New Brunswick Dental Society
Société Dentaire du Nouveau-Brunswick

NEW BRUNSWICK COLLEGE OF DENTAL HYGIENISTS
ORDRE DES HYGIÉNISTES DENTAIRES DU NOUVEAU-BRUNSWICK

STANDARD OF PRACTICE

Infection Prevention and Control

IPAC

This document is the standard of practice in relation to infection control and prevention. Since contravention of this standard may be considered professional misconduct, dental healthcare providers must be familiar with this document. Steps must be taken by every dental/hygiene practice to identify an infection prevention and control officer that will be responsible for the implementation of the standard and the training deemed necessary to every dental healthcare provider associated with the practice.

New Brunswick Dental Society /

New Brunswick College of Dental Hygienists

Board approved

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Introduction

Infection prevention and control is an important part of safe patient care. Concerns about the possible spread of blood-borne diseases, and the impact of emerging, highly contagious respiratory and other illnesses, require practitioners to establish, evaluate, continually update and monitor their infection prevention and control strategies and protocols.
This standard reflects current knowledge of the transmission of infection, and how to prevent and control it.

Important

In this document, the following assumptions have been made:

- The terms “dental health care provider” (DHCP) and “staff” are used interchangeably. “Staff” encompasses all persons conducting activities within, or associated with, dental offices and includes dentists, dental hygienists, dental assistants, anaesthetists and other support persons.
- The term “dental office” includes any facility in which oral health care is provided, such as traditional dental practices, dental hygiene practices, mobile dental or dental hygiene practices, community and school based dental clinics, and residential care centers and other institutional settings.
- DHCPs are trained to take precautions to protect patients and staff. In addition to previous instructions, it’s important that all DHCPs receive office specific training in infection prevention and control as part of their orientation, and whenever new tasks, procedures or equipment are introduced. In office training and reviews of protocols are recommended on an annual basis for all staff. It is required that one staff person be appointed to manage the dental office’s infection prevention and control program (IPAC OFFICER) and ensure that it remains current. While infection prevention and control are the responsibility of all DHCPs, implementation and oversight rests with the practice owner and the responsible dentist or the responsible dental hygienist.

Purpose of the Document

This document is not a step-by-step manual on how to implement specific infection control practices or procedures, nor does it endorse the use of specific infection control products or manufacturers. Rather, it is intended to provide all DHCPs with the knowledge of principles and standards to inform and properly implement necessary infection prevention and control measures in a safe and effective manner, including standards of practice that must be met. These are reflected throughout the body of the document using "must" statements rather than "should" statements.

This document consolidates published recommendations from government and other agencies, regulatory bodies and professional associations.

Wherever possible, recommendations are based on data from well-designed scientific studies. However, some infection prevention and control practices routinely used by health care practitioners cannot be rigorously examined for ethical or logistical reasons. In the absence of scientific evidence for such practices, certain recommendations are based on strong theoretical rationale, suggestive evidence or opinions of respected authorities. In addition, some recommendations are derived from provincial and federal regulations.

Accordingly, this document presents the minimal standards reflecting the best evidence and expert opinion available at the time of writing.

Professional and Regulatory

This document is the standard of practice in relation to infection control and prevention. Since contravention of this standard may be considered professional misconduct, dental healthcare providers must be familiar with this document. Steps must be taken by every dental/hygiene practice to identify an infection prevention and control officer that will be responsible for the implementation of the standard and the training deemed necessary to every dental healthcare provider associated with the practice.

Practice owners have an obligation to maintain the standards of practice of the profession and, accordingly, must ensure that recommended infection prevention and control procedures are carried out in their offices.

DHCPs have an obligation to maintain the standards of practice of the profession and must maintain current knowledge of infection prevention and control procedures and apply and maintain them appropriately and consistently. To this end, it is the practice owner's responsibility to ensure that staff are adequately trained in infection prevention and control procedures, and that the necessary supplies and equipment are available, fully operational, up-to-date and routinely monitored for efficacy.

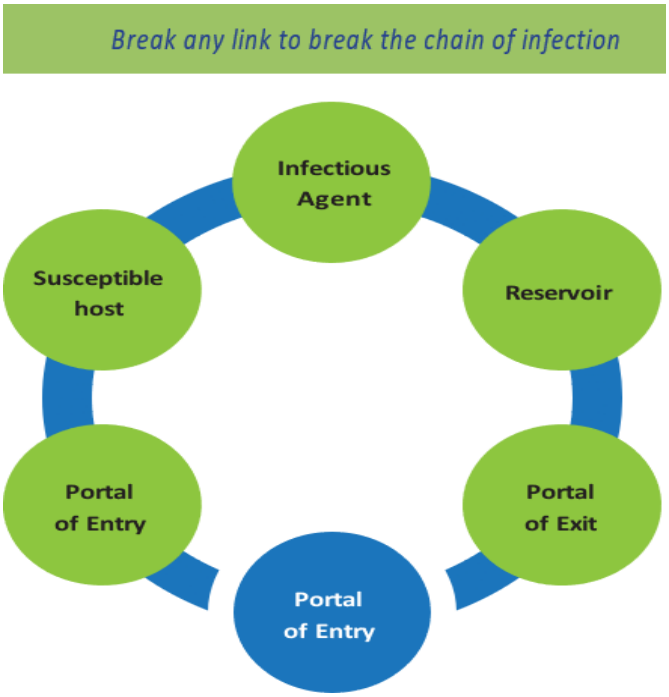
In addition to professional obligations, practice owners also have an ethical duty to maintain a safe and healthy office environment for both patients and staff, and to adhere to all rules and regulations related to the operation of a dental practice, including workplace health and safety, and environmental protection.

Transmission of Microorganisms

To transmit an organism or infection, three elements must be present:

1. A microorganism
2. A susceptible host
3. A way for microorganisms to be transmitted

Understanding the modes of transmission of infection is necessary for designing and implementing effective infection prevention and control strategies. Dental patients and DHCPs can be exposed to pathogenic microorganisms, including viruses (e.g. HBV, HCV, HIV, human herpes viruses, human papillomavirus), bacteria (e.g. Mycobacterium tuberculosis, staphylococci, streptococci) and other microbes that colonize or infect the oral cavity and respiratory tract.



In the dental office, the main modes of transmission of microorganisms are:

- *direct transmission* – direct physical contact with blood, oral fluids or other materials
- *indirect transmission* – contact with an intermediate contaminated object, such as a dental instrument, equipment or an environmental surface
- *droplet* – contact of oral, nasal or conjunctival mucosa with droplets, spatter or spray containing microorganisms generated from an infected person, such as by coughing, sneezing or talking
- *aerosol* – particles of respirable size (<10um) generated by both humans and environmental sources that can remain viable and airborne for extended periods in the indoor environment. In dentistry, aerosols are commonly generated using handpieces, ultrasonic scalers and air/water syringes.

The risk of infection because of a dental procedure is extremely low, but it represents an important patient safety consideration. By understanding how diseases are transmitted and applying infection prevention and control (IPAC) principles, DHCPs can develop strategies to interrupt the transmission of microorganisms among patients and DHCPs, and from dental instruments, handpieces, devices and equipment

Principles of Infection Prevention and Control (IPAC)

IPAC principles include:

- patient assessment;
- following Routine Practices;
- using barrier techniques to protect both patients and DHCPs;
- applying the principles of cleaning, disinfection, sterilization and storage of dental instruments;
- environmental cleaning;
- care of the overall office setting;
- safe handling and disposal of waste.

KEY PRINCIPLE:
DHCPs must maintain current knowledge of best practices in infection prevention and control and apply it appropriately and consistently to ensure protection of staff and patients.

An overall IPAC program should focus on strategies to reduce the risk of transmission.

