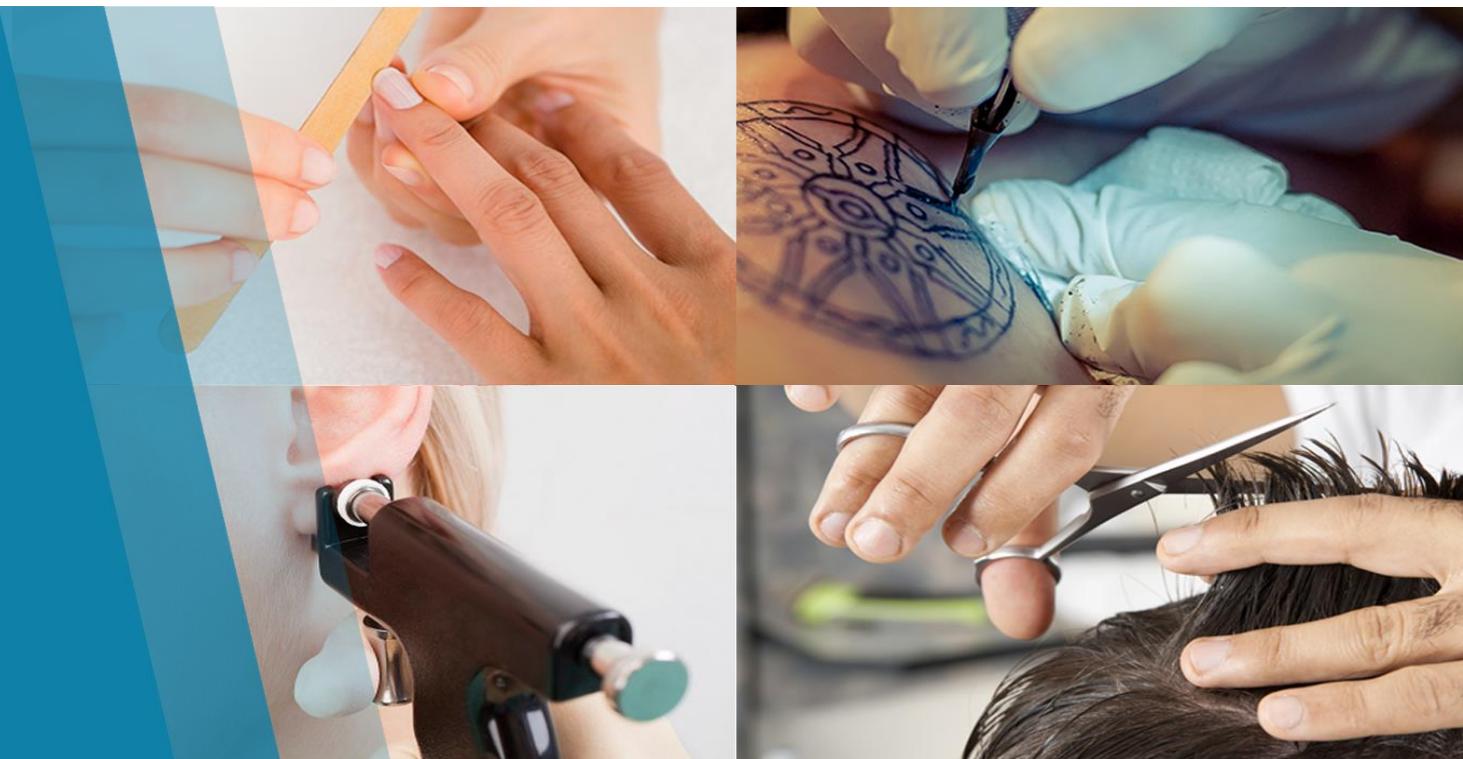


# Guide to Infection Prevention and Control in Personal Service Settings, 3<sup>rd</sup> edition



First Revision: July 2019

# Public Health Ontario

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# Preamble

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Personal services are a growing industry, encompassing services from hairdressing and barbering to invasive procedures such as tattooing, piercing and other body modification. A recent online survey in Ontario obtained responses from 1,270 respondents between the ages of 16 and 35 and found the self-reported prevalence of tattoos among this age group (both sexes) to be 48%, and of body piercings (excluding earlobe piercings) to be 65%. Only 26% of respondents reported having no tattoos or body piercings, although over half of these expressed an intention to obtain tattoos or body piercings in the future.<sup>1</sup> This study also found that 15% of respondents had an existing “extreme body modification,” such as stretched earlobes, a bifurcated tongue, or branding, and 18% expressed an interest in obtaining an extreme body modification in the future. Other services that are growing in popularity include holistic services such as colon hydrotherapy and sensory deprivation. Whether or not a personal service is invasive, each service has inherent infection risks if appropriate infection prevention and control (IPAC) practices are not followed. A lack of formal surveillance of infections related to personal service settings (PSS) makes it difficult to provide accurate information on the actual risk of infection from these procedures.<sup>2</sup>

Failure to follow IPAC practices can pose a risk of infection to both clients and workers in PSS. Infections may be transmitted even if skin penetration does not occur (see [Appendix A: Personal Services and Infection Risks](#)). Workers who are knowledgeable and comply with IPAC practices can help reduce the risk of infections being transmitted in PSS and can ensure a safe environment for members of the public.<sup>2</sup>

This document provides evidence-based scientific and technical advice that supports personal service settings (PSS) as defined by the Ontario *Health Protection and Promotion Act, R.S.O. 1990, Chapter H.7* (HPPA) and the Ministry of Health and Long-Term Care (MOHLTC) standards and protocols.<sup>3-8</sup> This document should be considered a reference document and does not supersede the PSS Regulation, and/or requirements and program guidance issued by the MOHLTC. PSS is defined as “a premises at which personal services are offered and there is a risk of exposure to blood or body fluids, and includes premises at which hairdressing and barbering, tattooing, body piercing, nail services, electrolysis, and other aesthetic services are offered.”<sup>8</sup>

This revised document replaces the 2009 *Infection Prevention and Control Best Practices for Personal Services Settings*.

## About This Document

This document was developed by Public Health Ontario (PHO) in collaboration with the MOHLTC. Two working groups were established, one consisting of internal representatives of PHO and the MOHLTC, and another consisting of members of PHO, the MOHLTC, and individuals from local public health units from different regions across Ontario. Recommendations were derived from legislation and regulations and were developed by consulting existing best practice documents, seeking expert opinion, and

conducting a review of select primary literature. Additional studies and supporting evidence were identified and reviewed. To establish consensus among members of the working groups, any disagreement or uncertainty about the application of IPAC principles specific to PSS were resolved by discussion. A combination of policymakers, IPAC specialists, public health inspectors, and research coordinators were consulted during the development of this document. In addition to the collaboration of the working groups, there was subsequent engagement of all public health units in Ontario to seek their feedback and gauge their response to the implementation of the revised document. Targeted input was also requested from PSS operators, other ministries, and colleagues outside the province of Ontario. All feedback and input was considered, resulting in further revisions to the document.

This document is intended to provide public health units and public health inspectors with IPAC practices for operators to prevent and reduce the risk of transmission of infections in PSS. The IPAC practices in this document reflect the best available evidence at the time of writing.

## IPAC Practices in PSS

IPAC practices are intended to guide decision-making about IPAC. The health risks of personal service procedures depend on a number of factors, including how invasive a procedure is; many procedures have the potential to cause serious illness or infection (see [Appendix A: Personal Services and Infection Risks](#)). For example, if a contaminated instrument accidentally or deliberately penetrates the skin or contacts the mucous membranes of a susceptible individual, a blood-borne infection (BBI) (e.g., hepatitis B, hepatitis C, human immunodeficiency virus [HIV] infection) may be transmitted. Infections, blood-borne or otherwise, can also be caused by many types of bacteria (e.g., *Staphylococcus aureus*, *Streptococcus* spp., *Pseudomonas* spp., *Mycobacterium* spp.), viruses (e.g., herpes simplex viruses, other retroviruses, human papillomavirus) and fungi (e.g., *Trichophyton* spp.).<sup>9,10</sup> For this reason, IPAC practices are to be undertaken in every PSS.

Examples of personal services to which this document applies, but is not limited to:

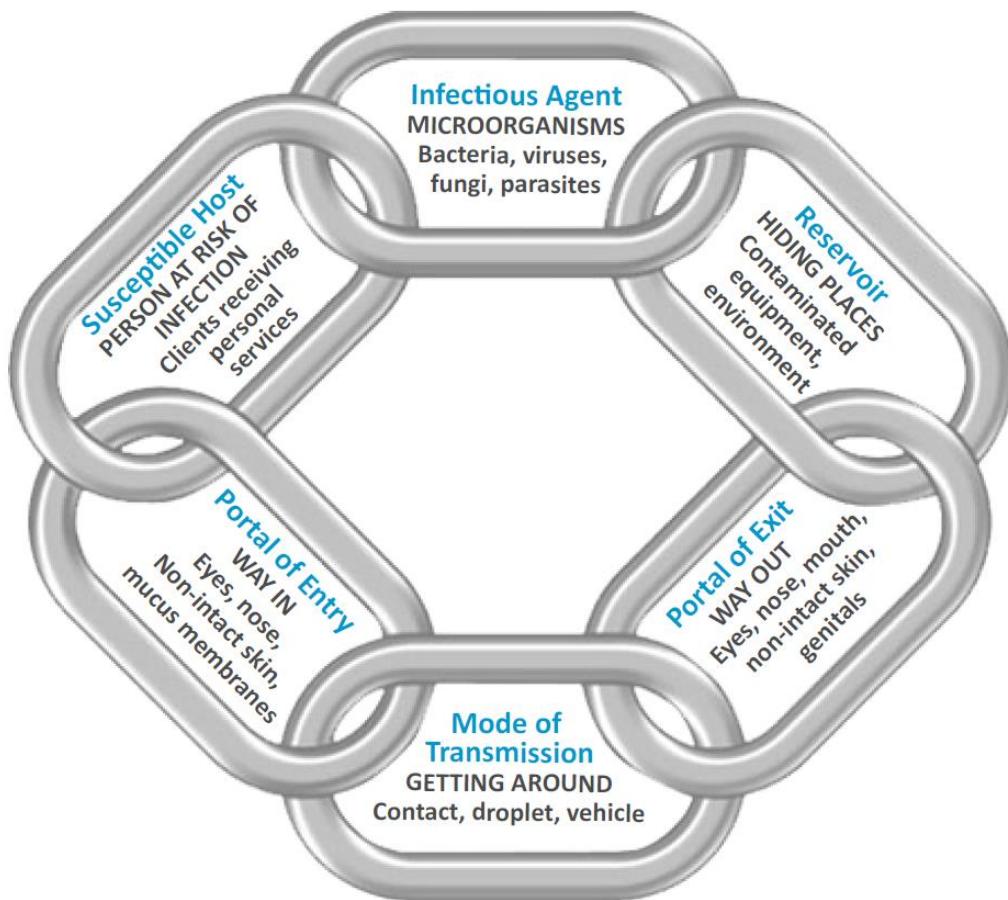
- aesthetics
- body piercing
- body modification
- earlobe piercing
- electrolysis and hair removal
- hairdressing and barbering
- manicure
- microdermabrasion
- pedicure
- micropigmentation
- tattooing & tattoo removal

# 1. Chain of Transmission

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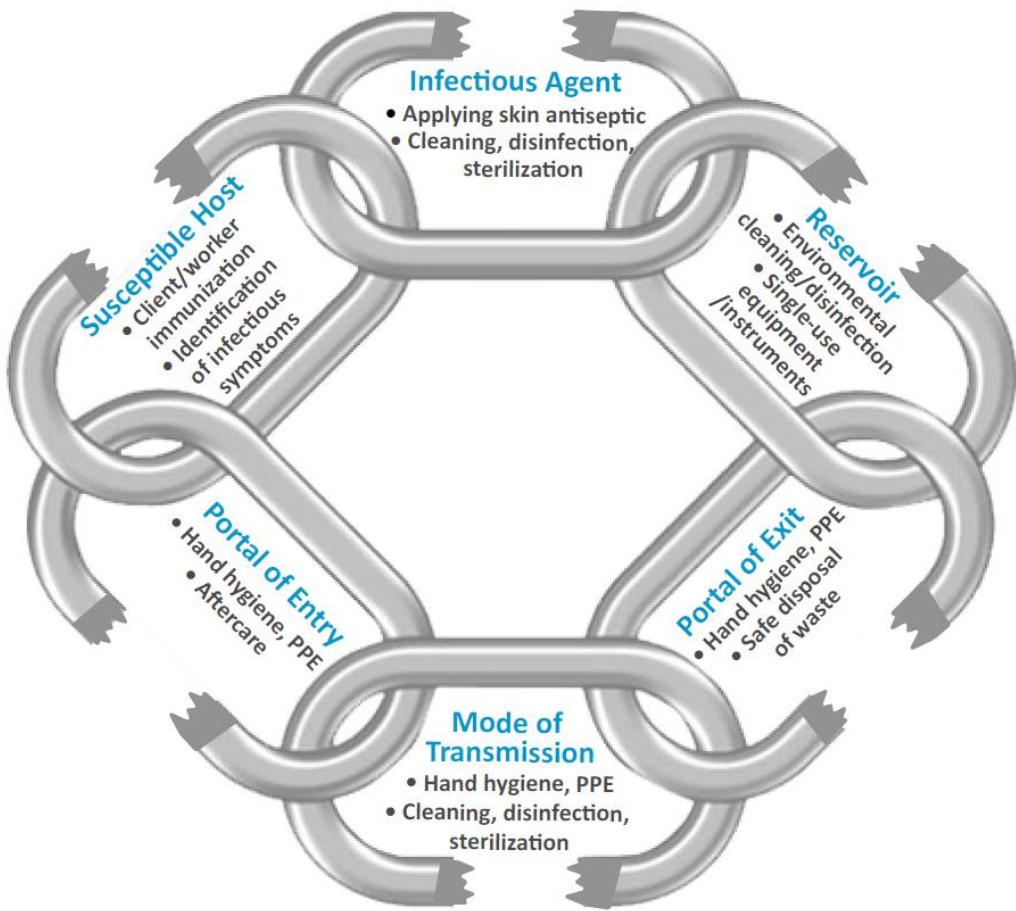
The chain of transmission is a model used to explain how infection can be spread and how it can be prevented. This chain forms the foundation of IPAC practices. The factors necessary for the transmission of microorganisms and subsequent development of infection may be compared to a chain, with each link representing a factor related to the spread of microorganisms. Transmission is prevented by eliminating or controlling one or more of those factors. Each link in the chain can be applied to PSS.<sup>11</sup>

**Figure 1a: Chain of Transmission<sup>11</sup>**



Transmission occurs when the **infectious agent** in the **reservoir** finds a **portal of exit**, travels via a **mode of transmission**, and finds a **portal of entry** to a **susceptible host**.<sup>11</sup>

**Figure 1b: Breaking the Chain of Transmission<sup>11</sup>**



Transmission may be interrupted when:<sup>11</sup>

- the **infectious agent** is eliminated or inactivated or cannot exit the **reservoir**;
- portals of exit** are contained via safe practices;
- modes of transmission** are removed between objects or people because of barriers and/or safe practices;
- portals of entry** are protected; and
- hosts** are not susceptible.

## 1.1 Infectious Agent

An infectious agent is a microorganism capable of producing infection. Examples include bacteria (e.g., *Staphylococcus aureus*, *Mycobacterium* spp.); viruses (e.g., hepatitis C virus, hepatitis B virus, human immunodeficiency virus [HIV]); fungi/yeasts (e.g., *Candida albicans*, *Trichophyton* spp.); and parasites.<sup>10,12-15</sup>

Controlling infectious agents can be accomplished via measures such as appropriately disinfecting and sterilizing equipment.

## 1.2 Reservoir

The reservoir is the place where an infectious agent can live, grow, and multiply.<sup>11</sup> For example, infectious agents can grow in or on humans, on contaminated objects, or on surfaces in the environment. Common examples of reservoirs in PSS include infected nail beds, wet or moist surfaces, the contaminated hands of workers, contaminated fluids (e.g., leftover tattoo ink; contaminated or improperly decanted disinfectant and antiseptic products; containers of wax, liquids or gels, and lubricants), and contaminated surfaces or equipment and instruments (e.g., non-sterile jewellery used for piercings, improperly cleaned and disinfected equipment tables, improperly cleaned and disinfected or sterilized equipment and instruments).

The spread of infectious agents from reservoirs can be eliminated or controlled by promptly cleaning up spills of blood and/or other body fluids; properly cleaning and disinfecting or sterilizing equipment and instruments; ensuring that reusable products such as lubricants, antiseptics, and styptic products are not contaminated or improperly reused (e.g., double-dipping); and by cleaning and disinfecting environmental surfaces.<sup>11,16</sup>

## 1.3 Portal of Exit

A portal of exit is the point at which an infectious agent leaves the reservoir.<sup>11</sup> Portals of exit on the human body include sites of piercing and tattoo needle entry, eyes, nose, mouth, anus, and urethra, as well as non-intact skin (e.g., cuts, open wounds, abrasions, some rashes). These portals of exit can also be portals of entry in a susceptible host.

Portals of exit can be controlled by controlling excretions and secretions.

## 1.4 Mode of Transmission

Infectious agents can be transmitted from people, surfaces, or equipment.<sup>11</sup> Transmission can also occur through contact with nail beds infected with fungus, contaminated needles or instruments such as razor blades that may pierce the skin, and any instrument that is inserted into a body cavity or that comes in contact with a mucous membrane. Modes of transmission in PSS are described further below.

### 1.4.1 Contact Transmission

Most microorganisms are spread by contact. Contact transmission can be direct (i.e., by touching a susceptible host directly) or indirect (i.e., by touching a piece of contaminated equipment, instrument, or surface and then touching a susceptible host).<sup>11</sup> The ability of microorganisms to survive on dry surfaces can affect their ability to be spread by indirect contact.

For example, viruses such as hepatitis B and hepatitis C can survive outside the body at room temperature and on environmental surfaces for 7 days to up to 3 weeks.<sup>17,18</sup> Transmission of hepatitis C and other infectious diseases is possible when IPAC practices are not adhered to during tattooing or

piercing. A risk factor for hepatitis C is tattooing, body piercing, or acupuncture when non-sterile equipment or techniques are used.

Another virus, human immunodeficiency virus (HIV), does not survive for long periods outside of the human body (e.g., on surfaces), and it cannot replicate outside a human host.<sup>19</sup> However, the virus has been shown to remain infectious in aqueous solutions at room temperature for up to 15 days.<sup>20</sup> It can also survive in pigmented solutions (e.g., tattoo inks), because they are relatively inert. As a result, tattooing machines themselves, along with the tattoo needles, are also a potential source of transmission for blood-borne infectious diseases.<sup>20</sup> The risk of getting the virus this way is very low.<sup>19</sup>

Bacteria (e.g., *Staphylococcus*, *Pseudomonas*, *Mycobacterium*) and fungi can also spread through contact with contaminated equipment, instruments, and environmental surfaces, and from the unclean hands of workers.<sup>11</sup>

Blood does not need to be visibly present for transmission of microorganisms to occur, especially for viruses such as Hepatitis B.<sup>21</sup>

Contact transmission can be prevented or controlled through:<sup>11</sup>

- appropriate and adequate hand hygiene by all workers and by clients.
- administrative controls such as:
  - healthy workplace policies and procedures;
  - initial and ongoing training and education on IPAC and safe practices for workers and clients;
  - provision of adequate supplies for controlling and preventing infections, including PPE, cleaners and disinfectants, and reprocessing equipment (e.g., sterilizers);
  - workers not working while they have infectious symptoms (e.g., fever, cough, diarrhea, vomiting); and
  - screening clients for infectious symptoms and deferring services until symptoms are resolved.
- environmental controls such as:
  - cleaning and disinfection of environmental surfaces that come in contact with hands of clients and workers (see [chapter 3, Managing the Environment](#));
  - cleaning and disinfection or sterilization of equipment and instruments;
  - effective design and setup of PSS; and
  - no recapping needles and safe handling of sharps (e.g., needles, lancets, blades).
- appropriate and adequate use of PPE based on the risk of workers' contact with blood and/or other body fluids (see [chapter 2.5, Personal Protective Equipment](#))

## 1.4.2 Droplet Transmission

Droplet transmission occurs when microorganisms are transmitted to a susceptible host by large respiratory droplets that are propelled into the air (e.g., when someone coughs or sneezes). Droplets can travel up to two metres (six feet) or more. Examples of infections spread by droplets are influenza and the common cold.<sup>11</sup>

Droplet transmission can be prevented or controlled by:<sup>11</sup>

- requesting that coughing or sneezing clients postpone their procedure or service until they are well;
- workers not working while they are ill with infectious respiratory symptoms (e.g., coughing, sneezing); and
- encouraging clients and workers to cover their coughs/sneezes with tissue or cough/sneeze into their sleeve (i.e., respiratory etiquette).

## 1.4.3 Vehicle-Borne Transmission

Vehicle-borne transmission occurs when a microorganism is transmitted from a reservoir to a susceptible host via a common vehicle. A vehicle can be food, water, biologic products (e.g., blood and/or other body fluids), or an inanimate object or surface (e.g., a needle or a razor blade, liquids, gels) contaminated with the microorganism.<sup>22</sup>

Vehicle-borne transmission can occur when contaminated equipment/instrument is inserted into a body orifice or contacts the non-intact skin or a mucous membrane of a susceptible host.

Vehicle-borne transmission can be prevented or controlled by:<sup>22</sup>

- performing hand hygiene;
- using PPE and protective barriers (e.g., exam table covers) appropriately;
- ensuring that environmental surfaces are cleaned and disinfected;
- ensuring that equipment and instruments are cleaned and disinfected or sterilized between uses on each client, or ensuring that new single-use disposable equipment and instruments are used on each client;
- disposing of sharps appropriately; and
- practicing respiratory etiquette.

## 1.5 Portal of Entry

A portal of entry is the point where an infectious agent enters a new host (e.g., non-intact skin or mucous membranes such as the eyes, nose, mouth, ears, or anus).<sup>22</sup>

To protect potential portals of entry:<sup>11</sup>

- cleanse the client's skin using an appropriate skin antiseptic prior to performing procedures that enter or cut the skin (e.g., piercing, tattooing, waxing; see [chapter 5, Client Safety](#));
- ensure that the skin is free and clear of open areas (e.g., cuts, wounds, sores), rash, or visible skin conditions prior to procedures. Procedures are not to be done on non-intact skin;
- use only sterile equipment and instruments for procedures that break the skin; and
- discard used sharps immediately after use into a sharps container.

Portals of entry can be protected by all methods that eliminate the mode of transmission (see [chapter 1.4, Mode of Transmission](#)).

## 1.6 Susceptible Host

Clients who receive personal services may have underlying medical conditions (e.g., diabetes, cancer, immune suppression) or may be undergoing medical treatments (e.g., chemotherapy, dialysis) that put them at increased risk of infection. In PSS, it is not always possible to know which clients are at increased risk of infection. All clients are therefore to be considered equally at risk (see [chapter 2.1, Risk Assessment](#)).

Host susceptibility can be reduced when:

- client and worker immunizations are kept up to date; and
- potentially infectious symptoms are identified and addressed.

## 2. Routine Practices

---

Routine Practices are a system of IPAC practices that help prevent and control the transmission of microorganisms. These practices are based on the premise that all clients are potentially infectious, even when they have no signs of infection. Adherence to Routine Practices protects both the client and the worker and is to be practiced in all settings where personal services are provided.<sup>11,15</sup>

Elements of Routine Practices include:

- risk assessment
- hand hygiene
- control of the environment
- administrative controls
- personal protective equipment

More information about Routine Practices is available on the PHO Provincial Infectious Diseases Advisory Committee [webpage](#).

### 2.1 Risk Assessment

Risk assessment is the evaluation of the risk of transmission of infection or cross-contamination associated with an activity, and is to be performed before undertaking any personal service activity. With practice, risk assessment becomes a natural part of those activities. Risk assessment is not a formal procedure; it is more an awareness of the potential for transmission of infection or cross-contamination inherent in certain personal services activities.

Risk assessment includes determining the potential for:<sup>11</sup>

- contact with blood and/or other body fluids, non-intact or potentially infected skin (e.g., rashes, draining wounds) for the worker or client;
- exposure to mucous membranes;
- exposure to contaminated equipment or instruments and surfaces; and
- exposure to chemicals used in the cleaning and disinfection of equipment and environmental surfaces.

For more information on the risks associated with specific personal services, see [Appendix A: Personal Services and Infection Risks](#).

If there are cuts, rashes, non-intact skin, open wounds, or any visible skin disease that may be potentially infectious at or adjacent to the area where the personal service is to be provided, personal service workers are to take action to prevent or control the risk of infection by delaying the service until the skin condition has improved or healed.

Risk assessment can also be used by public health units in conjunction with PSS when determining other aspects of the setting (e.g., placement of hand washing sinks, setup of reprocessing areas).

## 2.2 Hand Hygiene

Hand hygiene is a general term referring to any action of hand cleaning. It is considered to be the most important and effective IPAC measure to prevent the spread of microorganisms.<sup>11</sup> All humans carry microorganisms on their skin. These have been divided into two groups: transient and resident bacteria. Transient or contaminating bacteria colonize the top layers of skin and are acquired during direct contact with clients or contaminated equipment and instruments or the environment. Resident bacteria are found in deeper layers of skin and are more resistant to removal.<sup>23</sup> As in health care, unclean hands in PSS can transmit microorganisms from person to person, as well as to and from surfaces, equipment, and instruments.

Every person who provides services at the PSS is to clean their hands as often as necessary and in such a manner as to remove visible soil and transient microorganisms from the hands.<sup>7</sup> To prevent the spread of germs, personal service workers are to clean their hands at the right time, using the correct technique, such as:<sup>23</sup>

- before touching the client or any equipment, instruments, supplies, or surfaces to be used during the service;
- after contact with a client's blood and/or other body fluids, mucous membranes, or non-intact skin;
- after contact with contaminated equipment or instruments;
- between procedures or services on the same client;
- before putting on and after removing gloves; and
- following personal hygiene activities (e.g., use of toilet, blowing nose) and before other activities where contaminated hands could transfer microorganisms to the worker's mouth (e.g., smoking, eating, drinking).

Workers are to also avoid the following factors that may limit the effectiveness of hand hygiene:

- Nail polish: Polish that is chipped or has been worn for longer than four days can harbour microorganisms that are not removed by hand hygiene. If nail polish becomes chipped, it is to be removed entirely.<sup>23,24</sup>
- Artificial nails and nail enhancements: These have been associated with bacterial and fungal outbreaks and may interfere with the action of hand hygiene.<sup>25</sup>
- Rings and other hand jewellery or bracelets: These are hard to clean and can prevent microorganisms from being removed during hand hygiene. They also increase the risk of tears in gloves.<sup>25,26</sup>
- Wrist watches and long sleeves: These are to be pushed up above the wrists during hand hygiene to make cleaning the wrists easier.

The two methods for hand hygiene include rubbing hands with alcohol-based hand rub (ABHR) when hands are not visibly soiled or washing hands with plain liquid soap and water when hands are visibly soiled.<sup>23</sup>

**Rubbing hands with ABHR is the preferred method for cleaning hands when they are not visibly soiled.**

### 2.2.1 Hand Rubbing Using ABHR

Rubbing hands with ABHR is the preferred method for cleaning hands when they are not visibly soiled. The action of hand rubbing for 15 seconds is equivalent to the time recommended for proper hand washing, but the worker can do other things while hand rubbing (e.g., talk with the client). An additional benefit is that clients see the worker cleaning his/her hands, which they often appreciate.

The alcohol content of ABHRs ranges from 60 – 90%. Studies suggest that norovirus, a virus that causes diarrhea and vomiting in institutions and the community, is inactivated by alcohol concentrations from 70 – 90%.<sup>23</sup> For this reason, an ABHR with a minimum concentration of 70% alcohol is to be chosen.<sup>23</sup> ABHRs are to have a natural product number (NPN) from Health Canada.<sup>23</sup>

Other advantages to rubbing hands with ABHR:

- It takes less time than hand washing.
- It is more effective than hand washing with soap and water when hands are not visibly soiled.<sup>23</sup>
- Mechanical rubbing action kills transient bacteria.
- It is less drying to hands than soap and water.

See [Appendix B: How to Handrub](#) for a poster on how to clean hands with ABHR.

