



COLLEGE OF  
**PHYSIOTHERAPISTS**  
OF ALBERTA

# **Infection Prevention and Control Guide** for Alberta Physiotherapists

November 2017

Effective infection prevention and control is essential for the delivery of quality, safe physiotherapy services. Physiotherapists must be knowledgeable about the principles underlying infection control and implement appropriate measures in their practice. This resource provides practical information to assist physiotherapists in those efforts.





The College of Physiotherapists of Alberta developed this resource guide to elaborate on the infection prevention and control expectations identified in the College of Physiotherapists of Alberta's Standards of Practice and provides practical information to help ensure that the standards are met and that Albertans receive competent, ethical, quality physiotherapy care.

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# Introduction

Effective infection prevention and control (IPC) is essential for the delivery of quality, safe physiotherapy services. The use of appropriate IPC measures affects the health and safety of patients, practitioners, and the broader community. Knowledge of IPC measures is continually growing, and specific clinical advice continues to evolve. As self-regulated professionals, physiotherapists must be knowledgeable about the principles underlying infection control and implement appropriate practice and context-specific procedures.

Physiotherapists must remain aware of current, appropriate, and generally accepted infection control measures consistent with the Standards of Practice, applicable legislation, and employer-specific policies and procedures to support the health and safety of patients, themselves, health-care providers, and others.

This resource elaborates on the IPC expectations identified in the College of Physiotherapists of Alberta's Standards of Practice and provides information regarding the application of appropriate infection control measures in practice.

## What is Infection Prevention and Control?

Effective IPC is characterized by evidence-based practices and procedures that, when applied consistently in health-care settings, can prevent or reduce the risk of transmission of micro-organisms to health-care providers, patients, and others.<sup>3</sup> These practices and procedures, sometimes referred to as measures, can be classified as routine, contact, droplet, and airborne precautions.<sup>4</sup>

Measures are put into practice after an assessment of the facility and patient population and are instituted based on the infectious agent in question and how that agent is transmitted. IPC measures most commonly target the mode of transmission through hand hygiene, the use of personal protective equipment (PPE), and environmental cleaning, but can also target the susceptibility of potential hosts through immunization.

## How Do Infections Spread? The Chain of Transmission

### Chain of Transmission

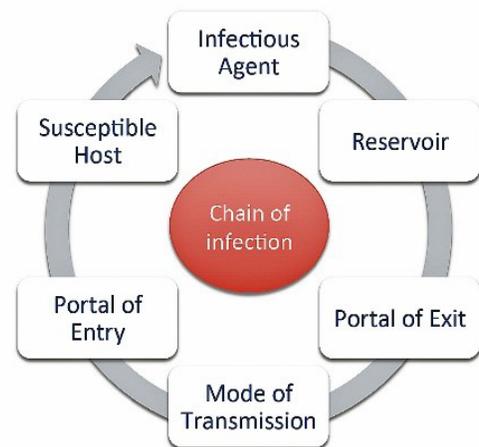


Figure 1. The Chain of Transmission.<sup>1</sup> Source: Alberta Health. Infection Prevention Control-Standards for cleaning, disinfection and sterilization of reusable medical devices for health-care facilities and settings<sup>2</sup>

For an infection to spread, several conditions must be present, starting with an infectious agent (such as a virus or bacteria). Each agent has its own characteristics, which affect the ease with which it is transmitted.

Each agent requires a reservoir or place to live. Humans, animals and the environment are all reservoirs for infectious agents. For an infectious agent to spread, it needs a way for the agent to leave the reservoir or a portal of exit. Examples include sputum, blood, and body fluids.

Modes of transmission include contact, droplet, airborne, vehicle (inanimate objects), and vector borne (insects or mosquitoes). Once transmitted, an infectious agent requires a portal of entry, or route by which the agent enters a new host. Finally, for an infection to occur, the individual exposed to the infectious agent must be susceptible to it.

If any link in the chain of transmission is disrupted, the spread of the infectious agent can be prevented.

# Levels of Protection

## Legislation

Physiotherapists and physiotherapy employers are required to be cognizant of and comply with the legislation that applies to their practice.<sup>5</sup> In the case of IPC, the relevant legislation includes the Occupational Health and Safety Act (OHS) and may include requirements contained within the Act regarding the use of the Workplace Hazardous Materials Information System (WHMIS).