These strategies include:

a) identifying, communicating and implementing standards and guidelines by setting specific policies and procedures;
b) effective occupational health and safety programs for all DHCPs, such as written procedures for the workplace and guidance on immunization;
c) educating DHCPs, as well as patients and their families, about everyone's role in infection prevention;
d) on-going review of policies and procedures, and evaluation of the IPAC program

PART A: Patient Safety

1. Screening of Patients

From time to time, patients who are unwell may present themselves at the dental office. Their health may relate to a
dental problem, such as an oral infection or a postoperative complication, but it may also relate to a non-dental problem, such as a severe respiratory illness (e.g. influenza) or simply a bad cold.

To protect other patients and DHCPs from the spread of microorganisms, patients who appear to be ill must be rescheduled if possible. If their dental condition is of an urgent nature, every effort must be made to separate them from other patients by seating them in a secluded operatory as soon as possible. In this way, the spread of microorganisms by direct or droplet transmission can be minimized.

Another opportunity to screen for ill patients is when confirming dental appointments in advance. If staff learn that a particular patient has a fever or cough, dental appointments should be rescheduled.

2. Routine Practices

Health Canada uses the term "Routine Practices" to describe basic standards of infection prevention and control that
are required for safe patient care. A similar term, "Standard Precautions," is used by the Centers for Disease Control and Prevention in the United States. Routine Practices synthesize the major principles of "universal precautions," which are designed to reduce the risk of transmitting pathogens that are blood-borne, and those of "body substance precautions,"
which are designed to reduce the risk of transmitting pathogens from moist body substances.

Routine Practices are based on the concept that all patients are potentially infective, even when asymptomatic, and that
the same safe standards of practice should routinely apply to contact with blood, body fluids and secretions (e.g. saliva), mucous membranes and non-intact skin. In addition, instruments in direct contact with these fluids and tissues are
potentially contaminated with infectious agents.
Adherence to Routine Practices protects both DHCPs and patients.

There are four principles that are inherent in Routine Practices:

a. risk assessment
b. hand hygiene
c. use of personal protective equipment
d. safe handling and disposal of sharps and contaminated waste

a. Risk Assessment

The first step in the effective use of Routine Practices is to perform a risk assessment.
This **must** be done before each interaction with the patient to determine the interventions that are required to prevent the transmission of infection.

The risk of transmission of microorganisms will vary, depending on the type of dental procedure to be performed and the likelihood of exposure to blood, body fluids and secretions, mucous membranes and non-intact skin. Additional factors to consider include:

- the health status of the patient;
- the characteristics of the patient, such as level of cooperativeness.
- the physical environment and resources available;
- the immune status of the DHCP.

Procedures involving exposure to blood, body fluids and secretions, mucous membranes and non-intact skin require the use of appropriate personal protective equipment. On the other hand, procedures involving no anticipated exposure may require fewer precautions.

IMPORTANT
Perform a risk assessment before each interaction with the patient to determine the interventions that are required to prevent the transmission of infection.

b. Hand Hygiene

Hand hygiene is the single most important measure for preventing the transmission of microorganisms. The term "hand hygiene" has replaced "hand washing" and includes the use of plain or antimicrobial soap with running water, as well as alcohol-based hand rub.

1. When must hand hygiene occur and with what type of product?

Hand hygiene must be performed by washing with plain or antimicrobial soap and running water, or by using a 70-90% alcohol-based hand rub. Both methods are equally effective, unless hands are visibly soiled (including with powder from gloves) or contaminated with body fluids, in which case hands must be washed with soap and water. Hand hygiene must be performed:

- following personal body functions (e.g. blowing nose or using washroom);
- when entering the clinic (for the patient and the staff)
- before and after direct contact with individual patients;
- before putting on and after removing gloves;
- after contact with environmental surfaces, instruments or other equipment in the dental operatory

- after contact with dental laboratory materials or equipment;
- before and after eating or drinking.

IMPORTANT

Contamination may involve areas beyond the hands(e.g. forearms). Use professional judgment regarding the extent of contamination and ensure affected areas are decontaminated appropriately. If you think your hands or other skin surfaces have become contaminated with body fluids, wash with soap and water to remove organic matter.

Liquid soap must be provided in disposable pump dispensers. Bar soap **must not** be used. Hand lotion to prevent dry or cracked skin also should be available in disposable pump dispensers. Petroleum-based hand lotions should not be used because they can affect glove integrity. To avoid contamination, disposable pump dispensers of liquid products **must** be discarded when empty and not "topped-up" or refilled. Reports have been documented in the scientific literature of disposable soap dispensers becoming contaminated with gram-negative bacterial species. Despite perceptions to the contrary, alcohol-based hand rubs have been shown to be less irritating to skin than soap and water. Select a product that contains emollients.

IMPORTANT

There is sufficient evidence that alcohol-based hand rubs are equally effective as washing with soap and water, except in cases where the hands are visibly soiled or contaminated with body fluids. In this case, hand washing with soap and water is necessary to remove organic matter.

2. How must hand hygiene be done?

i. When using soap and water for routine care:

- Wet hands with warm, not hot, water.
- Apply adequate amount of soap to achieve later.
- Rub vigorously for a minimum of 20 seconds, covering all surfaces of hands and fingers. Pay particular attention to fingertips, between fingers, backs of hands and base of thumbs, which are the most missed.
- Rinse well with running water.
- Dry thoroughly with a disposable paper towel. Turn off taps with towel and discard towel in a bin.

IMPORTANT

Over the counter products are not recommended. Select products that are designed for use in a healthcare setting. Avoid the use of hand jewelry and artificial nails. Jewelry interferes with proper hand hygiene, can make donning gloves more difficult and increases the risk of gloves tearing. Artificial nails have been implicated in hospital outbreaks involving fungal and bacterial infections.

ii. When using antimicrobial soap and water for surgical procedures (see Part E, Section 10 for more details):

- Remove all hand and wrist jewelry.
- Clean under nails. A disposable manicure stick may be used, but nailbrushes are not recommended, as they can become contaminated and damage the skin around the nails. Nails must be short enough to allow thorough cleaning underneath and not cause glove tears.
- Wash hands and forearms to the elbows thoroughly for the length of time recommended by the manufacturer (usually two to five minutes).
- Rinse off soap and dry hands thoroughly before donning sterile gloves.

iii. When using an alcohol-based hand rub for routine care:

- Apply the product to one palm and rub both hands together for at least the minimum time interval indicated by the manufacturer, covering all surfaces of hands and fingers, until they are dry.

iv. When using an alcohol-based surgical hand rub for surgical procedures:

- Remove all hand and wrist jewelry.
- Ensure that the alcohol-based hand rub selected has been approved for surgical hand disinfection.
- Apply the product to dry hands only and follow the manufacturer's instructions.
- Allow hands to dry thoroughly before donning sterile gloves.

Hand hygiene facilities must be located as close as possible to all dental operatories and preferably in clear sight of patients. If they are out of sight, patients must be made aware that hand hygiene is taking or has taken place.

In addition:

- Soap dispensers must be placed at every sink.
- Alcohol-based hand rub dispensers must be strategically located for ease of use.
- Disposable towels must be readily available at each facility.
- Taps must be turned off with the aid of a paper towel to avoid recontamination of hands. If renovating, consider installing hands-free faucets.
- A hand wash sink should not be used for any other purpose.

IMPORTANT

The use of gloves does not preclude the need for careful hand hygiene.

c. Personal Protective Equipment for Patients

1. General considerations

DHCPs wear personal protective equipment (PPE) to shield their own tissues from exposure to potentially infectious material. This also protects patients by preventing the DHCP from becoming a vector for the transmission of microorganisms from patient to patient.

Additional protective barriers and techniques should be employed to shield patients from potentially infectious material.

2. Protective eyewear

Large particle droplets of water, saliva, blood, microorganism and other debris are created using dental handpieces, ultrasonic instruments and air/water syringes. This visible spray typically travels only a short distance and settles out quickly, landing on nearby surfaces, including the operatory countertops and equipment, as well as the DHCP and patient.

