, assessment tools, or environmental surfaces (frequent touch surfaces may include door knobs and handles, handrails, tables, chairs, washroom surfaces, cutlery and dishes, computer keyboards, mice, electronic devices with buttons, office supplies, medical instruments, and toys). The contamination of inanimate objects is often the result of unwashed hands. Oral-fecal transmission essentially occurs through indirect contact when fecal organisms from an infected individual come in contact with an inanimate object or a common vehicle such as food or medication. Inadequate hand and/or environmental cleaning or practices where intermediary contaminated objects are used are generally the culprit of such transmission. Some organisms are capable of surviving on a surface for an extended period of time. Any touch surface that cannot be easily cleaned and disinfected should be discarded.

Droplet transmission is technically another form of contact transmission although distinct from the other forms. Droplet secretions are produced after coughing, sneezing, or talking, and also during procedures such as suctioning and the administration of inhalants. Droplets containing infection travel through the air, and can be breathed in, or land in a person's nose, mouth or eyes, which can also cause an infection. Droplets do not remain suspended in the air, and hence do not require special air handling and ventilation. They can however, contaminate the surrounding environment resulting in indirect contact transmission. Respiratory etiquette is an important consideration to prevent the spread of droplet secretions.

Airborne transmission occurs when particular types of microorganisms remain suspended in the air for long periods of time and are dispersed by air currents. Airborne evaporated droplets containing microorganisms, or dust particles containing an infectious agent can be inhaled by a person in the same room or over a longer distance from the source. Airborne transmission allows organisms to enter the upper and lower respiratory tracts. For example, influenza, tuberculosis, measles, chickenpox, and shingles are all spread by airborne transmission. While environmental controls (e.g., appropriate ventilation systems and air handling) are especially important with regard to airborne transmission, a **hierarchy of control measures** is recommended. This **hierarchy of controls** includes the use of personal protective equipment.

Common vehicle transmission applies to microorganisms transmitted by contaminated items such as food, water and medications to multiple hosts, resulting in explosive outbreaks.

Vectorborne transmission occurs when vectors such as mosquitoes, flies, rats, and other vermin transmit microorganisms.

Resistance to pathogenic microorganisms can vary greatly from one individual to another. Some individuals may be immune to infection or may be able to resist **colonization** by an infectious agent. Other individuals exposed to the same microorganism may become asymptomatic carriers. Still others will develop disease. Host factors including age, underlying diseases, and breaks in the “first line of defense” (e.g., factors such as surgical operations, anesthesia, or invasive procedures) may make individuals more susceptible to infection. Self care practices such as good oral hygiene, hand hygiene, and respiratory etiquette can all reduce the risk of infection.

STANDARD OR ROUTINE PRECAUTIONS

Standard or routine precautions are to be applied to all clients at all times, regardless of diagnosis or infectious status.¹⁵ They are the minimum practice standard or activity that is expected.⁵

The elements classified as standard precautions include:

- Hand hygiene
- Risk assessment related to client symptoms, care and service delivery, including screening for infectious diseases, fever, respiratory symptoms, rash, diarrhea, excretions and secretions
- Risk reduction strategies such as promoting use of respiratory etiquette, client placement, and use of personal protective equipment
- Environmental cleaning, disinfection, and sterilization of multiple and single use equipment
- Laundry and waste management
- Sharps injury prevention and post exposure management
- Healthy workplace practices including the education of S-LPs, clients, their families, and other staff regarding recommended immunizations and when to stay home from work

The Canadian Committee on Antibiotic Resistance (CCAR)⁴ (<http://www.ccar-ccra.com/english/pdfs/IPC-BestPractices-June2007.pdf>) offers fact sheets outlining many of the standard or routine precautions listed above. These are available for public use and may be reprinted without special permission (unless otherwise noted).

Standard or routine precautions are asterisked (*) to indicate the availability of a fact sheet at the attached hyperlink. Appendix B of this document, *Checklist or Audit Tool for Treatment Office* and *Checklist or Audit Tool for Services Provided in Client's Homes* (adapted from CCAR documents) also provides a checklist of routine practices to be implemented by S-LPs in these environments.

Additional precautions may be necessary for certain situations when routine practices are not sufficient to prevent transmission, such as patients with highly infectious diseases or who are colonized with antibiotic resistant organisms (e.g., tuberculosis, measles, MRSA). It is recommended that speech-language pathologists consult with an infection control practitioner or other relevant resources to determine when additional precautions are required and how these should be implemented.

Hand Hygiene

Hand hygiene* is the single most important way to prevent infection. Refer to the World Health Organization (2009) document entitled WHO Guidelines on Hand Hygiene in Health Care¹⁶ (http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf) for a comprehensive review of this area.

S-LPs should perform hand hygiene:

- Before and after assessing or treating a client
- Between “dirty” and “clean” activities with the same client (e.g., sand play followed by one-on-one articulation work at a table; helping a client blow his/her nose followed by table top therapy activities)
- Immediately after touching body fluids or any contaminated items in the immediate environment
- Immediately after removing personal protective equipment such as gloves (e.g., after performing an oral peripheral examination)
- Before and after preparing or handling food
- Before and after smoking
- Before and after feeding a client
- After handling money or other items that may be contaminated
- After personal body functions, such as using the toilet or blowing one’s nose
- Immediately if skin is contaminated and/or injury occurs
- At the end of a workday

S-LPs should encourage clients to perform hand hygiene at the beginning of the therapy session, prior to handling assessment and therapy materials, or when transitioning between “dirty” and “clean” activities.

Alcohol-based hand rubs are recommended to decontaminate hands in clinical situations when hands are not visibly soiled. It is recommended that they contain a minimum of 60% ethanol (ethyl alcohol).