Under occupational health and safety legislation, employers are required to inform employees about hazards in the workplace and to train employees on how to mitigate the risks posed by hazards when the hazard cannot be eliminated.<sup>6</sup> This includes the requirement to provide and train staff in the use of PPE, such as gloves, gowns and masks to prevent the spread of infection, and to provide information and training about any chemical hazards present in the practice environment.

## Routine Practices

### Hand Hygiene and Point of Care Risk Assessment

Hand hygiene is widely recognized as the single most important IPC practice and helps to break the chain of transmission by acting on one of the primary modes by which infectious agents are spread – health-care workers.

Hand hygiene using alcohol-based cleaner (with an alcohol concentration between 60-90%), or hand washing using soap and water is an essential element of all IPC efforts; however, some estimates indicate that compliance with routine hand hygiene practices is as low as 40% among health professionals.<sup>7</sup>

Physiotherapists are expected to practice routine hand hygiene according to any practice setting or disease-specific recommendations that may apply, and consistent with the World Health Organization's "5 Moments for Hand Hygiene":<sup>8</sup>

- Before touching a patient
- Before clean/aseptic procedures
- After body fluid exposure or risk
- After touching a patient
- After touching patient surroundings

A point of care risk assessment should also be conducted prior to each patient contact to determine the degree of risk of infection or transmission of communicable diseases to patients, staff, colleagues, and others.

A risk assessment should include consideration of the likelihood of exposure to an agent:<sup>9</sup>

- From a specific interaction
  - Assessment/treatment interventions planned or conducted

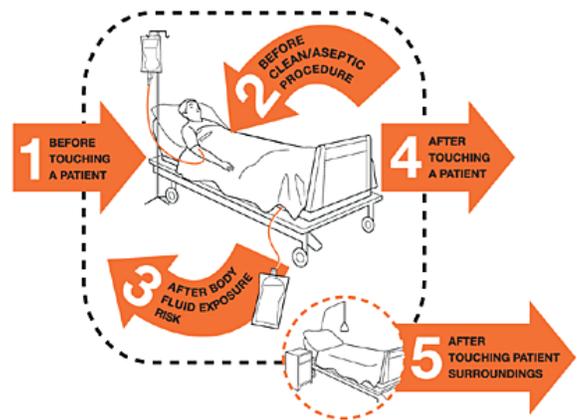


Figure 2. 5 Moments for Hand Hygiene. Source: World Health Organization. WHO Guidelines on hand hygiene in health care: First global patient safety challenge—Clean care is safer care.<sup>8</sup>

- With a specific patient
  - Health condition of the patient
  - Patient ability to perform hand hygiene, respiratory hygiene
- In a specific environment
  - Health and immunization status of people in practice environment including the physiotherapist, colleagues and other patients
  - Degree of infection risk present in the clinical practice setting and community at large (including local, national and international considerations as appropriate)
- Under available conditions
  - Current best practices in IPC protocols relevant to their professional practice, and the ability to mitigate the risk of infection or transmission through the use of IPC measures

### Environmental Cleaning

While some measures help to prevent the spread of infection by disrupting the mode of transmission, physiotherapists also have a role to play in breaking the chain of transmission by eliminating reservoirs of infectious agents. This can be accomplished through environmental cleaning.

### Environmental Cleaning and the Workplace Hazardous Materials Information System

WHMIS is a classification and communication system used to convey information about hazards present in work environments. It is relevant to the discussion of IPC because the chemicals used for environmental cleaning to prevent the spread of infectious agents can pose a hazard to employees and may be subject to the rules outlined in the WHMIS system.

**Although the individual physiotherapist may not be expected to routinely clean the facility in which they work, they do have a professional responsibility to ensure that the practice environment is equipped, operated, and maintained in a manner consistent with IPC standards and guidelines.<sup>5</sup>**

**They also are responsible to report identified deficiencies to those parties responsible for the management of the practice environment, and to participate in environmental cleaning when appropriate.**

The system is designed to ensure that all employers and employees are informed and trained properly about hazardous materials used in the workplace.<sup>10</sup> WHMIS provides consistent reporting related to chemical hazards that employees may encounter in the work environment.<sup>10</sup>