Patients must be provided with protective eyewear to shield their eyes from spatter and debris created during dental procedures. Protective eyewear must be worn throughout the dental appointment, then cleaned and disinfected after use and whenever visibly contaminated.

3. Protective draping

Single-use bibs or drapes must be used to protect the patient's clothing and reduce their exposure to spatter and debris created during dental procedures. Single-use strips may be used to secure bibs and drapes, in place of reusable daisy chains.

4. Use of rubber dam and high-volume suction

Appropriate efforts must be made to minimize the spread of droplets, spatter and spray created during dental procedures. Accordingly, a rubber dam must be used whenever feasible, and high-volume suction must be used whenever the creation of droplets, spatter and spray is possible. The evacuation device must have an opening of at least 8 mm and be capable of quickly removing a large amount of air — up to 100 cubic feet of air per minute to be considered high volume suction.

The use of rubber dams and high-volume suction also minimizes the ingestion or inhalation of contaminated material and debris.

5. Latex sensitivity and allergies

Dental patients with true latex allergies may react to common dental products such as gloves, rubber dams, prophylaxis cups, orthodontic elastics and some medication vials. When taking medical history, patients must be asked questions relating to possible latex allergies.

This includes asking whether a true latex allergy has been diagnosed. Additional questions should probe for a history of common predisposing conditions for latex allergies, such as other allergies (e.g. avocados, kiwis, hazelnuts, bananas) or early latex exposure related to medical treatment (e.g. spina bifida, urogenital anomalies).

Patients with a true latex allergy **must** be treated in an environment where contact with latex proteins, either directly or airborne, is kept as low as reasonably achievable. When performing hand hygiene, alcohol-based sanitizers are not sufficient for removing latex particles; therefore, hands must be thoroughly washed with soap and water prior to contact with latex-sensitive patients.

All latex-containing materials or devices must be removed from the operatory or adequately covered and isolated.

IMPORTANT

Check labels of dental products for latex content. Many items are available in latex-free form.

d. Safe Handling and Disposal of Sharps

Extreme care **must** be always taken to ensure patients are protected from injuries involving sharp objects. Sharps must be kept out of the reach of patients and safely collected in a clearly labeled puncture-resistant container. These sharps containers must be placed immediately adjacent to the point of use. Sharps must be disposed of immediately following use at the end of the procedure.

(See "Exposure Prevention" on p. 21 for more about sharps handling.)

3. Additional Precautions

Routine Practices may not be sufficient for patients who are infected or colonized with certain microorganisms that pose special problems in blocking their transmission. The term "Additional Precautions" is used to describe measures that are taken in addition to Routine Practices to interrupt the transmission of such microorganisms. They include the physical separation of infected or colonized patients from other individuals and the use of protective barriers (e.g. gowns, gloves, masks) to prevent or limit the transmission of the infectious agent.

These Additional Precautions are of relevance in health care institutions, where they may be determined by local infection prevention and control committees and monitors. For example, in an institutional setting, patients may be at increased risk of becoming infected or colonized with methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant enterococcus (VRE) or respiratory tract viruses (e.g. influenza).

In an ambulatory setting, such as a dental office, Additional Precautions are required for patients who are known or suspected of having an infection that can be transmitted by large respiratory droplets. Examples of microorganisms that can be transmitted in this fashion include respiratory tract viruses, rubella, mumps and Bordetella pertussis. Patients who are known or suspected of having an infection that can be transmitted by large respiratory droplets must be offered a mask and hand hygiene upon presentation, maintain a two-meter

separation from other people and be removed from the reception/waiting area and seated in a secluded operatory as soon as possible. In this way, the spread of such microorganisms by droplet transmission can be minimized.

KEY PRINCIPLE:
DHCPs must ensure that recommended infection prevention and control procedures, including routine practices, are applied in all aspects of their practice.

4. Human Rights and Confidentiality

The New Brunswick Human Rights Act provides for equal rights and opportunities and freedom from discrimination based on race, colour, religion, national origin, ancestry, place of origin, age, physical disability mental disability, marital status, sexual orientation, sex, social condition, political belief or activity.

DHCPs are prohibited from discriminating against patients. This includes using extraordinary and unnecessary infection control or other measures that are not used for other patients. DHCPs may be required to modify Routine Practices based on the risks associated with certain dental procedures, provided that they are employed for all patients undergoing the same procedures.

The information contained in patient records is confidential and must not be released to anyone without the consent of the patient, or his/her authorized representative, or as required or allowed by law. Therefore, it is important to remember that patient records must be stored securely, locked and not left unattended or in public areas of the office.
Sensitive medical information must not be recorded in the front of the patient's chart, where it could easily be seen by others. A medical alert must be coded in such a way that only staff recognizes the significance of the information, while the exact nature of the condition must be documented within the patient's chart.

If patient records are computerized, login and password protection must be used to prevent unauthorized access. In addition, screen savers and other measures must be employed to ensure information on computer screens is not visible to other patients in the office.

It is the responsibility of the practice owner to ensure that all staff are knowledgeable about and take appropriate steps to protect patient confidentiality.

More information can be found on the NBDS Website NBDS privacy guidelines

Part B: Dental Health Care Providers' Responsibilities and Safety

1. Education and Training

DHCPs are more likely to comply with infection prevention and control protocols if they understand the rationale for them. It is important that all DHCPs receive office-specific training in infection prevention and control as part of their orientation, and whenever new tasks, procedures or equipment are introduced. This training should be supplemented whenever necessary and reviewed at least annually by means of staff meetings, attendance at continuing education courses and through self-learning programs.

IMPORTANT

Facilities must name an IPAC officer

to ensure that Education and training is performed.

All DHCPs must receive training that includes information about their exposure risks, infection prevention and control strategies specific to their occupational tasks, and the management of any work-related illness or injury.
It is also recommended that this document, as well as key reference materials identified in it, form part of an in-office infection prevention and control manual.

2. Immunization

Immunizations substantially reduce the number of DHCPs susceptible to infectious diseases, as well as the potential for disease transmission to other staff and patients.
Therefore, immunizations are an essential part of infection prevention and control programs.

All DHCPs should be adequately immunized against the following diseases:

- hepatitis B
- influenza
- measles
- diphtheria
- mumps
- pertussis
- rubella
- tetanus
- varicella
- polio

It is important that all DHCPs know their personal immunization status and ensure that it is up to date. In this regard, DHCPs must consult with their family physician about the need for immunizations, as well as baseline and annual tuberculosis skin testing. In addition, the Canadian Immunization Guide sets out recommendations and schedules for adults, including those engaged in the provision of health care.
Hepatitis B is the most important vaccine-preventable infectious disease for all workers engaged in health care. The

risk of being infected is a consequence of the prevalence of virus carriers in the population receiving care, the frequency of exposure to blood and other body fluids, and the contagiousness of hepatitis B virus (HBV). Therefore, immunization against HBV is strongly recommended for all DHCPs who may be exposed to blood, body fluids or injury involving sharps.
Serological testing for anti-HBs should be conducted 1 to 2 months after completion of the 3-dose vaccination series to establish antibody response. DHCPs who fail to develop an adequate antibody response should complete a second vaccination series, followed by retesting for anti-HBs. DHCPs who fail to respond to the second vaccination series must be tested for HBsAg.

Non-responders to vaccination who are HBsAg-negative should be counselled regarding precautions to prevent HBV infection and the need to obtain immunoglobulin prophylaxis for any known or probable parenteral exposure to HBsAg-positive blood. DHCPs who are HBsAg-positive must seek guidance from their regulatory body regarding necessary and reasonable steps to prevent HBV transmission to others and the need for medical evaluation. DHCPs who might perform exposure-prone procedures must be assessed on a case-by-case basis regarding the need for possible work restrictions.

KEY PRINCIPLE:

DHCPs who perform exposure-prone procedures have an ethical obligation to know their serologic status. If infected, DHCPs must seek guidance from their regulatory body with respect to the potential for transmission of their infection to their patients.