Hand Rub Technique:

- Remove hand and arm jewellery
- Apply between 1 to 2 full pumps of product, or a loonie-sized amount onto one palm.
- Spread product over all surfaces of hands, concentrating on finger tips, between fingers, back of hands, and base of thumbs

- Rub hands until product is dry. This will take 15-20 seconds if an adequate amount of product has been used. The entire hand rub technique process should take approximately 20-30 seconds in total.

Hand washing must be performed when hands are visibly soiled. A disposable pump dispenser is recommended in all settings except for individual client/resident personal use, where bar soap is also considered acceptable. Antibacterial soaps may be used in critical care areas such as Intensive Care Units (ICU) or in areas where invasive procedures are performed (e.g., nasendoscopy, etc.).

Hand Washing Technique:

- Remove hand and arm jewellery
- Wet hands with warm water (hot water will lead to dryness)
- Apply soap
- Vigorously rub all aspects of your hands for a minimum of 15 seconds, paying particular attention to finger tips, between fingers, backs of hands and base of thumbs
- Rinse and dry hands thoroughly with an air dryer or by blotting gently with a paper towel, if available, so as not to damage the skin
- Turn off taps with paper towel, if available

Soaps, antimicrobial agents, and extra hand washing can be hard on the hands. To maintain skin integrity it is important to use hand lotion.

Risk Assessment

Risk assessment* is the process of systematically evaluating risks to safety and health.¹⁴ A risk assessment procedure includes the following:

Step one: Identifying hazards and those at risk:

- From a specific interaction (e.g., face-to-face interaction with a client, transport of a client, etc.)
- With a specific client (e.g., infants, clients with respiratory illness, etc.)
- In a specific environment (e.g., classroom, private home, therapy room, etc.)

Step two: Evaluating and prioritizing risks:

- Estimate the risks regarding severity and probability of causing harm

Step three: Deciding on preventive action to eliminate or control the risks

Step four: Taking action to put preventive and protective measures in place

Step five: Monitoring and reviewing

The same process would apply to decision-making regardless of the practice setting.

An excellent example of risk assessment in practice can be found in the Public Health Agency of Canada IPC Measures for H1N1 Flu Virus (2009)¹⁴ (<http://www.phac-aspc.gc.ca/alert-alerte/h1n1/hp-ps/a1-eng.php>).

S-LPs should be prepared to ask a few simple questions in the clinic setting to determine the level of risk, how to proceed, and whether standard or additional precautions are required. Questions regarding communicable diseases (such as coughs, fevers, rashes, diarrhea, and eye infections) should be included as part of the screening. Questions regarding recent exposures to infectious disease such as chickenpox or tuberculosis and recent travel, depending on what is prevalent in the community, should also be asked.

Information regarding when to stay at home or cancel an appointment should be provided to prospective clients at the time of initial booking. A script could include the following:

If you/your child have symptoms of fever and cough, diarrhea, rash, or untreated eye infections within 24 hours of your appointment, please let this office know before the scheduled appointment. Visits can be re-scheduled due to illness.

A sample screening poster and screening questionnaire for febrile respiratory illness are available on pages 29-30 of The Canadian Committee on Antibiotic Resistance (CCAR) (2007) document⁴ (<http://www.ccar-ccra.com/english/pdfs/IPC-BestPractices-June2007.pdf>).

S-LPs should also be aware of health and travel alerts regarding exposure to infectious diseases, including pandemics. They would be advised to follow the guidelines put forth by the Ministry(ies) of Health related to specific situations.

Risk Reduction Strategies

Respiratory Etiquette

Respiratory etiquette* involves measures to contain respiratory secretions for all individuals with signs and symptoms of a respiratory infection. They include the following:

- Cover nose/mouth when coughing or sneezing – cough into elbow or sleeve
- Use tissues to contain respiratory secretions and dispose of them immediately in the nearest waste receptacle after use
- Perform hand hygiene (e.g., hand washing or use alcohol-based hand rub) after having contact with respiratory secretions and contaminated objects

A sample respiratory etiquette poster is available on page 31 of the The Canadian Committee on Antibiotic Resistance (CCAR) (2007) document⁴ (<http://www.ccar-ccra.com/english/pdfs/IPC-BestPractices-June2007.pdf>).

Client Placement

In acute and residential care settings, patients should be assigned to single rooms if they are likely to contaminate the environment and transmit infection. In outpatient settings, patients may be seated in a separate waiting room while they await their appointment or rescheduled if they are likely to contaminate the environment and transmit infection. Maintaining a 1 to 2 metre distance from a client is recommended until initial screening or triage can be completed. Sitting beside the client rather than across from them is preferred.

Personal Protective Equipment

Barriers or **personal protective equipment (PPE)*** are required whenever there is a risk of coming in contact with non-intact skin, mucous membranes or body fluids. PPE may serve to protect the S-LP and/or may serve to protect the client.

For S-LPs, common situations that may require the use of PPE would include:

- oral peripheral examination
- feeding and swallowing assessment and intervention
- assessment and intervention with tracheostomized clients
- oral hygiene
- any speech-language interventions provided in environments where additional precautions have been identified (i.e., a client with C-difficile in a hospital setting, additional airborne or droplet precautions in a long term care facility, etc.)
- handling dirty laundry or waste materials
- when dealing with immunocompromised clients

Gloves are the most commonly worn PPE. They do not replace good hand hygiene; however, they should be worn when there is a risk of coming in contact with non-intact skin, mucous membranes, or body fluids. Glove material should be chosen based on the risks for which they are being worn (e.g., vinyl for personal care, latex for sterile invasive procedures, nitrile for exposure to chemicals). Single use disposable gloves must not be reused or washed. Gloves should be located in all client and therapy rooms and available in different sizes.