WHMIS classifies chemicals into controlled and non-controlled products. Employers are required to ensure that containers of controlled products are labelled with WHMIS labels, provide employees with Safety Data Sheets (SDS) outlining the chemical's characteristics and hazardous properties, and provide employees with education and training regarding the safe handling, use, storage, and disposal of a controlled product.<sup>10,11</sup>

However, consumer products are not controlled by WHMIS. Consumer products are those products packaged in quantities appropriate for and available to the public through retail outlets. These products fall under the Consumer Chemical and Containers Regulations.<sup>12</sup>

Depending on your specific situation, the chemicals you use, and the quantities of those chemicals that you have onsite, you may or may not need to comply with WHMIS requirements for labelling and employee training. Generally speaking, private physiotherapy clinics use consumer products and are therefore not required to provide WHMIS training or adhere to other WHMIS requirements. This does not alter the employer's legislated responsibility to inform employees about hazards in the workplace, to provide controls to mitigate the risks these hazards pose, and to train employees in the use of these controls.

## Protective Measures

### Personal Protective Equipment, Administrative and Engineered Controls

Physiotherapists know about how infectious agents are spread because of the measures they are instructed to use to prevent these agents from spreading. For example, physiotherapists routinely use gloves, gowns and masks as barriers between themselves and contagious infectious agents. Other examples of PPE include goggles and face shields.

While PPE may be the first thing that comes to mind when thinking of IPC, these measures are also considered the weakest controls, as they require adherence to be effective. Other types of controls include administrative and engineered controls. Administrative controls include policies, procedures and routine practices that are intended to prevent exposure to a workplace hazard.<sup>13</sup> Examples include hand hygiene policies, or mandatory hepatitis B immunization. Engineered controls alter the design of work or tools used in practice to remove a hazard instead of depending on adherence to policy or PPE use<sup>13</sup> and are generally considered the strongest controls. An example would be the use of safety engineered devices that reduce the risk of blood-borne virus exposure from a needle stick or similar injury.

### Immunization

All health-care workers have the potential to be reservoirs of, a mode of transmission, or a susceptible host to an infectious agent. For example, research has indicated that health-care workers are considerably more likely to contract the flu or to be asymptomatic carriers of the flu virus than members of the general public.<sup>14</sup> As asymptomatic carriers of the flu they are unlikely to stay home from work despite being a reservoir of the virus.<sup>14,15</sup> Physiotherapists also routinely work with individuals who are very ill, meaning that the risk of the physiotherapist being a reservoir of an infectious agent and their patient a susceptible host are greater than in non-health care related professions.

Physiotherapists are expected to comply with "infection prevention and control measures to support the health and safety of clients, health-care providers, her/himself, and others."<sup>15</sup> Immunization, when not medically contraindicated, is one such measure.

**The College of Physiotherapists of Alberta strongly encourages members to be immunized against the infectious agents present in their practice environments, for their own protection and for the safety of their patients and colleagues.**

# Medical Device Reprocessing

All medical devices and equipment are categorized as reusable, single-patient use, or single-use based on their intended use and potential to become a route of transmission of an infectious agent.<sup>3</sup> In physiotherapy practice some devices may be used repeatedly and by several patients (e.g., gym equipment), while others may only ever be used once (e.g., solid filament needles).

Reusable medical equipment/devices may be reused following appropriate reprocessing, including disinfection or sterilization.<sup>3</sup>

Single-patient-use equipment must be used by one patient only. These devices may be reused on the same patient, but may not be used on others.<sup>3</sup>

Single-use/disposable equipment must be discarded after one use. This equipment must not be reprocessed.<sup>3</sup>

Medical device reprocessing refers to the process required to clean and disinfect or sterilize all reusable equipment between patients. It's important to understand the difference between cleaning, disinfection and sterilization to understand how to reprocess devices appropriately. Cleaning involves the physical removal of foreign material from equipment. Cleaning physically removes rather than kills micro-organisms.<sup>16</sup>

**Devices must be cleaned before they can be disinfected or sterilized. All equipment should be cleaned and disinfected or sterilized between patients.**

Disinfection results in the inactivation of disease producing micro-organisms, but disinfection does not destroy bacterial spores.<sup>3</sup> Sterilization is a multistep process that results in the destruction of all forms of microbial life including bacteria, viruses, spores, and fungi.<sup>3,16</sup>