**ABHRs are not be used for surface or equipment disinfection, as they are not formulated for environmental cleaning.**

#### 2.2.1.1 ABHR DISPENSERS

To make it possible for workers in PSS to clean their hands at the right time, alcohol-based hand rub:

- is to be available and within reach wherever personal services are provided (e.g., procedure or service room, hairstyling or pedicure station) and in reprocessing areas, even if a hand washing sink is available;<sup>15,23,27</sup>

- is not to be placed at, or adjacent to, hand washing sinks to avoid confusion with liquid hand soap;  
<sup>15,23,27</sup>
- is not to be used beyond its expiry date (discard expired ABHRs);<sup>15,23,27</sup> and
- is not to be installed over or directly adjacent to ignition sources, such as electrical outlets or switches, or over carpeted areas, due to risk of combustion.<sup>28</sup>

ABHRs can become contaminated. They are to be dispensed in disposable containers and they are not to be “topped up” (i.e., do not add new ABHR to an old container).<sup>23,27</sup>

## 2.2.2 Hand Washing Using Soap and Water

When hands are visibly soiled, the preferred method for hand hygiene is hand washing using soap and water. The mechanical action of washing, rinsing, and drying removes most transient bacteria. Plain liquid soaps act on hands by breaking up dirt and organic substances (e.g., blood and/or other body fluids), which are then flushed away when rinsing. The use of ABHRs on visibly soiled hands is not recommended because the effectiveness of alcohol is inhibited by the presence of organic matter.<sup>23</sup>

Every PSS operator is to maintain a supply of soap in a dispenser in close proximity to the sink.<sup>7</sup> Plain liquid soaps are sufficient for hand washing in PSS. Antimicrobial hand soaps are generally only considered for use in critical care health care settings and are not recommended in PSS.<sup>23</sup>

- Liquid soaps may become contaminated; they are to be dispensed in single-use containers that are discarded when empty. If reusable containers are used, containers are to be emptied, cleaned, disinfected, rinsed, and dried before refilling.<sup>23</sup>
- Soap containers are to never be topped up.
- Expired soap products are to be discarded and are not to be used.
- Bar soaps are not to be used because they can become contaminated with microorganisms.<sup>23</sup>
- A method of hand drying using single-service products or a hot air dryer is to be available in close proximity to the sink.<sup>7</sup>
- Single-use disposable paper towel dispensers are to be mounted such that access to them is unobstructed and splashing or dripping onto adjacent walls and floor surfaces is minimized.<sup>23</sup>
- Hand hygiene is to be encouraged for clients.<sup>23</sup>
- Single client-use cloth towels are to be laundered after each use.<sup>15</sup>

See [Appendix C: How to Handwash](#) for a poster on how to clean hands with soap and water.

### **2.2.2.1 HAND WASHING SINKS**

Every PSS operator is to have at least one sink dedicated to hand washing within the PSS premises that is conveniently located to the work area, that is accessible at all times, and that is continuously supplied with potable hot and cold running water under pressure.<sup>7</sup>

**If the water source is a well, the water is to be tested in accordance with applicable water regulations.**

All permanent and temporary hand washing sinks are to be equipped with potable hot and cold running water under pressure<sup>7</sup> and:<sup>15,23</sup>

- have a single faucet spout with handles that allow for mixing of hot and cold water; if water is controlled by sensor devices, the device is to be equipped with self-adjusting temperature control to ensure mixing of hot and cold water;
- have liquid soap dispensers, single-use paper towel, single client-use cloth towels laundered after use, or hot air dryer, and waste bins within easy reach of every sink. If air dryers are used for hand drying, they are to have hands-free operation, and there is to be a contingency for power interruption. Waste bins are to be designed to allow for discarding of paper towels without touching the bin with hands;
- not be used by more than one premise (i.e., hand washing sinks in a public washroom in a mall or client bathroom);
- be in good repair and made with durable materials;
- have a smooth, non-absorbent, and easily cleaned wall surface behind the sink, under the paper towel dispenser, and the liquid soap dispenser;
- have no clean or sterile equipment and instruments stored underneath, where water can drip on them; and
- have clean and sterile equipment and instruments stored at least one metre (three feet) away from the sink unless the sterile equipment and instruments are stored in a closed cupboard or other closed storage.

### **2.2.3 Other Hand Hygiene Products**

At present, there is insufficient evidence to support the efficacy of waterless non-alcohol hand hygiene agents, and their use is not recommended. If alcohol wipes are used, they are to contain 70 – 90% alcohol, remain wet on the hands for at least 15 seconds, and cover all surfaces of hands ([see Appendix B: How to Handrub](#) for a poster on how to hand rub).<sup>23</sup>

## 2.2.4 Hand Care

Hand care for workers is a key component of improving effective and safe hand hygiene practices to protect workers and clients from infections.

- Hand lotion dispensers (non-refillable) are to be provided for workers to help maintain the integrity of the skin on their hands.
- Lotion is not to be petroleum-based (check product label), because such products can affect the integrity of latex gloves.<sup>29</sup>
- Hand lotion is to be dispensed in a manner that will prevent contamination of the lotion and/or container.<sup>7</sup>

## 2.3 Control of the Environment

Controlling the environment includes measures that are built into the structure of the PSS that have been shown to reduce the risk of infection to workers and clients. These measures include:

- Engineering controls that are physical or mechanical, such as ventilation (e.g., local exhaust to remove nail dust, chemical vapours) or barriers (e.g., curtains).
- Safe handling of waste materials and sharps (see [chapter 3.1, Surface Cleaning and Disinfection](#), and [chapter 6, Worker Health and Safety and Safe Work Practices](#)).
- Equipment/instrument reprocessing (see [chapter 4, Reprocessing of Equipment and Instruments](#)).
- Environmental cleaning (see [chapter 3, Managing the Environment](#)).

A PSS is not to be a room or part of a room that is used as a dwelling, including for dining, sleeping or preparing, selling, handling, eating, or storing food.<sup>7</sup> The PSS is also to be equipped with potable hot and cold running water under pressure.<sup>7</sup>

## 2.4 Administrative Controls

Every PSS operator is to undertake any health and safety training related to PSS operation and maintenance, including training in relevant practices that can prevent or reduce the risk of disease transmission at the setting.<sup>7,11,27</sup> Administrative controls are measures put into place to protect workers and clients from infection. These controls include:<sup>11,27</sup>

- IPAC policies and procedures, education, and training
- Healthy workplace policies and procedures
- Worker immunization (see [chapter 6, Worker Health and Safety and Safe Work Practices](#))
- Respiratory etiquette (e.g., coughing into sleeve or tissue)
- Review of worker adherence to IPAC practices (e.g., observation or auditing of practices)
- Worker orientation and training
- Copies of printed manufacturer's instructions or manuals for equipment and instruments
- Readily available instructions for reprocessing

## 2.5 Personal Protective Equipment (PPE)

PPE is worn by the worker as part of Routine Practices to prevent the transmission of microorganisms between the client, the worker, and the environment. PPE includes gloves, gowns, arm barriers, and facial protection. The selection of PPE is based on an assessment of the risk that the worker will come into contact with blood and/or other body fluids, or items contaminated with them; mucous membranes; and non-intact skin (see [chapter 2.1, Risk Assessment](#)). PPE protects workers and clients when used in conjunction with environmental and administrative controls (see [Appendix D: Recommended Steps for Putting on and Taking off Personal Protective Equipment.](#))

### 2.5.1 Gloves

Workers are to wear gloves to protect their hands when it is anticipated that hands will be in contact with blood and/or other body fluids; non-intact skin; mucous membranes; contaminated surfaces, equipment or instruments; and chemicals used in cleaning and reprocessing.<sup>11</sup>

#### **Wearing gloves is not a substitute for hand hygiene**

- Gloves are single-use only.
- Select gloves appropriate to the task.
- Non-sterile disposable examination gloves can be used for most procedures or services.<sup>11</sup>  
For personal services of long duration, nitrile gloves are recommended.
- Sterile gloves are to be worn for procedures requiring sterile technique.
- Gloves worn for cleaning and equipment reprocessing are to be compatible with the chemicals being used for the task (i.e., surgical or exam gloves are not appropriate); nitrile is not compatible with some solvent-based disinfectants (check safety data sheet for compatibility).
- Gloves are to be fitted to the hands (i.e., not too large or small).
- Vinyl “sandwich” gloves are not appropriate.

Workers are to:<sup>11</sup>

- perform hand hygiene before putting on gloves for a clean/aseptic procedure;
- wear gloves if they have non-intact skin on their hands (e.g., rashes, cuts, sores, cracked/splitting skin);
- change gloves (if worn) between each separate service for a client and between clients;
- take care when removing gloves to avoid touching the outer surfaces of gloves with bare hands;
- remove gloves after the activity for which they were used;
- not reuse or wash disposable single-use gloves, and not use ABHR on gloved hands;
- discard used gloves into the nearest waste container; and
- perform hand hygiene after gloves are removed due to possible contamination of hands during glove removal.

Disposable gloves are recommended for reprocessing equipment. However, if reusable rubber gloves (e.g., household utility gloves) are required, they are to be used only for reprocessing (cleaning, disinfection, or sterilization of equipment and instruments) and are to be cleaned, disinfected, and hung to dry after each use.<sup>16</sup>

**Latex-free gloves (e.g., vinyl, nitrile) are to be worn by workers with a latex allergy or when working around clients or other workers with latex allergy.<sup>11,27</sup>**

## 2.5.2 Gowns, Arm Barriers, or Aprons

Workers are to wear a gown, arm barriers, or a plastic apron when performing procedures or providing services if the risk assessment indicates that the activity may contaminate their skin or clothing through contact with blood, other body fluids, or chemicals used in cleaning and reprocessing, or through contact with equipment or instruments contaminated with blood and/or other body fluids.

Workers are to:<sup>11</sup>

- put on a gown, arm barriers, or an apron immediately before the activity based on the risk assessment;
- wear the gown, arm barriers, or apron properly (e.g., appropriately tied at neck and waist or arms);
- remove the gown, arm barriers, or apron immediately after the activity for which they are used, taking care to not touch the outside of them;
- not reuse the gown, arm barriers, or apron unless they are intended for reuse and can be laundered;
- discard disposables into the nearest waste container or place reusable gowns or aprons into a soiled linen receptacle; and
- perform hand hygiene after removing a gown, arm barriers, or an apron due to potential contamination of hands during gown or apron removal.

## 2.5.3 Facial Protection

Facial protection includes masks/respirators and eye protection worn by the worker to protect the mucous membranes (e.g., eyes, mouth, nose) from splashes of blood and/or other body fluids during certain procedures (e.g., tattooing, body modifications) and from splashes of chemicals during equipment and instrument reprocessing or environmental cleaning.

### 2.5.3.1 MASKS/RESPIRATORS

Workers are to wear a disposable surgical/procedure mask (in addition to eye protection) when performing a sterile or invasive procedure, or when the risk assessment indicates that there is a potential for a splash or spray of blood, other body fluids, or chemicals to their mouth or nose.<sup>11</sup> Mask and eye protection are recommended to be worn during nail filing due to the generation of nail dust. A

fit-tested, seal-checked respirator (e.g., N95) is recommended to be worn when a rotary tool is used that does not include dust extraction or water spray. **Note:** The Ministry of Labour may be consulted regarding the application of the Occupational Health and Safety Act as it applies to the use of respirators.

Workers are to:<sup>11</sup>

- put on a mask/respirator immediately before the activity based on the risk assessment result;
- secure the mask/respirator over the nose and mouth;
- remove the mask/respirator immediately after the activity for which it is used (if wearing multiple items of PPE, the mask/respirator is to be the last piece removed);
- change the mask/respirator when it becomes wet;
- not touch the mask/respirator while it is being worn;
- not allow the mask/respirator to hang around the neck;
- not fold the mask/respirator or store in a pocket;
- not reuse the mask/respirator;
- remove the mask/respirator by grabbing the ties; do not touch the front of mask with their bare hands;
- discard the used mask/respirator directly into the nearest waste container; and
- perform hand hygiene after removing the mask/respirator.

### 2.5.3.2 EYE PROTECTION

Workers are to wear eye protection when performing a procedure where there is, or risk assessment indicates there could be, the potential for a splash of blood, other body fluids, or chemicals to their eyes. Eye protection may be disposable or, if reusable, is to be cleaned and low-level disinfected after each use.<sup>27</sup> Prescription eyeglasses are not acceptable by themselves as eye protection because they do not provide coverage from the side and may not fully cover the eye area. Glasses may be worn underneath eye or facial protection.<sup>11</sup>

Eye protection includes:<sup>11</sup>

- safety glasses;
- safety goggles;
- face shields; and
- visors attached to masks.

Workers are to:

- ensure eye protection is comfortable, fits securely, and does not interfere with vision;
- put on eye protection immediately before the activity based on the risk assessment;
- remove the eye protection immediately after the activity for which it is used;

- remove the eye protection by grasping the side arms and pulling the eye protection forward without touching the front of the eyewear;
- discard disposable eye protection;
- place reusable eye protection into a receptacle for cleaning and disinfection at a later time or clean and disinfect reusable eye protection immediately after each use; and
- perform hand hygiene after removing eye protection

## 3. Managing the Environment

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The role of environmental cleaning and disinfection is to reduce the contamination of surfaces, decreasing the risk of transmission of microorganisms that may lead to infections in clients or workers.

### 3.1 Surface Cleaning and Disinfection

PSS are busy complex public environments that offer various hands-on services and procedures. All clients and personal service workers shed microorganisms into the environment by touching surfaces, coughing, sneezing, or talking. Those microorganisms may survive for extended periods on surfaces. While some microorganisms are harmless, others may cause serious infections. Also, some clients may have medical conditions (e.g., cancer, diabetes, heart disease) or be undergoing medical treatments (e.g., chemotherapy, dialysis) that may put them at higher risk of acquiring an infection.

Surfaces in personal service environments may be contaminated by clients or workers (e.g., styling chair, hair wash station, bed, chair used by client during the service). Once contaminated, these surfaces can act as a vehicle for microorganisms. These microorganisms can then be transferred onto the hands of workers (gloved or ungloved), to clients, or to equipment and instruments, potentially increasing the risk of infection.

**Manufacturer's instructions for use and contact times for cleaning and disinfectant product(s) are to be followed, where available.<sup>7</sup>**

#### 3.1.1 Low-Risk and High-Risk Environmental Surfaces

The environmental surfaces in a PSS may be classified as low-risk or high-risk. This classification is based on the potential for the surfaces to act as vehicles for the transmission of microorganisms from blood and/or other body fluids.

Low-risk surfaces are potentially less likely to be contaminated with or come in contact with blood and/or other body fluids or non-intact skin. Low-risk surfaces may be less likely to act as a vehicle for transmitting microorganisms.<sup>31</sup> Examples of low-risk environmental surfaces include:

- manicure/pedicure tables or chairs/foot stools covered with a single-use towel or other protective covers;
- massage/waxing tables/beds covered with a single-use towel or other protective covers; and
- hairdressing/barbering chairs or sinks for hair washing.

High-risk surfaces are potentially more likely to be contaminated with or come in contact with blood and/or other body fluids or non-intact skin. High-risk surfaces may be more likely to be a vehicle for transmission of microorganisms.<sup>31</sup> Examples of high-risk environmental surfaces include:

- tattoo tables or other tables, beds, or chairs where invasive procedures are carried out;
- massage/waxing tables/beds not covered with a single-use towel or other protective covers; and
- manicure/pedicure tables or chairs or foot stools not covered with a single-use towel or other protective covers.

Where environmental surfaces become contaminated with spills of blood or other body fluids, see [chapter 3.6, Spills of Blood or Other Body Fluids](#) for more information.

### 3.1.2 Frequency and Methods of Cleaning and Disinfection

The risk level classification for environmental surfaces in a PSS determines the expected frequency for cleaning and disinfection of environmental surfaces. High-risk surfaces are to be cleaned and low-level disinfected between clients and when surfaces are visibly soiled.<sup>31</sup> Low-risk surfaces are to be cleaned and low-level disinfected immediately when they become visibly soiled and at least once per day.<sup>31</sup>

The process of cleaning and disinfection is to move from the least soiled surfaces or areas to the most soiled surfaces or areas.<sup>31</sup> For example, clean and/or disinfect areas with less risk for contact with blood and/or other body fluids before those surfaces at greater risk for contact with blood and/or other body fluids (e.g., clean sink in bathroom before toilet, clean pedicure chair before footbath).

Walls, floors, and ceilings have a low risk of transmission of infection and are to be cleaned according to a fixed schedule and when visibly soiled.

#### General Principles for Environmental Cleaning and Disinfection

- Follow manufacturer's instructions for contact time and proper dilution of disinfectant.
- Follow safety data sheet for selecting PPE.
- Manually clean with friction to remove visible soil.
- Rinse to remove detergent and/or disinfectant as per the manufacturer's instructions.

**High-level disinfectants are not to be used for the disinfection of environmental surfaces.**

See Table 1 for specific requirements related to the surface cleaning and disinfection of low-risk and high-risk environmental surfaces, depending on whether a one-step cleaner/disinfectant or if a detergent cleaner followed by a low-level disinfectant is used.

**Table 1: Requirements for Environmental Surface Cleaning and Disinfection**

Environmental Surfaces Requiring Cleaning/Disinfection	Practice
Low-risk/high-risk surfaces	<p><b>Using a detergent cleaner followed by low-level disinfection:</b></p> <ol style="list-style-type: none"> <li>1. Manually clean with friction and rinse to remove visible soil.</li> <li>2. Follow manufacturer's instructions for contact time and proper dilution of disinfectant.</li> <li>3. Disinfect the surface using one of the low-level disinfectants listed in <a href="#">Appendix E: Disinfectant Table</a> allowing surface to be wet for the appropriate contact time as specified in the manufacturer's instructions.</li> <li>4. If indicated in the manufacturer's instructions, rinse the surface with clean water or wipe with a damp clean cloth to remove residual disinfectant.</li> </ol> <p><b>Using one-step cleaner/disinfectant:</b></p> <ol style="list-style-type: none"> <li>1. Clean/disinfect the surface using a product with a cleaner/low-level disinfectant, using friction, allowing the surface to remain wet for the appropriate contact time as specified in the manufacturer's instructions (see <a href="#">Appendix E: Disinfectant Table</a>).</li> <li>2. If indicated in the manufacturer's instructions, rinse the surface with clean water or wipe with a damp clean cloth to remove residual disinfectant.</li> </ol>
Surfaces visibly soiled with blood and/or other body fluids	Clean and low-level disinfect the surface as soon as possible after noticing the surface has been soiled. For large blood spills see <a href="#">chapter 3.6, Spills of Blood or Other Body Fluids</a> .

## 3.2 Selection of Disinfectants

- Cleaners and disinfectants are to be used according to manufacturers' instructions (if provided). Some generic products, such as alcohol and bleach, may not have specific manufacturer's instructions (see [Appendix E: Disinfectant Table](#) for recommended dilutions).<sup>7,31</sup>
- Low-level disinfectants that are appropriate for use on environmental surfaces in the PSS are outlined in [Appendix E: Disinfectant Table](#). **Note:** Products formulated to be used as skin antiseptics and ABHRs are not to be used for environmental disinfection; read the product label for intended use.<sup>31</sup>
- Before using a disinfectant, workers are to ensure that the expiry date has not passed.<sup>16,31</sup> Some products have different expiry dates depending on whether the container has been opened, decanted, or diluted.

- All low-level disinfecting products are to have either a drug identification number (DIN) or a natural product number (NPN) issued by Health Canada.<sup>7,31</sup> An exception to this is sodium hypochlorite (undiluted/no additives) as it does not have a DIN or NPN.
- Ready-to-use products are preferred. If the product requires dilution, the worker is to ensure that the manufacturer's instructions are followed.<sup>7</sup> The safety data sheet is to be available for each product and any required PPE is to be readily available.<sup>31</sup>
- Products are to be stored in their original containers. If the product is decanted into another container for more than one use, that container is to be clearly labelled with the name of the product, the expiry date, the instructions for its use, and any safety precautions. Containers are not to be refilled unless the container is first cleaned, disinfected, and dried.<sup>16</sup> Disinfectants are not to be topped up because this can result in contamination of the container and solution.<sup>31</sup>
- Do not apply cleaning chemicals by aerosol or trigger spray; this can cause aerosolization, which is an occupational health hazard (e.g., occupational asthma). Chemical vapour in the air may also affect clients, and spraying can result in uneven wetting of the surface.<sup>31</sup>
- The disinfectant is to be applied by pouring the disinfectant onto the surface, wetting a clean cloth, or using a pre-saturated disinfectant wipe. The surface is to stay wet with the disinfectant for the required contact time which may be difficult to attain using a disinfectant wipe.<sup>31</sup>
- PSS operators may consult with their local public health unit before selecting or purchasing new detergents or disinfectants to ensure they choose the most appropriate product(s) for the right purpose(s).

### 3.3 Selection of Surfaces and Finishes

Ease of cleaning is an important consideration in selecting cleaning materials for areas or rooms where personal services are provided. This applies to all finishes and surfaces that may be contaminated with or have contact with blood and/or other body fluids. Surfaces and finishes in areas where personal services are provided are to be easily cleanable (e.g., without seams or pores such as no fabric, hidden hinges, unsealed wood).<sup>31</sup> Surfaces such as counters and tables are to be compatible with the cleaning/disinfectant products used.<sup>31</sup>

Floors, walls, ceilings, fixtures, furniture, and work surfaces of the PSS are to be in good repair, easily cleanable, of a smooth and impermeable material, and are to be maintained in a sanitary condition.<sup>7</sup> This includes all environmental surfaces, furnishings, and window coverings in waiting areas, reception areas, offices, hallways, and storage areas. These are to be kept visibly clean and free from dust, clutter, and debris. Damaged items are to be replaced as soon as possible, because damaged items are difficult to clean and may harbour microorganisms. Taping of damaged surfaces is not acceptable.<sup>31</sup>

## 3.4 Soaking or Immersion Tanks, Basins, and Other Soak Containers

Personal service procedures or services may include soaking or various forms of immersion in tanks filled with water (e.g., plain; containing soap, salts, chlorine, or bromine; or others) or other liquid or semi-liquid (e.g., wax, mud) (see [chapter 5, Client Safety](#)). Manufacturers' instructions for cleaning these tubs are to be followed, including scheduled disinfection of the tub, the filtration system, and the water in the tub.<sup>7</sup>

Some tanks used for immersion therapies (e.g., sensory deprivation) or isolation tanks are not designed or meant to be emptied on a regular basis. These tank solutions can contain Epsom salts, disinfectants, and recirculating filters to decrease contamination of the water.

For wax immersion or other liquid/gel immersion therapies where only hands or feet are immersed, alternatives to having multiple clients place their hands or feet into the same container of wax or liquid/gel are to be used to ensure it is dispensed in a manner which prevents contamination.<sup>7</sup> One alternative for consideration is to decant the wax or gel into a smaller container for immersion. After use with each client, the content is discarded, and the container is cleaned and disinfected with a low-level or intermediate-level disinfectant, depending on the intended use of the container (containers used for hands require low-level disinfection, at a minimum; containers used for feet require intermediate-level disinfection, at a minimum). Another alternative for consideration is to decant the wax into a plastic bag and discard the bag after client use.

### 3.4.1 Soak Tanks or Basins without Recirculation

Some immersion therapies, procedures, and services that do not have a recirculation system use stainless steel or plastic tubs, basins, bowls, or other containers (e.g., footbaths, pedicure basins, manicure bowls, hand soak basins) that are meant to be emptied after each use. Tub/basins are to have surfaces that are easily cleaned and disinfected.<sup>31</sup> Those made of stainless steel may be preferred over plastic.

These tubs or basins are to<sup>31</sup>:

- have surfaces that are non-porous and easily cleaned;
- be compatible with the disinfectants used to clean them;
- be disinfected with a low-level or intermediate-level disinfectant, depending on the intended use of the tub or basin:
  - Tubs or basins used for hand soaks (e.g., manicures bowls) require low-level disinfection, at a minimum.<sup>15</sup>
  - Tubs or basins used for foot soaks (e.g., footbaths, pedicure bowls) require intermediate-level disinfection, at a minimum;<sup>15</sup>
- be filled in a manner that prevents contamination of the water or other liquid; and
- be emptied and have the surface cleaned and disinfected after each client use.

For basins or tubs that are not easily cleaned and disinfected, it may be possible to use a disposable single-use liner during the soak procedure or service. If a single-use liner is used, the basin or tub is to be cleaned and disinfected with a low-level disinfectant at the end of the day.<sup>15</sup> If there is contamination of the basin or container while a single-use liner is in use (i.e., a tear or opening in the liner) the basin or container is to be cleaned and disinfected before the next client use (i.e., low-level disinfected for hand soaks, and intermediate-level disinfected for foot soaks).<sup>15</sup>

### 3.4.2 Soak Tubs or Basins with Recirculation

Soak tubs or basins with a recirculation system (e.g., footbaths, foot thrones, pedicure chairs, jetted tubs) are to be drained and thoroughly cleaned and disinfected according to the manufacturer's instructions after each client use.<sup>7</sup> This includes all surfaces and the recirculating system.

If the manufacturer's instructions for cleaning and disinfecting the recirculating system are not available, the following are to be done:<sup>32</sup>

- Drain the tub and thoroughly clean all surfaces with water and detergent.
- Fill tub with detergent and warm water to above the fill line and turn on the recirculating system. Let it run for five minutes. Drain and rinse with clean water to remove any leftover solution.
- Use an intermediate-level disinfectant according to the manufacturer's instructions.
- Fill the tub or basin to above the jets with the disinfectant that is prepared according to manufacturer's instructions.
- Turn on the recirculating system and allow it to run for duration of the disinfectant's contact time as designated by the manufacturer's instructions (for chlorine bleach or alcohol, see [Appendix E: Disinfectant Table](#)).
- After the system has run for the designated time, drain the disinfectant.
- In accordance with the manufacturer's instructions, fill the tub or basin with warm water to above jets and run the system for a few minutes to rinse out the remaining disinfectant where required.
- Drain the tub or basin thoroughly before use by the next client. Any pooling liquid is to be dried thoroughly.
- Clean, disinfect, and dry all cleaning and disinfection supplies (e.g., brushes, cloths, rags) at the end of each day and store away from sterile supplies.

#### 3.4.2.1 FILTERS/SCREENS

Accumulation of debris in the filters or screens is a risk for growth of water-borne pathogens such as *Pseudomonas* and *Mycobacterium* spp.

There are two types of screens or filters in footbaths:

- Screen or filter is in the air piping and requires a screwdriver to open.
- Screen or filter is not in the piping (e.g., magnet screens).

Filters or screens are to undergo thorough cleaning and disinfection, as outlined in the manufacturer's instructions.<sup>7</sup> If there are no available manufacturer's instructions for cleaning and disinfecting the screen or filter, the following are to be done:<sup>15</sup>

- Filters or screens that are not in the piping are to be removed, dismantled (where applicable), and cleaned and disinfected with an intermediate-level disinfectant after each use.
- Filters or screens in the piping (i.e., require a screwdriver to remove) are to be removed, dismantled (where applicable), and then cleaned and disinfected with an intermediate-level disinfectant at the end of each day.

## 3.5 Protective Covers

Protective covers can reduce the frequency of cleaning required for specific surfaces. Protective covers include a disposable impermeable material (e.g., plastic), a launderable reusable cloth (e.g., linen), or a disposable paper cover or sheet. All used linen is considered soiled and is to be placed into a designated container after each client use and laundered.<sup>15</sup> Protective covers are to be changed between clients and care is to be taken to avoid the contamination of surfaces when removing or changing the cover.<sup>15</sup> The covered surface is to be uncovered and then cleaned and disinfected with a low-level disinfectant at the end of each day that the surface is used.<sup>15</sup>

If the surface under the cover becomes visibly soiled or contaminated with blood and/or other body fluids (e.g., by the client coming in contact with the surface underneath the cover or by a spill of blood and/or body fluid soaking through the cover), the surface is to be cleaned and disinfected using a low-level disinfectant, as described in Table 1 (see [chapter 3.1, Surface Cleaning and Disinfection](#)).<sup>15</sup>

Reusable equipment, instruments, or items that cannot be easily or adequately cleaned, disinfected or sterilized between each use (e.g., tattoo or pigmentation machines, instrument handles, clip cords, electrolysis control panels, pigment, spray bottles used during service) are to be covered with single-use, disposable covers (e.g., plastic wrap or plastic bags [excludes plastic shopping bags]) and the cover is to be discarded after each use.<sup>15</sup> The covered surface is to be uncovered and then cleaned and disinfected with a low-level disinfectant after each use.<sup>15</sup>

## 3.6 Spills of Blood or Other Body Fluids

Any environmental surface where a spill of blood and/or other body fluids has been identified is to be cleaned and low-level disinfected as soon as possible.<sup>15,27,31</sup> The spill is to be contained with an absorbent material (e.g., disposable paper towels, granular, other absorbent material) and then the area is to be cleaned and disinfected using a low-level disinfectant using the procedure described in Table 1 (see [chapter 3.1, Surface Cleaning and Disinfection](#)).<sup>31</sup>

In the presence of large blood spills, high-level disinfection (e.g., 1:10 final dilution of sodium hypochlorite/household bleach) initially is to be used to inactivate blood-borne viruses to minimize risk for infection to workers from percutaneous injury during cleanup<sup>33</sup> followed by low-level disinfection of

the surface. Workers are to wear single-use disposable gloves while cleaning and disinfecting spills.

<sup>15,27,31</sup> Hand hygiene is to be done after glove removal.<sup>11</sup>

Soiled paper towels and other used absorbent materials are to be discarded appropriately.<sup>15,27,31</sup> If the towels or materials contain blood and would release liquid or semi-liquid blood when compressed, they are to be placed in a single impervious bag or receptacle and discarded as biomedical waste.<sup>34</sup> If they do not contain blood that would drip or ooze when compressed, they are to be placed in the regular waste.<sup>34</sup>

## 3.7 Waste Management

A PSS is to be equipped with receptacles for waste, including biomedical receptacles where applicable, appropriate for the sanitary operation and maintenance of the setting.<sup>7</sup> All waste, including biomedical waste, is to be collected and removed from the PSS as often as necessary to maintain the setting in a sanitary condition.<sup>7</sup> Most waste in PSS is to be discarded as regular waste.