Remove or change gloves and perform hand hygiene when:

- moving between dirty and clean procedures, even on the same client (e.g., following an oral exam and before starting table top activities)
- after contact with contaminated items

Gloves should be removed immediately after completion of the procedure at point of use and before touching clean environmental surfaces.

Proper procedure for removal of gloves is as follows:

- With both hands gloved, grasp the outside of one glove at the top of your wrist.
- Peel off this first glove, peeling away from your body and from wrist to fingertips, turning the glove inside out.
- Hold the glove you just removed in your gloved hand.

- With your ungloved hand, peel off the second glove by inserting your fingers inside the glove at the top of your wrist.
- Turn the second glove inside out while tilting it away from your body, leaving the first glove inside the second.
- Dispose of the entire bundle promptly in a waterproof garbage bag. **Do not reuse!**
- Wash your hands thoroughly with soap and water as soon as possible after removing gloves and before touching any objects and surfaces.

Adapted from: Occupational Health & Safety Agency for Healthcare in BC (OHSAH) (2008) Home and Community Care Risk Assessment Tool: Resource Guide¹⁰ (<http://www.ohsah.bc.ca/552/3415/>)

Masks, eye protectors, and face shields are used to protect the S-LP's nose, mouth, and eyes from splashes and/or sprays of potentially infectious materials, body fluids or when the S-LP is at risk of airborne contamination. Likewise, they can be used to protect a client. These would be considered droplet precautions, as the microbe carrying droplets can land on mucous membranes of the mouth and nose or contaminate the conjunctiva of the eyes, all of which are portals for infection. Splashes and sprays can occur when a client is coughing or sneezing or during procedures such as suctioning or cleaning soiled equipment.

Fit-tested masks (e.g., N95 masks) are used when airborne precautions are indicated. The S-LP must be "fit tested" in order to ensure that the mask fits tightly to the face and filters airborne organisms. A fit-tested mask is worn when:

- the client has a known or suspected airborne infection (e.g., tuberculosis, chickenpox, measles, hantavirus)
- performing aerosolizing procedures with a client with droplet infection (e.g., open suctioning)
- there is a health alert that requires use of a fit-tested mask

Masks and eye protection should be worn within 1 to 2 metres of the coughing or sneezing client in order to prevent the transmission of microorganisms. Eyes should be covered from all directions.

Gowns are recommended to be worn anytime the chance of contamination to clothing exists. Gowns should be discarded immediately after completion of the procedure at the point of use. It is recommended that S-LPs don gowns when working with tracheostomized clients.

The proper sequence for donning PPE is as follows:

1. gown
2. mask
3. eye protection
4. gloves

The proper sequence for removal of PPE is as follows:

1. gloves
2. gown
3. wash hands prior to removing eye protection or a mask.

Refer to page 37 of The Canadian Committee on Antibiotic Resistance (CCAR) (2007) document⁴ fact sheet entitled *The use of gowns, aprons, and lab coats* for further information <http://www.ccar-ccra.com/english/pdfs/IPC-BestPractices-June2007.pdf>).

Table 1 from the CASLPO (2006) Infection Control for Regulated Professionals document⁶ (<http://www.caslpo.com/Portals/0/positionstatements/InfectionControlCASLPOEDITION.pdf>) is reproduced, with adaptations, below. It provides a comprehensive summary of risk assessment and risk reduction strategies for different situations.

Table 2: Strategies to Reduce the Transmission of Infection**

Situation	Infection Control Strategy (escalating from least to most invasive)
Routine Client Care No physical contact Communication with client >1 metre away	<i>Routine Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing ➤ Respiratory etiquette (cover mouth and nose when coughing or sneezing, followed by proper hand washing)
Physical Contact with client with intact skin	<i>Contact Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing
Physical contact with client, <u>you or client</u> has infected or open wound, non-intact skin, no respiratory concerns	<i>Contact Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing ➤ Gloves ➤ Proper removal and disposal of gloves followed by hand washing
Contact with client, procedure may involve body fluids, splashing (droplets)	<i>Droplet Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing ➤ Use professional judgment: <ul style="list-style-type: none"> Gloves Surgical Mask Eye protectors, Face shields Gowns ➤ Proper removal and disposal of PPE followed by hand washing
Close contact with client, respiratory symptoms	<i>Droplet Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing ➤ Respiratory etiquette ➤ Use professional judgment: <ul style="list-style-type: none"> Gloves Surgical mask for you and/or your client Eye protectors Gowns
Close contact with client, fever and respiratory symptoms	<i>Droplet Precautions</i> <ul style="list-style-type: none"> ➤ Hand washing ➤ Respiratory etiquette ➤ Use professional judgment: <ul style="list-style-type: none"> Gloves Surgical mask for you and/or your client

Situation	Infection Control Strategy (escalating from least to most invasive)
	Eye protectors Gowns > Follow federal, provincial, territorial or agency health alerts if applicable
Contact with client with known airborne infection (e.g., active tuberculosis)	<i>Airborne Precautions</i> > Droplet precautions with fit tested mask > Proper ventilation
Health Alert in effect	<i>Follow local, provincial, federal Ministry of Health guidelines</i>

**In speech-language pathology, practice settings may dictate the infection control strategy used in a given situation. For example, close contact with a client who has a fever and/or respiratory symptoms in an acute care setting may necessitate the use of PPE. In a school or community clinic environment, PPE may be less accessible. Standard practice in these types of environments would involve re-scheduling of a client appointment until such time as symptoms have resolved.