The Spaulding Classification divides reusable medical devices into three categories based on their intended use and the potential risk of infection involved in their use. The Classification provides guidance on the level of reprocessing required for reusable devices belonging to each category.<sup>2</sup>

If there is a discrepancy between the reprocessing level recommended by the manufacturer and the reprocessing requirements according to the Spaulding Classification, the higher level of reprocessing must be used.<sup>2</sup>

**Table 1: Spaulding Classification of Medical Devices**

Adapted from Alberta Health, Infection Prevention Control Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Health-Care Facilities and Settings<sup>2</sup>

Object classification	Item use	Physiotherapy examples	Level of reprocessing
Non-critical	Contact with intact skin only and not mucous membranes, or does not directly touch the patient.	<ul style="list-style-type: none"> <li>• Weigh scales</li> <li>• Stethoscopes</li> <li>• Beds and plinths</li> <li>• Blood pressure cuffs</li> <li>• Exercise equipment</li> <li>• Gait aids</li> </ul>	Cleaning followed by low level disinfection.
Semi-critical	Contact with mucous membranes or non-intact skin but ordinarily does not penetrate tissues.	<ul style="list-style-type: none"> <li>• Vaginal probes</li> <li>• Reusable peak flow meters</li> <li>• Pessary fitting rings</li> </ul>	<p>Cleaning followed by high level disinfection at a minimum.</p> <p>Sterilization is required for heat tolerant semi-critical medical devices.</p>
Critical	<p>Enters sterile tissues including the vascular system, or houses an instrument that will be entering the blood stream/body tissue.</p> <p>Presents a high risk of infection if contaminated.</p>	<ul style="list-style-type: none"> <li>• IMS plungers</li> <li>• Wound care instruments</li> </ul>	Cleaning followed by sterilization.

NOTE: "Non-critical and semi-critical medical equipment/devices that are owned by the client, reused by that client and used only by that client in their home, and not for another purpose, do not require disinfection between uses, provided that they are adequately cleaned and stored dry between uses."<sup>3</sup>

See Appendix A for more information about cleaning, disinfecting, and sterilizing equipment.

# FAQs

## **A piece of reusable equipment that I use in practice is labelled as needing high level disinfection by the manufacturer, but according to the Spaulding Classification it needs to be sterilized. What do I do?**

If there is a discrepancy between the reprocessing level recommended by the manufacturer and the intended use of the instrument by Spaulding's criteria, the higher level of disinfection/sterilization must be used.<sup>3</sup>

## **Can't I just use wipes to clean environmental surfaces like plinths and other equipment?**

Equipment and surfaces need to be cleaned prior to disinfection. Disinfectant wipes can become inactivated by dirt and can fail to penetrate through to surfaces in the presence of dirt. Wipes that do not contain a detergent have only limited cleaning properties, if using these disinfecting wipes, you will need to clean surfaces prior to using the wipe to disinfect them.<sup>17</sup>

However, some wipes include both detergent and disinfectant components combining both cleaning and disinfecting functions. Follow the manufacturer's instructions and any setting specific procedures when using wipes for cleaning and disinfection of equipment.

## **What type of reprocessing is required between uses of single-patient-use devices (e.g., when a device will only be used with one patient for successive appointments)?**

Single-patient-use devices must not be reprocessed for use on different patients. When you are planning to use these devices on the same patient more than once, you must review and comply with the manufacturer's reprocessing recommendations. The device should be owned and stored by the patient.<sup>3</sup>

Manufacturers are required to have validated reprocessing directions for any device that is not labelled single-use (disposable).<sup>18</sup> If a single-patient-use device does not have validated manufacturer's reprocessing instructions, it may not be reused and should be considered single-use only (disposable).

## **My patient was recently told they are a carrier of an antibiotic-resistant organism (ARO) and was on "precautions" while in hospital. Now they are coming to see me in a community setting. What do I do?**

If the patient is asymptomatic, routine practices are sufficient. No additional precautions are required.