Biomedical waste includes the following:<sup>34</sup>

- tissues or body parts, other than teeth, hair, or nails;
- items saturated with liquid or semi-liquid blood or blood products;
- body fluids visibly containing human blood; and
- sharps (i.e., materials capable of causing punctures or cuts) that have come into contact with above-noted wastes.

Biomedical waste is to be placed in an impervious bag or receptacle (e.g., sharps container), labelled as biomedical waste, and disposed of in a biohazard bag or container according to provincial legislation, biomedical waste guidelines and any applicable municipal by-laws. Specific information on disposal of sharps can be found in [chapter 6.2, Handling of Sharps](#). A locked, refrigerated space (at or below 4°C) is to be provided for storage of biomedical waste, excluding sharps, if stored for more than four days.<sup>34</sup> In addition, packaging of biomedical waste for off-site disposal is to comply with *Transportation of Dangerous Goods Regulations*. Do not double-bag waste unless the first bag becomes stretched or damaged, or waste has spilled on the exterior.

## 4. Reprocessing of Equipment and Instruments

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Reprocessing refers to the process (e.g., cleaning, disinfection, packaging, sterilization) of rendering potentially contaminated reusable equipment and instruments safe and effective for use.<sup>16</sup>

This chapter describes these critical elements and methods of cleaning, disinfection and sterilization, including the safe handling, monitoring, transportation, and biological decontamination of contaminated equipment and instruments.

All equipment used in providing personal services at the setting is to be maintained in good repair and in a sanitary condition.<sup>7</sup> This equipment is to be maintained in accordance with the manufacturer's instructions, if any, or, if no manufacturer's instructions are available, the equipment is to be maintained in accordance with the directions of the public health unit.<sup>7</sup> In addition to complying with relevant regulations, any equipment or instrument used in the provision of services to clients has to be capable of being cleaned, and disinfected or sterilized according to the most current standards and guidelines from the Canadian Standards Association, the Public Health Agency of Canada/Health Canada and the IPAC practices found within this document.

The main objectives of safe reprocessing of equipment and instruments include:<sup>16</sup>

- preventing transmission of microorganisms to workers and clients; and
- minimizing damage to equipment and instruments from chemicals used in reprocessing or inappropriate handling.

### 4.1 Worker Knowledge of and Competency in Reprocessing

The individual(s) responsible for reprocessing is/are to be able to demonstrate that they have knowledge of the steps required to reprocess the equipment and instruments used in their setting. Knowledge and competency in reprocessing includes:

- reprocessing (e.g., decontamination, disassembling, cleaning, rinsing, drying, disinfection and/or sterilization);
- monitoring the reprocessing process and any corrective actions required for suboptimal reprocessing; and<sup>16</sup>
- transporting and storage of clean and used equipment and instruments.

Operators involved in reprocessing of equipment and instruments are to take advantage of education and training offered by the local public health unit, the manufacturer/distributor of the equipment, and instruments where available and other credible organizations knowledgeable in reprocessing.

## 4.2 Single-Use Equipment and Instruments

All equipment and instruments designed for a single use or made of material that does not withstand cleaning and disinfection or sterilization are discarded immediately after they are used.<sup>7</sup>

**This single-use symbol may be displayed on the packaging of single-use equipment and instruments, or packaging may state “single-use.”**



Single-use equipment and instruments are to be provided new for every client for every service. Some single-use disposable equipment or instruments (e.g., nail files, pumice stones, buffers, and toe separators) that are used on one client can be given to that client to take home rather than discarding. These equipment and instruments are not to be kept in the PSS for future use with a client. Equipment and instruments that are sent home with the client are not to be brought back to the premises for reuse.

Prior to using single-use critical equipment or instruments purchased in a non-sterile state, the equipment or instruments are to be inspected and processed according to the manufacturers' instructions.<sup>35</sup>

See [Appendix G: Single-Use Disposable Items](#) for a list of items that are to be disposable and single-use only (items that cannot be properly disinfected between uses or where it is unsafe to do so).

## 4.3 General Principles of Reprocessing

The quantity of equipment and instruments and their frequency of use may guide the decision about whether reprocessing on-site is feasible or whether disposable equipment and instruments are a better option.<sup>16</sup>

Reusable equipment and instruments are to be durable, maintained in good working order, and be in a clean and sanitary condition.<sup>7,16</sup> All equipment and instruments are to be checked for integrity prior to use.<sup>16</sup> Cracked, chipped, rusted, pitted, or otherwise degraded or damaged equipment and instruments are not to be used and are to be discarded; they are difficult to clean, disinfect and/or sterilize, and they may cause harm to client or to worker.<sup>16</sup>

The processes and products used for cleaning, disinfection or sterilization, and the level of reprocessing required, are to be compatible with the equipment and instruments as directed in the manufacturer's instructions.<sup>16</sup> In the absence of specific manufacturer's instructions, decisions about reprocessing methods/products are to be based on best practice recommendations and operators are to follow the recommendations of the public health unit (see [Appendix F: Algorithm for Level of Reprocessing for Equipment and Instruments](#)).<sup>7,16</sup>

If available, the manufacturer's instructions for all equipment and instruments and reprocessing equipment are to be received and maintained in a format that allows for easy access by workers carrying out the reprocessing activities (e.g., manuals, instructional posters, signage).<sup>7,15</sup> Manufacturers' instructions for all equipment and instruments are to be followed and, if a public health unit provides directions with respect to the maintenance of equipment to address a potential health hazard, the operator of the PSS is to follow those directions.<sup>7</sup> If there is a discrepancy between the reprocessing level recommended by the manufacturer and the intended use of the equipment/instrument, the higher level of disinfection or sterilization is to be used.<sup>16</sup> See [Appendix F: Algorithm for Level of Reprocessing for Equipment and Instruments](#) and [Appendix H: Classes of Equipment and Instruments](#), for criteria that help determine the method of reprocessing of equipment or instruments depending on their intended use.

Clear written instructions for cleaning and disinfection or sterilization of equipment and instruments are to be readily available and accessible for workers, and are to be based on the manufacturer's instructions. These are to be reviewed and updated regularly. Language, terminology, pictures, drawings, and images are to be used to enable all workers to easily read and understand the instructions. Used equipment and instruments are to be handled in a manner that reduces the risk of contaminating workers and the environment (e.g., by using PPE and appropriate containers).<sup>16</sup> PPE required during cleaning and disinfection or sterilization of equipment and instruments is to be accessible to workers.<sup>11,15,16</sup> There is to be a process to deal with worker exposures that occur during reprocessing (e.g., blood or body fluid exposures, sharps exposures; see [chapter 6, Worker Health and Safety and Safe Work Practices](#)).<sup>15,16</sup>

To prevent disease transmission all reusable equipment is to be cleaned and disinfected or sterilized between each use, or covered with a single-use disposable cover intended for the purpose of preventing infection (e.g., tattoo or pigmentation machine bag, clip cord cover).<sup>7</sup> The cover is to be discarded immediately after each use if the equipment cannot readily be cleaned and disinfected or sterilized and is not introduced into the body or into body cavities.<sup>7</sup>

Used equipment and instruments are not to come in contact with clean surfaces or other clean equipment and instruments.<sup>16</sup> If the equipment or instrument requires disinfection, a disinfectant solution that is appropriate for the intended use of the instrument is to be used (see [Appendix F: Algorithm for Level of Reprocessing for Equipment and Instruments](#)).<sup>16</sup> A preventative maintenance program is to be in place for mechanical or electronic equipment used for reprocessing (e.g., sterilizers, ultrasonic cleaners) following the manufacturer's instructions.<sup>16</sup> A physical record of any equipment maintenance performed on mechanical or electronic equipment used for reprocessing is to be maintained (see [chapter 7, Record Keeping](#)).<sup>7,16</sup>

Critical equipment and instruments may be purchased individually packaged and pre-sterilized or cleaned and sterilized on site.<sup>16</sup> Before being used in invasive procedures, all necessary critical equipment, instruments, and supplies necessary for the procedure are to be set up prior to the start of the service. The necessary critical equipment, instruments, and supplies are to remain in the sterilization

pouches or packages until point of use.<sup>16</sup> Clean and sterile equipment and instruments are to be stored in a manner that protects them from moisture contamination, dust, vermin, and damage to packages.<sup>16</sup>

## 4.4 Handling and Transport of Used and Clean Equipment and Instruments

The transport of used equipment and instruments from the service area to the reprocessing area is to be done in a way to avoid contaminating the environment.<sup>15,27</sup> Used equipment and instruments that are waiting to be cleaned are to be stored separately from clean equipment and instruments.<sup>15,16</sup>

Instruments are to be transported in a cleanable rigid container with a tight-fitting lid.<sup>15,16</sup> The container is to be large enough to hold the largest piece of equipment or instrument<sup>15,16</sup> and is to be labelled as “used equipment and instruments” to prevent accidental contamination or misuse.

Any surface, sink, or container used for handling or transporting equipment or instruments, is to be cleaned and disinfected with a low-level disinfectant after each use.<sup>15</sup>

When transporting clean equipment or instruments to another location (e.g., trade show, other event), the equipment or instruments is/are to be transported in a clean container labelled “clean equipment or instruments” that prevent contamination of the items within.<sup>15,16</sup>

## 4.5 Disassembly and Cleaning of Reusable Equipment and Instruments

Reusable equipment and instruments are to be thoroughly cleaned before disinfection or sterilization.<sup>15,16</sup> Cleaning physically removes contaminants (e.g., blood, body fluid) and microorganisms rather than killing them. If an item is not cleaned, it can reduce the effectiveness of disinfection or sterilization because contaminants can protect the microorganisms from the disinfection or sterilization process, or inactivate the disinfectant or sterilant.<sup>16,36</sup>

### 4.5.1 Pre-cleaning/Soaking

Cleaning of reusable equipment and instruments is to take place immediately after use to prevent any organic material (e.g., blood, body fluids, tissue) that is present from drying.<sup>15,16</sup> If immediate cleaning is not possible, the equipment or instruments is/are to be kept wet with detergent and water, an enzymatic cleaner, or soaking solution until they can be cleaned.<sup>15,16</sup> Prolonged soaking is to be avoided, as it may lead to formation of biofilm, which will reduce the effectiveness of disinfection.<sup>36</sup>

Prior to cleaning, equipment and instruments that consist of multiple components are to be disassembled according to the manufacturer’s instructions.<sup>36</sup>

Equipment and instruments that are made of rubber or plastic may require special treatment, because they may be degraded by heat or cleaning products. Check the manufacturer’s instructions for more

information on the compatibility of the equipment or instrument with heat or chemicals, including detergents or enzymatic cleaners.

## 4.5.2 Cleaning

Cleaning is to be done either manually with detergent or enzymatic cleaner and water or using a mechanical cleaning machine (e.g., washer-disinfector, ultrasonic cleaner) after gross soil has been removed.<sup>15,16</sup> Automated machines may increase productivity, improve cleaning effectiveness and decrease worker exposure to blood and body fluids.<sup>16</sup> Workers are to wear appropriate PPE (e.g., facial protection, gloves, gown) based on the assessment of risk to protect them from splashes and sprays from cleaning. Refer to the safety data sheets for the cleaning products, or contact the manufacturers of the cleaning products for information on appropriate PPE.<sup>15,16,27</sup>

### 4.5.2.1 MANUAL CLEANING

Where reusable equipment is used, a PSS is to have at least one sink, that is not the hand wash sink, that:<sup>7</sup>

- is capable of immersing the largest piece of reusable equipment used at the setting (e.g. allow for brushing of the equipment and instruments below the surface of the detergent or enzymatic cleaner);
- is continuously supplied with potable hot and cold running water under pressure;
- has adequate counter space to prepare the reusable equipment for use and re-use;
- is not located in a room with a toilet; and
- is sufficiently separated from where services are provided so as to prevent contamination.

In addition, when manually cleaning, the following are to be ensured.<sup>16</sup>

- The detergent or enzymatic cleaner is mixed and diluted according to the manufacturer's instructions.
  - Follow the cleaning product manufacturer's instructions regarding water hardness, temperature, and pH; these factors might interfere with the action of the detergent or enzymatic cleaner.
- The equipment and instruments are cleaned using cleaning brushes, with a detergent or enzymatic cleaner diluted according to the manufacturer's instructions.
  - Use an appropriate-sized brush to clean rough or porous surfaces (e.g., ridges, ribbing, grooves), and hinges, coils, valves, joints, clamps, or crevices that may trap microorganisms.
  - Ensure the brushes and the equipment or instruments stay below the surface of the detergent or enzymatic cleaner solution while brushing and cleaning to prevent aerosolizing the chemical and contaminants.

Some equipment and instruments contain one or more channels or lumens through which fluids or other equipment passes (e.g., tattoo machine tubes, grips).

- If lumened equipment and instruments are cleaned manually, they are to be cleaned using a brush, followed by flushing with clean water.<sup>16,27</sup>
- Equipment and instruments with small lumens that cannot be effectively cleaned, disinfected, or sterilized are to be treated as single-use and disposed after use on a client.<sup>16</sup>

Manually clean heavily soiled equipment/devices before mechanical cleaning (e.g., ultrasonic cleaner).

Following manual cleaning:<sup>15,16</sup>

- all equipment and instruments are to be rinsed with water to remove residue that might interfere with the disinfectant or sterilant;
- all equipment and instruments are to be dried before disinfection or sterilization. Drying prevents dilution of chemical disinfectants and can help to prevent rusting of reusable equipment and instruments;
- if equipment and instruments (including lumened instruments) are dried manually, they are to be dried with a clean lint-free cloth, soft absorbent towel, or air-dry, according to manufacturer's instructions;
- lumens are to be dried with compressed instrument air (i.e., air that has been filtered and dried). When drying lumens, precautions are to be taken to minimize and control aerosolization (e.g., by placing a clean towel around the end of the device); and
- all equipment and instruments are to be visually inspected after cleaning and prior to disinfection or sterilization to ensure cleanliness and integrity.

Any cleaning brushes or reusable utility gloves used during the cleaning process are to be cleaned, disinfected, rinsed, dried, and stored after each use.<sup>15</sup>

#### **4.5.2.2        ULTRASONIC CLEANERS**

Ultrasonic cleaners are to meet standards established by the Public Health Agency of Canada/Health Canada, the Canadian Standards Association and the IPAC practice recommendations that are described in this document.<sup>16,36</sup>

Ultrasonic cleaners are to be used for any semi-critical or critical equipment and instruments that have joints, crevices, lumens, or other areas that are difficult to clean.<sup>16</sup> To be effectively cleaned, equipment/devices are to be completely immersed in the ultrasonic washing solution. Follow the manufacturer's instructions to ensure proper cleaning of lumens.

If an ultrasonic cleaner is used for cleaning equipment or instruments, it is to be operated and maintained according to the manufacturer's instructions.<sup>7,37</sup> In addition, the following are to be ensured:<sup>16,27</sup>

- the unit is operated with the lid on to prevent any microorganisms present in the cleaning solution from becoming aerosolized and potentially contaminating surfaces;
- the solution is replaced at least daily or more frequently if the solution becomes visibly soiled or if the manufacturer's instructions specify more frequent changes;
- the unit is cleaned and disinfected at the end of the day's use in accordance with manufacturer's instructions; and
- the unit is tested for efficacy at least weekly or according to manufacturer's recommendations.

All test results and maintenance activities are to be documented (see [chapter 7.2, Other Records](#)).<sup>37</sup>

#### **4.5.2.3      WASHER-DISINFECTORS**

Washer-disinfectors are recommended for equipment or instruments that can withstand mechanical cleaning. To achieve the required exposure for cleaning and to reduce potential risk to personnel:<sup>16</sup>

- washer-disinfectors are to meet the requirements of the CSA Group;
- the manufacturer's instructions are to be followed for the use and routine maintenance, cleaning, and calibration of the washer-disinfector;
- washer-disinfectors may be used for low-level disinfection; and
- washer-disinfectors are not to be used for high-level disinfection.

## **4.6 Disinfection**

The recommendations for disinfection or sterilization of items in a PSS are based on the procedure for which an item is being used. They are based on the premise that some procedures involve a higher risk of transmission of microorganisms than others.<sup>16</sup>

- Procedures in which equipment or instruments penetrate the skin or enter sterile tissue carry the highest risk of transmission of infection, because microorganisms can be introduced directly into sterile sites in the body, bypassing the important host defence mechanism offered by our skin.
- Procedures in which equipment or instruments contact mucous membranes or non-intact skin (i.e., skin that has been compromised in some way, such as cracked, chapped, with cuts, or abraded, or with a rash) carry the next highest level of risk, as mucous membranes and non-intact skin provide some protection against small numbers of microorganisms, but significantly less than intact skin.
- Procedures performed on intact skin or hair are considered low-risk because the skin provides excellent protection against most potential pathogens.

Based on these levels of risk, equipment and instruments are classified as critical, semi-critical, or non-critical. The recommendation to sterilize or disinfect and the type of disinfectant being recommended is based on these classifications (see [Appendix F: Algorithm for Level of Reprocessing for Equipment and Instruments](#), [Appendix H: Classes of Equipment and Instruments](#) and [Appendix I: Examples of Equipment and Instruments by Premise](#)).

Prior to disinfection, all equipment and instruments are to have already been disassembled prior to cleaning (if there are removable parts) and thoroughly cleaned (see [chapter 4.5.2, Cleaning](#)).<sup>16</sup>

When using disinfectants:

- items are to be immersed in the disinfectant for the appropriate time to ensure microorganisms are destroyed (called exposure time or contact time); consult with the disinfectant manufacturer's instructions;<sup>16</sup>
- ensure that lumens are completely immersed and filled with disinfectant solution (weigh down if necessary) during manual disinfection of items with lumens;<sup>36</sup>
- equipment and instrument are not to be soaked or immersed for longer than the required contact time (i.e., do not store items in disinfectant when not being used) because some disinfectants are corrosive and can damage equipment;
- disinfectant solutions are to be used, prepared, maintained (e.g., dilution, ventilation, storage), and disposed of according to the manufacturer's instructions, where available;<sup>7</sup>
- prepared disinfectant solutions are not to be topped up with fresh solution (i.e., do not add new solution to the current solution);<sup>16</sup>
- A new container is to be labelled appropriately (e.g., expiry date) if the disinfectant is decanted from its original container ;<sup>16</sup>
- from concentrate, the concentration of the disinfectant solution is to be verified using an appropriate test, where possible; test strips are not to be considered a way of extending the use of a disinfectant solution beyond the expiration date;<sup>16</sup>
- disinfectants are to be used prior to the expiry date or reuse claim;<sup>7</sup> and
- a record is to be maintained indicating: the name of the disinfectant; the concentration of the disinfectant; the date when the disinfectant was prepared, if applicable; and the date by which the disinfectant solution is to be discarded, if applicable (i.e., reuse claim) (see [chapter 7.2, Other Records](#)).<sup>7</sup>

Following disinfection:<sup>16</sup>

- equipment and instruments are to be rinsed thoroughly with potable water following disinfection where manufacturer's instructions require a rinsing step; and
- equipment and instruments are to be dried thoroughly using a clean lint-free cloth or soft absorbent towel, or be allowed to air-dry in a manner that prevents contamination.

#### 4.6.1 Classification of Items

Equipment and instruments are classified as critical, semi-critical, or non-critical based on their anticipated risk of transmitting infections during use.

**Critical items:** Equipment, instruments, and items that penetrate the skin or mucous membranes to enter normally sterile tissue or have direct contact with the bloodstream. These items present a high risk of infection if they are contaminated with microorganisms. As a result, these items require

sterilization. Examples include all needles, all body-piercing jewellery for new piercings, tissue separators, and dermal punch or biopsy tools.<sup>38</sup>

**Semi-critical items:** Equipment, instruments, and items that contact mucous membranes or non-intact skin during use but do not ordinarily penetrate the skin or enter normally sterile areas. As a result, these items require high-level disinfection but sterilization is preferred. Examples include some manicure and pedicure items such as grater-style foot files.<sup>38</sup>

**Non-critical items that require intermediate-level disinfection:** Equipment, instruments, and items that are intended to contact only intact skin but may accidentally come into contact with non-intact skin or mucous membranes, or penetrate the skin. As a result, these items require intermediate-level disinfection. Examples include nail clippers and nippers, nail files, and calipers.

**Non-critical items that require low-level disinfection:** Equipment, instruments, and items that do not directly contact the client, or contact only hair or intact skin. As a result, these items require low-level disinfection. Examples include combs and magnifying glasses.

## 4.6.2 Levels of Disinfection and Disinfectants

Depending on the associated risk of infection, equipment, and instruments are assigned different levels of reprocessing: sterilization, high-level disinfection, intermediate-level disinfection, or low-level disinfection. Sterilization is discussed in [chapter 4.7, Sterilization](#).

See [Appendix E: Disinfectant Table](#), for active ingredients, contact times, advantages and disadvantages of high-level, intermediate-level, and low-level disinfectants.

### 4.6.2.1 HIGH-LEVEL DISINFECTION

High-level disinfection is capable of destroying or irreversibly inactivating all microbial pathogens, but not necessarily large numbers of bacterial spores.<sup>38</sup> This level of disinfection is the minimum requirement when reprocessing semi-critical items.<sup>16,27</sup> Disinfectants used in high-level disinfection are to be approved for use as high-level disinfectants by Health Canada. Public health units and operators may check their high-level disinfectants on Health Canada's [Medical Devices Active Licence Listing \(MDALL\)](#). High-level disinfectants can be identified by their label, which may include the terms "high-level disinfectant" or "sterilant."

High-level disinfection can be achieved with sodium hypochlorite/chlorine bleach (undiluted/no additives) if it is used as described in [Appendix E: Disinfectant Table](#). Sodium hypochlorite/chlorine bleach products (diluted/with additives) may have disinfectant claims and be licenced as a medical device.<sup>33,39</sup> Use of bleach at concentrations above 1,000 parts per million is extremely corrosive to equipment and instruments and irritating to workers.<sup>40</sup>

**Note:** Ideally, items that hold, manipulate or contact critical items are to be sterilized. At a minimum, these items are to be reprocessed using high-level disinfection in the same manner as semi-critical

items.<sup>15</sup> Examples include forceps for inserting piercing jewellery and scissors used to cut sterile gauze to cover tattooed or modified areas.

#### 4.6.2.2 INTERMEDIATE-LEVEL DISINFECTION

This is the method of disinfection required for the reprocessing of non-critical equipment, instruments, and items that may accidentally come into contact with non-intact skin or mucous membranes, or penetrate the skin.<sup>33,38</sup> Intermediate-level disinfection destroys vegetative bacteria, mycobacteria, most viruses, and most fungi but not bacterial spores.<sup>40,41</sup> An intermediate-level disinfectant is low-level disinfectant with efficacy against mycobacteria. Intermediate-level disinfectants are to have a DIN because they are regulated by Health Canada as having efficacy claims against mycobacteria and non-lipid viruses.<sup>7</sup> Their label may include the words “general disinfectant,” “limited disinfectant”, or “hospital disinfectant,” with or without the designation of “hard-surface disinfectant.”<sup>38</sup> The mycobactericide claim may be presented on the label using the words “mycobactericide,” “mycobactericidal,” “tuberculocide”, or “tuberculocidal”; the claim against non-lipid viruses may be presented using the words “broad-spectrum virucide.”<sup>38</sup> Public health units and operators may check their disinfectants on Health Canada’s [Drug Product Database](#).

As noted previously, one exception to this is sodium hypochlorite/chlorine bleach (undiluted/no additives) as it does not have a DIN or NPN. The other exceptions are alcohols (i.e., isopropanol, ethanol) as they have a NPN instead of a DIN. For these products, intermediate-level disinfection is achieved if they are used as described in [Appendix E: Disinfectant Table](#). **Note:** sodium hypochlorite/chlorine bleach products (diluted/with additives) may have disinfectant claims and a DIN.

**Alcohol:** The optimum concentration of alcohol for effective disinfection is 70 – 90% (ethyl or isopropyl alcohol). Higher concentrations of alcohol are less effective as alcohol needs water to help denature proteins, which is the antimicrobial action of alcohol.<sup>33</sup> Alcohol is to be used only to soak equipment and instruments; wiping is not sufficient to achieve an appropriate contact time, because alcohol evaporates quickly.<sup>16,36</sup> As a result, alcohol is to be stored in a container with a lid. It is not to be topped up, because evaporation will have lowered the alcohol concentration in the remaining portion, which will then dilute the fresh alcohol, potentially lowering its effectiveness. Before refilling a container of alcohol, the container is to be emptied, cleaned, disinfected, and dried.<sup>38</sup> When soaking equipment or instruments in alcohol, new alcohol is to be used for each batch of equipment or instruments that are soaked. Equipment and instruments are to be fully immersed in alcohol for at least 10 minutes to ensure appropriate disinfection.<sup>15,16</sup> Since alcohol products evaporate rapidly, it makes extended exposure time difficult to achieve unless the items are immersed.<sup>31</sup>

**Bleach:** Chlorine compounds such as sodium hypochlorite (household bleach) are effective against a wide range of microorganisms and are considerably less expensive than other disinfectants. Equipment and instruments are to be fully immersed in bleach to ensure appropriate disinfection.<sup>16,31</sup> A fresh bleach and water solution is to be prepared daily.

Household bleach is sold in concentrations from 3 – 8 % sodium hypochlorite, and is to be diluted appropriately<sup>31</sup> to minimize corrosion of metals or other materials. To achieve high-level disinfection,

household bleach is to be used at 5,000 parts per million with a contact time of 10 minutes.<sup>31</sup> To achieve intermediate-level disinfection, household bleach is to be used at 1,000 parts per million with a contact time of 10 minutes.<sup>33,40</sup> To achieve low-level disinfection, it is to be used at 100 parts per million with a contact time of 10 minutes. A useful tool for calculating the volumes required is the Public Health Ontario [Chlorine Dilution Calculator](#).

Hypochlorite is a known irritant to skin and the respiratory tract.<sup>42</sup> In addition, the use of household bleach at concentrations above 1,000 parts per million is corrosive to equipment. Bleach with additives to modify colour or scent is to be avoided because these additives will leave a residue on the treated surface if not properly rinsed.

#### 4.6.2.3 LOW-LEVEL DISINFECTION

This is the method of disinfection required for environmental surfaces, non-critical equipment, instruments, and items that do not directly contact the client or contact only hair or intact skin.<sup>16,27,31</sup> Low-level disinfection destroys vegetative bacteria and some fungi and viruses but not mycobacteria or spores.<sup>41</sup> Low-level disinfectants are to have a DIN, because they are regulated by Health Canada as hard-surface disinfectants.<sup>7</sup> Low-level disinfectants can be identified by their label with terms such as “general disinfectant”, “limited disinfectant”, or “hospital disinfectant,” with or without the designation “hard-surface disinfectant.” It is to be noted however, that only hospital disinfectants are required to have an efficacy claim against *Pseudomonas aeruginosa*, a common water-borne pathogen that has been implicated in a number of outbreaks among clients of ear piercing.<sup>43</sup> Public health units and operators may check their disinfectants on Health Canada’s [Drug Product Database](#).

One exception to this is sodium hypochlorite/chlorine bleach (undiluted/no additives) as it does not have a DIN or NPN. For this product, low-level disinfection is achieved if it is used as described in [Appendix E: Disinfectant Table](#). **Note:** sodium hypochlorite/chlorine bleach products (diluted/with additives) may have disinfectant claims and DIN.

## 4.7 Sterilization

Sterilization is the method of reprocessing required for critical items because it is capable of destroying or irreversibly inactivating all forms of microbial life present on an object including vegetative bacteria, bacterial spores, fungi, fungal spores, and viruses.<sup>38,40</sup>

**Note:** Some tattooing or body-modification equipment or items are not considered critical because they do not directly penetrate the skin. However, due to the invasive nature of these procedures, the proximity of these items to punctured skin, and the significant risk for blood/body fluid contact, they are to be treated as critical items for reprocessing purposes. Examples include reusable grips, tubes, and tips of tattoo machines, clamps for skin folds in body piercing, and reusable scalpel handles.

For equipment and instruments purchased as sterile, operators are to be able to produce documentation from the manufacturer that indicates that the equipment or instruments are sterile and specifies the method used for sterilization.<sup>36</sup>

#### 4.7.1 Packaging Equipment and Instruments for Sterilization

Equipment and instruments that require sterilization are to be packaged (e.g., in pouches) prior to sterilization.<sup>16,27,37</sup> Items are to be dry before packaging, because any remaining moisture will remain after sterilization and compromise sterility.<sup>27,37</sup>

Equipment and instruments (e.g., clamps) in packages are to be in the open and unlocked position to facilitate effective sterilization by ensuring that all surfaces of the article are in direct contact with the sterilant.<sup>16,36</sup>

The most useful packaging materials for sterilization are paper-plastic peel pouches. They are easy to use, often with features such as self-sealing closures and chemical indicator strips, and come in a variety of sizes that can accept single or small groups of equipment or instruments. However, operators are to consult with the manufacturer of the material or system to determine whether it is appropriate for the device being sterilized and the method of sterilization.<sup>36</sup>

Operators are to only use packages or pouches that are specifically designed and manufactured for use with steam sterilizers. Incorrect packaging or pouches can inhibit sterilization or fail to properly protect the contents after sterilization.