NBDS guidelines (Exposure Prone Procedures)(Members with Bloodborne Viruses)

3. Illness and Work Restrictions

DHCPs are usually concerned about contracting illnesses in the dental office.

Such occurrences can be minimized by practicing the principles discussed in this document, including:

- ensuring adequate and appropriate immunization of all DHCPs;
- triaging patients and rescheduling those who are ill;
- adhering to Routine Practices, including effective hand hygiene before and after each patient contact.

As already noted, hand hygiene is the single most important measure for preventing the transmission of microorganisms, protecting both DHCPs and patients.

Please refer to Part A: Patient Safety for detailed information regarding recommended hand hygiene procedures.

Unique situations that might warrant particular attention by a DHCP include:

- Dermatitis – When the protective skin barrier is broken, as occurs with chapped hands or eczema, the DHCP is at increased risk of acquiring and transmitting infection through the exposed area. Good skin care must always be practiced. Any areas of dermatitis must be covered with bandages, in addition to wearing gloves.
- Immunocompromised staff – These DHCPs are at increased risk of becoming infected and may suffer more severe consequences. They might also be at risk of shedding viruses (e.g. influenza) for prolonged periods. Where feasible, job functions and associated exposure risks should be considered.

DHCPs who have an upper respiratory illness (e.g. common cold) must take the necessary precautions to prevent the transmission of microorganisms to patients and other staff. This includes practicing respiratory etiquette by covering their coughs and sneezes with their elbow or a tissue rather than with their hands and discarding used tissues immediately. Additionally, continuous diligent hand hygiene is critically important. DHCPs who have severe respiratory illness with fever (e.g. influenza), acute viral gastroenteritis with vomiting and/or diarrhea, or acute conjunctivitis must stay at home until their symptoms have subsided.

DHCPs who have oral and/or nasal herpes simplex infections (i.e. cold sores) must pay particular attention to hand hygiene and not touch the affected area. In this situation, the use of a mask might help to remind the worker not to touch the lesions. A mask must be worn at all time in the dental operatories and the sterilization centre.

4. Exposure Prevention

The primary method of preventing the transmission of blood-borne pathogens (e.g. HBV, HCV and HIV) to DHCPs is by avoiding occupational exposures to blood, saliva and other bodily fluids. In the dental office, exposure may occur through percutaneous injuries (e.g. needle-sticks or cuts with sharp objects), by contact with the mucous membranes of the eyes, nose and mouth, or by contact with non-intact skin (e.g. exposed skin that is abraded, chapped or has signs of dermatitis).

Most exposures are preventable by following Routine Practices, which include the use of personal protective equipment (PPE), such as gloves, protective eyewear, masks, closed-toe shoes and protective clothing, and safe work habits for the handling and disposal of sharps.

PPE must be used consistently during the treatment of patients, as well as the care of instruments and equipment. Cuts, abrasions or dermatitis constitute a breach in the skin's protective barrier. During work, non-intact skin must be covered with a waterproof bandage or protective dressing (e.g. Opsite, Tegaderm), which must be changed as needed. Large cuts might require medical assessment and re-evaluation of work duties.

Percutaneous injuries pose the greatest risk of transmission of blood-borne pathogens to DHCPs. Best practices to prevent such injuries include the following:

- Always use extreme caution when passing sharps during four-handed dentistry. Consider the use of a "safe zone" for transferring instruments rather than passing instruments hand to hand.
- Needles must remain capped prior to use.
- Needles must not be bent, recapped or otherwise manipulated by using both hands.
- Following use, needles must be recapped as soon as possible by using a one-handed scoop technique or a commercial recapping device.
- When suturing, tissues must be retracted using appropriate instruments (e.g. retractor, dental mirror), rather than fingers.
- Remove burs from handpieces immediately following the procedure.
- Identify and remove all sharps from trays before processing instruments.
- Used sharps must be collected in a clearly labelled puncture-resistant container which must be located at the point of use.
- When removing debris from contaminated instruments by hand, heavy-duty utility gloves, appropriate clothing and long-handled brushes must be used.

IMPORTANT

Where a syringe and needle are being used multiple times on the same patient, safe recapping of needle is preferred to prolonged exposure to an unprotected needle.

5. Personal Protective Equipment for DHCPs

i. General considerations

Personal protective equipment (PPE) is worn to shield the exposed tissues of DHCPs from exposure to potentially infectious material. PPE serves as a barrier to protect the skin of the hands and arms from exposure to splashing, spraying or spatter of blood, saliva or other body fluids, and from introducing microorganisms into deeper tissues by traumatic injuries. Such equipment also protects the conjunctival mucosa of the eyes, as well as the lining mucosa of the respiratory tract.

Primary barriers include gloves, protective eyewear, masks and protective clothing. Protective clothing must not be worn outside of the office. Single-use barriers, such as gloves and masks, must be discarded immediately after use.

IMPORTANT

Gloves and masks must be task and patient specific and discarded immediately after use.

ii. Gloves

Gloves are worn to protect the hands of the DHCP from contamination. Since gloves are not completely free from leaks and may tear, their use does not replace the need for hand hygiene. Therefore, effective hand hygiene protocols must be followed before donning gloves and after removing them.

In the dental office:

- Gloves must be worn when contact with mucous membranes, non-intact skin or body fluid is anticipated.
- The same pair of gloves must not be used for more than one patient.
- Gloves must be put on immediately before the activity for which they are indicated.
- Gloves must be removed and discarded immediately after the activity for which they were used, and hand hygiene must be performed.
- Gloves must not be worn outside any room or area where they are required for personal protection.
- Gloves must not be washed and reused.
- Double-gloving may be utilized for some specific procedures, which may involve the handling of multiple sharp instruments or during longer appointments.
- The issue of protocol for double gloving is unresolved as the body of evidence for this practice is small. Professional judgment must be used when assessing the risk of a procedure and whether double gloving may be appropriate.

iii. Protective eyewear

The conjunctival mucosa of DHCPs must be protected from spatter and debris created during dental procedures by wearing appropriate eyewear with side shields or face shields.

Protective eyewear must be cleaned and disinfected between patients and whenever it becomes noticeably contaminated. An eye-washing station must be available in the dental office for both DHCPs and patients to aid in managing contact with any body fluid or dental chemical/ solvent.

iv. Masks

Appropriate masks that cover the nose and mouth must be worn during dental procedures to protect the respiratory mucosa of DHCPs from contact with potentially contaminated droplet material. Masks lose efficiency over time, as they become moist from DHCP's breathing.

Accordingly, masks must be changed between each patient or sooner if they become visibly soiled. Face shields are not an appropriate substitute for masks.

Additionally, masks must not be worn around the neck. Due to spatter or splashing that could occur around the neck area when treating other patients, the chance of contamination may be increased which, in turn, reduces the level of protection to the DHCP.

Important

Specialized masks (N95) must be used when appropriate or when dictated by the Dental Regulatory or the New Brunswick Public Health Authorities.

v. Protective clothing

Spatter or spray from dental procedures can contaminate fabric of long-sleeved garments and lead to cloth-borne transmission of pathogens. Provided that the skin of a DHCP's forearms is unbroken and intact, short-sleeved scrubs should be worn to prevent cross-contamination between patients and when exposed to spatter or spray, forearms must be washed with soap and water. Long sleeved garments are intended to be patient-specific items of protective clothing and should be removed prior to seeing the next patient. This includes gowns and lab coats. If the skin of the DHCP's forearms is not intact, long-sleeved garments are recommended. This includes gowns and lab coats, which are meant to be worn over regular clinic clothing, such as uniforms, scrubs or street clothing.
It is the responsibility of the practice owner to develop a policy that protective clothing worn during patient care procedures must not be worn outside the dental office. The policy should include cleaning of protective clothing. New offices are encouraged to have a washer and dryer in the dental clinic.

vi. Latex sensitivity and allergies

Latex is commonly used in the manufacture of gloves and in dental products, including rubber dams, prophylaxis cups, orthodontic elastics and some medication vials. Skin irritations can be confused with true allergy to latex. Most skin reactions involving gloves are, in fact, irritant contact dermatitis, and not allergic reactions to latex.