Environmental Cleaning, Disinfection, and Sterilization

Equipment that is reused must be reprocessed by **cleaning, disinfection** and/or **sterilization** after each patient to prevent transmission of disease and to maintain the integrity of the equipment. It is beyond the scope of this document to describe all the components of a full equipment reprocessing protocol that meets best practice standards. PIDAC (2006) Best Practices for Cleaning, Disinfection and Sterilization in All Health Care Settings¹²

(http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cds_2.pdf) is a comprehensive and current guide related to the area of cleaning, disinfection, and sterilization. Clinicians who are responsible for the development of reprocessing protocols are strongly encouraged to consult this document for further information.

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

Disinfection refers to the inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores.

Sterilization, by contrast, is the level of reprocessing required when processing critical medical equipment/devices. Sterilization results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi. Equipment/devices must be cleaned thoroughly before effective sterilization can take place.

There are three categories of client equipment. Each category defines how it must be cleaned in order to prevent infection transmission. This is known as the **Spaulding classification**. The three categories are:

- **Critical** – these items come in contact with the blood stream or sterile body tissues (e.g., internal scopes such as nasendoscopes)
- **Semi-critical** – these items come in contact with mucous membranes or non-intact skin (e.g., mouthpieces, laryngeal mirrors, ear nozzles/pieces)
- **Non-critical** – these items come in contact with intact skin or do not come in contact with skin (e.g., stethoscopes, furnishings, assessment and therapy materials such as testing booklets, therapy toys, etc.)

In speech-language pathology, most of the routine practices performed are clean procedures that do not require **high level disinfection** or sterilization. The majority of infection control processes involve cleaning, **low level disinfection**, and some **intermediate level disinfection**. The exception would be items such as internal scopes (nasendoscopes) and suction tubes requiring high level disinfection and/or sterilization.

Table 3, below, outlines the Spaulding classification, indicating the level of disinfection required for common use speech-language pathology items in each category (adapted from CASLPO, 2006).⁶

Table 3: The Spaulding Classification

Category	Level of Disinfection	Examples
Critical ➤ Items that come in contact with the blood stream or sterile body tissues.	Sterilization	➤ Surgical instruments
	High Level Disinfection (HLD) when sterilization is not possible	➤ Flexible and rigid scopes used for stroboscopy or endoscopy
Semi-Critical ➤ Items that come in contact with mucous membranes or non-intact skin.	High Level Disinfection (HLD)	➤ Laryngeal mirrors used during swallowing therapy ➤ Mouthpieces
	Intermediate Level Disinfection (ILD)	➤ Thermometers ➤ Ear syringe nozzles
Non-critical ➤ Items that come in contact with intact skin.	Intermediate Level Disinfection (ILD)	➤ Examination tables ➤ Therapy tables ➤ Toys ➤ Books ➤ Computer assisted treatment materials (e.g., headsets, masks)
Non-critical ➤ Items that do not come in contact with the patient's skin.	Low Level Disinfection (LLD)	➤ Furnishings, dishes ➤ Desks ➤ Tables and chairs ➤ Penlights

A cleaning and disinfection checklist for S-LPs, also adapted from CASLPO (2006)⁶, is outlined below:

Table 4: Cleaning and Disinfection Checklist for S-LPs

Practice Considerations	What to use	Recommendations for use
Environmental Surfaces/ General Housekeeping		
<ul style="list-style-type: none"> ➤ Floors ➤ Sinks (used in clinic for hand washing) ➤ Desk or counter tops ➤ Storage shelves and bins ➤ Telephones, computers, credit card reader ➤ Washrooms (public and staff) ➤ Therapy rooms ➤ Audiometric testing booths ➤ Toys used for assessment such as play audiometry or test batteries ➤ Toys used in therapy 	<p>Cleaning usually involves soap and water, detergents or enzymatic agents to physically remove soil, dust or foreign material.</p> <ul style="list-style-type: none"> ➤ <i>Low level Disinfection (LLD)</i> <ul style="list-style-type: none"> - Quarternary Ammonium Compounds - Iodophores - 3% Hydrogen Peroxide - Diluted Bleach (5 ml of bleach to 500 ml of water) 	<ul style="list-style-type: none"> ➤ Daily and when visibly soiled. ➤ Clean high traffic areas more frequently i.e., table used for therapy, chair in testing booth. ➤ Keep shelves and bins tidy and clean, dust free. ➤ Plush toys, which are handled and cannot be laundered, should be discarded. ➤ Bleach solutions must be mixed daily to be effective. ➤ Store away from heat and light. ➤ Spray on surface and let solution sit for at least 30 seconds before wiping. Use a paper towel (not a cloth towel). ➤ Wear rubber gloves to protect hands from irritation and wash hands immediately after glove removal.
Common Equipment/Tools		
<p><i>Hearing Screening</i></p> <ul style="list-style-type: none"> ➤ Ear light ➤ Supra-aural headphones and covers, including band and cord ➤ Patient response button ➤ Test toys <p><i>Speech-Language Pathology</i></p> <ul style="list-style-type: none"> ➤ Microphone ➤ Mirrors ➤ Test batteries ➤ Therapy materials ➤ communication devices (e.g. voice output communication aids, touch screens, laminated picture boards) 	<p>Cleaning usually involves soap and water, detergents or enzymatic agents to physically remove soil, dust or foreign material.</p>	<ul style="list-style-type: none"> ➤ Following use or prior to use if suspected contamination. ➤ Care must be taken to ensure residues from the cleaning process itself (e.g., detergents, solvents, etc.) are also removed from equipment. ➤ Consider laminating paper material used by patient/clients repeatedly during intervention so that it can be wiped with disinfectant. ➤ Discard all single use items immediately after use. ➤ In cases where equipment or instruments come into contact with cerumen or other body fluids a higher level of disinfection may be warranted.
Specialized Procedures or Patient/Client Populations		
<ul style="list-style-type: none"> ➤ Cases where equipment or tools may come into contact with non-intact skin or mucous membranes. ➤ Cases where patient/clients may be extremely ill or immunocompromised 	<ul style="list-style-type: none"> ➤ Moderate to high level disinfection or sterilization may be required. ➤ Use disposables wherever possible 	<ul style="list-style-type: none"> ➤ Evaluate whether Infection Control is semi-critical or critical and use disinfection and sterilization procedures required.
Use of Personal Protective Equipment (PPE)		
<ul style="list-style-type: none"> ➤ Risk Assessment 	<ul style="list-style-type: none"> ➤ Gloves ➤ Surgical masks 	<ul style="list-style-type: none"> ➤ If you have a respiratory infection (cold) and must report to work, wear a surgical mask when in close contact with patients. ➤ Determine if you have access to personal protective equipment to use if there is a Health