Cartridge-type sterilizers are designed to sterilize equipment or instruments with or without a pouch (i.e., wrapped or unwrapped items). Cartridge-type sterilizers, when used with only the tray and without a pouch or package for equipment or instruments, cannot guarantee sterility once the equipment or instruments have been removed and exposed to ambient air. It is recommended that items (e.g., jewellery) be placed in a pouch or package prior to sterilization, to ensure the sterility of the item is maintained until point of use, when cartridge-type sterilizers are used.

The date of sterilization is to be marked using a permanent, soft-tipped marker on the package or pouch in a way that does not tear or puncture the packaging (i.e., outside the sealed edge of the plastic side of the paper/plastic pouch). Writing on the paper side of the pouch, within the sealed area, can result in ink penetration or puncturing of the pouch.<sup>36</sup>

For all sterilization, operators are to ensure the following:<sup>7,37</sup>

- Manufacturer's instructions for the sterilizer are followed (e.g., installation of the unit, operation, cleaning, preventative maintenance, packaging, loading, temperature, pressure, time requirements).
- Documentation of any preventative maintenance or repairs done on or to a sterilizer is maintained (see [chapter 7, Record Keeping](#)).
- Monitoring methods are in place for all sterilizers, including mechanical monitors (time, pressure and temperature gauges), chemical indicators, and biological monitors (spore tests), and records are maintained (see [chapter 7, Record Keeping](#)).
- Sterility of packages of equipment and instruments is maintained until the point of use.

In addition, operators are to ensure the following:<sup>37</sup>

- Scheduled cleaning is performed to ensure the effectiveness of the sterilizer.
- Sterilizer water is filled to the correct level and drained according to manufacturer's instructions.
- Sterilizer door gasket is checked for defects and deterioration prior to each use.
- Sterilizer packages are placed in the sterilizer chamber in a manner that minimizes puncture risk<sup>36</sup> and facilitates air removal, steam penetration, and steam evacuation for drying, as per manufacturer's instructions.
- Sterilizer chamber is not overloaded.
- Items are inspected for cleanliness prior to packing for sterilization.
- Sterilizer packages only include single or small groups of equipment or instruments.
- Where small groups of equipment or instruments are packaged together (e.g., clamps), these are packaged in a way to effectively sterilize all surfaces (i.e., items do not overlap or touch).

#### **4.7.2 Types of Sterilizers**

Sterilizers used at a PSS are to be suitable for sterilizing the equipment and are to meet the standards established by Health Canada and the CSA Group.<sup>7,30,37</sup>

The preferred method for decontamination of heat-resistant equipment and instruments is steam sterilization. Steam sterilizers can be gravity-displacement or dynamic air removal (e.g., pre-vacuum) sterilizers. Dynamic air removal sterilizers are recommended.<sup>27</sup>

Although dry heat sterilization is an acceptable form of sterilization, it is generally not preferred for use in PSS due to the length of cycle, the high temperatures required, and incompatibility with some equipment or instruments.

For critical equipment or instruments that cannot withstand heat sterilization, chemical sterilization is required.<sup>16</sup> The challenge with chemical (cold) sterilants is that it is difficult to monitor and confirm that sterilization has been achieved and it is not possible to package equipment and instruments to maintain sterility until point of use.<sup>16,44</sup>

##### **4.7.2.1 STEAM STERILIZERS**

The effectiveness of steam sterilization depends on the temperature, pressure, duration of exposure, packaging of the equipment or instruments, and the size of the load. The sterilizer manufacturer's instructions for temperature and cycle length are to be followed.<sup>7,36</sup>

All new steam sterilizers are to be equipped with either a printout or a display that provides details of all three mechanical parameters (e.g., time, temperature, pressure) reached during each cycle (see [chapter 4.7.3, Monitoring the Sterilization Process](#)).<sup>30</sup>

All sterilizers are to include a drying cycle for all sterilization cycles for wrapped or packaged goods.

When purchasing a sterilizer, operators can verify those that are licensed for sale by Health Canada by checking the [Medical Devices Active License Listing](#).<sup>45</sup>

#### **4.7.2.2 UNACCEPTABLE METHODS OF STERILIZATION**

The following are not to be used for sterilization:<sup>16</sup>

- dishwasher (including those with sanitizing cycles)<sup>27</sup>
- boiling<sup>16</sup>
- ultraviolet light or irradiation<sup>16</sup>
- glass bead sterilizers<sup>15,16</sup>
- microwave ovens<sup>16</sup>
- domestic ovens
- pressure cookers
- flash sterilization/immediate use sterilization (i.e., unwrapped items)
- chemiclaves (no longer considered acceptable because of the environmental risks associated with formaldehyde)<sup>16</sup>
- glutaraldehyde (not recommended for the PSS because of issues concerning toxicity, disposal, ventilation, lack of training, and the long contact times required to achieve sterilization)

#### **4.7.3 Monitoring the Sterilization Process**

Sterilization processes have to be monitored to ensure they are effective. Monitoring for sterilization includes mechanical, biological (spore tests), and chemical indicators; all three processes are essential and are to be used.<sup>16,27,36</sup> The types and placement of the monitoring indicators are to be based on manufacturer's instructions.<sup>7,36</sup> Records are to be kept for each sterilizer load (see [chapter 7, Record Keeping](#)).<sup>7,16</sup>

##### **4.7.3.1 MECHANICAL (PHYSICAL) MONITORING**

Mechanical monitoring verifies that the conditions for sterilization were achieved in the chamber during the cycle. Mechanical indicators (e.g., mechanical printouts from the sterilizer) are to be checked and signed for each sterilizer cycle.<sup>7,36,37</sup>

It is recommended that the sterilizer be equipped with a paper printout that provides the details of the mechanical parameters met during each cycle. This printout is to be reviewed for the following information:

- the actual time of the sterilization phase during the cycle. This is the length of time that the sterilization temperature was maintained and is not the same as the total cycle time;
- the actual temperature during the sterilization phase; and
- the actual pressure reached and maintained during the sterilization process.

Workers are to sign and date the printout after confirming that these parameters are correct, and keep or document the printout information (see [chapter 7, Record Keeping](#)).<sup>7,36,37</sup> If there is no printout, the worker operating the sterilizer is to observe and document the required mechanical parameters above, and sign and date the record.<sup>7,36,37</sup>

Equipment and instruments processed in each load are to be recorded (e.g., lot number) so that the equipment and instruments can be identified and held as necessary in the case of a failed (positive) spore test (see [chapter 7, Record Keeping](#)).<sup>7</sup>

#### **4.7.3.2 CHEMICAL MONITORING**

Chemical monitoring verifies that the package or area within the sterilizer where the device has been placed has been processed through a sterilization cycle. Chemical monitoring may be internal or external and reveals a change in one or more parameters based on a chemical or physical change resulting from exposure to the sterilization process. The choice of indicator is based on the parameters being measured as recommended by the manufacturer. It does not verify that sterilization is achieved in the locations tested. Workers are to follow the indicator manufacturer's instructions for the following:<sup>7,37</sup>

- indications for use (i.e., appropriate for the sterilizer model and cycles that you need to monitor)
- in-use life of indicator (once the indicator package has been opened)
- storage requirements
- interpretation of results

An external chemical indicator is to be used for each package or pouch that is undergoing sterilization, unless the design of the package allows the user to view the internal chemical indicator without opening the package (i.e., the internal chemical indicator is clearly visible from the outside of a package, through a plastic wrapper, for example).<sup>36</sup> An external chemical indicator may be a monitoring strip provided on some sterilization pouches or may be externally applied monitoring tape.

An internal chemical indicator (minimum Type 4) is to be placed inside each package, container, or bundle that is undergoing sterilization.<sup>36,37</sup>

If a dynamic air removal sterilizer (e.g., pre-vacuum sterilizer) is used, an air removal test with a Type 2 chemical indicator (e.g., Bowie-Dick test) is to be performed every day the sterilizer is used before the first processed load.<sup>27,36</sup> Test results are to be maintained in a record (see [chapter 7, Record Keeping](#)).<sup>7,16</sup>

A Bowie Dick determines whether a dynamic air removal-type sterilizer has properly evacuated the air from the load unlike integrators (e.g., Type 5 indicator) which provide information about the conditions (e.g., time, temperature, sterilant concentrations, relative humidity) necessary to destroy micro-organisms. An Indicator itself will not tell if air removal has occurred.

Type 5 chemical indicators (integrators) respond to all of the critical parameters of steam sterilization (e.g., time, temperature, presence of steam) and are closely correlated to the results of a biological

indicator.<sup>36</sup> They can be used to verify that the correct conditions for sterilization were achieved during a cycle where printouts are not generated by the sterilizer.<sup>37</sup> They also provide immediate results, allowing operators to respond more quickly to sterilizer problems. While Type 5 chemical indicators can provide results between bi-weekly use of biological indicators, they do not replace the requirement for the routine use of biological indicators.

#### **4.7.3.3 BIOLOGICAL MONITORING (SPORE TESTING)**

Biological monitoring verifies the ability of the sterilizer to kill microorganisms.<sup>37</sup> A biological indicator (BI) (i.e., spore test) is to be used to test each actively used sterilizer. Testing once each day that the sterilizer is used and for each type of cycle that is used is best practice.<sup>16,27,36,37</sup> If a sterilizer is used frequently (e.g., several loads per day), daily use of BIs allows early discovery of equipment malfunctions or procedural errors. This minimizes the extent of client surveillance and product recall needed in the event of a positive BI. In addition, a BI is to be included in every load containing implantable devices.<sup>36</sup> Implantable devices are to be quarantined until the results of the BI test are available.<sup>36</sup>

*Geobacillus* (formerly *Bacillus*) *stearothermophilus* spores are used to test steam sterilizers.<sup>33</sup> Workers are to follow the BI manufacturer's instructions for the following:<sup>7</sup>

- indications for use (sterilizer model and cycles)
- expiry dates
- storage requirements

A spore test is to be contained in a process challenge device, a test device intended to provide a challenge to the sterilization process. There is to be a full load in the sterilizer being tested.<sup>31</sup> After exposure in the sterilizer, the spore test is to be sent to a service provider capable of performing BI testing and certified to recognizable standards (e.g., International Standards Organization).<sup>15</sup> The certification is a way to ensure the service provider is reputable, and the certification provides independent confirmation that the chosen service provider has a quality management system in place.

It is recommended that operators ensure that the service provider performing BI testing is able to:

- provide test results electronically within 48 hours of incubation (e.g., via email, website);
- immediately communicate positive test results (i.e., spore growth observed) to personal service workers via telephone and confirm receipt of information to a live person; and
- maintain records of spore tests that include:
  - Date of spore test (i.e., collection date).
  - Date of incubation.
  - Date of reporting the results.
  - Worker who conducted the test.
  - Unique identifier for the spore strip and the growth medium (e.g., lot number).

Negative test results (i.e., no spore growth) indicate that the sterilizer is operating properly.

Positive test results (i.e., spore growth observed) may indicate that the sterilizer has failed and is not operating effectively (see [chapter 4.7.3.4, Positive Biological Indicator Results](#) and [chapter 4.7.5, Sterilization Failures](#)).

Where feasible, consideration is to be given to using equipment and instruments only after the biological testing results for that load have been received and are negative (i.e., passed); this will help minimize the extent of client surveillance and product recall needed in the event of a positive test result. If a package is released based on monitored physical parameters and internal chemical indicator results (e.g., in the absence of a BI test result), the internal chemical indicator is to be a Type 5 or Type 6 chemical indicator (see [4.7.3.2, Chemical Monitoring](#)).<sup>36</sup>

**Note:** Biological monitoring is a critical component of sterilization assurance. If any concerns arise with the accuracy and timeliness of biological indicator testing, another service provider is to be used.

#### **4.7.3.4 POSITIVE BIOLOGICAL INDICATOR RESULTS**

A positive BI result indicates that the spore test has failed. Operators are to conduct appropriate notification when a positive BI result is received.<sup>7</sup> When providing notification of a positive BI, it is recommended that the operator:<sup>15,16,27</sup>

- Recall and not use any equipment and instruments that were sterilized since the last negative (passed) spore test, including any equipment and instruments in the failed load.
- Identify all equipment and instruments used since the last negative spore test result.
- Assess any potential risks to clients.
- Repeat the biological monitoring test.
  - If that test is negative and there is no indication of a system malfunction, re-sterilize any equipment and instruments that were sterilized since the last negative spore test, prior to use, and then continue as normal.
  - If the repeat biological monitoring test is positive, stop using the sterilizer and determine if repair and/or maintenance is necessary.

If it is determined that repair and/or maintenance of the sterilizer is necessary, the sterilizer is to be retested with mechanical monitors and chemical and biological indicators when the repair and/or maintenance is complete.<sup>15</sup> When the results of the retest are acceptable and approval to reuse the sterilizer is obtained, the PSS is to re-sterilize all recalled equipment and instruments.<sup>15</sup>

If repair and/or maintenance of the sterilizer is not necessary because operational error has been determined to be the cause, re-education/re-training (e.g., by manufacturer) of workers who operate the sterilizer is recommended and the PSS is to re-sterilize all recalled equipment and instruments.<sup>15</sup>

#### 4.7.4 Qualifying Sterilizers

To verify that a sterilizer is functioning correctly, operators are to run qualification tests on a sterilizer at the following occasions:<sup>16,36</sup>

- before putting a newly installed sterilizer to use;
- after relocating a sterilizer;
- after major repairs that could affect the sterilizer's performance;
- mechanical malfunctions of the sterilizer (e.g., incorrect time, temperature); and
- after power outages or other emergency scenarios (e.g., fire, flood).

For all types of table-top steam sterilizers, the qualification tests involve running at least three fully loaded consecutive cycles with the appropriate challenges (e.g., biological indicator in each cycle).<sup>15,16,36</sup>

For dynamic air removal sterilizers, the qualification tests involve running three additional consecutive air removal tests in an empty sterilizer.<sup>36,46</sup> Operators are to refer to the sterilizer manufacturer's instructions for the types and placement of biological and chemical indicators for qualification testing.

The sterilizer is not to be used until results of spore testing are available and are all negative.<sup>36</sup> If backup sterilizers are used, they are to also pass the qualification tests.<sup>36</sup>

#### 4.7.5 Sterilization Failures

Improper sterilization or sterilization failures can be the result of:<sup>27,36,46</sup>

- suboptimal cleaning of equipment or instruments prior to sterilization;
- incorrect packaging;
- incorrect placement of items in the sterilizer;
- improper loading of the sterilizer;
- overloading the sterilizer;
- improper operation of the sterilizer (e.g., insufficient water in the reservoir, selecting the wrong cycle parameters for the load); and
- improper closure of the sterilizer chamber door.

Some ways sterilization failures can be identified include:<sup>16</sup>

- a positive result from biological monitoring (spore test);
- mechanical indicators (printouts from the sterilizer or monitoring by workers) indicate failure to reach required mechanical parameters (e.g., time, temperature, pressure);
- chemical indicator or monitoring tape on package or pouch has not changed colour; and
- moisture is present in or on the packages or pouches after sterilization.

#### **4.7.5.1 PROCEDURE FOR ANY STERILIZATION FAILURE**

When a chemical indicator fails to change colour, a positive result from biological monitoring is received, mechanical monitoring shows suboptimal sterilization time or temperature, or moisture is observed in or on packages after sterilization, the equipment and instruments in that load are not to be used.<sup>16,36</sup> These equipment and instruments are to be cleaned, repackaged, and re-sterilized.<sup>16,36</sup> The operator is to use an alternate method of sterilization or an alternate procedure that prevents disease transmission.<sup>7</sup> When considering an alternate method of sterilization, see [chapter 4.7.2.2](#), for a list of unacceptable methods of sterilization. If sterilization failure is the result of a power outage, construction, or relocation, see [chapter 4.7.4, Qualifying Sterilizers](#). If the source of the sterilization failure cannot be identified it is recommended that the operator seek appropriate guidance.

If equipment or instruments from a failed load have been used, operators are to conduct appropriate notification and investigate the cause of the sterilization failure.<sup>7,15</sup>

#### **4.7.5.2 BACKUP PLAN FOR STERILIZER FAILURE**

A PSS is to be prepared in the event of sterilizer malfunctions by having a written backup plan that is reviewed annually and includes any of the following options:

- Provide alternate means of sterilization.
- Stop providing invasive services.
- Use single-use disposable instruments.
- Have an adequate supply of packaged, sterilized equipment.
- Purchase an additional sterilizer.
- Have an arrangement with the sterilizer manufacturer to borrow a sterilizer while the original is being repaired.

See [chapter 4.7.4, Qualifying Sterilizers](#).

### **4.8 Storage and Shelf Life**

Every PSS is to have adequate storage space for necessary equipment and supplies.<sup>7</sup> Recommended storage duration for equipment and instruments may be specified in terms of time (e.g., shelf life based on the expected endurance of the sterile seal) or by using event-related criteria. Event-related shelf life is based on the concept that items that have been decontaminated, wrapped, sterilized, stored, and handled in accordance with the procedures established by the setting will remain sterile indefinitely unless the integrity of their packaging is compromised.<sup>36</sup>

For equipment and instruments properly sterilized on-site, the shelf life of a sterile package is event-related. This means that the items will remain sterile indefinitely unless the integrity of the package is compromised (e.g., open, wet, dirty) or is questionable.

Sterile packages are not to be used beyond the expiry date, where available.<sup>16</sup> Expired items are to be discarded.<sup>16</sup> Equipment and instruments from sterile packages that have lost their integrity are not to be used and are to be cleaned, repackaged, and re-sterilized.<sup>36</sup>

Sterile packages are to be carefully stored in a clean, dry, and dust-free area (e.g., closed shelves, not at floor level, at least one metre (three feet) away from debris, drains, moisture, sinks) to prevent contamination and to maintain sterility until the point of use.<sup>36</sup> Containers or drawers used to store sterile equipment and instruments are to be moisture-resistant, cleanable, and prevent contamination of the sterile packages.<sup>15,16,36</sup> Label containers, used for storage of sterile equipment and instruments, as "sterile."<sup>15</sup> All clean or sterile equipment and instruments are to be stored in an area where they are not subject to tampering by unauthorized persons.<sup>16,27</sup>

All stored sterile equipment and instruments are to be handled as little as possible during storage and prior to use; excessive handling may damage the packaging and affect sterility of the equipment and instruments.<sup>16,27</sup> Dressings (e.g., for tattoo and body modification after care) are to be kept in a cleanable rigid storage container with a tight-fitting lid to prevent contamination.

#### 4.8.1 Opening Sterile Packages

When opening sterile packages at the point of use, workers are to do the following:<sup>36</sup>

- Check the packaging to ensure its integrity has not been compromised (i.e., visually inspect for discoloration, dampness, dust, soil, tears) before opening the package or pouch. If the integrity of the package is questionable, the item is to be cleaned, repackaged, and re-sterilized.
- Check the results of the chemical tape/chemical monitor; if no change in colour has occurred, do not use until the equipment/instrument has been cleaned, repackaged, and re-sterilized (see [chapter 4.7.5, Sterilization Failures](#)).
- For items purchased sterile, check for defects in the equipment or instruments prior to use and check that it is not beyond the expiry date, if applicable.
- Open sterile packages at point of use.
- If equipment was disassembled for sterilization, wear sterile gloves when reassembling any items prior to use.

## 4.9 Requirements for Reprocessing Area

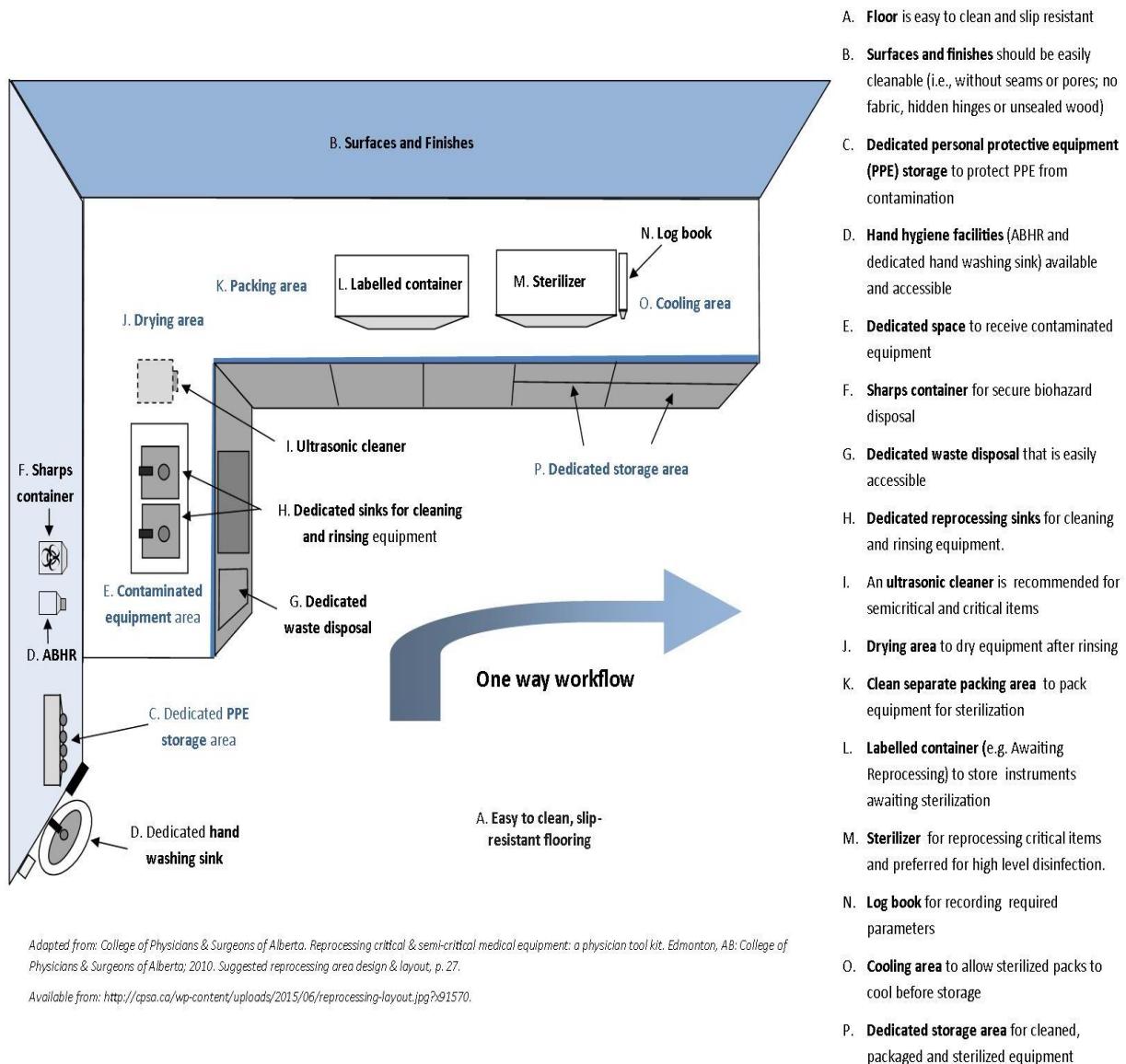
The reprocessing of all equipment and instruments is to be conducted in an area away from where personal services are being provided.<sup>16,27,31</sup> Manual cleaning of used equipment and instruments and other activities conducted during reprocessing can lead to the contamination of the surrounding area (e.g., by splashes, sprays, or through contact).<sup>16,27</sup> This is an especially important consideration when reprocessing semi-critical and critical equipment and instruments.

At a minimum, the reprocessing area for cleaning and disinfection or sterilization is to meet the following criteria (see Figure 2, Suggested Reprocessing Area Design and Layout):<sup>16</sup>

- There is to be a designated area (e.g., separated from other areas by cleanable walls, partitions) for reprocessing of semi-critical or critical equipment and instruments.<sup>16,31</sup>
- There is to be a dedicated reprocessing sink (see [chapter 4.5.2.1](#)).<sup>7</sup>
- In the absence of two-compartment sink dedicated for equipment cleaning and rinsing, a basin for rinsing equipment post decontamination is an acceptable alternative.
- The best design is to have physical separation of the dirty and clean area; if that is not feasible, one-way work flow is to be established.<sup>36,37</sup> Ensure separate areas for clean and used equipment and instruments, and that work flows (worker and equipment or instruments) from dirty to clean.
- Surfaces (e.g., walls, counters, floors, tables) in the reprocessing area are to be smooth and non-absorbent so that they can be easily cleaned and disinfected.<sup>36,37</sup>
- ABHR (70 – 90%) dispensers are to be available in the reprocessing areas for use when hands are not visibly soiled.<sup>16</sup>
- Appropriate PPE (e.g., gloves, gown or aprons, eye protection, masks) is to be accessible and available for workers involved in reprocessing.<sup>16,37</sup>

**Note:** Concerns regarding noncompliance with the *Occupational Health and Safety Act* may be reported to the Ministry of Labour.

**Figure 2: Suggested Reprocessing Area Design and Layout**



## 5. Client Safety

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Every PSS is to be free from every condition that may constitute a health hazard or adversely affect the sanitary operation of the PSS. Every person who provides personal services in the setting is to practise good personal hygiene.<sup>7</sup>

Each PSS operator has the obligation to provide a safe environment for all clients. IPAC measures, such as those outlined in [chapter 2, Routine Practices](#) (e.g., risk assessment, hand hygiene, control of the environment, administrative controls) help to ensure a safe environment for all clients. Every product used when providing a personal service is to be stored and dispensed in a manner which prevents contamination.<sup>7</sup> In addition to Routine Practices, workers are to consider the following to provide a safe environment for all clients.<sup>15</sup>

### 5.1 Condition of Client Skin

For all personal services, it is critical that any part of the client's body receiving the service be clean and free from non-intact skin or open areas (e.g., cuts, wounds, rashes, sores), or visible skin infections (cuts, rashes, and sores and nail fungus). If any of these are present, service provision is to be deferred until the site is healed and the client is to be advised to seek medical treatment.<sup>15</sup> In addition, invasive procedures (e.g., body piercing, tattooing, micropigmentation, body modification) are not to be performed within 15 cm (6 inches) of inflamed or infected skin, or skin with a rash.<sup>15</sup>

### 5.2 Client Jewellery

There are many considerations regarding the safety of jewellery in PSS. One of these is biocompatibility. Jewellery inserted as part of a body-piercing procedure is to be made of biocompatible material(s) according to recognized standards (i.e., ASTM, ISO).<sup>47</sup> Jewellery is to be biocompatible, because when materials have been manufactured to meet recognized standards and are used in appropriate applications, an acceptable level of biological response can be expected (i.e., less chance for rejection by the body, non-toxic, non-injurious or physiologically reactive).<sup>48,49</sup> Examples of biocompatible materials include surgical steel (316L grade or better), implant-grade stainless steel (ASTM F138 or ISO 5832-1), implant-grade titanium (ASTM F136, ISO 5832-3, or ASTM F-67), niobium, nickel-free platinum, or solid nickel-free gold (14K or above). For a complete or current list of biocompatible products/materials, visit the [Association of Professional Piercers – Jewellery Standards](#). Jewellery made from glass (fused quartz, lead-free borosilicate or lead-free soda-lime glass) or a medical-grade plastic (ISO 10993 and/or USP Class VI biocompatible) may also be used.<sup>47</sup>

All jewellery used for body piercing is to be single-use, and maintained as sterile until the point of insertion.<sup>15</sup> All jewellery is to have a smooth finish and be free of nicks, burrs, and scratches.<sup>47</sup> Jewellery designed for ear lobes (and intended for use in an ear piercing gun/device) and fish hook style jewellery is not to be used on other parts of the body.

## 5.3 Skin Antiseptics

Skin antiseptics are to be used in any personal service procedure when the skin is punctured, cut, or potentially damaged (e.g., tattooing, piercing, micropigmentation, body modifications, electrolysis, waxing, laser hair removal) except where contraindicated (i.e., oral or genital piercings). Antiseptics are not needed for piercings inside the mouth; ensure the client's mouth, including tongue, teeth, and gums, is clean (e.g., clean with a toothbrush). For genital piercings, clean the piercing site with water and a liquid soap before piercing is done.<sup>50</sup>

Suitable skin antiseptics for other procedures include, but are not limited to:<sup>27,33</sup>

- povidone-iodine solution
- isopropyl alcohol 50 – 91%
- ethyl alcohol 60 – 95% (by volume)
- chlorhexidine gluconate 2 – 4% (contraindicated around the eyes, inner ear or on mucous membranes)
- chlorhexidine 0.5% with 70% alcohol
- benzalkonium chloride (BZK) 0 – 0.13% weight per volume (w/v)

Skin antiseptics are to be stored and dispensed carefully in a manner that prevents contamination of the antiseptic.<sup>7</sup> These products are to be dispensed from a single-use swab packet or onto a single-use clean cotton swab or cotton ball, and applied onto the skin according to the manufacturer's instructions.<sup>15</sup> If using a multi-use bottle, it is to be managed using aseptic technique and is to be dated. If not used within 30 days of opening, or if operators feels that content has been compromised, it is to be discarded. Do not dilute antiseptics after opening. The cotton ball or swab is not to be reused.<sup>15</sup> Do not use antiseptics that are past their expiry date or have been left exposed in open containers.<sup>51</sup>

Antiseptic product containers are not to be topped up (i.e., new product added to existing product in container).<sup>52</sup>

Soaps, body cleaners, or body washes are not considered antiseptics but may be used on the client before an antiseptic is applied.