Adverse reactions involving latex gloves range from mild to serious and can include:

- irritant contact dermatitis;
- delayed hypersensitivity reactions (allergic contact dermatitis);
- immediate allergic reactions

Mild contact dermatitis can be managed by changing the types or brands of soap, towels or gloves, rinsing hands thoroughly after washing, use of lotions, and performing proper hand hygiene.

Delayed hypersensitivity reactions require referral to a medical dermatologist and using washed (powderless) low-protein latex gloves or non-latex gloves.

Powder-free gloves reduce the lifetime exposure risk to latex allergies for patients and practitioners and are therefore preferred. Immediate allergic reactions necessitate emergency medical care and subsequent referral to a medical dermatologist, as well as using only non-latex, powder-free gloves and avoiding all latex products in the workplace and at home.

Surgical gloves are recommended for intense dental surgery.

6. Minimizing Droplet Spatter

By their very nature, the provision of dental services can involve the creation of droplets, spatter and spray contaminated with blood, saliva, other body fluids and debris. As previously noted, a rubber dam must be used whenever feasible and high-volume suction must be used whenever the creation of droplets, spatter and spray is possible.

7. Exposure Management

Blood-borne pathogens, such as HBV, HCV and HIV, can be transmitted to DHCPs through occupational exposures to blood, saliva and other body fluids. Significant exposures must be handled in a prompt and organized fashion. For this reason, an exposure management protocol is an important component of an in-office infection prevention and control manual.

IMPORTANT

All dental practices must have an exposure management protocol in place.
It should be reviewed annually to ensure it is familiar to all DHCPs.

Significant exposures include percutaneous injuries with contaminated needles, burs or other sharp instruments, as well as accidents in which blood, saliva or other body fluids are splashed onto non-intact skin or the mucosa of the eyes, nose or mouth. However, percutaneous injuries pose the greatest risk of transmission of blood-borne pathogens to DHCPs.

In the event of significant exposure, immediate first-aid measures must be instituted:

- For percutaneous injuries, allow the wound to bleed briefly and freely. Then, gently wash the wound with soap and water, and bandage as needed.
- For exposures involving the eyes, nose or mouth, flush the area with copious amounts of water.
- For exposures involving non-intact skin, wash the site with soap and water.

Any kind of occupational injury must be reported to the practice owner or the responsible dentist. However, in all cases involving a significant exposure, the practice owner must assess the source patient's status and risk for blood-borne illnesses by reviewing the medical history and, if necessary, asking her/ him additional questions. If the patient's HBV, HCV or HIV status is unknown, or if the patient presents with known risk factors, then her/his co-operation must be sought to clarify such information. Every reasonable effort must be made to obtain the patient's informed consent to be tested for HBV, HCV and HIV. This can be accomplished by referring the patient to her/his family physician for consultation, or the emergency department for an assessment of risk factors and any blood tests that are considered necessary. If the patient refuses, then the status of the exposition must be from an unknown source.

At the same time, the injured DHCP must be immediately referred to her/his family physician, an infectious disease specialist or hospital emergency department for counseling, baseline blood tests and, if deemed necessary, post-exposure prophylaxis.

If necessary, post-exposure prophylaxis must be administered as soon as possible. For example, in the event of a high-risk exposure to HIV infection, antiretroviral drugs must be administered within hours.

All cases involving significant exposure must be documented, including:

- name of the exposed DHCP and details regarding her/his vaccination status;
- date and time of the exposure;
- nature of the exposure, including the dental procedure being performed, extent of the exposure and the immediate action taken;
- name of the source and details regarding known or suspected status related to blood-borne pathogens;
- follow-up counseling and post-exposure management.

See Part I: Exposure Management and Prophylaxis

8. Occupational Health and Safety Requirements and Workplace Hazardous Materials Information System (WHMIS)

Under New Brunswick's Occupational Health & Safety Act, there is a general duty for an employer to establish written procedures for the health and safety of employees. These procedures may include, but are not limited to, the following:

- safe work practices and working conditions;
- proper hygiene practices and the use of hygiene facilities;
- control of infections.

Employees must work in compliance with the legislation and use or wear any equipment, protective devices or clothing required by the employer.

WHMIS is a national communication standard that deals with hazardous materials in the workplace. Any workplace, including a dental office that uses materials classified as controlled products under federal legislation is required to:

- supply labels for all controlled products that do not have them;
- ensure Material Safety Data Sheets (MSDS) are available for these products;
- educate and train workers about hazardous materials in the workplace.

Employers are strongly recommended to uphold WHMIS standards in their workplace; accordingly, every practice owner must be familiar with the legislation and review with all staff on an annual basis. A safety data sheet binder must be present with the safety data sheet of the products being used in the dental clinic; from the dental materials to the cleaning products.

9. Prohibition of Eating and Drinking in Non-Designated Areas

The consumption of all foods and beverages must be restricted to designated areas (e.g. lunch area, staff lounge) or outside the dental office. Eating and drinking in operatories, instrument processing areas and in-office dental laboratories must be prohibited.

Part C: Cleaning, Disinfection and Sterilization of Patient Care Items

I. General Considerations

The goals of safe processing of reusable patient care items (dental instruments, hand pieces, devices and equipment) include:

- preventing transmission of microorganisms to DHCPs and patients;
- minimizing damage to patient care items from foreign material or inappropriate handling;
- safe handling of chemical disinfectants.

Contaminated instruments must always be handled carefully to prevent percutaneous injuries.

All instruments **must** be properly cleaned, rinsed, dried and inspected prior to either disinfection or sterilization. Health Canada outlines how manufacturers of reusable devices **must** include information on how the device is to be disinfected, cleaned and sterilized.

After cleaning*, instruments must be rinsed with water to remove detergent residue and visually inspected to ensure all debris has been removed.

Patient care items are categorized as critical, semi-critical or non-critical, depending on the potential risk for infection associated with their intended use. This classification determines their processing requirements.

Semi-critical instruments or devices that have been exposed to blood or have the potential to be exposed to blood **must** be treated as critical. DHCP **must** use professional judgment for every instrument, device and surface for their specific practices to ensure that the standards are met.

Sharpening of Instruments: Sharpening of contaminated instruments presents a risk for disease transmission through accidental exposures. Sterilized instruments that require sharpening must be sharpened at point of care to maintain sterility using a sterilizable sharpening stone or card. If using a non-sterilizable sharpening stone or card, instruments must be sterile prior to sharpening and reprocessed and sterilized after sharpening. These stones or cards must be cleaned after use and appropriately stored according to manufacturer's instructions.

Risks Classification Table (see glossary for additional examples)

Category	Definition	Processing
Critical Items	Items that penetrate soft tissue or bone, enter into or contact normally sterile tissue or bloodstream (e.g. surgical instruments and surgical burs, implantable devices, periodontal instruments)	Cleaning* followed by sterilization
Semi-critical items	Items that contact mucous membranes or non-intact skin (e.g. mouth mirrors, amalgam condensers, facebow forks, reusable impression trays, X-ray film holders)	Cleaning* followed by sterilization or high-level disinfection (as a minimum) Sterilizations the preferred method.†
Non-critical items	Items that contact skin, but no mucous membranes or do not directly contact the patient (e.g. radiograph head/cone, bib clips, blood pressure cuff, pulse oximeter, patient safety glasses)	Cleaning* followed by low- or intermediate-level disinfection

† The majority of semi-critical items used in dentistry are heat-tolerant and must always be heat-sterilized between uses. If a semi-critical item is heat-sensitive, at a minimum it must be processed using high-level disinfection.

* Cleaning entails the removal of debris (e.g. organic and inorganic matter). This is achieved either by scrubbing with a surfactant, detergent and water, or by an automated process (e.g. ultrasonic cleaner or washer with a cleaning solution). This step is essential, as residual organic debris will compromise the disinfection and sterilization process.