Practice Considerations	What to use	Recommendations for use
		Alert in effect. For example: A respiratory illness such as SARS or Pandemic Influenza

Single use devices (SUDs) are for use by a single client only and may only be reused on that same client within a short duration of time (e.g., within the same session). SUDs must be disposed of in a safe manner. Examples of items in this category that are relevant to S-LPs include, but are not limited to tongue depressors, swabs, gloves, ear phone covers, etc. Items such as Nuk brushes may be used in a treatment session and given to the client to take home with appropriate cleaning and disposal instructions.

Tracheostomy speaking valves are for single client use but with cleaning after use each day. SLPs working with tracheostomy speaking valves should collaborate with respiratory therapists in their facility to develop a cleaning or disinfection process that conforms to manufacturer recommendations.

Critical equipment, such as internal scopes require high level disinfection and/or sterilization. Refer to employer policies and procedures where available, and to specific provincial or territorial documents as appropriate. Alberta Health and Wellness (2008) Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for All Health Care Facilities and Settings² (<http://www.health.alberta.ca/documents/IPC-Medical-Device-Cleaning-2008.pdf>) is an example of one such document, which provides comprehensive requirements related to cleaning, disinfection, and sterilization of reusable medical equipment.

Laundry

The risk of actual disease transmission from soiled linen is negligible provided that hygienic handling, storage and processing of clean and soiled linen occurs.⁴

Collection and handling of linen should be completed with a minimum of agitation and shaking. Soiled linen should be placed in a laundry basket or waterproof bag (not on the floor). In home and office settings, any laundry* soiled with blood or body fluids should be handled while wearing gloves. Touching soiled linen to one's clothes or skin should be avoided. Heavily soiled linen should be rolled or folded to contain the heaviest soil in the centre of the bundle.

Laundry carts or hampers do not need to be covered from an infection prevention perspective; however, they should be cleaned after each use. If a cloth laundry bag is used to store or transport soiled linen, it can be washed in the same cycle as the linen contained within it.

It is impossible to clean laundry when organic material is present. Solid soil, feces or blood clots should be removed from linen with a gloved hand. Linens may then be laundered together using detergent and dried in a hot air dryer to ensure killing of microorganisms. Cold water wash may be used if cold water detergent is available.

Complete wash and rinse cycles should be used. In a home setting, machine drying or hanging clothing and linens on a clothes line are both suitable methods for drying.

Clean laundry must be stored separately from soiled linens.

If clothing containing blood or body fluids is sent to a community dry cleaner, it should be appropriately labelled.

Waste Handling

Waste is divided into three categories: general, biomedical, and pathological. Provincial legislation requires that biomedical waste, including **sharps** such as needles and blades, be handled and disposed of in a manner that prevents transmission of potential infections.

Any sharps in the practice setting should be disposed of immediately in a clearly labelled, puncture resistant container. The container should have a tightly fitting lid that seals and prevents leakage.

General office waste (e.g., tissues, tongue depressors, swabs, etc.), used gloves or non-sharp medical equipment may be disposed of in regular waste receptacles. It is recommended that waste be packaged in a leak-proof container that can be disposed of (e.g., plastic bag) or cleaned after emptying (e.g., plastic waste bin or trash can). Waste should be emptied frequently and stored in a manner that isolates it prior to pick up/disposal.

Waste that is contaminated with blood, ear drainage or cerumen containing blood or ear drainage, can be placed in the regular waste receptacles. However, it should be separated from the rest of the trash to avoid casual contact. Place this waste in small plastic bags or wrap in paper before disposing in the trash.

Special consideration must be given to spills of body substances such as secretions or urine. Routine precautions must be implemented (gloves, masks, eye protection). The spill area must initially be cleaned using disposable towels. The clean area then requires disinfection with a low level disinfectant. Rinse and dry the area using disposable towels. All waste must be disposed of in a plastic lined container. Once waste is disposed of, perform hand hygiene immediately.

Healthy Workplace Practices

Adapted from The Canadian Committee on Antibiotic Resistance (CCAR) (2007)⁴ (<http://www.ccar-ccra.com/english/pdfs/IPC-BestPractices-June2007.pdf>)

Healthy workplace practices involve several factors:

Immunizations: Use of immunizing agents protects both S-LPs and clients from being infected. Any practice setting that provides direct client care should ensure that all S-LPs providing client care have the opportunity to access appropriate vaccinations.

Considerations related to immunization for S-LPs should include an awareness of one's own history of childhood communicable diseases. Another consideration, as per employer policies, is that any new staff should have a tuberculin skin test at the beginning of their employment, unless they have documentation of a negative skin test in the past 12 months.