Operators are to follow the specific requirements related to skin preparation and aftercare for selected personal services, as appropriate (see Table 2: Skin Preparation and Aftercare for Selected Personal Services).

## 5.4 Procedure Information and Aftercare

Before providing an invasive procedure, the PSS operator or the person who will be providing the invasive procedure is to provide the person seeking the procedure with an explanation of the procedure and information about any associated risks.<sup>7</sup>

Clients are to be given verbal and written aftercare information following invasive services such as tattoo, micropigmentation, electrolysis, laser hair removal, body piercing, body modification, and earlobe piercing.<sup>15</sup> Aftercare information may include, but is not limited to, the following:

- directions to clean hands immediately before touching the site;
- the expected healing time of the site;
- a description of possible complications and their signs and symptoms;
- advice on how to deal with slight redness, pain, or swelling; and
- a recommendation to consult with a family physician within 24 hours if any signs of an infection develop following the procedure.

More detailed aftercare instructions are required following tattoo, micropigmentation and body-modification procedures.

Consideration is to be given to using dressings that will not adhere directly to the freshly tattooed or modified area and are hypoallergenic to minimize the potential for irritation. It is best to keep the tattooed or modified area clean and dry. Tattooed or modified areas are to be covered with a single-use dressing intended to cover wounds (e.g., sterile gauze secured with hypoallergenic tape, or a clean dressing provided in a roll or individual package and intended for wound care or tattoo after care).<sup>15</sup> Where possible, a sterile dressing is preferred. A breathable dressing such as non-stick gauze permits ventilation and aids healing of the skin.<sup>53</sup> Dressings not intended for skin are not to be used (e.g., meat pads).

**Table 2: Skin Preparation and Aftercare for Selected Personal Services**

Service	Skin Preparation and Special Considerations	Aftercare
<b>Body piercing and body modification</b>	<ul style="list-style-type: none"><li>• Do not pierce or modify the body within 15 cm (six inches) of inflamed or infected skin, or skin with a rash.</li><li>• Prior to the procedure, apply skin antiseptic. Use soap and water to clean the area first if it is visibly soiled.</li><li>• If hair removal is required, a single-use disposable razor is to be used<sup>15</sup></li><li>• If a soap and water solution is used for lubrication, it is to be freshly made prior to use.<sup>15</sup></li></ul>	<ul style="list-style-type: none"><li>• Provide client with written and verbal instructions on aftercare.</li><li>• Cover the modified area, where applicable, with a single-use dressing intended to cover wounds (see <a href="#">chapter 5.4, Aftercare</a>).</li></ul>

Service	Skin Preparation and Special Considerations	Aftercare
	<ul style="list-style-type: none"> <li>If marking skin with a single-use marker or toothpick, mark skin and when the mark dries, apply skin antiseptic.</li> <li>If a topical local anesthetic* is used, the site is to be cleaned with an approved skin antiseptic before applying the anesthetic.<sup>15</sup></li> <li>Before mouth or tongue piercings, ensure the client's mouth is clean, including tongue, teeth, and gums (e.g., clean with a toothbrush).</li> <li>Prior to genital piercings, clean the piercing site with warm water and a liquid soap.</li> </ul>	<ul style="list-style-type: none"> <li>Ointment may be applied to help prevent infection.</li> </ul>
<b>Earlobe piercing</b>	<ul style="list-style-type: none"> <li>Do not pierce the earlobe within 15 cm (six inches) of inflamed or infected skin, or skin with a rash.</li> <li>Prior to the procedure, apply skin antiseptic.</li> <li>If marking skin with single-use marker or toothpick, mark skin and when the mark dries, apply skin antiseptic.</li> <li>Do not spray antiseptic solutions on sterile earring prior to piercing.</li> </ul>	<ul style="list-style-type: none"> <li>Provide client with written and verbal instructions on aftercare.</li> <li>Ointment may be applied to help prevent infection.</li> </ul>
<b>Electrolysis and laser hair removal</b>	<ul style="list-style-type: none"> <li>Do not perform service within 15 cm (six inches) of inflamed or infected skin, or skin with a rash.</li> <li>Prior to the procedure, apply skin antiseptic. Use soap and water to clean the area first if it is visibly soiled.</li> <li>If a topical local anesthetic* is used, the site is to be cleaned with a suitable skin antiseptic before applying the anesthetic.<sup>15</sup></li> </ul>	<ul style="list-style-type: none"> <li>Provide client with written and verbal instructions on aftercare.</li> <li>Ointment or astringent may be applied to soothe the skin.</li> </ul>
<b>Hairdressing and barbering</b>	<ul style="list-style-type: none"> <li>Place a reusable protective cover around client's neck; a sanitary strip or clean towel is to be used to keep the protective cover from coming in direct contact with the client's neck.<sup>15</sup> The neck strip or towel is to be discarded or laundered after each use.<sup>15</sup></li> <li>Do not provide service to a client with head lice or signs of fungal infection of the scalp or</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>

Service	Skin Preparation and Special Considerations	Aftercare
	neck. Advise the client to see a health care provider for assessment.	
<b>Manicure, pedicure and nail treatments</b>	<ul style="list-style-type: none"> <li>• Examine client's nails for signs of fungal infection. Do not perform the service if infection is suspected or present. Advise client to see a health care provider for assessment.</li> <li>• Prior to procedure, clean client's hands and/or feet with soap and water, depending on the procedure. ABHR may be used for hand hygiene prior to manicure if hands are not visibly soiled.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide client with written and verbal instructions on aftercare where available.</li> <li>• Do not provide client with any fungal ointment or treatment. Advise the client to see a health care provider.</li> </ul>
<b>Soaks and immersion (e.g., floatation, sensory immersion, hydrotherapy)</b>	<ul style="list-style-type: none"> <li>• Do not provide service to a client with any open areas (non-intact skin), rashes, or other signs of infected skin (redness, discharge).</li> <li>• Client is to have a shower and use soap to cleanse skin prior to any full or partial body immersion.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable</li> </ul>
<b>Tattoo and micropigmentation</b>	<ul style="list-style-type: none"> <li>• Do not tattoo within 15 cm (six inches) of inflamed or infected skin, or skin with a rash.</li> <li>• Prior to the procedure, apply skin antiseptic. Use soap and water to clean the area first if it is visibly soiled.</li> <li>• If a topical local anesthetic* is used, the site is to be cleaned with a suitable skin antiseptic before applying the anesthetic.<sup>15</sup></li> <li>• If hair removal is required, a single-use disposable razor is to be used.<sup>15</sup> If a soap and water solution is used for lubrication, it is to be freshly made prior to use.<sup>15</sup></li> <li>• If a stencil is required, only stencil-transfer solutions are to be used. Avoid use of deodorant sticks, as they are not to be reused between clients.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide client with written and verbal instructions on aftercare.</li> <li>• Cover the tattooed area with a single-use dressing intended to cover wounds (see <a href="#">chapter 5.4, Aftercare</a>).</li> <li>• Ointment may be applied to help prevent infection.</li> </ul>

\*Topical application of local anesthetics such as EMLA can be used to reduce pain associated with minor procedures such as needle insertion on intact skin. Only topically applied local anesthetics are to be used; injectable anesthetics are not be used.

## 5.5 Safe Use and Storage of Products Used on Clients

Single-use products are to be used wherever possible. Expiry dates on products are to be checked prior to use to ensure the product has not expired.

Any products (e.g., wax, wax roller cartridges, pigment, creams, lotions, swabs, skin lubricants, cotton balls) that are used during procedures or services are to be stored and dispensed carefully in a manner that prevents contamination of the remaining portion (e.g., no double-dipping or dipping hands or fingers into products).<sup>7</sup> Equipment, instruments, and applicators used to dispense or apply products are to be single-use (e.g., wooden sticks to scoop contents out of common containers, mascara, lip-gloss brushes). Products may be dispensed into smaller containers for individual client use and unused product discarded after each client.<sup>15</sup>

Used wax cartridges that directly contact client's skin are to be discarded after each client use (see [chapter 4.2, Single Use Equipment and Instruments](#)).<sup>15</sup>

Any styptic products (solid, liquid, powders) and applicators used to apply the products are to be single-use and discarded after each client.<sup>15</sup> Applicators are not to be re-dipped into the product and are to be discarded after each use (i.e., no double-dipping).<sup>15</sup> Multi-use styptic pencils are not to be used, because they may become contaminated with blood, potentially transmitting microorganisms from client to client.<sup>15</sup> Single-use styptic sticks (e.g., matchsticks) are to be used once and discarded; ensure that remaining sticks are not contaminated.<sup>15</sup>

Materials used for dressings (e.g., for tattoo or body-modification aftercare) are to be kept in a cleanable rigid container with a tight-fitting lid to prevent contamination.

Disposable ink caps and single-use rinsing cups purchased in bulk are to undergo cleaning and disinfection (e.g., 70 – 90% alcohol for 10 minutes) prior to use.<sup>15</sup>

Callus blades (credo blades) and straight razors with fixed blade holder are not recommended because they can cause cuts to the client's skin and increase the risk of infection.

Laser procedures (e.g., hair and tattoo removal) have risks for clients such as burns, fires, eye damage, inhalation of toxic gases and vapours, and viral infection. See Health Canada's guideline [Laser Hair Removal-Safety Guidelines for Facility Owners and Operators](#).<sup>54</sup>

Ear piercing guns/devices are not to be used on any other part of the body except the ear lobes (fleshy part only).<sup>55</sup> Ear piercing guns/devices without sterile, single use disposable plastic cartridges that come in direct contact with the ear are to be cleaned and sterilized between each client use.<sup>15</sup> If the ear piercing gun/device cannot be sterilized, it is not to be used.<sup>15</sup> Because of this, ear piercing guns/devices without the disposable adapters or cartridges are not recommended. The person performing the ear piercing is to wear single-use disposable gloves on both hands during the procedure.<sup>55</sup>

## 5.6 Fluids That Are Instilled Into or Enter Body Cavities

Any fluid that enters body cavities (e.g., colonic irrigation fluids, other rinses or washes) is to be provided for that specific purpose by the manufacturer and is to be used according to the manufacturer's instructions. When water is instilled, it is to be potable water from a water source with a backflow prevention device. Fluids may become contaminated through improper handling and storage and may introduce pathogenic microorganisms during instillation.

Fluids are to be stored and dispensed in a manner that prevents contamination of the product and are to be used before their expiry date.<sup>7,56</sup>

## 5.7 Animals, Reptiles, Rodents, Birds, and Fish

Animals, reptiles, rodents, or birds are not to be permitted in any PSS as they can carry microorganisms that can cause serious illness in humans and it is not possible to screen them for these risks.<sup>7</sup> An exception is a service animal as described in Ontario Regulation 191/11 (Integrated Accessibility Standard) which is required by a worker or a client (e.g., guide dog).<sup>7,57-59</sup> Where possible, service animals are also to be restricted from areas where reprocessing or invasive procedures are being performed. All environmental surfaces in areas where animals have been present are to be cleaned first and then low-level disinfected.<sup>60</sup> Blood and/or other substances such as urine, feces, and vomit from animals are to be contained, and contaminated surfaces are to be cleaned and low-level disinfected immediately.<sup>60</sup>

Fish are permitted in PSS<sup>60</sup> if displayed or stored in sanitary tanks.<sup>7</sup> Aquarium water is not to be disposed of in sinks used for hand washing.<sup>60,61</sup> Sinks designated for cleaning equipment (e.g., utility sinks) or toilets may be used for disposal of aquarium water. When necessary, aquarium water is to be disposed of at the end of the day, when the sink is no longer required for other uses. If a utility sink is used for water disposal or aquarium cleaning, it is to be cleaned and low-level disinfected after use.<sup>60</sup>

## 5.8 Prohibited Products and Procedures

Cosmetic products containing methyl methacrylate (MMA) are not to be sold in Canada. Ethyl methacrylate, polymethyl methacrylate and other methacrylate polymers are all alternatives to MMA that are currently permitted by Health Canada for use in cosmetic products. However, some cosmetic products containing MMA may still be available on the Canadian marketplace.

For additional information on MMA refer to the Alberta Government's [Occupational Health and Safety Bulletin: Use of Methyl Methacrylate-Containing Products for Fingernail Sculpting](#).

A list of cosmetic ingredients that are prohibited or restricted for sale in Canada, including MMA, can be found at Health Canada's [Cosmetic Ingredient Hotlist: Prohibited and Restricted Ingredients](#).

Other personal service procedures that are not to be sold, offered for sale, or provided include scleral tattooing, implantation of eye jewellery under the conjunctiva, [ear candling](#) or coning, and also procedures involving live aquatic species such as [Garra Rufa](#) (doctor) fish (used in pedicures), because the fish cannot be disinfected or sterilized.<sup>7,8</sup>

## 5.9 Client Injuries During Procedures or Exposures to Blood and/or Other Body Fluids

A record of any client incidents is to be kept by the operator (see [chapter 7, Record Keeping](#)).<sup>7,15,27</sup>

Care is to be taken to prevent accidental puncture wounds, abrasions, and burns to the clients from needles, razors, glassware, wax, or other instruments not intended to damage the skin.<sup>15</sup>

If non-sterile equipment or instrument (e.g., crochet hook, tweezers) accidentally punctures or cuts a client's skin, the worker is to allow the wound to bleed freely, perform hand hygiene, and put on gloves, wash the area thoroughly but gently with soap and warm water (do not scrub), apply a skin antiseptic, and cover the wound with a sterile dressing or bandage, where applicable. The worker is to instruct the client to watch for signs of infection (e.g., redness, swelling, pain, warmth around the wound) and to contact a health care provider if signs of infection occur.

In the event a client is accidentally exposed to another person's blood and/or other body fluids (e.g., this can occur through a puncture, a cut, or contact of their mucous membrane with a potentially contaminated piece of equipment or instrument), the worker is to allow the wound to bleed freely, perform hand hygiene, and put on gloves, wash the area thoroughly but gently with soap and warm water (do not scrub), apply a skin antiseptic, and cover the wound with a sterile dressing or bandage, where applicable. If blood or body fluid is splashed in the eyes, thoroughly flush out the eyes with cold water. If splashed in the mouth, thoroughly flush out the mouth with cold water. Clients are to be instructed to consult a health care provider as soon as possible regarding the need for post-exposure treatment, work restrictions, or other follow-up.

Workers may endanger the health of clients if they have a potentially transmissible disease. If they are ill, they are to take all necessary precautions to prevent transmission (e.g., stay home, wear appropriate PPE when providing a service).<sup>11</sup>

# 6. Worker Health and Safety and Safe Work Practices

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PSS operators have a responsibility to have systems in place with established policies and procedures that protect the health and safety of workers in their workplace. Preventing transmission of microorganisms to other clients is a client safety issue, and preventing transmission to staff is an occupational health and safety issue.<sup>27</sup>

## 6.1 Occupational Health and Safety Requirements

Organizations are required to comply with applicable provisions in the *Occupational Health and Safety Act*, R.S.O. 1990, c.O.1 and its regulations. Employers, supervisors and workers have rights, duties and obligations under the *Occupational Health and Safety Act*. Specific requirements under the act and its regulations are available at [e-Laws](#). A guide to the requirements of the *Occupational Health and Safety Act* is available online.

Under the *Occupational Health and Safety Act*, a worker is to work in compliance with the act and its regulations, and use or wear any equipment, protective devices, or clothing required by the employer.<sup>62</sup>

Found under the *Occupational Health and Safety Act*, *Ontario Regulation 860 Workplace Hazardous Materials Information System (WHMIS)*, has requirements related to cautionary labelling of containers of hazardous substances (e.g., disinfectants), provision of safety data sheets (SDS) for all hazardous substances, and worker education programs, as well, *Ontario Regulation 474/07 Needle Safety* has requirements related to the use of hollow-bore needles that are safety-engineered.

Additional information is available at the [Ministry of Labour](#).

Each PSS is to provide a healthy and safe workplace for all workers.<sup>62</sup> Following the IPAC measures such as those outlined in [chapter 2, Routine Practices](#), (i.e., risk assessment, hand hygiene, control of the environment, administrative controls, appropriate PPE) will help protect workers from acquiring an infection. Other safe work practices, such as safe cleaning and reprocessing practices, help to protect the worker from occupational hazards such as occupational dermatitis and asthma.

Operators are to have established procedures designed to protect the health and safety of workers (e.g., how to clean up a blood spill). Worker education and training in, and supervision of, the application of these procedures is also important to ensure that they are implemented properly. Workers are to be able to demonstrate that they have adequate knowledge of general principles of IPAC in the PSS. In addition, workers are to also be able to demonstrate knowledge of common communicable disease risks for workers in the PSS, such as:

- blood-borne pathogens (e.g., hepatitis B virus, hepatitis C virus, human immunodeficiency virus [HIV]); and
- adenovirus in settings where eyelash extensions are applied. Adenovirus conjunctivitis (pinkeye) is transmitted by direct or indirect contact with infectious eye secretions via contaminated hands, equipment, objects, or solutions. PSS that provide these services are to have procedures in place to avoid these risks.<sup>63</sup>

Workers are to ensure that their own illness does not in any way endanger the health of clients. If the worker has a potentially transmissible disease, it is recommended that they be assessed by a health care provider to determine potential risk of transmission to clients and recommendations for return to work. For example, if the worker has diarrhea and/or vomiting, it is recommended they stay home from work until 48 hours free of symptoms.

According to the *Canadian Immunization Guide*, “Workers in a variety of settings may be exposed to vaccine-preventable diseases. Immunization against specific vaccine-preventable diseases will protect the worker and/or reduce the transmission of infections to others.”<sup>64</sup> The *Canadian Immunization Guide* also states that “all employers and employees should consider annual influenza immunization for working adults, because this has been shown to decrease work absenteeism due to respiratory and other illnesses.”<sup>64</sup>

Pre-exposure hepatitis B immunization and post-immunization serologic testing within one to six months of completion of the vaccine series are recommended for workers at risk for exposure to blood and/or other body fluids.<sup>64</sup>

Other requirements designed to improve worker safety include:

- Personal items that belong to workers (e.g., food, beverages, medication, makeup, personal hygiene products) are not to be kept in the area where supplies are in use, stored, or where a service is provided.<sup>15,16</sup>
- To avoid risk of transmission of infectious agents or injury from contaminated items, surfaces, and chemicals, workers are to refrain from eating, smoking, or drinking while performing procedures and when in the procedure room/area.<sup>7,65</sup>

## 6.2 Handling of Sharps

Sharps are objects capable of causing punctures or cuts and include, but are not limited to, needles, blades, lancets, razors, and scalpels. All sharps used in a PSS are to be sterile and single use.<sup>7</sup> The sharps packaging is to be intact and not previously opened, damaged, or compromised in any way<sup>7</sup> to maintain sterility until point of use.

Needles are not to be tested for sharpness or defects (e.g., damaged or blunt points) on the client’s or worker’s skin before use.<sup>15</sup> Visual inspection is to be conducted instead.<sup>15</sup> To prevent needle stick

injuries to workers, needles are not to be recapped, bent, manipulated, or separated from the syringe.<sup>11,15,27</sup>

Sharps containers are to be compliant with standards of CSA Group.<sup>7,66</sup> All sharps are to be discarded immediately after use into a sharps container that is located in close proximity, at point of use, to where the service is provided<sup>7</sup> to avoid transport of used needles and syringes or other sharps. Sharps containers are to be sealed and replaced when the contents reach the fill line marked on the container or when three-quarters full.<sup>15,27</sup> Sharps containers are biohazard containers and do not go into regular garbage. Disposal of sharps containers are to comply with the requirements of the *Environmental Protection Act*, its regulations, and any other applicable law of Ontario.<sup>7</sup>

For more information, visit [The Management of Biomedical Waste in Ontario](#).

## 6.3 Worker Injuries During Procedures or Exposures to Blood and/or Other Body Fluids

A record of any worker incidents is to be kept by the operator (see [chapter 7, Record Keeping](#)).<sup>15,27</sup>

Care is to be taken to prevent accidental exposure to chemicals and puncture wounds and abrasions to the workers from needles, razors, glassware, or other instruments while providing personal services.<sup>15</sup> Practices that increase the risk of accidental puncture wounds and abrasions may include recapping needles, using ink rings, and improper disposal of sharps.

In the event a worker is accidentally exposed to another person's blood and/or other body fluids (e.g., this can occur through a puncture, a cut, or contact of their mucous membrane with a potentially contaminated piece of equipment or instrument), the worker is to allow the wound to bleed freely, perform hand hygiene, and put on gloves, gently wash the area thoroughly with soap and warm water (do not scrub), apply a skin antiseptic, and cover the wound with a sterile dressing or bandage, where applicable. If blood or body fluid is splashed in the eyes, thoroughly flush the eyes with cold water. If splashed in the mouth, thoroughly flush the mouth with cold water. Workers are to be instructed to consult a health care provider as soon as possible regarding the need for post-exposure treatment or other follow-up.

In the event a worker is accidentally exposed to chemicals (e.g., disinfectant), the worker is to follow the safety data sheet instructions for that chemical.

# 7. Record Keeping

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Records of disinfection and sterilization (preventative maintenance, monitoring, and sterilization failures), and documentation of procedures, clients, and incidents are essential for adequate process management by PSS operators. These records are also important to public health units for conducting routine inspections, investigations and follow-up of incidents. This chapter describes the essential records or documentation to be retained by PSS.

## 7.1 Storage and Retention of Records

The operator is to keep records and documentation on-site in a secure location not generally accessible to workers or clients (e.g., locked file cabinet, locked drawer) for a minimum of one year, and on file, whether on-site or off-site, for a minimum of two additional years.<sup>7</sup>

## 7.2 Sterilization Records

Sterilization records are to be maintained and include at a minimum:<sup>7,15,16</sup>

- the name and type of sterilizer used;
- the date and time when the sterilizer was used;
- the equipment on which the sterilizer was used;
- any preventative maintenance or repairs done on or to a sterilizer and whether the sterilizer functioned properly after the maintenance or repairs; and
- the results of any checks or tests done on sterilizers.
- a verified and signed record of all monitoring performed on each load; and
- information (such as lot numbers and the name of company that manufactures or sterilizes the equipment and instruments) for any equipment and instruments purchased as pre-packaged sterile (e.g., needles, biopsy punches).

Sterilization records include biological indicator, chemical indicator and mechanical monitoring results (including integrators or Bowie-dick, when used). Mechanical monitoring results may be printouts from a sterilizer or written records of parameters which will include date, sterilization temperature, pressure, and sterilization time reading for each load.

## 7.3 Other Records

Disinfection records are to be maintained and include:<sup>7</sup>

- the name of the disinfectant;
- the concentration of the disinfectant;
- the date when the disinfectant was prepared, if applicable; and

- the date by which the disinfectant solution is to be discarded (e.g., by expiry date, reuse claim), if applicable.

In addition, any preventative maintenance performed on mechanical or electronic equipment used for reprocessing is to be maintained (e.g., ultrasonic cleaners).

## 7.4 Client Records and Incidents

Before providing a personal service, the PSS operator or the person who will be providing the personal service is to obtain the name and contact information of the person seeking the service.<sup>7</sup>

In addition, records relating to invasive procedures, such as ear or body piercing, tattooing, micropigmentation, electrolysis, or any procedure that enters the skin or mucous membranes for example are to be maintained and include:<sup>7</sup>

- which procedure was done and the part of the body the procedure was done to;
- the name and contact information of the person who received the procedure;
- the name and contact information of the person who provided the procedure;
- records to document that, where applicable, an explanation of the procedure and information about any risks associated with the procedure was provided;
- the dates of the procedure; and
- the lot numbers and expiry date of the pre-packaged sterile equipment used in the procedure.

Records relating to invasive procedures are to also include documentation that verbal and written aftercare information was provided (see [chapter 5.4 Procedure Information and Aftercare](#)).

Records related to accidental exposures to blood or body fluids (e.g., client or worker incidents such as cuts, burns, or other injuries), are to be maintained and include:<sup>7</sup>

- the date of the accidental exposures to blood or body fluids;
- the service being provided when the exposure occurred;
- the part of the body that was exposed to blood or body fluids;
- the name and contact information of the person providing the procedure when the exposure occurred;
- the action taken by the person providing the procedure in response to the exposure; and
- the name and contact information of the person who was exposed to blood or body fluids.

# Summary of IPAC Practice Recommendations for PSS

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THE FOLLOWING SUMMARIES ARE NOT AN EXHAUSTIVE LIST OF RECOMMENDATIONS BUT ARE INTENDED TO ASSIST PUBLIC HEALTH INSPECTORS WITH ROUTINE INSPECTIONS OF PSS AND OPERATORS WITH SELF-ASSESSMENT INTERNAL TO THE PERSONAL SERVICE SETTING FOR QUALITY IMPROVEMENT PURPOSES. SEE COMPLETE TEXT FOR RATIONALE.

- [Routine practices](#)
- [Managing the environment](#)
- [Reprocessing of equipment and instruments](#)
- [Client safety](#)
- [Worker health and safety and safe work practices](#)
- [Record keeping](#)

## Routine Practices

1. Adherence to Routine Practices is to be practiced in all settings where personal services are provided. [[Chapter 2](#)]
2. Every person who provides services at the PSS is to clean their hands as often as necessary and in such a manner as to remove visible soil and transient microorganisms from the hands. [[Chapter 2.2](#)]
3. Workers are to avoid factors that may limit the effectiveness of hand hygiene. [[Chapter 2.2](#)]
4. To make it possible for personal service workers to clean their hands at the right time, ABHR is to be available and within reach wherever personal services are provided and in reprocessing areas, even if a hand washing sink is available. [[Chapter 2.2.1.1](#)]
5. Every PSS operator is to maintain a supply of soap in a dispenser in close proximity to the sink. [[Chapter 2.2.2](#)]
6. Every PSS operator is to comply with the requirement that a method of hand drying that uses single-service products or a hot air dryer be in close proximity to the sink. [[Chapter 2.2.2](#)]
7. Every PSS operator is to have at least one sink dedicated to hand washing within the PSS premises that is conveniently located to the work area, that is accessible at all times, and that is continuously supplied with potable hot and cold running water under pressure. [[Chapter 2.2.2.1](#)]
8. Well water is to be tested in accordance with applicable water regulations. [[Chapter 2.2.2.1](#)]

9. A PSS is not to be a room or part of a room that is used as a dwelling, including for dining, sleeping or preparing, selling, handling, eating, or storing food. [[Chapter 2.3](#)]
10. The setting is to also be equipped with potable hot and cold running water under pressure. [[Chapter 2.3](#)]
11. Every PSS operator is to undertake any health and safety training related to PSS operation and maintenance, including training in relevant practices that can prevent or reduce the risk of disease transmission at the setting if required by the public health unit. [[Chapter 2.4](#)]
12. Workers are to wear gloves to protect their hands when it is anticipated that hands will be in contact with blood and/or other body fluids; non-intact skin; mucous membranes; contaminated surfaces, equipment or instruments; and chemicals used in cleaning and reprocessing. [[Chapter 2.5.1](#)]
13. Workers are to wear a gown, arm barriers, or a plastic apron when performing procedures or providing services if the risk assessment indicates that the activity may contaminate their skin or clothing through contact with blood, other body fluids or chemicals used in cleaning and reprocessing, or through contact with equipment or instruments contaminated with blood and/or other body fluids. [[Chapter 2.5.2](#)]
14. Workers are to wear a disposable surgical/procedure mask (in addition to eye protection) when performing a sterile or invasive procedure, or when the risk assessment indicates that there is a potential for a splash or spray of blood, other body fluids or chemicals to their mouth or nose. [[Chapter 2.5.3.1](#)]
15. Mask and eye protection are recommended to be worn during nail filing. A fit-tested, seal-checked respirator is recommended to be worn when a rotary tool is used for nail filing. [[Chapter 2.5.3.1](#)]
16. Workers are to wear eye protection when performing a procedure where there is potential for a splash of blood, other body fluids, or chemicals to their eyes. [[Chapter 2.5.3.1](#)]

## Managing the Environment

1. Manufacturer's instructions for use and contact times for cleaning and disinfectant product(s) are to be followed, where available. [[Chapter 3.1](#)]
2. High-risk surfaces are to be cleaned and low-level disinfected between clients and when surfaces are visibly soiled. [[Chapter 3.1.2](#)]
3. Low-risk surfaces are to be cleaned and low-level disinfected immediately when they become visibly soiled and at least once per day. [[Chapter 3.1.2](#)]