If the patient is symptomatic, consider re-scheduling the appointment until they are asymptomatic, if possible. If not possible, then limit the contact between symptomatic patients and others by scheduling visits at quieter times and limiting time spent in common areas. Clean and disinfect equipment and surfaces before the room is used for another patient, using products known to be effective against the ARO in question. Apply additional precautions (contact, droplet, airborne) appropriate for the patient's illness.<sup>4,19</sup> For more information about additional precautions that may be required, see "Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health-care Settings."<sup>19</sup>

## **I am setting up a new clinic. Are there any guidelines for what types of flooring, upholstery, or other materials I should or should not use in my patient care environment?**

The main principle is that if you can't clean it, don't buy it. See "Best Practices for Environmental Cleaning for Prevention and Control of Infections: In all Health-care Settings, 2nd Edition"<sup>16</sup> for a discussion of best practices and guidelines for environmental cleaning. This includes information regarding the selection of surfaces and finishes for use in health-care settings in patient care areas.

## **I want to have the ability to reprocess semi-critical equipment. What do I need to do?**

- Identify which equipment in your practice can be reprocessed and which equipment cannot. To reprocess equipment, it must be labeled reusable by the manufacturer and be accompanied by the manufacturer's written and validated instructions for reprocessing.
- Provide staff training regarding what equipment can be reprocessed and the required process to properly do so. Personnel engaged in equipment reprocessing must have documented training.

- Ensure mechanisms are in place so that any equipment labeled “single-use” or “disposable” is discarded after use and is not reprocessed.
- Ensure adequate reprocessing facilities.
  - Equipment reprocessing must take place in a designated area separate from patient care areas or in a dual-purpose area only when patients and others are not present and when cleaned equipment is secure from potential recontamination.
  - If using a dual-purpose area, all surfaces must be cleaned and disinfected immediately before and again immediately following decontamination of equipment.
  - Reprocessing areas must be designed and have a layout that incorporates a one-way work flow and enables appropriate hand hygiene, in addition to other requirements.
  - Reprocessing areas must have adequate ventilation systems.
- PPE, including face protection, gloves and moisture-impervious gowns, must be employed while reprocessing medical devices.<sup>20</sup>

Organizations that intend to reprocess their own devices should review the College of Physicians and Surgeons of Alberta (CPSA) document “Reprocessing Critical & Semi-Critical Equipment – A Physician Tool Kit”<sup>20</sup> for further detailed information.

### **Can I outsource reprocessing of physiotherapy equipment to another company? What do I need to do?**

Yes, you can outsource sterilization of equipment to a company contracted to provide these services. As with any other situation where a third party is contracted to provide services on behalf of a physiotherapist or physiotherapy business, the physiotherapist retains responsibility and accountability to ensure that the work conducted by the third party is consistent with the College of Physiotherapists of Alberta’s Standards of Practice and expectations and applicable legislation.

When hiring/retaining third-party service providers, ensure they know the manufacturer’s recommended practices for reprocessing the equipment in question, Health Canada and Alberta Health’s Guidelines for reprocessing the equipment in question, and that they have the facilities, processes, training, expertise and capacity to reprocess the equipment appropriately.<sup>1</sup>

You also need to ensure that you have appropriate processes in place to ensure:<sup>3</sup>

- That you store the used equipment in a manner that prevents damage to the equipment,
- The prevention of cross contamination between equipment to be reprocessed and equipment that has been sterilized, and
- There is a mechanism in place to ensure equipment has been appropriately reprocessed prior to use.

# Common Terms

## Controls:<sup>13</sup>

- Administrative - Policies, procedures and routine practices that are intended to prevent exposure to a workplace hazard.
- Engineered - Controls that alter the design of work or tools used to remove a hazard rather than depend on adherence to policy or PPE use.
- Personal Protective Equipment - May include gowns, gloves, masks, goggles and/or face shields that act as a physical barrier between the individual and the hazard/infectious agent.

**Decontamination/Cleaning:** Involves the physical removal of foreign material such as dust, soil and organic material including blood, secretions, excretions, and micro-organisms. Cleaning physically removes rather than kills micro-organisms.<sup>16</sup> Cleaning reduces or eliminates reservoirs of potential pathogenic organisms.<sup>16</sup>

Removal of material is necessary to permit the effective disinfection or sterilization of equipment. It is accomplished with water, detergents and mechanical, scrubbing action.<sup>16</sup> The terms “decontamination” and “sanitation” may be used for this process in certain settings.