Recommended immunizations for all healthcare workers, including S-LPs, are:

- Annual influenza immunization
- Measles, mumps and rubella (MMR), two doses
- Diphtheria, polio and tetanus (DPT)
- Hepatitis B
- Varicella vaccine (chickenpox) – recommended for anyone who may be susceptible (history for disease is negative, IgG negative)

Staying home from work: Knowing when to stay home from work is another important consideration in IPC. In the event of a health alert, S-LPs should follow Ministry of Health Guidelines or other relevant guidelines.

S-LPs are encouraged to stay home from work when experiencing the following conditions:

- Febrile respiratory illness
- Dermatitis on their hands (consult your physician about your risk)
- Cold sores or shingles that cannot be covered
- During the initial days of a respiratory illness
- Diarrhea
- Eye infections until treated

Most employers will have policies that should be adhered to in this regard. The same recommendations would also apply to clients, who should be encouraged to re-schedule an assessment or treatment visit under any of the above conditions (refer to Risk Assessment section of document).

Follow-up regarding exposures: S-LPs should ensure they are familiar with employer procedures related to punctures or mucous membrane exposures to blood borne pathogens (e.g., Hepatitis B, Hepatitis C, and HIV).

- First aid should include rinsing, washing and cleaning involved areas after exposure.
- Obtain medical follow up (e.g., post-exposure prophylaxis to reduce HIV transmission, assessment/testing for blood borne pathogens, etc.).
- Obtain education and counselling related to informed consent and testing (if required) and any necessary precautions.

Education: S-LPs should demonstrate work practices that reduce the risk of infection. Healthy workplace practices involve providing leadership and acting as a role model to other service providers, clients, and families related to IPC. Appendix A provides an outline of the *Core Competencies in Infection Prevention and Control for All Health Care*

*Providers.*⁵ These competencies cluster around the following areas: critical assessment skills, understanding the basic rationale for routine practices, personal safety, use of routine practices, cleaning, disinfection, sterilization, waste management, and additional precautions.

S-LPs as part of their new-hire orientation should receive infection control training. It is imperative that all employees be made aware of the organization's infection control practices, including location of IPC manual, materials and methods/safety practices of disinfecting/sterilizing equipment. Further, yearly updates on the area of infectious disease and infection control are required to insure that practice standards reflect changes in the workplace.

Post Exposure Management: S-LPs should ensure they are familiar with employer procedures related to punctures or mucous membrane exposures to blood borne pathogens or other potentially infectious agents and consult these guidelines following an exposure to any potentially infectious agent, Further information is available on the Health Canada website at www.hc-sc.gc.ca.

CONCLUSION

The purpose and scope of these guidelines is to provide S-LPs with succinct, practical IPC information that is applicable across a variety of practice settings. S-LPs are encouraged to familiarize themselves with the *Core Competencies for Infection Prevention and Control for Health Care Providers* (Appendix A), to reflect on their own IPC knowledge in relation to these competencies, and to consider their own practice within the expectations and requirements of their respective work settings. Audit tools for treatment office and home environments (Appendix B) are available to assist with the practical implementation of these recommendations. Our intent is that these steps will optimize safe practice settings related to IPC for both S-LPs and the clients whom we serve.

APPENDIX A

Core Competencies for Infection Prevention and Control for Health Care Providers

Source: Community and Hospital Infection Control Association (2006)

Target Audience: Individuals who are accountable for the quality of health care delivered in Canada.

AREA OF COMPETENCY	DETAILED CORE COMPETENCY
Critical Assessment Skills These skills are the under-pinning for the other five core competencies	<ul style="list-style-type: none">• Critical assessment skills related to exposure to infectious agents, awareness to local outbreaks and use of infectious disease specific protocols
Basic Rationale for Routine Practices	<ul style="list-style-type: none">• Understands basic microbiology and how infections can be transmitted in health care settings
Personal Safety	<ul style="list-style-type: none">• Knows how to appropriately manage sharps, blood and body fluids and recognizes the appropriate first aid activities for exposures to blood and body fluids• Understands the role of vaccines in preventing certain infections, including annual influenza immunizations for health care workers
Routine Practices	<ul style="list-style-type: none">• Understands the importance of hand hygiene/hand washing• Understands the activities of Routine Practices/Standard Precautions• Respiratory Etiquette• Knows and selects appropriate Personal Protective Equipment (PPE) for their job(s)• Demonstrates appropriate use of PPE
Cleaning, Disinfection, Sterilization, Waste Management	<ul style="list-style-type: none">• Maintains safe clean environment• Understands importance of using PPE when sorting laundry• Recognizes that re-usable equipment that has been in direct contact with a client should be cleaned and reprocessed before use in the care of another client• Appreciates the differences between clean, disinfected (low, medium, and high-level) and sterile items• Knows the difference between regular and biohazard wastes
Additional Precautions	<ul style="list-style-type: none">• Understands Transmission Based Precautions (Additional Precautions): Why and when they are used

APPENDIX B

(Adapted from Appendix III – Audit Tool, Canadian Committee on Antibiotic Resistance (CCAR) Infection Prevention and Control Best Practices for Long Term Care and Community Care Including Health Care Offices and Ambulatory Clinics)

Checklist or Audit Tool for Treatment Office (i.e., applicable to private and public practice settings)

Date Checklist / Audit completed:

By:

Items	Fully Implemented	Partially Implemented	Not Implemented	N/A	Comments
WAITING AREA					
Infection control signs at entry					
Infection control signs at reception desk					
Alcohol-based hand cleaner and signage					
Tissue boxes available					
Garbage cans available					
Clean toy and soiled toy bins available (or if no toys or magazines available, a sign indicating rationale)					
RECEPTION					
Personal Protective Equipment (PPE) available (masks, gloves)					
Reception staff can maintain 1 metre distance from patients					
Telephone screening protocol has been developed and implemented					
TREATMENT ROOMS					
Alcohol-based hand cleaner available in all rooms OR Hand washing sinks with soap available in all rooms					
Rooms only have essential supplies					
Written policies exist for decontaminating treatment					

Items	Fully Implemented	Partially Implemented	Not Implemented	N/A	Comments
rooms between patients and at the end of the day					
CLEANING PROCEDURES					
Written procedures for cleaning the office setting have been provided by (or to) the cleaning staff					
Approved and appropriate disinfectant products are available for patient surfaces					
Approved and appropriate disinfectant procedures are available for equipment and instruments					
PROTOCOL DEVELOPMENT AND STAFF TRAINING					
Annual staff training or updating completed on infection prevention					
Annual staff training on proper PPE use					
DISINFECTION / STERILIZATION OF MEDICAL DEVICES					
Manufacturer's instructions are followed					
Process for cleaning semi-critical and critical devices including written protocols for: <ul style="list-style-type: none"> <input type="checkbox"/> disassembly <input type="checkbox"/> sorting and soaking <input type="checkbox"/> physical removal of organic material <input type="checkbox"/> rinsing <input type="checkbox"/> drying <input type="checkbox"/> physical inspection <input type="checkbox"/> wrapping 					

Checklist or Audit Tool for Services Provided in Client’s Homes

Date Checklist / Audit completed:

By:

Items	Fully Implemented	Partially Implemented	Not Implemented	N/A	Comments
RISK ASSESSEMENT					
Screening done before visits					
Phone script available for use					
Standardized client assessment used					
RISK REDUCTION					
Hand hygiene products available and used					
Supplies that may be required for risk reduction:					
<input type="checkbox"/> alcohol-based hand rub					
<input type="checkbox"/> hand lotion or cream					
<input type="checkbox"/> sterile gloves, as required					
<input type="checkbox"/> alcohol wipes or other disinfectant					
<input type="checkbox"/> antimicrobial soap, if required					
Written guidelines available on:					
<input type="checkbox"/> when to wear protective equipment					
<input type="checkbox"/> cleaning and disinfecting of equipment if moving from client to client					
<input type="checkbox"/> waste disposal					
Written guidelines on work exclusions					
<input type="checkbox"/> dermatitis on hands					
<input type="checkbox"/> disseminated shingles					
<input type="checkbox"/> initial days of respiratory infection					
<input type="checkbox"/> fever					
<input type="checkbox"/> diarrhea					
<input type="checkbox"/> eye infection until treated					

Items	Fully Implemented	Partially Implemented	Not Implemented	N/A	Comments
Verify employee immunity before assigning to client with communicable disease.					
Documentation of annual education programs on:					
<input type="checkbox"/> hand hygiene					
<input type="checkbox"/> risk assessment and risk reduction					
Standardized client education information available on:					
<input type="checkbox"/> hand hygiene					
<input type="checkbox"/> hygiene in the home					
<input type="checkbox"/> self screening					
<input type="checkbox"/> other					
Identify resources available to manage infectious diseases and staff safety					

GLOSSARY

Additional precautions: Interventions implemented for certain pathogens or clinical presentations in addition to routine infection control practices, to reduce the risk of transmission of microorganisms from patient to patient, patient to health care worker, and health care worker to patient.^{7, 12}

- **Airborne precautions:** These are additional to standard precautions and are designed to reduce the transmission of diseases spread by the airborne route.^{6, 13}
- **Contact precautions:** These are additional to standard precautions and are designed to reduce the risk of transmission of microorganisms by direct or indirect contact.^{6, 14}
- **Droplet precautions:** These are additional to standard precautions and are designed to reduce the transmission of infectious spread by the droplet route. The precautions consist of a water resistant surgical or procedure mask and eye protection or face shield for the health care worker. Droplet precautions are also used to protect the mucous membranes of the eyes, nose and mouth of the health care worker during procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions (e.g., airway suctioning).^{6, 8, 14}

Bacteria: Very small living organisms made of only one cell. They are present almost everywhere. While some can cause diseases, others are very helpful to humans, like the bacteria in the intestine that help digestion and bacteria that make yoghurt.⁹

Cleaning: The physical removal of foreign material (e.g., dust, soil, organic material such as blood, secretions, excretions and microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. Thorough and meticulous cleaning is required before any equipment/device may be decontaminated, disinfected and/or sterilized.¹²

Clinical Practice Setting: These may include but are not limited to ambulatory and community clinics (including private practice settings); childcare and school settings; long term care facilities (i.e., nursing homes, homes for the aged, retirement homes, group homes); private homes; and hospital settings (i.e., patient care units or services).