4. All low-level disinfecting products are to have either a drug identification number (DIN) or a natural product number (NPN) issued by Health Canada. An exception to this is sodium hypochlorite (undiluted/no additives) as it does not have a DIN or NPN. [[Chapter 3.2](#)]
5. Disinfectants are not to be topped up and are not to be applied by aerosol or trigger spray. [[Chapter 3.2](#)]
6. Surfaces and finishes in areas where personal services are provided are to be easily cleanable. [[Chapter 3.3](#)]
7. Floors, walls, ceilings, fixtures, furniture, and work surfaces of the PSS are to be in good repair, easily cleanable, of a smooth and impermeable material, and are to be maintained in a sanitary condition. [[Chapter 3.3](#)]
8. Manufacturers' instructions for cleaning soaking/immersion tanks are to be followed, including scheduled disinfection of the tub, filtration system and water in the tub. [[Chapter 3.4](#)]
9. Soak tubs/basins without a recirculation system are to have surfaces that are easily cleaned and disinfected. [[Chapter 3.4.1](#)]
10. Soak tubs or basins with a recirculation system are to be drained and thoroughly cleaned and disinfected after each client use according to the manufacturer's instructions. [[Chapter 3.4.2](#)]
11. Filters or screens are to undergo thorough cleaning and disinfection, as outlined in the manufacturer's instructions. [[Chapter 3.4.2.1](#)]
12. Protective covers used on surfaces are to be changed between clients, and care is to be taken to avoid the contamination of surfaces when removing or changing the cover. The covered surface is to be uncovered and then cleaned and disinfected with a low-level disinfectant at the end of each day that the surface is used. [[Chapter 3.5](#)]
13. Re-usable equipment, instruments, or items that cannot be easily or adequately cleaned, disinfected, or sterilized between each use is/are to be covered with single-use, disposable covers and the cover is to be discarded after each use. [[Chapter 3.5](#)]
14. Any surface that is soiled with blood and/or other body fluids is to be cleaned and low-level disinfected as soon as possible. [[Chapter 3.6](#)]
15. In the presence of large blood spills, high-level disinfection initially is to be used to inactivate blood-borne viruses. [[Chapter 3.6](#)]
16. A PSS is to be equipped with receptacles for waste, including biomedical receptacles where applicable, appropriate for the sanitary operation and maintenance of the setting. All waste, including biomedical waste, is to be collected and removed from the PSS as often as necessary to maintain the setting in a sanitary condition. [[Chapter 3.7](#)]

# Reprocessing of Equipment and Instruments

## WORKER KNOWLEDGE/SINGLE USE EQUIPMENT/GENERAL PRINCIPLES

1. All equipment used in providing personal services at the setting is to be maintained in good repair and in a sanitary condition. This equipment is to be maintained in accordance with the manufacturer's instructions, if any, or, if no manufacturer's instructions are available, the equipment is to be maintained in accordance with the directions of the public health unit. [\[Chapter 4\]](#)
2. The individual(s) responsible for reprocessing is/are to be able to demonstrate that they have knowledge of the steps required to reprocess the equipment and instruments used in their setting. [\[Chapter 4.1\]](#)
3. All equipment and instruments designed for a single use or made of material that does not withstand cleaning and disinfection or sterilization are discarded immediately after they are used. [\[Chapter 4.2\]](#)
4. Reusable equipment and instruments are to be durable, maintained in good working order, and be in clean and sanitary condition. [\[Chapter 4.3\]](#)
5. The processes and products used for cleaning, disinfection or sterilization, and the level of reprocessing required, are to be compatible with the equipment and instruments as directed in the manufacturer's instructions. In the absence of specific manufacturer's instructions, decisions around reprocessing methods/products are to be based on best practice recommendations and operators are to follow the recommendations of the public health unit. [\[Chapter 4.3\]](#)
6. Manufacturers' instructions for all equipment and instruments and reprocessing equipment are to be received and maintained in a format that allows for easy access by workers. [\[Chapter 4.3\]](#)
7. Manufacturers' instructions for all equipment and instruments are to be followed and, if a public health unit provides directions with respect to the maintenance of equipment to address a potential health hazard, the operator of the PSS is to follow those directions. [\[Chapter 4.3\]](#)
8. Used equipment and instruments are to be handled in a manner that reduces the risk of contaminating workers and the environment. [\[Chapter 4.3\]](#)
9. PPE required during cleaning and disinfection or sterilization of equipment and instruments is to be accessible to workers. [\[Chapter 4.3\]](#)
10. To prevent disease transmission, reusable equipment is to be cleaned and disinfected or sterilized between each use or covered with a single-use disposable cover intended for the purpose of preventing infection (e.g., tattoo or pigmentation machine bag, clip cord cover). The cover is to be discarded immediately after each use if the equipment cannot readily be cleaned

and disinfected or sterilized and is not introduced into the body or into body cavities. [[Chapter 4.3](#)]

11. Used equipment and instruments are not to come in contact with clean surfaces or other clean equipment and instruments.  
[[Chapter 4.3](#)]
12. If the equipment or instrument requires disinfection, a disinfectant solution that is appropriate for the intended use of the instrument is to be used. [[Chapter 4.3](#)]
13. Before being used in invasive procedures, all necessary critical equipment, instruments, and supplies are to be set up prior to the start of the service and are to remain in the sterilization pouches or packages until point of use. [[Chapter 4.3](#)]
14. Clean and sterile equipment and instruments are to be stored in a manner that protects them from moisture contamination, dust, vermin, and damage to packages. [[Chapter 4.3](#)]

## HANDLING AND TRANSPORT/DISASSEMBLY AND CLEANING

1. The transport of used equipment and instruments from the service area to the reprocessing area is to be done in a way to avoid contaminating the environment. [[Chapter 4.4](#)]
2. Any surface, sink, or container used for handling or transporting equipment or instruments is to be cleaned and disinfected with an low-level disinfectant after each use. [[Chapter 4.4](#)]
3. Clean equipment and instruments are to be transported in a properly labelled clean container.  
[[Chapter 4.4](#)]
4. Reusable equipment and instruments are to be thoroughly cleaned before disinfection or sterilization. [[Chapter 4.5](#)]
5. Cleaning of reusable equipment and instruments is to take place immediately after use to prevent any organic material that is present from drying. If immediate cleaning is not possible, the equipment or instruments is/are to be kept wet with detergent and water, an enzymatic cleaner, or soaking solution until they can be cleaned. [[Chapter 4.5.1](#)]
6. Prior to cleaning, equipment and instruments that consist of multiple components are to be disassembled according to the manufacturer's instructions. [[Chapter 4.5.1](#)]
7. Cleaning is to be done either manually with detergent or enzymatic cleaner and water, or using a mechanical cleaning machine.  
[[Chapter 4.5.2](#)]
8. Where reusable equipment is used, a PSS is to have at least one sink that is not the hand wash sink. [[Chapter 4.5.2.1](#)]

9. All equipment and instruments with small lumens that cannot be disinfected or sterilized are to be treated as single-use and disposed after use on a client. [[Chapter 4.5.2.1](#)]
10. Following manual cleaning, all equipment and instruments are to be rinsed with water to remove residue that might interfere with the disinfectant or sterilant. [[Chapter 4.5.2.1](#)]
11. All equipment and instruments are to be dried before disinfection or sterilization. [[Chapter 4.5.2.1](#)]
12. All equipment and instruments are to be visually inspected after cleaning and prior to disinfection or sterilization to ensure cleanliness and integrity. [[Chapter 4.5.2.1](#)]
13. Any cleaning brushes or reusable utility gloves used during the cleaning process are to be cleaned, disinfected, rinsed and stored after each use. [[Chapter 4.5.2.1](#)]
14. If an ultrasonic cleaner is used for cleaning equipment or instruments, it is to be maintained according to the manufacturer's instructions, if available. The unit is to be refilled with clean solution daily and tested weekly for efficacy, at a minimum.  
[[Chapter 4.5.2.2](#)]

## DISINFECTION

1. Prior to disinfection, all equipment and instruments are to be disassembled prior to cleaning (if there are removable parts). [[Chapter 4.6](#)]
2. Items are to be immersed in the disinfectant for the appropriate time to ensure microorganisms are destroyed. [[Chapter 4.6](#)]
3. Disinfectant solutions are to be used, prepared, maintained, and disposed of according to the manufacturer's instructions. [[Chapter 4.6](#)]
4. Prepared disinfectant solutions are not to be topped up with fresh solution. [[Chapter 4.6](#)]
5. Disinfectants are to be used prior to the expiry date or reuse claim. [[Chapter 4.6](#)]
6. A record is to be maintained indicating: the name of the disinfectant; the concentration of the disinfectant; the date when the disinfectant was prepared, if applicable; and the date by which the disinfectant solution is to be discarded, if applicable (i.e., reuse claim). [[Chapter 4.6](#)]
7. Equipment and instruments are to be rinsed thoroughly with potable water following disinfection, according to the manufacturer's instructions. [[Chapter 4.6](#)]
8. Equipment and instrument are to be dried thoroughly using a clean lint-free cloth or towel, or are to be allowed to air-dry in a manner that prevents contamination. [[Chapter 4.6](#)]
9. All semi-critical items are to be reprocessed using a high-level disinfectant, at a minimum.  
[[Chapter 4.6.2.1](#)]

10. Ideally, items that hold, manipulate or contact critical items are to be sterilized. At a minimum, these items are to be reprocessed using high-level disinfection in the same manner as semi-critical items. [[Chapter 4.6.2.1](#)]
11. All non-critical equipment, instruments, and items that are intended to contact only intact skin but may accidentally come into contact with non-intact skin or mucous membranes, or penetrate the skin are to be reprocessed using an intermediate-level disinfectant. [[Chapter 4.6.2.2](#)]
12. Intermediate-level disinfectants are to have a DIN or NPN assigned by Health Canada. An exception to this is sodium hypochlorite (undiluted/no additives) as it does not have a DIN or NPN. [[Chapter 4.6.2.2](#)]
13. All environmental surfaces and non-critical equipment, instruments, and items that do not directly contact the client or contact only hair or intact skin are to be reprocessed using a low-level disinfectant. [[Chapter 4.6.2.3](#)]
14. All low-level disinfectants are to have a DIN or NPN assigned by Health Canada. An exception to this is sodium hypochlorite (undiluted/no additives) as it does not have a DIN or NPN. [[Chapter 4.6.2.3](#)]

## STERILIZATION

1. All critical items are to be sterilized. [[Chapter 4.7](#)]
2. For equipment and instruments purchased as sterile, operators are to be able to produce documentation from the manufacturer that indicates that the equipment or instruments are sterile and the method used for sterilization. [[Chapter 4.7](#)]
3. Equipment and instruments that require sterilization are to be packaged prior to sterilization. [[Chapter 4.7.1](#)]
4. Equipment and instruments in packages are to be in the open and unlocked position to facilitate effective sterilization. [[Chapter 4.7.1](#)]
5. All sterilizers are to be operated and maintained according to the manufacturer's instructions. [[Chapter 4.7.1](#)]
6. Documentation of any preventative maintenance or repairs done on or to a sterilizer is to be maintained. [[Chapter 4.7.1](#)]
7. Sterilizers used at a PSS are suitable for sterilizing the equipment and meet the standards established by Health Canada and the CSA Group. [[Chapter 4.7.2](#)]

8. All new steam sterilizers are to be equipped with either a printout or a digital display that provides details of all three mechanical parameters reached during each cycle. [[Chapter 4.7.2.1](#)]
9. All sterilizers are to be tested for performance using mechanical parameters, chemical and biological indicators, with results recorded. [[Chapter 4.7.3](#)]
10. Mechanical indicators are to be checked, signed, and recorded for each sterilizer cycle. [[Chapter 4.7.3.1](#)]
11. An external chemical indicator is to be used on each package or pouch that is undergoing sterilization unless the design of the package allows the user to view the internal chemical indicator without opening the package. [[Chapter 4.7.3.2](#)]
12. An internal chemical indicator is to be placed inside each package, container, or bundle that is undergoing sterilization. [[Chapter 4.7.3.2](#)]
13. If a dynamic air removal sterilizer is used, an air removal test with a Type 2 chemical indicator is to be performed every day the sterilizer is used before the first processed load. [[Chapter 4.7.3.2](#)]
14. Testing with a biological indicator once each day that the sterilizer is used and for each type of cycle that is used is best practice. [[Chapter 4.7.3.3](#)]
15. A biological indicator is to be included in every load containing implantable devices. Implantable devices are to be quarantined until the results of the biological indicator test are available. [[Chapter 4.7.3.3](#)]
16. If a package is released based on monitored physical parameters and internal chemical indicator results (e.g., in the absence of a biological indicator test result), the internal chemical indicator is to be a Type 5 or Type 6 chemical indicator. [[Chapter 4.7.3.3](#)]
17. Operators are to conduct appropriate notification when a positive BI result is received. [[Chapter 4.7.3.4](#)]
18. Qualification tests are to be run on sterilizers when installing new sterilizers, after relocating a sterilizer, after major repairs or after mechanical malfunctions or power outages or other emergency scenarios. [[Chapter 4.7.4](#)]
19. The sterilizer is not to be used until the results of three consecutive spore tests are available and are all negative. [[Chapter 4.7.4](#)]
20. When a sterilization failure has occurred, the equipment and instruments in that load is not to be used. These equipment and instruments are to be cleaned, repackaged, and re-sterilized. [[Chapter 4.7.5.1](#)]

21. When a sterilization failure has occurred the operator is to use an alternate method of sterilization or an alternate procedure that prevents disease transmission. [[Chapter 4.7.5.1](#)]
22. If equipment or instruments from a failed load have been used, operators are to conduct appropriate notification and investigate the cause of the sterilization failure. [[Chapter 4.7.5.1](#)]
23. A written backup plan is to be prepared and reviewed annually in the event of sterilizer malfunctions. [[Chapter 4.7.5.2](#)]

## STORAGE/SHELF LIFE/REPROCESSING AREA

1. Every PSS is to have adequate storage space for necessary equipment and supplies. [[Chapter 4.8](#)]
2. Sterile trays and packages are to not be used beyond the expiry date, where available. Expired items are to be discarded. [[Chapter 4.8](#)]
3. Equipment and instruments from sterile packages that have lost their integrity are not to be used. These equipment and instruments are to be cleaned, repackaged, and re-sterilized. [[Chapter 4.8](#)]
4. Sterile packages are to be carefully stored in a clean, dry, and dust-free area to prevent contamination and to maintain sterility until the point of use. [[Chapter 4.8](#)]
5. Containers or drawers used to store sterile equipment and instruments are to be moisture-resistant, cleanable, and prevent contamination of the sterile packages. [[Chapter 4.8](#)]
6. When opening sterile packages, workers are to ensure the equipment and instruments are sterile at the point of use (e.g., check integrity of package and instruments, expiry dates, opened at point of use).  
[[Chapter 4.8.1](#)]
7. Reprocessing of all equipment and instruments is to be conducted in an area away from where personal services are being provided and a one-way work flow established. [[Chapter 4.9](#)]
8. There is to be at least one dedicated reprocessing sink in the personal service setting. [[Chapter 4.9](#)]

## Client Safety

1. Every PSS is to be free from every condition that may constitute a health hazard or adversely affect the sanitary operation of the PSS. Every person who provides personal services in the setting is to practise good personal hygiene. [[Chapter 5](#)]
2. Every product used when providing a personal service is to be stored and dispensed in a manner which prevents contamination. [[Chapter 5](#)]

3. Any part of the client's body receiving personal services is to be clean and free from open areas, lice, or visible skin infections. If any of these are present, service provision is to be deferred until the site is healed and the client is to be advised to seek medical treatment. [\[Chapter 5.1\]](#)
4. Invasive procedures are not to be performed within 15 cm (6 inches) of inflamed or infected skin, or skin with a rash. [\[Chapter 5.1\]](#)
5. Jewellery inserted as part of a body-piercing procedure are to be made of biocompatible material(s) according to recognized standards. [\[Chapter 5.2\]](#)
6. All jewellery used for body piercing is to be single-use and maintained as sterile until the point of insertion. [\[Chapter 5.2\]](#)
7. All jewellery is to have a smooth finish and be free of nicks, burrs, and scratches. [\[Chapter 5.2\]](#)
8. Jewellery designed for ear lobes and fish hook style jewellery is not to be used on other parts of the body. [\[Chapter 5.2\]](#)
9. Skin antiseptics are to be used in any personal service procedure when the skin is punctured, cut or potentially damaged except where contraindicated. [\[Chapter 5.3\]](#)
10. Skin antiseptics are to be stored and dispensed carefully in a manner that prevents contamination of the antiseptic. [\[Chapter 5.3\]](#)
11. Operators are to follow the specific requirements related to skin preparation and aftercare for selected personal services as appropriate. [\[Chapter 5.3\]](#)
12. Before providing an invasive procedure, the PSS operator or the person who will be providing the invasive procedure is to provide the person seeking the procedure with an explanation of the procedure and information about any associated risks. [\[Chapter 5.4\]](#)
13. Clients are to be given verbal and written aftercare information following invasive services such as tattoo, micropigmentation, electrolysis, laser hair removal, body piercing, body modification, and earlobe piercing. [\[Chapter 5.4\]](#)
14. Tattooed or modified areas are to be covered with a single-use non-adhesive dressing intended to cover wounds. [\[Chapter 5.4\]](#)
15. Dressings not intended for skin are not to be used (e.g., meat pads). [\[Chapter 5.4\]](#)
16. Single-use products are to be used wherever possible. [\[Chapter 5.5\]](#)
17. Any products that are used during procedures or services are to be stored and dispensed carefully in a manner that prevents contamination of the remaining portion. [\[Chapter 5.5\]](#)

18. Equipment, instruments, and applicators used to dispense or apply products are to be single-use. [\[Chapter 5.5\]](#)
19. Used wax cartridges that directly contact client's skin are to be discarded after each use. [\[Chapter 5.5\]](#)
20. Any styptic products and applicators used to apply the products are to be single-use and discarded after each client. [\[Chapter 5.5\]](#)
21. Materials used for dressings are to be kept in a cleanable rigid container with a tight-fitting lid to prevent contamination. [\[Chapter 5.5\]](#)
22. Disposable ink caps and single-use rinsing cups purchased in bulk are to undergo cleaning and disinfection prior to use. [\[Chapter 5.5\]](#)
23. Ear piercing guns/devices are to not be used on any other part of the body except the ear lobes (fleshy part only). [\[Chapter 5.5\]](#)
24. Any fluid that enters body cavities is to be provided for that specific purpose by the manufacturer and is to be used according to the manufacturer's instructions. [\[Chapter 5.6\]](#)
25. Animals, reptiles, rodents, or birds are not to be permitted in any area(s) of a PSS where services are being provided. An exception is a service animal required by a worker or a client. [\[Chapter 5.7\]](#)
26. Scleral tattooing, implantation of eye jewellery under the conjunctiva, [ear candling](#) or coning, and procedures involving live aquatic species are not to be sold, offered for sale, or provided. [\[Chapter 5.8\]](#)
27. A record of any client incidents is to be kept by the operator. [\[Chapter 5.9\]](#)
28. Clients are to be instructed to consult a physician as soon as possible regarding the need for post-exposure treatment or other follow-up in the event of their injury or exposure to another person's blood and/or other body fluids. [\[Chapter 5.9\]](#)

## Worker health and safety and safe work practices

1. Each PSS is to provide a healthy and safe workplace for all workers. [\[Chapter 6.1\]](#)
2. Operators are to have established procedures designed to protect the health and safety of workers. [\[Chapter 6.1\]](#)
3. Workers are to be able to demonstrate that they have adequate knowledge of general principles of IPAC in the PSS. [\[Chapter 6.1\]](#)
4. Workers are to ensure that their own illness does not in any way endanger the health of clients. If the worker has a potentially transmissible disease, it is recommended that they be

assessed by a health care provider to determine potential risk of transmission to clients and recommendations for return to work. [[Chapter 6.1](#)]

5. Personal items that belong to workers are not to be kept in the area where supplies are in use, stored, or where a service is provided. [[Chapter 6.1](#)]
6. To avoid risk of transmission of infectious agents or injury from contaminated items, surfaces, and chemicals, workers are to refrain from eating, smoking, or drinking while performing procedures and when in the procedure room/area. [[Chapter 6.1](#)]
7. All sharps used in a PSS are to be sterile and single use. The sharps packaging is to be intact and not previously opened, damaged, or compromised in any way to maintain sterility until point of use. [[Chapter 6.2](#)]
8. Sharps containers are to be compliant with standards of CSA Group. [[Chapter 6.2](#)]
9. All sharps are to be discarded into a sharps container immediately after use and located close to the point of use to avoid transport of used needles and syringes or other sharps. [[Chapter 6.2](#)]
10. Sharps containers are to be sealed and replaced when the contents reach the fill line marked on the container or when three-quarters full. [[Chapter 6.2](#)]
11. Disposal of sharps containers is to comply with the requirements of the *Environmental Protection Act*, its regulations, and any other applicable law of Ontario. [[Chapter 6.2](#)]
12. A record of any client incidents is to be kept by the operator. [[Chapter 6.3](#)]

## Record Keeping

1. Records and documentation are to be kept on-site in a secure location not generally accessible to workers or clients for a minimum of one year, and on file, whether on-site or off-site, for a minimum of two additional years. [[Chapter 7.1](#)]
2. Complete sterilization records are to be maintained. [[Chapter 7.2](#)]
3. Complete disinfection records are to be maintained. [[Chapter 7.3](#)]
4. Records are to be maintained indicating any preventative maintenance performed on mechanical or electronic equipment used for reprocessing. [[Chapter 7.3](#)]
5. Before providing a personal service, the PSS operator or the person who will be providing the personal service is to obtain the name and contact information of the person seeking the service. [[Chapter 7.4](#)]
6. Complete records of all invasive procedures performed are to be maintained. [[Chapter 7.4](#)]

7. Records related to accidental exposures to blood or body fluids (e.g., client or worker incidents such as cuts, burns, or other injuries) are to be maintained. [[Chapter 7.4](#)]

# Appendix A: Personal Services and Infection Risks

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This appendix provides a description of the personal services referred to in this document. Infection risks are described where there is supporting evidence.

## A-1: AESTHETIC SERVICES

These include, but are not limited to, hairdressing, barbering, threading, manicures, pedicures, and waxing.

**Infection risk:** See **Hairdressing, Manicure, Pedicure, Threading, and Waxing** for their respective associated risk.

## A-2: BODY MODIFICATION

This is the practice of physically altering a human body, and can include branding, pearlring, genital beading, eyeball jewellery, subdermal implants, tongue splitting, ear shaping, scarification, saline injections, skin stretching, dermal punching, suspension, and eyeball tattooing.

**Infection risk:** See **Branding, Genital Beading/Pearling, Eyeball Jewellery, Subdermal Implant, Tongue Splitting, Ear Shaping, Scarification, Skin Stretching, Dermal Punching, Suspension, and Eyeball Tattooing** for their respective associated risk.

## A-3: BODY PIERCING

Piercing is the act of penetrating the skin with a sharp instrument for the purposes of inserting jewellery. Body piercing includes piercings of body sites other than the earlobe, such as the face, nose, nipple, genitalia, tongue, lip, brow and others. Upon completion of the piercing, jewellery is inserted into the piercing site.

**Infection risk:** Microorganisms can infiltrate the tissue under the skin or mucous membrane at the piercing site and cause an infection. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment (e.g., piercing equipment or jewellery).
- Ear piercing guns/devices used on parts of the body other than the ear lobes (fleshy part only).<sup>55</sup>
- The client's own bacteria on the skin and mucous membrane (e.g., oral and genital piercings are particularly problematic, because the site cannot be sanitized with an antiseptic).
- Unclean hands touching the treated area.

The result may be localized skin or tissue infections caused by bacteria such as *Staphylococcus aureus*, *Mycobacterium* spp. or *Streptococcus* spp., or more serious systemic infections of the bloodstream, heart valves, and brain abscess.<sup>10</sup>

#### A-4: BRANDING

Branding is a form of scarification by intentionally applying a hot or cold object to the skin to cause third-degree burns and produce a permanent scar.

**Infection risk:** Skin branding can incur the same risks associated with any third-degree burn. Infections can occur when microorganisms enter the open skin burn wound. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- Client's own bacteria from different parts of the body.
- Contaminated environment.
- Unclean hands touching the treated area.

The infectious agents can be bacterial (e.g., *Staphylococcus aureus*, *Pseudomonas aeruginosa*), fungal (e.g., *Candida* spp., *Aspergillus* spp.) or even viral (e.g., herpes simplex virus).<sup>67</sup> Invasion of microorganisms into the tissue layer under the skin can result in more severe complications such as bloodstream infections and organ dysfunction.<sup>67</sup>

#### A-5: COLON HYDROTHERAPY

Colon hydrotherapy (sometimes called a colonic or colonic irrigation) involves the instillation of various fluids into the client's colon. In machine-regulated processes, a pump pushes the water into the colon and then collects the resulting wastewater. In manual processes, an operator uses a tube with an attached bottle (or similar device) to irrigate the colon, and the client expels the waste liquid after the procedure is complete.

**Infection risk:** Colon hydrotherapy treatments involve a significant risk of infection if the proper procedures are not followed, because the mucous membranes of the colon are more susceptible to infection than intact skin. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment (e.g., tube that is inserted into the anus).
- Contaminated solution being instilled.
- Unclean hands touching the treated area.

More severe infections can result if the tube used for the treatment perforates the intestinal wall, which can introduce pathogens directly into the bloodstream.<sup>56</sup>

#### A-6: DERMAL PUNCHING

Dermal punching involves making a hole through the cartilage or into the skin anywhere on the body, accompanied by removing some flesh and cartilage to accommodate a larger piercing. It is performed using a dermal or biopsy punch. Any jewellery or item that is inserted may be secured with an anchor.

**Infection risk:** Microorganisms can infiltrate the tissue under the skin or mucous membrane at the procedure site and cause an infection. The risk of infection is expected to be greater than that of body piercing due to the size of the wound. Similar to body piercing, the potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria on the skin and mucous membrane (oral procedures are particularly problematic, because the site cannot be sanitized with an antiseptic).
- Unclean hands touching the treated area.

Aftercare is especially important in the days following the procedure to prevent infiltration of microorganisms while the wound heals.<sup>68</sup>

#### A-7: EARLOBE PIERCING

This involves perforating or piercing a client's earlobe and inserting jewellery.

**Infection risk:** Microorganisms can infiltrate the tissue under the skin at the piercing site and cause an infection. Infections in this area are more difficult to treat, because immune cells generally do not circulate to the earlobe. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment (e.g., the piercing equipment, jewellery).
- The client's own bacteria on the skin at the piercing site.
- Unclean hands touching the treated area.

The result may be localized skin infections caused by bacteria, or more serious systemic infections of the bloodstream or heart valve.<sup>10</sup>

#### A-8: EAR SHAPING

Ear shaping is the removal of portions of the ear to modify its shape. It can be called ear cropping, cutting or pointing. The process is usually performed by removing portions using a scalpel, and suturing or cauterizing the wound.

**Infection risk:** As with any puncture wound or incision, procedures involving skin cutting can lead to an infection if microorganisms are introduced into the wound. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria on the skin.
- Contaminated environment.
- Unclean hands touching the treated area.

Infections are commonly caused by bacteria such as *Staphylococcus* spp., *Streptococcus* spp. and *Pseudomonas* spp. These infections can be superficial in the skin, or they can get deeper into the muscles, tissues and body organs.<sup>69</sup>

#### A-9: ELECTROLYSIS

Electrolysis is a form of hair removal that involves inserting a sterile needle into a hair follicle. An electric current is sent through the needle to damage or destroy the root of the hair.<sup>70</sup>

**Infection risk:** Treatment by electrolysis typically results in red, swollen and tender skin. There is a risk of skin scarring, including enlarged keloid scars. Proper insertion of an electrolysis needle typically does not puncture the skin. However, electrolysis equipment can become contaminated with bacteria, fungi and viral blood-borne pathogens such as hepatitis B virus, hepatitis C virus, or human immunodeficiency virus (HIV).<sup>70</sup> The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria on the skin.
- Contaminated environment.
- Unclean hands touching the treated area.

#### A-10: EYEBALL JEWELLERY

Selling, offering for sale, or providing implantation of eyeball jewellery is prohibited in Ontario, as per the HPPA.<sup>8</sup>

This involves inserting a foreign object beneath the outer layers (conjunctiva) of the white portion (sclera) of a person's eye. It is sometimes called an extraocular implant.

**Infection risk:** In addition to sustaining mechanical damage to the eye, the client may develop an infection. Because this procedure involves a small incision in the conjunctiva, there is a risk that microorganisms could be introduced underneath the membrane, causing conjunctivitis. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria.
- Unclean hands touching the treated area.

Microorganisms known to cause conjunctivitis include *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Haemophilus* spp., adenovirus, and herpes virus.<sup>71</sup>

#### A-11: EYEBALL TATTOOING

Selling, offering for sale, or providing scleral tattooing (eyeball tattooing) is prohibited in Ontario, as per the HPPA.<sup>8</sup>

Eyeball tattooing is the process of permanently altering the coloration of the eyeball by injecting ink or dye directly beneath its surface; also called scleral tattooing (over the white of the eye).

**Infection risk:** The risk of eyeball tattooing is the risk of mechanical damage to the eye and the risk of infection. Because the procedure involves a small incision in the conjunctiva to inject the ink or dye, which is trapped between conjunctiva and the sclera of the eye, microorganisms could be introduced underneath the membrane, causing eye infections. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment/ink
- The client's own bacteria in the eye.
- Unclean hands touching the treated area.

Organisms known to cause bacterial and viral infections to the eye include *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Haemophilus* spp., adenovirus, and herpes virus.

#### A-12: GENITAL BEADING/PEARLING

Genital beading/pearling is a form of subdermal implant whereby small objects or beads are inserted under the skin of the genitals. Most often the items are inserted under the skin of the shaft of the penis, but in rare instances may be inserted under the skin of the labia.

**Infection risk:** The procedure is closely related to piercing. The difference is that the skin is allowed to heal over top of the inserted item (leaving the appearance of a lump or bulge), and the piercing does not pass entirely through the tissue. Similar to piercing, the risk with genital beading is that microorganisms can be introduced into the tissue beneath the site, causing a localized tissue infection, or a more widespread bloodstream infection. Another risk is that the item may be rejected by the body, which could prevent proper healing and lead to infection. Because of the proximity of the site to the mucous membranes of the urethra or vagina, there is also a risk that microorganisms could be introduced to these sites. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment (e.g., the piercing equipment, jewellery).
- The client's own bacteria on the skin at the piercing site.
- Unclean hands touching the treated area.