MANAGING CONTAMINATION

Patient Care Items (Modified Spaulding Classification)

Category	Description	Examples	Management
CRITICAL ITEMS	Penetrates soft tissue or bone	• Air/water syringe tips • Anesthetic syringes • Endodontic instruments,including files (hand and rotary) and reamers • Gauze for surgery • Dental implant instruments • Metal matrix bands prior to use • Mouth mirrors(when used during a procedure where tissue is cut or manipulated) • Orthodontic bands prior to use • Periodontal instruments including ultrasonic tips • Restorative / operative instruments • Rotary burs and diamonds • Dental dam clamps • Scalers • Stainless steel crowns prior to use • Surgical instruments • Surgical suction tips	Items that are not single-use disposable **must** be sterilized and stored wrapped until point of care. Single-use disposable items **must** not be reprocessed. Follow manufacturer's instructions regarding sterilization prior to use.
SEMI-CRITICAL ITEMS	Touches intact mucous membrane or non-intact skin	• Articulating ribbon holder • Handpieces • Crown removing instruments • Dental dam frame and forceps • Impression trays • Lab burs • Nasal hoods • Orthodontic pliers • Facebow • Laboratory knives and spatulas	Items that are not single-use disposable **must** be sterilized and stored wrapped until point of care. Single-use disposable items **must** not be reprocessed. Follow manufacturer's instructions regarding sterilization prior to use.
NON-CRITICAL ITEMS	Contacts intact skin only	• Blood pressure cuffs • Curing Lights • Lead aprons • Intra-oral camera and radiograph sensors • Dental dam punch • Laboratory specific instruments	Items **must** be protected with a barrier Barriers must be changed after each patient

ENVIRONMENTAL SURFACES

Category	Description	Examples	Management
CLINICAL CONTACT SURFACES	Direct contact with DHCP or other personnel's hands, patient-care items or patient skin	• Dental chairs • Keyboard and mouse • Dental units and countertops • Doorknobs • Drawer and cupboard handles Radiographic equipment	Protect with surface barrier or disinfect with intermediate-level disinfectant.
HOUSEKEEPING SURFACES	Inadvertent contact with DHCP or other personnel's hands, patient-care items or dental appliances	• Floors • Sinks • Walls	Frequent cleaning is based on use. If contaminated by blood or saliva use intermediate-level disinfection.

Process	Result	Examples for Dentistry	Specific Indications	Comments
Sterilization	Kills all forms of pathogenic microorganisms, including bacteria, fungi, viruses and spores	Steam Dry Heat	Critical and semi-critical	Steam sterilization is the preferred method. The sterilization process **must** be audited and monitored with mechanical, chemical and biological indicators.
High-level disinfection (HLD) All disinfectants **must** have a Drug Identification Number (DIN) from Health Canada	Kills vegetative bacteria, mycobacteria, fungi, enveloped and non- enveloped viruses, but not necessarily bacterial spores	2% glutaraldehyde 7% accelerated hydrogen peroxide, 6% hydrogen peroxide 0.2% peracetic acid 0.55% ortho-pthalaldehyde	Heat-sensitive, semi-critical items	**Not for use on environmental surfaces.** Follow manufacturer's instructions regarding dilution, instrument preparation, immersion time, temperature and changing of solutions. Glutaraldehyde is non-corrosive to metals and compatible with most materials. Extremely irritating to skin and mucous membranes. Use in well-ventilated areas. Hydrogen peroxide is active in presence of organic matter, but is corrosive to aluminum, brass, copper, and zinc.

Process	Result	Examples for Dentistry	Specific Indications	Comments
INTERMEDIATE LEVEL DISINFECTION	Destroys all vegetative bacteria, mycobacteria, most viruses and most fungi, but not bacterial spores	**Chlorine-based products** *Sodium hypochlorite diluted in-office, chlorine dioxide, comimercial preparations with surfactants*	Surfaces	Low cost, fast acting, readily available Corrosive to metals and may destroy fabrics Inactivated if surface not well cleaned before use Irritating to exposed skin and mucous membranes Chlorine dioxide is poor cleaner
		Halogens *(sodium bromide & chlorine)*	Hard Surfaces Only	Unstable when diluted, **must** be prepared
		Hydrogen peroxide, 0.5% accelerated	Environmental surfaces only	Fast acting Simple to mix Minimal storage space required Nonirritating Odourless
		Iodophors *(iodine combined with surfactant)*	Environmental surfaces only	Effective for bioburden removal Stable and effective Slow fungicidal activity An oxidizing agent which will accelerate rusting of metal instruments
		Quaternary ammonium compounds with alcohols *("dual" or "synergized")*	Environmental surfaces only	Relatively expensive Stains fabrics and synthetic materials Corrosive to exposed skin and mucous membranes
		Phenolics *("complex "or "synthetic" containing multiple phenolic agents)*	Environmental surfaces only	Unstable when diluted and must be prepared daily Generally non- irritating Non-corrosive Older generation had narrow spectrum Inactivated by anionic detergents and organic matter Can damage some materials Rapid evaporation Residual biocidal action Available with detergents May be absorbed through skin or

				by latex Degrades plastics with prolonged contact Leaves a film on disinfected surfaces or etches glass surfaces
Low-level disinfection (LLD) All disinfectants (except household bleach) **must** have a Drug Identification Number (DIN) from Health Canada	Kills most vegetative bacteria, as well as some fungi and enveloped viruses. **Cannot** be relied on to kill mycobacteria, including Mycobacterium tuberculosis or bacterial spores	Chlorine-based products (e.g. diluted sodium hypochlorite or household bleach – 1:50 or 1000 PPM) 0.5% accelerated hydrogen peroxide, 3% hydrogen peroxide 60 to 95% alcohols Some iodophors, phenolics and quaternary ammonium compounds	Non-critical items and environmental surfaces	Follow the manufacturer's instructions regarding concentration and contact time. Diluted household bleach is inexpensive and readily available but **must** be prepared daily. Items and surfaces **must** be cleaned first, as chlorine-based products are inactivated by organic material. Corrosive to metals and may destroy fabrics. Hydrogen peroxide is active in the presence of organic matter, but is corrosive to aluminum, brass, copper and zinc. Alcohol is fast-acting but is flammable and evaporate quickly. Items and surfaces **must** be cleaned first, as alcohol is inactivated by organic material. May harden plastic and rubber. Quaternary ammonium compounds are used for disinfecting non-critical equipment and environmental surfaces, but not instruments. They require careful dilution, as they may support microbial growth.
Cleaning	Physical removal of soil, dust and foreign material.	Soap and water, detergents and enzymatic cleaners 0.5% accelerated hydrogen peroxide Quaternary ammonium compounds	All reusable items	Follow manufacturer's instructions regarding concentration and contact time.

If a product is received from the manufacturer who has guaranteed the instrument's sterility, it need not be sterilized prior to initial use. Newly purchased non-sterile critical and semi-critical items **must** be inspected and processed according to manufacturer's instructions prior to use. Any product that comes in a clean state that the manufacturer indicates is ready for use does not need to be sterilized if it is used directly from the new package.

Sterilization

The sterilization section or the medical device reprocessing area must include the sterilizer and related supplies, with adequate space for loading, unloading and cooling down. The area may also include biological indicators and incubators for conducting spore tests, as well as enclosed storage for sterile and single-use disposable items. Heat-tolerant instruments are usually sterilized by steam under pressure (i.e. autoclave), which is dependable and economical.
Other means include dry heat or unsaturated chemical vapor. All sterilization must be performed by using medical sterilization equipment registered with Health Canada. Sterilization times, temperatures and other operating parameters recommended by the manufacturer of the equipment used, as well as instructions for correct use of containers, wraps, and chemical or biological indicators must always be followed.