Colonization: The presence of microorganisms in or on a host with growth and multiplication but without tissue invasion or cellular injury.^{7, 16}

Critical medical device: A medical device that enters sterile tissues, including the vascular system. Critical medical devices present a high risk of infection if the device is contaminated with any microorganisms, including bacterial spores. Examples of critical medical devices include but are not limited to needles, syringes, scalpels and invasive/surgical instruments, all implantable devices, biopsy forceps and all instruments used for foot care.^{1, 6, 12}

Disinfection: A process that destroys some forms of microorganisms excluding bacterial spores; a process that kills most forms of microorganisms on inanimate surfaces.^{1, 6, 12, 14}

Fungi: Any of numerous eukaryotic organisms that reproduce by spores. The spores of most fungi grow a network of slender tubes called hyphae that spread into and feed off of dead organic matter or living organisms. The hyphae often produce specialized reproductive bodies, such as mushrooms.⁴

Health care associated infection: Also known as nosocomial infection and hospital-associated infection. An infection acquired in hospital by a patient who was admitted for a reason other than that infection. An infection occurring in a patient in a health care facility in whom the infection was not present or incubating at the time of admission. This includes infections acquired in the hospital but appearing after discharge, and also occupational infection among staff of the facility.¹⁴

Health care worker: Any person working in a health care facility, for example, medical officer, nurse, speech-language pathologist, physiotherapist, cleaner, psychologist.^{6, 8, 14}

Hierarchy of control measures: A framework that includes three levels of control: engineering controls, administrative controls and personal protective measures.

1. Engineering controls are built into the design (private bathrooms, private rooms, HVAC systems) of a health care facility. Infection prevention and control professionals should be involved in the design and planning of new facilities. An infection control risk assessment should be done to evaluate and mitigate potential risks for microorganism transmission by means of air, water and environmental sources.
2. Administrative controls include protocols for hand hygiene, immunization of residents and caregivers, protocols for managing caregivers and clients during an outbreak and protocols for caring for clients with communicable diseases.
3. Personal protective equipment is the least desirable way to control hazards as it does not eliminate them, it merely contains the hazard and is dependent on its appropriate use by educated, knowledgeable staff.⁴

High level disinfection (HLD): The level of disinfection required when processing semi-critical medical equipment/devices. High level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores. Medical equipment/devices must be thoroughly cleaned prior to high level disinfection.^{6, 12, 14}

Infection prevention and control (IPC): Evidence-based practices and procedures that, when applied consistently in health care facilities and settings, can prevent or reduce the risk of transmission of microorganisms to health care personnel, clients and visitors.^{1, 3, 12}

Intermediate level disinfectants: Level of disinfection required for some semi-critical items. Intermediate level disinfectants kill vegetative bacteria, most viruses and most fungi but not resistant bacterial spores.⁶

Low level disinfection (LLD): A process using low level disinfectants to kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses (e.g., Hepatitis B, C, Hantavirus, and HIV). Low level disinfectants do not kill mycobacteria, or bacterial spores. Low level disinfectants are used to clean and disinfect non-critical medical devices and environmental surfaces.^{1, 6, 12, 14}

Microorganisms: Any organisms (animal or plant) of microscopic size.⁹

Non-critical medical device: Medical device that touches only intact skin (but not mucous membranes) or does not directly touch the client. Intact skin acts as an effective barrier against most microorganisms; therefore, the sterility of items coming in contact with skin is “non-critical”.^{1, 6, 12}

Parasites: Organisms that grow, feed, and are sheltered on or in a different organism while contributing nothing to the survival of the host.⁴

Personal protective equipment (PPE): Specialized equipment or clothing used by health care workers to protect themselves from direct exposure to clients’ blood, tissue or body fluids. Personal protective equipment may include gloves, gowns, fluid-resistant aprons, head and foot coverings, face shields or masks, eye protection, and ventilation devices (e.g., mouthpieces, pocket masks).^{1, 6, 12, 14}

Respiratory etiquette: Measures to contain respiratory secretions for all individuals with signs and symptoms of a respiratory infection.⁴

Routine practices: Is the term used by Health Canada/Public Health Agency of Canada to describe the system of infection prevention and control practices recommended in Canada to prevent and control transmission of microorganisms in health care settings. Consistent use of routine practices with all clients/residents/patients is critical to preventing transmission of microorganisms from client to client and client to staff.^{4, 8, 12} The full description of routine practices to prevent and control transmission of nosocomial pathogens can be found on the Public Health Agency of Canada website: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html>. PIDAC’s Routine Practices fact sheet is available at: http://www.health.gov.on.ca/english/providers/program/infectious/pidac/fact_sheet/fs_routine_010107.pdf.

Semi-critical medical device: A medical device that comes in contact with mucous membranes or non-intact skin, but does not penetrate them, including but not limited to respiratory therapy equipment, trans-rectal probes, vaginal and rectal specula, gastro endoscopes.^{1, 6}

Sharps: Objects capable of causing punctures or cuts (e.g., needles, syringes, blades, glass).^{6, 12}

Single use device (SUD): A device that may be used and reused on a single client, but may not be reused on other clients.¹

Spaulding classification: A strategy for reprocessing contaminated medical devices. The system classifies medical devices as critical, semi-critical, or non-critical based upon the risk from contamination on a device to client safety. The system also establishes three levels of germicidal activity (sterilization, high-level disinfection, and low-level disinfection) for strategies with the three classes of medical devices (critical, semi-critical and non-critical).¹

Source: The person, animal, object, or substance from which an infectious agent passes to a host.⁷

Standard precautions (sometimes referred to as routine precautions): These are applied for all patients at all times regardless of their known or presumed infectious status. These include: hand hygiene; risk assessment; risk reduction strategies; environmental cleaning, disinfection, and sterilization; waste and laundry management; and healthy workplace practices.¹⁴

Sterilization: The level of reprocessing required when processing critical medical equipment/devices. The sterilization process results in the destruction of all forms of microbial life including bacteria, viruses, spores and fungi.^{1, 6, 14}

Viruses: Any of a large group of submicroscopic agents that act as parasites and consist of a segment of DNA or RNA surrounded by a coat of protein. Because viruses are unable to replicate without a host cell, they are not considered living organisms in conventional taxonomic systems. Nonetheless, they are described as “live” when they are capable of replicating and causing disease.⁴

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