Microorganisms of concern include bacteria such as *Staphylococcus aureus*, *Streptococci* spp. and viruses such as human papillomavirus, hepatitis B virus, and hepatitis C virus.<sup>10</sup>

#### A-13: HAIRDRESSING

This includes hairdressing, hairstyling, barbering, and anything done to the hair of a person's head or face. Examples include cutting, colouring (e.g., dyeing, streaking, tinting, highlighting/lowlighting), styling, curling, straightening by heat or relaxant chemicals, blow drying, extensions, scalp treatments, or hair treatments (e.g., hair repair, conditioner, strengthener).

**Infection risk:** While the infection risk of barbering and hairstyling is low, procedures involving the use of a razor carry the risk of cutting the client. The open wound may allow entry of microorganisms. The potential sources of these microorganisms are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria.
- Contaminated environment.
- Unclean hands touching the cut area.

Barbering using a razor has been associated with bacterial infection (e.g., skin infections caused by *Serratia marcescens*) and viral infections (e.g., hepatitis B, hepatitis C). Transmission of an infection of methicillin-resistant *Staphylococcus aureus* onto a client's hairline through inadequately reprocessed hairdressing equipment has also been reported.<sup>72</sup>

#### A-14: HAIR REMOVAL

Hair removal is the removal of hair from virtually any skin surface (e.g., legs, arms, underarms, sideburns, chin, eyebrows, upper lip, bikini line, perianal, perineal areas, toes, back, stomach, shoulders, chest) through various procedures, including waxing, electrolysis, laser, threading, tweezing, and extraction of ingrown hairs.

**Infection risk:** See **Electrolysis, Waxing, Intense Pulsed Light, Threading, and Laser Hair Removal** for individual associated risk.

#### A-15: INTENSE PULSED LIGHT

Intense pulsed light uses high intensity pulses of visible light to improve the appearance of skin, such as acne and removal of unwanted hair.<sup>73</sup> The energy penetration and wavelength in this procedure is generally longer than that of cutaneous and diode laser systems.<sup>73</sup>

**Infection risk:** Intense pulsed light may result in various side effects, including changes in skin pigmentation, blisters, crusts and folliculitis or infection of the hair follicle.<sup>74</sup> With too much melanin in the adjacent skin, the light energy can be absorbed into the surrounding epidermis, causing epidermal damage. This is less common for intense pulsed light than for cutaneous and diode lasers.<sup>74</sup> The potential sources of infections are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria on the skin.
- Contaminated environment.
- Unclean hands touching the treated area.

Infections can be bacterial (e.g., *Mycobacterium chelonae*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*), fungal (e.g., *Candida* spp., *Aspergillus* spp.) or viral (e.g., herpes simplex virus).<sup>67</sup> Rare side effects include post-inflammatory hyperpigmentation and burns with blisters.<sup>74</sup>

## A-16: LASER HAIR REMOVAL

Laser hair removal involves a thermal injury of the hair follicle to produce long-term reduction or removal of hair.<sup>73</sup> The laser source targets the melanin in the hair shaft. The energy penetration and wavelength of cutaneous lasers is generally shorter than that of intense pulsed light.<sup>73</sup>

**Infection risk:** Laser hair removal may result in various side effects, including changes in skin pigmentation, blisters, crusts and folliculitis or infection of the hair follicle.<sup>74</sup> With too much melanin in the adjacent skin, the light energy can be absorbed into the surrounding epidermis, causing epidermal damage.<sup>74</sup> This is less common for intense pulsed light than for cutaneous and diode lasers. The potential sources of infections are:

- Contaminated or improperly reprocessed equipment.
- The client's own bacteria on the skin.
- Contaminated environment.
- Unclean hands touching the treated area.

Infections can be bacterial (e.g., *Mycobacterium chelonae*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*), fungal (e.g., *Candida* spp., *Aspergillus* spp.) or viral (e.g., herpes simplex virus).<sup>67</sup> Rare side effects include post-inflammatory hyperpigmentation and burns with blisters.<sup>74</sup>

## A-17: LASER TATTOO REMOVAL

A procedure that uses laser beams to break down tattoo ink particles by emitting a laser light spectrum appropriate to the corresponding tattoo pigment.

**Infection risk:** While laser tattoo removal is generally considered a non-invasive procedure, laser treatment may cause superficial burn wounds, blisters, or scabs. Bacterial, fungal, and viral infections can occur if the skin layer is damaged and microorganisms are introduced to the site. The potential sources of these microorganisms are:

- Use of contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin
- Unclean hands touching the treated area.

Common side effects of laser tattoo removal include pinpoint bleeding, edema, crusting of the skin and blistering.<sup>75</sup> Blisters and pinpoint bleeding are generally more common in darker skin types.<sup>76</sup> Local allergic reactions can occur in the form of papules, nodules or plaques. Rarely, systemic reactions following laser treatment of allergic tattoos have been reported. In a large prospective study of laser tattoo removal, adverse effects were observed in 6.2% of patients with hyperpigmentation.<sup>76</sup> Spot size, fluence, and pulse duration are important considerations in laser tattoo removal.

#### A-18: MAKEUP APPLICATION

Makeup is a type of cosmetic applied to a person's face. Makeup application procedures entail the use of instruments such as facial sponges, cotton balls, tissues, applicators, and brushes in the application of products such as lipstick, mascara, eye shadow, and foundation.

**Infection risk:** Makeup application can lead to infection through non-intact skin or mucous membranes. This may allow the entry of pathogenic microorganisms to the open site. The potential sources of these microorganisms are:

- Use of contaminated makeup (contamination during manufacturing or from consumer use).
- Use of contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Unclean hands touching the treatment area.

Infections can be bacterial (e.g., *Staphylococcus* spp., *Pseudomonas* spp.), fungal (e.g., *Aspergillus* spp.) or even viral (e.g., herpes simplex virus).<sup>77</sup> Contact allergy caused by ingredients in cosmetic products is also a well-known problem,<sup>77</sup> which has the potential risk of causing secondary infections.

#### A-19: MANICURE

Includes a variety of treatments of a person's fingernails/hands. These procedures entail use of instruments such as files, cuticle sticks, nail clippers/nippers, or scissors. Procedures included are applying nail polish, gel nails, acrylic nails, shellac nails; removing of gel polish; paraffin treatments, soaking; nail filing, buffing, and shaping; pushing back, softening, or cutting cuticles; hand scrub/massage; applying lotion; using pumice stick to remove calluses (see **Pedicure**).

**Infection risk:** Manicure can lead to infection through open wounds from a variety of procedures, such as cutting of the skin/cuticles and scrubbing of the skin. This may allow the entry of pathogenic microorganisms to the open site. The potential sources of these microorganisms are:

- Use of contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Manicure can lead to bacterial, fungal, or viral infections.<sup>72</sup>

#### A-20: MICRODERMABRASION

Microdermabrasion is a cosmetic procedure in which aluminum oxide crystals or other abrasive substances are blown onto the treated skin area and then vacuumed off using a single hand piece.<sup>78</sup>

**Infection risk:** After microdermabrasion, treated skin will be red and swollen, with changes to pore size and possibly skin colour.<sup>78</sup> The potential sources of infections are:

- Contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Microdermabrasion can lead to bacterial, fungal, or viral infection, or possible flare up of pre-existing herpes simplex virus.<sup>79</sup>

#### **A-21: MICROBLADING**

A semi-permanent form of eyebrow micropigmentation performed using a pen-sized blade with a tip composed of several tiny needles/blades. The pigment is applied to the site, and then pushed under the skin manually using the microblade.

**Infection risk:** The infection risk with microblading is that microorganisms are introduced under the skin during the procedure, causing either a localized skin infection or a more serious bloodstream infection.<sup>80</sup> The potential sources of these microorganisms are:

- Contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

While infection risk specific to microblading is limited in the literature, due to penetration of the microblade into the skin the risk is expected to be similar to that of tattooing/micropigmentation.<sup>80</sup>

#### **A-22: MICRONEEDLING**

Microneedling (sometimes called mesotherapy) is performed using a motorized pen-style device or a manual roller-style device with many needles mounted to its surface. A series of small needles are used to create tiny puncture holes in the skin, triggering the production of collagen and elastin. It is used primarily to treat scars or stretch marks, but may also be used to deliver pharmaceutical or cosmetic products into the skin.

**Infection risk:** The risk of infection depends on the length of the needles being used (needles range in length from 0.25 mm to 3 mm) and the thickness of the skin at the treatment site. Although rare, infections can occur.<sup>81,82</sup> The potential sources of infections are:

- Contaminated and/or improperly reprocessed equipment (e.g., if a contaminated cosmetic product is applied in conjunction with the needling).
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

#### **A-23: MICROPIGMENTATION**

A method of colouring the skin designed to mimic the effect of makeup; can be referred as permanent or semi-permanent makeup.

**Infection risk:** Similar to tattooing, micropigmentation uses a needle to deliver pigmentation underneath the skin. Therefore, infection risks are similar to tattooing (see **Tattooing**).

#### **A-24: MUD BATH**

Mud baths involve immersion of the body or a part of the body into a container or tub filled with mud.

**Infection risk:** To estimate the risk of infection by a mud bath, one study analyzed<sup>46</sup> mud samples before and<sup>76</sup> after for fecal and total coliforms. Infections can be bacterial (e.g., *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*) or fungal (e.g., *Candida* spp., *Aspergillus* spp.). *Pseudomonas aeruginosa* was found in 11% of samples in both groups. Fecal bacteria or fungi in mud baths are unlikely to be swallowed and therefore are unlikely to cause further harm.<sup>83</sup>

#### **A-25: PARAFFIN WAX TREATMENT (SEE MANICURE)**

#### **A-26: PEARLING (SEE GENITAL BEADING/PEARLING)**

#### **A-27: PIERCING (SEE BODY PIERCING OR EARLOBE PIERCING)**

#### **A-28: PEDICURE**

Includes a variety of treatments of a person's toenails/feet. These procedures entail the use of instruments such as files, cuticle sticks, and nail clippers or scissors. Procedures included are applying nail polish, gel nails, acrylic nails, shellac nails; removing of gel polish; soaking; nail filing, buffing, and shaping; pushing back, softening, or cutting cuticles; foot scrub/massage; applying lotion; and using a pumice stick to remove calluses (see **Manicure**).

**Infection risk:** Pedicure can lead to infection from open wounds resulting from a variety of procedures, such as cutting of the skin/cuticles and scrubbing of the skin. This may allow the entry of pathogenic microorganisms to the open site. The potential sources of these microorganisms are:

- Contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Pedicure can lead to bacterial, fungal, or viral infections. More specifically, nail bed infections and mycobacteria outbreaks have been reported related to the use of footbaths.<sup>72</sup> Also, nail dust may aerosolize fungus and body fluid particles when using a rotary tool during nail care, increasing the risk of infection.

## A-29: SCARIFICATION

The removal or destruction of skin with the intention of causing or increase levels of scarring. It may involve the action of cutting, scratching or burning/branding.

**Infection risk:** Scarification involves a range of procedures. Branding can lead to the same risks associated with any third-degree burns; cutting can lead to open-wound infections similar to any incision procedure. Infections can occur when pathogenic microorganisms enter the open skin wound site.<sup>67,69</sup> The potential sources of these microorganisms are:

- Contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Infections can be bacterial (e.g., *Staphylococcus* spp., *Pseudomonas* spp.), fungal (e.g., *Candida* spp., *Aspergillus* spp.), or even viral (e.g., herpes simplex virus).<sup>67,69</sup> These infections can be superficial, affecting the skin areas only, or they can go deeper, into the muscles, tissues and body organs. Invasion of microorganisms into the tissue layer under the skin can cause more severe complications, such as bloodstream infections and even organ dysfunctions.<sup>67</sup>

## A-30: SKIN STRETCHING

Also known simply as stretching, this is the process of expanding a healed piercing hole by increasing the size of piercing jewellery in small increments over a long period (one to two months between sizes) until the desired size is reached. It is commonly performed on earlobes.

**Infection risk:** Considered a non-invasive procedure, skin stretching, if done properly, does not create openings in the skin and thus involves minimal risk of infection. Problems arise when the skin is stretched too quickly, which can result in tearing and wound creation. If this happens, infection can occur. The potential sources of infections are:

- Contaminated and/or improperly reprocessed equipment (e.g., taper, piercing jewellery).
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

## A-31: SUBDERMAL IMPLANT

A foreign object inserted under the skin. Intended to be permanent, these objects can take the form of magnets, metal shapes, etc. Implanting an object under the skin risks serious infection if the object is not sterile and/or not inserted using sterile procedures.

**Infection risk:** This procedure is closely related to piercing, with the added risk of complications associated with the choice/size of implanted material. Subdermal implants look extreme, but the

procedure is to involve very little tissue damage. The small incision in the skin allows the item/material to be pushed underneath the skin, above the underlying flesh. The risk is that microorganisms may be introduced underneath the skin.

The potential sources of these microorganisms are:

- Contaminated and/or improperly reprocessed equipment. (e.g., scalpel blade, forceps)
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Organisms of concern include bacteria such as *Staphylococcus aureus*, *Streptococci* spp., and viruses such as hepatitis B and hepatitis C.<sup>10</sup>

#### A-32: SUSPENSION

A procedure involving insertion of hooks through either previously implanted piercings, or temporarily through the skin itself. The hooks are then used to raise the person off the ground. The hooks used for suspension are larger than a standard piercing.

**Infection risk:** Suspension involves a risk of infection similar to a large piercing. For piercings, the risk is that pathogenic microorganisms will infiltrate the tissue under the skin at the piercing site and cause an infection. The potential sources of these microorganisms are:

- Contaminated and/or improperly reprocessed equipment (e.g., suspension hooks).
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

For suspension, there is also the risk that the weight of the client's body will cause the skin to tear, leading to a much larger wound. In this case, proper wound care is essential to prevent contamination of the site and subsequent infection.

#### A-33: TATTOOING

Tattooing involves inserting needles into the skin and injecting dyes or inks.

**Infection risk:** Tattooing induces physical damage to the skin, which may cause or promote infections if microorganisms are introduced under the skin during the process. The potential sources of microorganisms include:

- Tap water used to dilute the ink.
- Contaminated and/or improperly reprocessed equipment or ink
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

Potential infections can be caused by bacteria (e.g., *Mycobacterium* spp. or *Staphylococcus aureus*), fungi (e.g., *Candida endophthalmitis*), or even viruses (e.g., human immunodeficiency virus [HIV], hepatitis B virus, hepatitis C virus).<sup>76</sup> There have been outbreaks of bacterial infection (non-tuberculous mycobacterial) caused by ink that was contaminated prior to distribution. Such bacterial infection can cause several diseases such as lung disease, joint infection, eye problems, and other organ infections.<sup>84</sup>

#### A-34: THREADING

Threading is a form of epilation (removal of the entire hair by the root). The technique involves rapidly rotating a twisted loop of thread across the skin to entrap and rapidly remove single or multiple hairs.<sup>85</sup>

**Infection risk:** The dermatologic side effects of threading include folliculitis, pseudofolliculitis, molluscum contagiosum, bullous impetigo, hyperpigmentation, and vitiligo koebnerization. There have been case reports linking human papilloma virus verrucous growths to threading.<sup>85</sup> The potential sources of microorganisms include:

- Contaminated and/or improperly reprocessed equipment.
- Contaminated environment.
- Client's own bacteria on the skin.
- Unclean hands touching the treatment area.

The significance of proper technique, disposable threads and disinfection of reusable materials is emphasized to reduce the risk of infection and ensure client safety.

#### A-35: TONGUE SPLITTING

Tongue splitting is also called tongue bifurcation. A scalpel or blade is used to bifurcate (partially split, or fork) the tongue, creating an effect similar to a reptile's tongue.

**Infection risk:** While infection risk specific to tongue splitting is limited in the literature, the risks of complications from surgical incision procedures are well documented. As with any incision wound, procedures such as tongue splitting can lead to infection if pathogenic microorganisms are introduced into the wound. The potential sources of these microorganisms are:

- Contaminated and improperly disinfected equipment.
- Contaminated environment.
- Client's own bacteria that spread to the wound.
- Unclean hands touching the treatment area.

Bacterial infections are commonly caused by *Staphylococcus* spp., *Streptococcus* spp. and *Pseudomonas* spp. These infections can be superficial in the skin, or they can get deeper into the muscles, tissues, and body organs (e.g., endocarditis).<sup>69</sup>

#### A-36: WAXING

Waxing involves the use of warm wax (or sugar) applied to the skin with a single-use applicator (e.g., cloth strip, spatula, roller cartridge). A disposable cloth strip is pressed onto the wax and rapidly pulled away from the skin to remove the hairs.<sup>86</sup>

**Infection risk:** Waxing may result in compromised skin and increased risk of mucous membrane exposure, heightening the risk of infection. The potential sources of infections are:

- Contaminated and improperly disinfected equipment (e.g., product contamination).
- Contaminated environment.
- Client's own bacteria that spread to the wound.
- Unclean hands touching the treatment area.

Infections can be bacterial (e.g., *Staphylococcus aureus*, *Streptococcus pyogenes*, *Pseudomonas aeruginosa*), fungal (e.g., *Candida* spp., *Aspergillus* spp.), or viral (e.g., herpes simplex virus).<sup>86</sup> An outbreak of methicillin-resistant *Staphylococcus aureus* (MRSA) infection has also been reported. Personal service providers are to inform clients about the risks of waxing when taking anti-acne medication, as this may increase risk of infection by damaging the skin and potentially removing the epidermis (top layer of the skin).

## Appendix B: How to Handrub Poster

# How to handrub

Rub hands for 15 seconds

- 1 Apply 1 to 2 pumps of product to palms of dry hands.
- 2 Rub hands together, palm to palm.
- 3 Rub in between and around fingers.
- 4 Rub back of each hand with palm of other hand.

Rub hands for 15 seconds

- 5 Rub fingertips of each hand in opposite palm.
- 6 Rub each thumb clasped in opposite hand.
- 7 Rub hands until product is dry.  
Do not use paper towels.
- 8 Once dry, your hands are safe.

 JUST CLEAN YOUR HANDS

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A downloadable version of this poster is available at [Public Health Ontario's website](#).

## Appendix C: How to Handwash Poster

# How to handwash

Lather hands for 15 seconds

1 Wet hands with warm water.

2 Apply soap.

3 Lather soap and rub hands palm to palm.

4 Rub in between and around fingers.

5 Rub back of each hand with palm of other hand.

6 Rub fingertips of each hand in opposite palm.

7 Rub each thumb clasped in opposite hand.

8 Rinse thoroughly under running water.

9 Pat hands dry with paper towel.

10 Turn off water using paper towel.

11 Your hands are now safe.

**JUST CLEAN YOUR HANDS**

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 Ontario

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# Appendix D: Recommended Steps for Putting On and Taking Off Personal Protective Equipment in Personal Service Settings

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Adapted from: Public Health Ontario's [Lanyard Cards – Personal Protective Equipment \(PPE\)](#).  
See [chapter 2.5, Personal Protective Equipment](#) for more detailed instructions.

## **1** PERFORM HAND HYGIENE



## **2** PUT ON GOWN OR ARM BARRIER



## **3** PUT ON MASK OR N95 RESPIRATOR



## **4** PUT ON EYE PROTECTION



## **5** PUT ON GLOVES



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# **1 REMOVE GLOVES**



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# **2 REMOVE GOWN OR ARM BARRIER**



---

# **3 PERFORM HAND HYGIENE**



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# **4 REMOVE EYE PROTECTION**



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# **5 REMOVE MASK OR N95 RESPIRATOR**



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# **6 PERFORM HAND HYGIENE**



# Appendix E: Disinfectant Tables

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The most commonly used disinfectants in PSS, along with their contact times and advantages/disadvantages are listed below.<sup>15</sup> This is not an exhaustive list of disinfectants. It is recommended that assessments of products not on this list be made by PSS operators in consultation with the local public health unit and are to depend on an assessment of product efficacy, contact time, intended use, and presence of a DIN or NPN, as applicable. See [chapter 4.6, Disinfection](#).

## Level of Disinfection: High

Destroys or irreversibly inactivates all microbial pathogens (bacteria, fungi, and viruses), but not necessarily large numbers of bacterial spores. **When to Use:** Use on semi-critical items and items that hold, manipulate, or contact critical items.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:10 chlorine bleach solution <sup>*</sup> (1 part bleach and 9 parts water); 5,000 parts per million	10 minutes	Inexpensive, fast-acting	Extremely corrosive to metal; may destroy adhesives with prolonged soaking; solution is to be made daily; inactivated by organic material
≥6% hydrogen peroxide (enhanced action formulation)	20 – 30 minutes (follow manufacturer's instructions)	Inexpensive, fast-acting, environmentally friendly, no residue	Is to be stored in a cool place; protect from light; oxidizing properties may be destructive to some equipment (brass, zinc, copper and nickel/silver)
2% hydrogen peroxide (enhanced action formulation)	5 – 8 minutes (follow manufacturer's instructions)	Inexpensive, fast-acting, environmentally friendly, non-toxic, active in the presence of organic materials	May be destructive to some equipment (copper, brass, carbon-tipped devices, anodized aluminum)
0.55% ortho-phthalaldehyde	10 minutes (follow manufacturer's instructions)	Fast-acting, no mixing needed, active in the presence of organic materials	Stains proteins

<sup>\*</sup>Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

## Level of Disinfection: Intermediate

Destroys vegetative bacteria, mycobacteria, most viruses, and most fungi but not bacterial spores.

**When to Use:** Use on non-critical items that require intermediate-level disinfection.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:50 chlorine bleach solution <sup>‡</sup> (1 part bleach and 49 parts water); 1,000 parts per million	10 minutes	Inexpensive; fast-acting	Corrodes metal; may destroy adhesives with prolonged soaking; solution is to be made daily; inactivated by organic material
70 – 90% ethyl or isopropyl alcohol	10 minutes	Fast-acting; leaves no residue	Can damage rubber and plastics; flammable; evaporates quickly
0.5% hydrogen peroxide (enhanced action formulation) with efficacy claims against tuberculosis (TB) or mycobacteria	3 – 5 minutes (follow manufacturer's instructions)	Inexpensive; fast-acting; environmentally friendly; non-toxic; active in the presence of organic materials; available in a wipe; cleans and disinfects	May be destructive to some equipment (copper, brass, carbon-tipped devices, anodized aluminum)

<sup>‡</sup>Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

## Level of Disinfection: Low

Destroys vegetative bacteria and some fungi and viruses but not mycobacteria or spores.

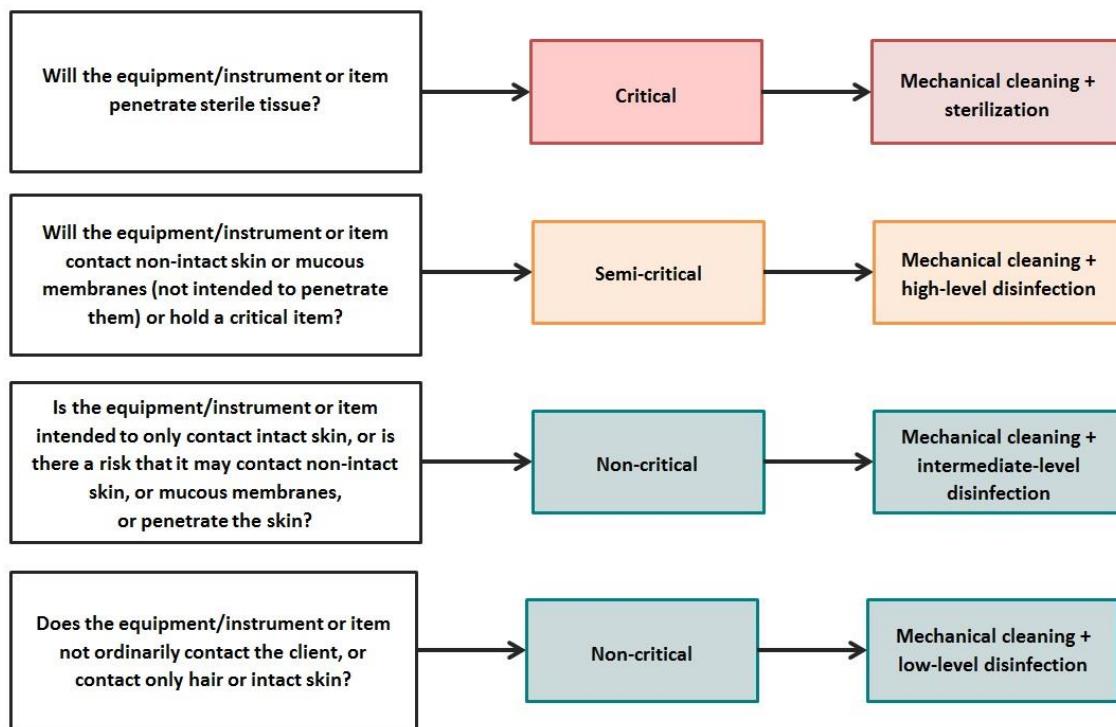
**When to Use:** Use on non-critical items that require low-level disinfection and environmental surfaces.

Disinfectant Active Ingredients	Contact Times (Approximately)	Advantages	Disadvantages
1:500 chlorine bleach solution <sup>‡</sup> (1 part bleach and 499 parts water); 100 parts per million	10 minutes	Inexpensive; fast-acting	Corrodes metal; may destroy adhesives with prolonged soaking; solution is to be made daily
Quaternary ammonium	10 minutes (follow manufacturer's instructions)	Good cleaning agent for environmental surfaces	Limited use as disinfectant because of narrow microbiocidal spectrum; not recommended as an antiseptic
3% hydrogen peroxide	10 minutes	Inexpensive; fast-acting; environmentally friendly	Oxidizing properties may be destructive to some equipment (brass, zinc, copper and nickel/silver)
0.5% hydrogen peroxide (enhanced action formulation)	Follow manufacturer's instructions	Inexpensive; fast-acting; environmentally friendly; non-toxic; active in the presence of organic materials; available in a wipe; cleans and disinfects	May be destructive to some equipment (copper, brass, carbon-tipped devices and anodized aluminum)
Phenols	Follow manufacturer's instructions	Easy to obtain; cleans and disinfects	Residual phenols on porous materials may cause tissue irritation even when thoroughly rinsed; for environmental surfaces only

<sup>‡</sup>Based on regular household bleach solution of 5.25% sodium hypochlorite solution (50,000 parts per million available chlorine).

# Appendix F: Algorithm for Level of Reprocessing for Equipment and Instruments

Adapted from British Columbia Ministry of Health, Health Protection Branch document *Guidelines for Personal Service Establishments*.<sup>87</sup>



Examples of levels of reprocessing required based on classification of equipment and instruments:

- Tattoo, piercing, or electrolysis needles. Because these needles are designed to penetrate the skin, they are classified as **critical** and are to be **sterilized**. It is recommended these items be purchased as pre-sterilized, single use and disposable.
- Tweezers used to expose and remove ingrown hairs. Because these tweezers are in contact with non-intact skin, they are classified as **semi-critical** and require cleaning followed by **high-level disinfection**.
- Nail clippers or nippers. Because these items are designed to trim nails and cuticles but may accidentally penetrate the skin, they are classified as **non-critical, (intermediate-level disinfection)**, and require cleaning followed by **intermediate-level disinfection**.
- Hair-cutting scissors. Because these items are designed to only contact hair and sometimes intact skin, they are classified as **non-critical (low-level disinfection)**, and require cleaning followed by **low-level disinfection**. Although the instrument is non-critical, if the scissors come into contact with non-intact skin, mucous membranes, or penetrate the skin, the instrument becomes **non-critical (intermediate-level disinfection)**, requiring cleaning followed by **intermediate-level disinfection**.

## Appendix G: Examples of Single-Use/Disposable/Single-Client Items by Personal Service

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These items are to be disposable, single-use only (items cannot be properly disinfected between uses or it is unsafe to do so).