**Disinfection:** The inactivation of disease producing micro-organisms.<sup>3</sup> Disinfection does not destroy bacterial spores.<sup>3</sup> Disinfection usually involves chemicals or heat. Varying levels of disinfection have been recommended based on the nature of the procedure, infection risk, and type of equipment.<sup>2</sup> Disinfectants are used on inanimate objects while antiseptics are used on living tissue. “Detergent disinfectants with a Drug Identification Number that have microbiocidal (i.e., killing) activity against the pathogens most likely to contaminate the patient care environment should be used.”<sup>11</sup>

**Infectious Agent:** A bacteria, virus, fungus, or parasite that infiltrates another living thing.<sup>13</sup>

**Sterilization:** A multistep process resulting in the destruction of all forms of microbial life including bacteria, viruses, spores, and fungi. Items must be cleaned thoroughly before effective sterilization can occur.<sup>3,16</sup> The decision to sterilize equipment is based on the procedure, risk of infection, and type of equipment.<sup>2</sup> Various methods of sterilization exist, the most common include steam and heat (autoclave), dry heat (dry heat sterilizer), and chemical.<sup>3</sup> Monitoring the effectiveness of sterilization procedures is essential. Monitoring can be achieved through the use of biologic, chemical, and mechanical methods.<sup>3</sup>

# Appendix A

## Cleaning, Disinfecting and Sterilizing Equipment

Manufacturers of reusable medical devices must provide users with detailed, validated reprocessing guidelines that include the method of reprocessing to be used and other detailed parameters. Validated guidelines have been demonstrated to be effective for disinfection, cleaning, and sterilization.<sup>18</sup> The Spaulding Classification System categorizes reusable medical devices based on the use of the item and potential risk of infection and provides direction for the item's required level of disinfection or sterilization.<sup>2</sup>

Together, the manufacturer's reprocessing guidelines and the Spaulding Classification provide direction for how devices are to be reprocessed. Physiotherapists who reprocess reusable devices must follow the Spaulding Classification System and the manufacturer's guidelines when cleaning, disinfecting, and sterilizing equipment and instruments. If there is a discrepancy between the two recommendations, the physiotherapist must apply the higher level of recommended reprocessing.<sup>3</sup>

### Cleaning

All instruments undergoing disinfection or sterilization must first be thoroughly cleaned to remove organic material and/or foreign debris. Failure to adequately clean items may interfere with the disinfection and sterilization process.

When cleaning instruments:<sup>3</sup>

- Use a stainless-steel utility sink dedicated to cleaning and handling dirty instruments.
- Ensure the process is carried out using appropriate PPE – gloves, masks and gowns.
- Disassemble items if there is one or more removable part, unless otherwise recommended by the manufacturer.
- Wash articles in warm, sudsy detergent water using friction (rubbing/scrubbing) to clean surfaces, cracks, and crevices.
- Rinse thoroughly in clean warm water.
- Air dry or dry with lint free towel.
- Reassemble and visually inspect equipment once the cleaning process is complete and prior to disinfection or sterilization to ensure cleanliness and integrity of the equipment.<sup>3</sup>

### Disinfection

The disinfection process inactivates disease-producing micro-organisms. Disinfection does not destroy bacterial spores or prions. Disinfection levels are based on the health-care instrument's use and the risk of infection.

Considerations for chemical disinfectants:<sup>3</sup>

- Does the chemical have a Drug Identification Number? (In Canada, disinfectants are regulated as drugs under the Food and Drugs Act and must have a DIN from Health Canada.)
- Is the disinfectant effective for the intended use and compatible with the equipment to be disinfected and the cleaning agents/detergents used?
- What is the intended use of the equipment being disinfected?
- How will the chemical concentration be monitored to ensure efficacy?
- Are there safety or environmental considerations? (What are the WHMIS requirements, if any?)
- What is the recommended contact time?
- What is the recommended usage of the product? (storage, dilution, PPE requirements)

High level disinfection requires ongoing monitoring and auditing to ensure that the chemicals and processes used are effective.

Best practices related to chemical disinfectants continually evolve. Physiotherapists must keep current on the variables that change most frequently including contact times and hazards related to the chemical compound used. Many disinfection products are available. Table 2 includes the names of a few products as examples.