Air Quality

The *Occupational Health and Safety Regulation* (91-191) respecting control of exposure to biological and chemical agents provides Threshold Limit Values (TLVs) for chemical agents (e.g. gluteraldehyde). A TLV is the maximum airborne concentration of a chemical agent to which a worker is exposed at any time. If control measures are not available during reprocessing involving a chemical agent, air sampling should ensure that the regulated limit has not been exceeded for the chemical being used.

Offices must ensure proper air exchange and ventilation to meet CSA standards and manufacturer's recommendations for products.

2. Processing of Critical and Semi-Critical Items

Instrument sterilization requires multiple steps. Sterilization is a complex process requiring specialized equipment, adequate space, qualified staff and regular monitoring for quality assurance. Correct sorting, cleaning, drying, packaging, sterilizer loading procedures and sterilization methods must be followed to ensure that all instruments are adequately processed and safe for reuse on patients. Processing of specialized instruments (e.g. channeled or bored instruments) must be completed according to the manufacturer's instructions.

All instruments must be processed in a central area of the dental office that is designed to facilitate quality control and ensure safety. The instrument processing area must have clear separation of clean and dirty areas with separate sections for:

- receiving, cleaning and decontamination;
- preparation and packaging;
- sterilization;
- drying/cooling;
- storage.

Care **must** be taken to avoid cross-contamination when using sterilizer equipment (e.g. controls, buttons, cassette handles, exterior surfaces).

Dirty Area

1. Receiving, cleaning and decontamination

To prevent percutaneous injuries, contaminated instruments should be placed in a cassette or puncture-resistant container at the point of use and then transported to the instrument processing area. Instruments must be covered when exiting the operatories. Reusable instruments must be received, sorted, cleaned and rinsed in one section of the processing area.

The use of automated cleaning equipment can increase productivity, improve cleaning effectiveness and decrease worker exposure to blood and body fluids provided that the manufacturer's instructions are strictly followed. Thus, using automated equipment can be safer and more efficient than manually cleaning contaminated instruments.

Gross debris must be removed from instruments prior to placement in an ultrasonic cleaner. In addition, ultrasonic cleaning solutions must be changed daily or more frequently if they become visibly soiled. Automated washers do not require pre-soaking or scrubbing of most instruments.

If cleaning cannot be performed immediately, instruments must be placed in a puncture-resistant holding container and soaked with a detergent or an enzymatic cleaner to prevent drying of organic material. This makes subsequent cleaning easier and less time-consuming. Liquid chemical sterilant or high-level disinfectants (e.g. glutaraldehyde, ortho-phthalaldehyde) must not be used as holding solutions, due to the fixative nature of these chemicals making surfaces more difficult to clean, as well as their general toxicity.

To avoid injury from sharp instruments, the following precautions must be taken:

- Wear puncture-resistant, heavy-duty utility gloves when handling or manually cleaning contaminated instruments.
- Do not reach into trays or containers holding sharp instruments that cannot be seen (e.g. sinks filled with soapy water in which sharp instruments have been placed). Instead, use a strainer-type basket to hold instruments, as well as forceps to remove them.
- Wear a mask, protective eyewear or face shield, and gown or jacket to protect from splashing.

Clean Area

1. Preparation and packaging

In another section of the processing area, cleaned instruments must be inspected and dried, assembled into sets or trays, and packaged for sterilization. Critical and semi-critical instruments (refer to p. 26) must be processed in a manner that will maintain sterility during storage. Suitable packaging materials include wrapped perforated instrument cassettes, peel pouches of plastic or paper, and woven or nonwoven sterilization wraps. Packaging materials must be designed for the type of sterilization process being used. Hinged instruments must be processed open and unlocked.

2. Storage

Sterile and single-use disposable items must be stored in an enclosed space, such as closed or covered cabinets. They must not be stored under sinks or in other locations where they might become wet and contaminated.
Storage practices for packaged sterilized instruments may be either date or event related. Dating assists in the recall of instruments should concerns arise with the results of sterilization tests. Some healthcare facilities date every sterilized package and use shelf-life practices (e.g. “first in, first out”). Others use event-related practices. The latter approach recognizes that the packaged instruments should remain sterile indefinitely, unless an event causes them to become contaminated (e.g. torn or wet packaging).

Packages containing sterile instruments must be inspected before use to verify barrier integrity and dryness. If packaging is compromised, the instruments **must** be cleaned, packaged and sterilized again.

IMPORTANT
Critical instruments must be processed in a manner that will maintain sterility during storage.
This includes ensuring that the integrity of the package is maintained.

3. Sterilization of Unpackaged Instruments

An unpackaged cycle (sometimes called “flash sterilization”) is a method for sterilizing patient care items for urgent or unplanned use. Flash sterilization must only be used under the following conditions:

- thorough cleaning and drying of instruments precede the unpackaged cycle;
- mechanical parameters are checked and an internal chemical indicator is used for each cycle;
- care is taken to avoid thermal injury to staff or patients;
- items are transported aseptically to the point of use to maintain sterility.

Because of the potential for serious infections, flash sterilization **must not** be used for implantable devices. When sterile items are left open to the air, they can quickly become contaminated. Therefore, critical instruments that are sterilized unpackaged must be used immediately and not stored. Sufficient inventories of critical instruments must be maintained to avoid the need for flash sterilization.

Semi-critical instruments that are sterilized unpackaged on a tray or in a container system **must** be used immediately or within a short time. Storage, even temporary, of unpackaged semi-critical instruments is not acceptable because it permits exposure to dust, airborne organisms and other unnecessary contamination before use on patients.

All instruments used in placing dental implants must be quarantined after sterilization until the results of biological monitoring are known. Accordingly, unpackaged or flash sterilization of instruments used in the placing of implants is inadequate and **must not** be used. Flash sterilization must not be routinely used in the dental office.

IMPORTANT

Historically, bead sterilizers have been used in dentistry to treat small metallic instruments, such as endodontic files. These devices cannot assure sterility, creating the risk of cross-contamination if instruments are used between patients. The usage of a bead sterilizer for sterilizing purposes in a dental clinic is prohibited by the NBDS.

4. Processing of Heat Sensitive Items

Most semi-critical items (refer to p. 26) used in dentistry are available in heat-tolerant or disposable alternatives. If the use of a heat-sensitive semi-critical item is unavoidable, then such items must be cleaned and then receive high-level disinfection, which may be achieved by immersion in a liquid chemical germicide (e.g. 2% glutaraldehyde, 7% accelerated hydrogen peroxide, 6% hydrogen peroxide, 0.2% peracetic acid or 0.55% ortho-phthalaldehyde).

Liquid chemical germicides are highly toxic and their effectiveness cannot be verified with biological indicators. Accordingly, the manufacturer's instructions regarding dilution, instrument preparation, immersion time, temperature and the changing of solutions must be followed carefully. In addition, appropriate precautions must be taken to safeguard staff, including the use of closed containers to limit vapour release, adequate ventilation and chemical resistant gloves, aprons, goggles and face shields. Following liquid immersion, instruments must be thoroughly rinsed with sterile water to remove toxic or irritating residues and then dried with clean towels. Liquid chemical germicides must not be used for applications other than those indicated in their label instructions, and they must not be used as an environmental surface disinfectant or instrument-holding solution.

NOTE:

When using liquid chemical germicides, the use of liquid germicide test strips must be used to confirm that the minimum effective concentration is within the potency range present to achieve sterilization.

5. Processing of Non-Critical Items

Non-critical items (refer to p. 26) pose the least risk of transmission of infection, as they either have no contact with the patient or contact only intact skin, which serves as an effective barrier to microorganisms. Non-critical items must be cleaned after use or, if contaminated, cleaned and then disinfected with an appropriate low-level disinfectant (e.g. chlorine-based products, 0.5% accelerated hydrogen peroxide, 3% hydrogen peroxide, 60 to 95% alcohols, iodophors, phenolics or quaternary ammonium compounds).