Personal Service	Items
Body piercing and body modification	<ul style="list-style-type: none"><li>• Biopsy tools*</li><li>• Closed-ended receiving tools</li><li>• Disposable clamps and forceps</li><li>• Dermal punch*</li><li>• Electrocautery/cautery tip*</li><li>• Implants (silicone, magnetic)*</li><li>• Jewellery (stud earring, hoop, ball or screw)*</li><li>• Marking pen or toothpick</li><li>• Needles and cannulas*</li><li>• Ointment applicators</li><li>• Single-use personal protective equipment (gloves, masks, gowns, eye protection)</li><li>• Receiving cork</li><li>• Scalpel blades for body modification, such as scarification, implants and surface dermals*</li><li>• Swab used to apply skin antiseptic</li></ul>
Earlobe piercing	<ul style="list-style-type: none"><li>• Cartridge*</li><li>• Marking pen or toothpick</li><li>• Opened piercing jewellery (i.e., if a single earring of a pair is used, the second earring is to be given to client or discarded and is not to be reused)</li><li>• Opened unpackaged jewellery*</li><li>• Single-use PPE (gloves, masks, gowns, eye protection)</li><li>• Single-use stud holder*</li><li>• Swab used to apply skin antiseptic and ointments</li></ul>

Personal Service	Items
Electrolysis and hair removal (including waxing)	<ul style="list-style-type: none"> <li>• Electrolysis needles*</li> <li>• Eyebrow razors</li> <li>• Eyebrow-threading threads</li> <li>• Lancets and needles used to remove ingrown hairs*</li> <li>• Roll-on wax cartridges (to be given to client or discarded after use and not be reused)</li> <li>• Single-use PPE (gloves, masks, gowns, eye protection)</li> <li>• Single use removable tip/cap</li> <li>• Swab/applicators used to apply skin antiseptic and ointments</li> <li>• Paper (used to cover the waxing bed and table)</li> <li>• Plastic sheaths (used to cover cords)</li> <li>• Waxing applicator sticks</li> <li>• Waxing strips</li> </ul>
Hairdressing and barbering	<ul style="list-style-type: none"> <li>• Applicator used to apply styptic powder or liquid to stop bleeding</li> <li>• Gloves</li> <li>• Hair threading or weaving needles</li> <li>• Neck strip</li> <li>• Single-use crochet hooks for cap highlights</li> <li>• Single-use disposable razors and/or blades</li> <li>• Styptic products</li> </ul>
Manicure, pedicure and nail treatments	<ul style="list-style-type: none"> <li>• Abrasive pads for removing calluses</li> <li>• Buffing blocks</li> <li>• Callus blades (credo blades)</li> <li>• Emery boards (paper or foam)</li> <li>• Foam flip flops</li> <li>• Orange or wood sticks</li> <li>• Pumice stones</li> <li>• Single-use PPE (gloves, masks, gowns, eye protection)</li> <li>• Sponges</li> <li>• Toe separators</li> </ul>

Personal Service	Items
Tattooing and micropigmentation	<ul style="list-style-type: none"> <li>• Bandages to cover tattoos</li> <li>• Cups and liquids used for rinsing between colours</li> <li>• Disposable ink caps (see <a href="#">chapter 5.5, Safe Use and Storage of Products Used on Client</a>)</li> <li>• Elastic bands used on equipment or instruments</li> <li>• Lubricant applicators</li> <li>• Needles (purchased pre-packaged or after needles attached to needle bar on site (i.e., soldering))*</li> <li>• Needle cartridges*</li> <li>• Plastic sheaths (used to cover the tattoo machine, cords, power supply, bottles)</li> <li>• Purchased pre-packaged sterile needles*</li> <li>• Razors</li> <li>• Rinsing cups</li> <li>• Single-use needle bars</li> <li>• Single-use PPE (gloves, masks, gowns, eye protection)</li> <li>• Stencils</li> <li>• Swabs used to apply skin antiseptic</li> <li>• Top hat grommet</li> <li>• Water mixed with tattoo inks</li> <li>• Wipes, tissues, and dental bibs used during procedure</li> </ul>
Other personal services (e.g., makeup, facials, tinting, eyelash extensions, colonics, floatation)	<ul style="list-style-type: none"> <li>• Applicators for tint, makeup, and ointment</li> <li>• Bags used for paraffin wax treatments</li> <li>• Colonic speculum and tubing (both waste and water)</li> <li>• Ear plugs</li> <li>• Lancets or needles used for facial extraction*</li> <li>• Microblades*</li> <li>• Microneedle rollers*</li> <li>• Paraffin wax and waxing applicators</li> <li>• Single-use PPE (gloves, masks, gowns, eye protection)</li> <li>• Slippers or foot covers for client during procedure</li> <li>• Unused decanted products (e.g., lotions, creams, wax, eye lashes, makeup)</li> </ul>

\*These items are to be sterile prior to use (packaged sterile or sterilized on-site).

## Appendix H: Classes of Equipment and Instruments

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Item Classification	Critical	Semi-critical (or Items That Hold/Contact Critical Items)	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
Method of reprocessing	Sterilization	High-level disinfection	Intermediate-level disinfection	Low-level disinfection
Definition	Equipment and instruments or items that penetrate the skin or enter sterile tissue. Also, some other tattoo, piercing, or body-modification equipment with high risk of transmission if contaminated.	Equipment and instruments or items that contact mucous membranes or non-intact skin (i.e., skin that has been compromised in some way, such as cracked, chapped, with cuts, abraded, or with a rash), but do not ordinarily penetrate the skin. Also includes items that hold, manipulate or contact critical items.	Equipment and instruments or items that are intended to contact only intact skin, but that may accidentally come into contact with non-intact skin or mucous membranes, or penetrate the skin.	Equipment and instruments or items that do not directly contact the client, or contact only hair or intact skin.
Rationale	These items present a high risk of transmission of microorganisms if contaminated.	These items contact areas where the level of protection is less than that of intact skin. Also, items that hold or contact critical items could lead to transmission of microorganisms if cross-contamination occurs.	These items present a higher risk of transmission of microorganisms than other non-critical items.	These items present a low risk of transmission of microorganisms.

# Appendix I: Examples of Reusable Equipment and Instruments by Personal Service

Personal Service	Critical	Semi-critical	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
<b>Body modification and suspension</b> (e.g., scarification, branding, ear shaping, implants)	<ul style="list-style-type: none"> <li>Dermal anchor tools</li> <li>Dermal drivers/anchors</li> <li>Forceps</li> <li>Retractors</li> <li>Reusable clamps</li> <li>Reusable scalpel handles</li> <li>Skin elevators</li> <li>Strike branding metal strips</li> <li>Suspension hooks</li> </ul>	<ul style="list-style-type: none"> <li>Any equipment, instrument or item used to hold a sterile strike branding metal strip or electrocautery/cautery tip</li> <li>Suspension rig</li> </ul>		<ul style="list-style-type: none"> <li>See <a href="#">chapter 3, Managing the Environment</a> for tables, chairs, beds</li> <li>Rigid containers used to hold dirty equipment until reprocessing (at end of day)</li> <li>Service trays<sup>f</sup></li> </ul>
<b>Body piercing</b>	<ul style="list-style-type: none"> <li>All forceps and clamps</li> <li>All jewellery used for initial piercing and jewellery purchased in bulk</li> <li>All tapers</li> <li>Open-ended receiving tubes</li> <li>Ring-opening and ring-closing pliers</li> </ul>	<ul style="list-style-type: none"> <li>Needle pushers</li> <li>Scissors used to cut cannulas (insertion tubes)</li> </ul>	<ul style="list-style-type: none"> <li>All calipers</li> <li>Jewellery (when replacing piercing jewellery on completely healed piercings)</li> </ul>	<ul style="list-style-type: none"> <li>See <a href="#">chapter 3, Managing the Environment</a> for tables, chairs, beds</li> <li>Rigid containers used to hold dirty equipment until reprocessing (at end of day)</li> <li>Service trays<sup>f</sup></li> </ul>

Personal Service	Critical	Semi-critical	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
<b>Earlobe piercing</b>	<ul style="list-style-type: none"> <li>• Jewellery for initial piercings</li> </ul>		<ul style="list-style-type: none"> <li>• Mechanical earlobe-piercing device that holds a single-use, disposable sterile cartridge (systems that use stud adaptor and clasp retainer are not recommended but if used, stud holder and clasp retainer are to be sterile, single-use, disposable)</li> </ul>	<ul style="list-style-type: none"> <li>• See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>• Rigid containers used to hold dirty equipment until reprocessing (at end of day)</li> <li>• Service trays<sup>f</sup></li> </ul>
<b>Electrolysis and hair removal</b> (waxing and laser)		<ul style="list-style-type: none"> <li>• Any equipment, instrument or item used to hold, manipulate or contact a sterile needle</li> <li>• Needle/probe holder or permanent attached pin device</li> <li>• Removable tip/cap (single-use or high-level disinfection after each use)</li> <li>• Tweezers used to expose ingrown hairs</li> </ul>	<ul style="list-style-type: none"> <li>• Laser heads, tips and wands</li> <li>• Scissors used to cut hair<sup>ff</sup></li> <li>• Tweezers used to remove hair from the hair follicle</li> <li>• UV eye goggles for multiple-client use</li> </ul>	<ul style="list-style-type: none"> <li>• See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>• Containers used to hold sterile packaged tweezers or other sterile equipment or instruments</li> <li>• Electrolysis electrodes and sponge covers (if used)</li> <li>• Epilator foot-operating switches and cords</li> <li>• Epilator cord and control panel that comes in contact with client's skin or is handled by worker<sup>f</sup></li> <li>• Laser exterior power switches/touch screen/cables<sup>f</sup></li> </ul>

Personal Service	Critical	Semi-critical	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
				<ul style="list-style-type: none"> <li>• Magnifying glass and arm/ reusable magnifying goggles handled by worker</li> <li>• Rigid containers used to hold dirty equipment until reprocessing (at end of day)</li> <li>• Scissors used to cut hair</li> <li>• Scissors used to cut single-use wax strips</li> <li>• Service trays<sup>f</sup></li> </ul>
<b>Hairdressing and barbering</b>			<ul style="list-style-type: none"> <li>• Crochet hooks used for cap highlights<sup>ff</sup></li> <li>• Hair clipper blades<sup>ff</sup></li> <li>• Hair scissors<sup>ff</sup></li> </ul>	<ul style="list-style-type: none"> <li>• See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>• Colour mixing bowls (if reusable)</li> <li>• Combs, brushes</li> <li>• Crochet hooks used for cap highlights</li> <li>• Disinfectant containers holding instruments</li> <li>• Hair clipper blades</li> <li>• Hair clipper guards and shaver guards</li> <li>• Hair rollers, clips and caps</li> <li>• Hair scissors</li> <li>• Handles for hairstyling razors</li> </ul>

Personal Service	Critical	Semi-critical	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
				<ul style="list-style-type: none"> <li>Handles and cradles for shaving razor used on skin</li> </ul>
<b>Manicure, pedicure and nail treatments</b>		<ul style="list-style-type: none"> <li>Grater-style foot files</li> </ul>	<ul style="list-style-type: none"> <li>Acrylic tip cutter</li> <li>Cuticle scissors, nippers, pushers, scrapers and cutters</li> <li>Diamond drill bit for acrylic nails</li> <li>Foot files with removable adhesive/abrasive stickers or metal foot files</li> <li>Metal, diamond or glass nail files</li> <li>Nail-cleaner scoops</li> <li>Nail clippers</li> <li>Recirculating foot tub or footbath</li> <li>Reusable metal dremel bit</li> </ul>	<ul style="list-style-type: none"> <li>See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>Callus blade (credo blade) holders</li> <li>Dremel handle</li> <li>Flip flops or slippers for multiple-client use (may be laundered if applicable: i.e., cloth slippers, not foam slippers)</li> <li>Manicure bowls and trays</li> <li>Nail-drying stations, tables</li> <li>Tweezers for applying nail art</li> <li>UV and LED curing light</li> </ul>
<b>Tattooing and micropigmentation</b>	<ul style="list-style-type: none"> <li>Reusable ink caps (e.g., metal ink caps)</li> <li>Tattoo grips, tubes and tips</li> </ul>			<ul style="list-style-type: none"> <li>See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>Clip cord<sup>‡</sup></li> <li>Contact screws<sup>‡</sup></li> <li>Rigid containers used to hold dirty equipment until reprocessing (at end of day)</li> </ul>

Personal Service	Critical	Semi-critical	Non-critical, Intermediate-Level Disinfection	Non-critical, Low-Level Disinfection
				<ul style="list-style-type: none"> <li>• Scissors used to cut bandages</li> <li>• Service trays<sup>f</sup></li> <li>• Spray bottles<sup>f</sup></li> <li>• Tattoo machine and controls<sup>f</sup></li> <li>• Tube clamp<sup>f</sup></li> </ul>
<b>Other personal services</b> (e.g., makeup, facials, tinting, eyelash extensions, colonics, floatation)		<ul style="list-style-type: none"> <li>• Equipment used for facials that contacts non-intact skin (e.g., acne treatments, microdermabrasion)</li> <li>• Microblade handles</li> <li>• Microneedle roller handles</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment used for facials that contacts intact skin</li> <li>• Tweezers to apply fake lashes</li> </ul>	<ul style="list-style-type: none"> <li>• See <a href="#">chapter 3, Managing the Environment</a>, for tables, chairs, beds</li> <li>• Facial steamer machine and reservoir</li> </ul>

<sup>f</sup> If covered with a sheath/cover during use; if not, reprocess as a Non-critical, Intermediate-Level Disinfection item as long as it can be easily or adequately cleaned and disinfected between each use.

<sup>ff</sup> This increased level of disinfection is required if instruments nick the skin.

# Glossary of Terms Used in this Guideline

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**Administrative controls:** Measures put in place to reduce the risk of infection to workers or to clients (e.g., infection prevention and control policies/procedures, education/training, supervision).

**Alcohol-based hand rub (ABHR):** A liquid, gel, or foam formulation of alcohol (e.g., ethanol) used to reduce the number of microorganisms on hands when the hands are not visibly soiled. Preferred alcohol-based hand rub products contain 70 – 90% alcohol.

**Applicator:** A device for applying a substance (e.g., single-use disposable spatulas, wooden stir sticks, or similar devices).

**Bacteria:** Microorganisms that may cause disease in plants, animals, or humans.

**Biological indicator (BI) (see Spore test):** A test system containing viable microorganisms (e.g., spore-laden strips, vials) providing a defined resistance to a specified sterilization process.

**Biomedical waste:** Waste such as human anatomical waste; human liquid blood and blood products; body fluids; waste visibly contaminated with blood and oozing if compressed; and sharps from a personal service setting. Biomedical waste requires treatment prior to disposal in landfill sites or sanitary sewer systems. Disposal is to be based on provincial and municipal regulations and legislation.

**Blood-borne infections (BBI):** Infections (e.g., hepatitis B, hepatitis C, human immunodeficiency virus [HIV]) that are spread through contaminated blood or body fluids.

**Body fluid:** Fluid from a human body, including, but not limited to, blood, semen, urine, vomit, saliva, and sputum.

**Bowie-Dick Test:** A test that determines whether a dynamic air removal-type sterilizer has properly evacuated the air from the load unlike integrators (Type 5 indicator) which provide information about the conditions (time, temperature, sterilant concentrations, relative humidity) necessary to destroy micro-organisms.

**Canadian Standards Association (CSA) Group:** An independent, impartial organization that develops standards and codes for a variety of sectors and industries, including standards for various components of reprocessing of devices, such as cleaning, disinfection, sterilization, and storage. A standard or code becomes law only if it is referenced in legislation.

**Chemical indicator:** A system that reveals a change in one or more predefined process variables based on a chemical or physical change resulting from exposure to the process.

**Cleaner:** See Detergent.

**Cleaning:** The physical removal of foreign material (e.g., dust, dirt, grime) and/or organic material (e.g., blood and/or other body fluids, microorganisms). Cleaning is accomplished with water, detergents, and mechanical action (e.g., friction).

**Contact time:** The length of time a disinfectant drug is to be in contact with a target surface or device to achieve the desired efficacy result.

**Critical equipment and instruments:** Equipment, instruments, and items that penetrate the skin or mucous membranes to enter normally sterile tissue, or have direct contact with the bloodstream. Critical items present a high risk of infection if they are contaminated with microorganisms. As a result, they are expected to be sterile.

**Cross-contamination:** The transfer of microorganisms from one substance or object to another.

**Detergent:** A cleansing agent (liquid or powder) that can emulsify oil and suspend soil, and that removes dirt from equipment and instruments.

**Disinfectant:** A product that is used on surfaces or equipment and instruments to result in disinfection of the surfaces or equipment and instruments.

**Disinfection:** A process that kills or destroys most disease-producing micro-organisms, with the exception of high numbers of bacterial spores. There are different levels of disinfection.

Equipment/instrument is to be cleaned thoroughly before effective disinfection can take place. See Disinfectant.

**Drug identification number (DIN):** In Canada, low-level and intermediate-level disinfectants are regulated as drugs under the Food and Drugs Act and regulations. Prior to marketing a disinfectant, manufacturers are to obtain a drug identification number (DIN) from Health Canada, which ensures that labelling and supporting data have been provided, and that the disinfectant has undergone and passed a review of its formulation, labelling, and instructions for use.

**Engineering controls:** Physical or mechanical measures put in place in design and/or infrastructure of a setting to reduce the risk of infection to workers or clients (e.g., room design, placement of hand washing sinks, alcohol-based hand rub).

**Enzymatic cleaner:** A pre-cleaning solution that contains protease enzymes to break down the proteins in organic material. Most enzymatic cleaners also contain a detergent. Enzymatic cleaners are used to loosen and dissolve organic substances such as blood and/or other body fluids prior to cleaning.

**Equipment/instrument:** Any item used during the process of carrying out personal services.

**Event-related sterility:** The concept that equipment and instruments that have been decontaminated, wrapped, sterilized, stored, and handled properly will remain sterile indefinitely unless the integrity of the package is compromised (e.g., open, wet, dirty).

**Eye protection:** A device that covers the eyes and is used by workers to protect their eyes when it is anticipated that a procedure or activity is likely to generate splashes or sprays of blood and/or other body fluids, chemicals, or debris. Eye protection includes safety glasses, safety goggles, face shields, and visors. Eye protection (e.g., UV goggles) may be required to be worn by clients during some procedures (e.g., laser hair removal).

**Facial protection:** Personal protective equipment that protects the mucous membranes of the eyes, nose, and mouth from splashes or sprays of blood and/or body fluids.

**Floatation tanks:** See **Immersion therapies**.

**Hand hygiene:** A general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands. Hand hygiene may be accomplished by using an alcohol-based hand rub or, if hands are visibly soiled, by using soap and running water.

**Hand washing:** The physical removal of soil and microorganisms from the hands using plain liquid soap and running water.

**Health hazard:** a) A condition of a premise, b) a substance, thing, plant or animal other than man, or c) a solid, liquid, gas or combination of any of them, that has or is likely to have an adverse effect on the health of any person.

**Hepatitis B:** A blood-borne infection of the liver caused by the hepatitis B virus. Hepatitis B virus can survive in dried blood for long periods (weeks) and remain stable on environmental surfaces for at least 7 days at 25°C.

**Hepatitis C:** A blood-borne infection of the liver caused by the hepatitis C virus. Hepatitis C virus can survive on environmental surfaces and other equipment and instruments used in a personal service setting for up to 3 weeks.

**High-level disinfectant:** A substance, or mixture of substances, capable of destroying or irreversibly inactivating all microbial pathogens, but not necessarily large numbers of bacterial spores. A high-level disinfectant may be recommended for the disinfection of non-critical medical devices, environmental surface and inanimate objects, or for the reprocessing of reusable semi-critical medical devices. When represented for the reprocessing of reusable semi-critical medical devices, a high-level disinfectant is required to demonstrate the same efficacy as a sterilant, but within a shorter contact time.

**High-level disinfection:** The method of disinfection required for all semi-critical items at a minimum. It is used for equipment and instruments or items that contact mucous membranes or non-intact skin (i.e., skin that has been compromised in some way, such as cracked, chapped, with cuts, abraded, or with a rash), but do not ordinarily penetrate the skin.

**Human immunodeficiency virus (HIV):** The virus that causes acquired immunodeficiency syndrome (AIDS). Human immunodeficiency virus (HIV) attacks the immune system, resulting in a chronic,

progressive illness that leaves infected people vulnerable to opportunistic infections and cancers. The virus has been shown to remain infectious in aqueous solutions at room temperature for up to 15 days.

**Immersion therapies:** Various personal service procedures or services that include soaking or various forms of immersion in water (e.g., plain; containing soap, salts, chlorine or bromine; or others) or other liquid or semi-liquid soaks (e.g., wax, mud).

**Infection:** The entry and multiplication of an infectious agent in the tissues of the host.

**Infection prevention and control (IPAC):** Evidence-based practices and procedures that, when applied consistently in personal service settings can prevent or reduce the risk of transmission of microorganisms to workers and clients.

**Infectious agent:** Microorganisms such as viruses (e.g., human immunodeficiency virus [HIV], hepatitis B virus, hepatitis C virus), bacteria (e.g., mycobacteria, *Staphylococcus aureus*), or fungi (e.g., *Candida* spp. or *Trichophyton* spp.) that are capable of producing disease.

**Integrators (Type 5 chemical indicators):** A type of chemical indicator that responds to all of the critical parameters of steam sterilization (e.g., time, temperature and presence of steam).

**Intermediate-level disinfectant:** A substance, or mixture of substances, capable of destroying or irreversibly inactivating all microbial pathogens, including mycobacteria but not bacterial spores. An intermediate-level disinfectant may be recommended for the disinfection of non-critical medical devices, environmental surface and inanimate objects. Additionally, an intermediate-level disinfectant may be recommended for the reprocessing of some reusable semi-critical medical devices, depending on the type of item and its intended use (e.g., hydrotherapy tanks and bed side rails used by patients whose skin is not intact, hair clippers), as recommended in infection prevention and control protocols.

**Intermediate-level disinfection:** The method of disinfection required for some non-critical items that are more likely to transmit infection if contaminated. It is used for equipment and instruments or items that are intended to contact only intact skin, but that may accidentally come into contact with non-intact skin, or mucous membranes, or penetrate the skin.

**Invasive procedure:** A procedure that involves introduction of equipment or instruments into the body or body cavities, by cutting, puncturing, or otherwise entering intact skin or mucous membranes.

**Low-level disinfectant:** A substance, or mixture of substances, capable of destroying or irreversibly inactivating, at a minimum, vegetative bacteria. A low-level disinfectant may be recommended for the disinfection of non-critical medical devices, environmental surfaces and inanimate objects.

**Low-level disinfection:** The method of disinfection required for some non-critical items and environmental surfaces. It is used for equipment and instruments, items, and some surfaces that do not directly contact the client, or contact only hair or intact skin.

**Lumen:** A hollow opening through the length of the device, like a needle or tattoo tubes which is difficult to clean effectively.

**Manufacturer:** Any person, partnership or incorporated association that manufactures and sells equipment or instruments under its own name or under a trade mark, design, trade name, or other name or mark owned or controlled by it.

**Manufacturer's instructions:** Original instructions from the manufacturer of a product, item and equipment that provide information for the safe or effective use and maintenance of the product, item or equipment.

**Mask (surgical/procedure):** A device that covers the nose and mouth and is secured behind the ears or at the back of the head. It is worn by workers to protect the mucous membranes of the nose and mouth. Masks are also worn when performing a sterile or invasive procedure.

**Material safety data sheet (MSDS):** See **Safety data sheet**.

**Mechanical monitors:** A mechanical method of monitoring time, temperature and pressure of a sterilizer that is generally built into the sterilizer (also called a physical monitor); data are recorded.

**Methyl methacrylate (MMA):** A chemical substance with strong adhesive properties that has been prohibited by Health Canada (e.g., Methoxypropanol, Aminosalicylic acid and its salts). MMA is most commonly found in cosmetic nail preparations used in beauty salons. Cosmetic products containing methyl methacrylate cannot be sold in Canada, although items containing MMA may be sold in the Canadian marketplace.

**Microorganism:** A tiny, living organism that is invisible to the naked eye (e.g., bacteria, fungi and viruses).

**Mycobacterium:** A genus of bacteria with over 50 species, of which at least 20 have been reported to cause disease in humans (e.g., non-tuberculous mycobacteria). Mycobacterium is resistant to low-level disinfectants.

**Natural product number (NPS):** An eight-digit number assigned by Health Canada after a product has been assessed and determined to be safe, effective, and of high quality (e.g., chlorine, alcohol).

**Non-intact skin:** Exposed skin that has been compromised in some way, such as cracked, chapped, with cuts, abraded, or with a rash.

**Non-critical items requiring intermediate-level disinfection:** Equipment, instruments and items that are intended to contact only intact skin, but may accidentally come into contact with non-intact skin or mucous membranes, or penetrate the skin.

**Non-critical items requiring low-level disinfection:** Equipment, instruments and items that do not directly contact the client, or contact only hair or intact skin.

**One-step cleaner/disinfectant:** A mixture of substances that has been tested and found to be effective in the presence of light to moderate amounts of soil and, therefore, may be used to disinfect without a pre-cleaning step.

**Operator of a personal service setting:** The person who has responsibility for and control over a personal service setting.

**Pathogens:** A bacterium, virus, or other microorganism that can cause disease.

**Personal protective equipment (PPE):** Clothing or equipment (e.g., gloves, masks, respirators, eye protection, gowns, or aprons) worn by worker for protection against hazards.

**Personal service:** A service, including an invasive procedure, which is provided at a personal service setting, such as hairdressing and barbering, tattooing, body piercing, nail services, electrolysis, and various other aesthetic services.

**Personal service setting (PSS):** A premises at which personal services are offered where there is a risk of exposure to blood or body fluids and includes premises at which hairdressing and barbering, tattooing, body piercing, nail services, electrolysis, and other aesthetic services are offered.

**Physical monitors:** See **Mechanical monitors**.

**Process challenge device:** A test device intended to provide a challenge to the sterilization process that is equal to, or greater than, the challenge posed by the most difficult item routinely processed. Examples include, but are not limited to, BI test packs which also contain a chemical indicator.

**Public Health Agency of Canada:** A national agency that promotes improvement in the health status of Canadians through public health action and the development of national guidelines.

**Public Health Ontario:** The operating name for the Ontario Agency for Health Protection and Promotion. Public Health Ontario is a Crown corporation dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health.

**Public health unit:** An official health agency established by a group of urban and rural municipalities to provide a more efficient community health program, carried out by full-time, specially qualified staff. Public health units administer health promotion and disease prevention programs to inform the public about healthy life-styles, communicable disease control including education in STDs/AIDS, immunization, food premises inspection, healthy growth and development including parenting education, health education for all age groups, and selected screening services.

Each public health unit is governed by a board of health, which is an autonomous corporation under the Health Protection and Promotion Act, and is administered by the medical officer of health who reports to the local board of health. The board is largely made up of elected representatives from the local municipal councils. The ministry cost-shares the expenses with the municipalities.

**Reprocessing:** The steps performed to prepare reusable equipment and instruments for use (e.g., cleaning, disinfection and sterilization).

**Respiratory etiquette:** Personal practices that help prevent the spread of pathogens that can cause acute respiratory infections (i.e., covering the mouth when coughing, coughing into a sleeve, and taking care when disposing of tissues).

**Reusable:** A term given by the manufacturer of medical equipment/devices that allows it, through the selection of materials and/or components, to be reprocessed for reuse.

**Risk assessment:** An evaluation of the interaction of the worker, the client and the work environment to assess and analyze the potential for exposure to infectious disease, identify potential health hazards and determine the appropriate action required.

**Safety data sheet (SDS):** Formerly known as a **Material safety data sheet**, a safety data sheet contains information on the hazards of a product (e.g., health, fire, reactivity, and environmental); how to work safely with a product; and information on the use, storage, handling, and emergency procedures related to the hazards of a product.

**Semi-critical equipment and instruments:** Equipment, instruments and items that contact mucous membranes or non-intact skin during use but do not ordinarily penetrate the skin or enter normally sterile areas.

**Sensory deprivation tanks:** See **Immersion therapies**.

**Sharps:** Any object or instrument capable of causing punctures or cuts (e.g., needles, blades, lancets, razors, scalpel).

**Sharps container:** A dedicated, puncture-resistant, tamper-resistant (one-way opening), leak-proof container with a fill line that is impenetrable by sharps intended for the safe disposal of sharps.

**Single-use (disposable) equipment and instruments:** A term given to equipment and instruments designated by the manufacturer for a single use only. Single-use equipment/instruments are not be reprocessed.

**Skin antiseptic:** A substance that inactivates microorganisms or inhibits their growth on skin. Antiseptics are used to prepare the patient's skin before invasive procedures (e.g., skin prep).

**Skin infection:** Infections affecting the skin caused by bacteria (e.g., *Staphylococcus aureus*, *Pseudomonas* spp.), viruses (e.g., *herpes simplex*), and fungi (e.g., *Candida albicans*, *Trichophyton* spp.).

**Spaulding's classification:** Describes the level of reprocessing to be used for medical equipment or instruments based on their intended or actual use.

**Spore test:** A type of **Biological indicator**.

**Spores:** A form assumed by some bacteria and fungi that is resistant to heat, drying and chemicals. Under the right environmental conditions, the spore may germinate into the active form of the microorganism.

**Sterilization:** The method of reprocessing recommended for all critical items. Sterilization is capable of destroying or irreversibly inactivating all forms of microbial life present on an object, including all forms of vegetative bacteria, bacterial spores, fungi, fungal spores, and viruses.

**Sterilizer:** Any equipment or device used for the destruction of all forms of microbial life, including bacteria, viruses, spores, and fungi.

**Styptic product:** A solid, powder or a liquid generally made from an alum block that may be applied to a wound or cut to stop the bleeding. All styptic products used are to be single-use or applied using a single-use disposable applicator.

**Temporary hand washing sink:** A non-permanent sink used in a personal service setting on a short term basis or used at a temporary location, such as a trade show.

**Virus:** A microorganism that can replicate only within a living host cell. It is made up of genetic material encapsulated in a proteinaceous capsid, with or without a lipid envelope.

**Worker:** A person who operates and/or practices in a business offering personal services.

**Workplace Hazardous Materials information System (WHMIS):** Canada's national hazard communication standard. The key elements of the system are cautionary labelling of containers of "controlled products," the provision of safety data sheets and worker education and training programs.

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