### Sterilization

Sterilization destroys all disease-producing micro-organisms. Sterilization is required for all critical equipment (IMS plungers, wound care instruments), and is preferred for semi-critical equipment.<sup>3</sup> Common sterilization methods include steam and pressure (autoclaves), dry heat, and chemical sterilization. If performing sterilization, ensure compatibility between the instruments and sterilization equipment used. Ensure the sterilization equipment has been validated for the device being sterilized and follow the manufacturer's instructions for cleaning, disinfecting, and sterilizing the device.<sup>3</sup>

Sterilization of health-care equipment is a multi-step process. Routine monitoring of the effectiveness of the sterilization process is paramount to ensuring that the sterilization of equipment has been effective.<sup>3</sup> Physiotherapists who sterilize equipment must maintain up-to-date knowledge of recommended practices.

## Table 2: Spaulding Classification of Medical Devices

Adapted from Alberta Health, "Infection Prevention Control Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Health-Care Facilities and Settings"<sup>2</sup>

Disinfection level	Disinfectant class <b>**Always follow manufacturer instructions regarding concentration and contact times.</b>	Application
Low level	<ul style="list-style-type: none"> <li>Hydrogen Peroxide 3% (30 minutes)</li> <li>Ethyl or isopropyl alcohol 60-95% (10 minutes)</li> <li>Sodium hypochlorite household bleach (1,000 ppm) (10 minutes)</li> <li>Enhanced action formulation hydrogen peroxide 0.5% (5 minutes)</li> <li>Phenolic germicidal detergent solution (follow product label for use and dilution, do not use in nurseries) (10 minutes)</li> <li>Quaternary ammonium compounds (10 minutes) (follow product label for use-dilution) (10 minutes)</li> </ul>	<p>Non-critical equipment/devices (e.g., weigh scales, stethoscopes, beds and plinths, blood pressure cuffs, exercise equipment, gait aids), and environmental surfaces.</p> <p>Surfaces are considered noncritical as they contact intact skin.</p>
High level	<ul style="list-style-type: none"> <li>Glutaraldehyde <math>\geq 2\%</math> (20 minutes at 20 degrees C)</li> <li>Hydrogen peroxide <math>\geq 6\%</math> (30 minutes)</li> <li>Enhanced action formulation hydrogen peroxide (2%) (8 minutes at 20 degrees C).</li> </ul>	<p>Semi-critical items (e.g., vaginal probes, reusable peak flow meters, pessary fitting rings) that cannot be subjected to the sterilization processes must be reprocessed using high-level disinfection.</p> <p><b>**Sterilization is the preferred method of decontamination for semi-critical devices.</b></p>

## Storage

Disinfected and sterilized equipment should be handled and stored in a manner that promotes the integrity of the sterile state.

Further information about the sterilization process can be found in "Standards for Cleaning, Disinfection and Sterilization of Reusable Medical Devices for Health-care Facilities and Settings"<sup>23</sup> and "Best Practices for Cleaning, Disinfection and Sterilization of Medical Equipment/Devices, 3rd Edition."<sup>3</sup>

# Appendix B

## Additional Resources

Additional information about WHMIS is available at:

- Health Canada. (2015). Workplace Hazardous Materials Information System (WHMIS). Available at: <http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index-eng.php>

More information about reprocessing reusable equipment is available at:

- Alberta Health. (2012). Standards for cleaning, disinfection and sterilization of reusable medical devices for health care facilities and settings. Available at: <http://www.health.alberta.ca/documents/IPC-Medical-Device-Cleaning-2012.pdf>
- Alberta Health. (2011). Standards for the Single-Use Medical Devices: As applied to Critical and Semi-critical medical devices. Available at: (<http://www.health.alberta.ca/documents/IPC-Medical-Device-Single-Use-2011.pdf>)
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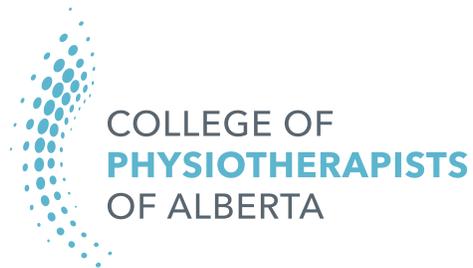
Other resources related to environmental cleaning and prevention of the spread of infection can be found at:

- Provincial Infectious Diseases Advisory Committee. (2012). Best practices for environmental cleaning for prevention and control of infections: In all health care settings-2nd edition. Available at: [https://www.publichealthontario.ca/en/eRepository/Best\\_Practices\\_Environmental\\_Cleaning\\_2012.pdf](https://www.publichealthontario.ca/en/eRepository/Best_Practices_Environmental_Cleaning_2012.pdf)
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