Cleaning and disinfection of some non-critical items may be difficult or could damage surfaces. It may be preferable to use disposable barriers or single use barriers to protect these surfaces.

6. Equipment Use and Preventive Maintenance

Tabletop sterilizers undergo frequent use, and wear and tear. The manufacturer's recommendations must be consulted for guidance on a preventive maintenance program, including regular inspection of gaskets and seals.

7. Monitoring of Sterilization in the Dental Office

1. Mechanical indicators are the gauges or displays on the sterilizer for cycle time, temperature and pressure. Some tabletop sterilizers have recording devices that print out these parameters, which is preferred. All new sterilizers should have this feature. Mechanical indicators must be checked and recorded for each load if possible.

2. Chemical indicators (i.e. internal and external) use sensitive chemicals to assess physical conditions during the sterilization process. For example, heat-sensitive tape applied to the outside of a package, changes colour rapidly when a given temperature is reached. This signifies that the package has undergone a sterilization cycle although it does not ensure that sterilization has been achieved.

A sterilizing agent has more difficulty penetrating a hollow object, such as a handpiece, than it does a solid object, such as a dental mirror. Air that is trapped inside these hollow areas cannot be easily removed, thus hindering the sterilizing agent's contact with the internal surface of the instrument.

In addition, when items are packaged, the sterilizing agent takes longer to penetrate the instruments. The packaging envelops the instruments, creating a hollow area into which the sterilizing agent **must** be drawn or forced in. For these reasons, both internal and external chemical indicators must be used to detect penetration into the package. A Class V chemical indicator inside a process challenge device (PCD) must be placed in each sterilization cycle and the results must be kept in a registry.

A process challenge device is a key element in the quality assurance testing of dental office sterilizers. It is used to monitor the performance of the sterilization process. The process challenge device simulates an equal or greater challenge than the most difficult instrument/item routinely processed in a sterilization cycle. A PCD is a device that can be bought for multiple usage or one that can be fabricated for a single use.

Example of a PCD device

In addition, for negative pressure sterilizers (type B), a test with chemical indicator type 2 (Bowie Dick) must be carried out daily in an empty sterilizer chamber. Please refer to the Glossary for further information on chemical indicator classifications.

NOTE:

Mechanical and chemical indicators do not ensure that sterilization has been achieved. They merely offer verification that the necessary conditions have been met. However, they can also provide an early warning of a problem. If either mechanical or chemical indicators demonstrate inadequate processing, then none of the items in the load should be used until they are reprocessed.

3. **Biological indicators** (BIs or spore tests) are the most accepted means for monitoring sterilization because they directly assess the procedure's effectiveness in killing the most resistant microorganisms. The spores used are more resistant and present in greater numbers than the common microbial contaminants found on patient care items. Therefore, an inactivated BI signifies that other potential pathogens in the load have been killed.

   Biological indicators must be used daily for every sterilizer in the clinic. This test must be performed during the most challenging cycle and must be done inside a process challenge device (PCD). The PCD must contain the BI and a Class V indicator.

   Spore tests may be conducted using an in-office system available through most dental suppliers. However, an independent lab **must** be used for a monthly test to confirm that in-office procedures are accurate and effective. In addition, if a load contains implantable devices or instruments used to place implants, it **must** be monitored with a BI, and these items should be quarantined until the test results are known. Follow the manufacturer's directions concerning the appropriate placement of the BI in the sterilizer.

8. Traceability

Traceability of instruments in dentistry is crucial for several reasons.

- Ensuring that instruments are properly sterilized and tracked helps prevent cross-contamination and the spread of infections between patients.
- By keeping detailed records of the sterilization process, dental practices can guarantee that all instruments used are safe and sterile, providing a higher level of care for patients.
- In the event of a sterilization failure or a patient complaint, traceability allows dental practices to quickly identify and address any issues, minimizing potential risks and liabilities.
- Automated traceability systems can streamline the sterilization process, making it easier to manage and verify the status of instruments, thus improving overall efficiency in the dental practice. But a good manual system will also do the job.

Every load must be documented using a load log to demonstrate:

- Date
- Sterilizer number (identification of the machine used)
- Load number
- Initials of the person loading
- Initials of the person unloading
- Results of the Class V indicator, internal and external indicators and the BI test (once a day)
- Description of the problem (if any) and actions taken to correct

In every load, each package must be identified with a code that identifies it to the load. Example: date: load #, etc.

Every office must have a protocol for recall and traceability that includes:

- Labelling or written code
- Load logs
- Method of transferring information from labels or code to patient charts, manually or electronically

In the event of a positive BI or failed spore test

Remove the sterilizer from service. Review all records of mechanical and chemical indicators since the last negative BI, as well as sterilization procedures to determine whether operator error could be responsible. In the absence of a mechanical failure, common reasons for a positive BI include overloading, failing to provide adequate package separation and using incorrect or excessive packaging material. Repeat the spore test

immediately. This must be done after addressing any procedural problems and correctly loading the sterilizer, and by using the same cycle that produced the failure. While waiting for the repeat test results, the sterilizer must remain out of service. If the dental office does not have a second sterilizer, a colleague may be able to assist, or a dental supply company may lend one.

If the repeat spore test is negative, and mechanical and chemical indicators demonstrate adequate processing, then the sterilizer may be put back into service.

If the repeat spore test is positive, and all sterilization procedures have been performed correctly, then the sterilizer must remain out of service until it has been inspected, repaired and successfully rechallenged with BI tests in three consecutive empty chamber sterilization cycles. In addition, all items from suspect loads dating back to the last negative BI should be recalled, to the extent possible, and reprocessed.

IMPORTANT

The daily operation of every sterilizer must be reviewed and documented. A record must be kept for this purpose for a recommended 3 years indicating "operating as required", or noting any malfunctions and follow-up action taken

9. Monitoring of Ultrasonic Instrument Cleaners

Testing the efficiency of an ultrasonic cleaner is essential to ensure it is working correctly. One common method is the **foil test**. Here's how you can perform it.

- Fill the ultrasonic cleaner tank with water and add a small amount of cleaning solution.
- Cut a piece of aluminum foil to fit the size of the tank.
- Suspend the foil in the tank, ensuring it does not touch the bottom or sides.
- Turn on the ultrasonic cleaner and let it run for about one minute.
- Remove the foil and examine it. If the cleaner is working properly, the foil should have small holes and a crinkled appearance where the cavitation bubbles have impacted it.

Additional Tips

Perform this test periodically to ensure consistent performance. Another simple test is to observe the surface of the water for ripples or sonic waves when the cleaner is on.

Automatic washer should have a wash test performed on a regular basis to ensure that the washer is working properly.

Part D: Environmental Infection Control and Waste Management

1. General Considerations

Environmental surfaces in the dental operatory do not come into contact with the patient and do not pose a direct risk to their safety. However, surfaces such as light handles and drawer knobs can become contaminated during patient care, acting as reservoirs of microorganisms. Transmission usually occurs through hand contact or by touching the surface with a contaminated instrument. When this happens, microorganisms can be transferred to other instruments, other environmental surfaces, or to the hands, nose, mouth and eyes of patients and DHCPs.

Proper hand hygiene and the use of personal protective equipment are essential to minimizing the transfer of microorganisms. In addition, the use of barriers or cleaning and disinfection of environmental surfaces will guard against such transferal.

DHCPs must take particular care in the handling of patients' charts to ensure that they do not become vehicles for cross-contamination. This is particularly important because paper charts are transported by staff members to numerous areas in an office and are difficult to effectively clean and disinfect. Environmental surfaces are divided into clinical contact surfaces and housekeeping surfaces. Methods for Cleaning, Disinfection and Sterilization of Patient Care Items and Environmental Surfaces can be found on page 30..

2. Clinical Contact Surfaces

Clinical contact surfaces are frequently touched during patient care. They can become contaminated by direct spray or spatter generated during dental procedures or by contact with a DHCP's gloved hands or contaminated instruments. Examples of clinical contact surfaces include:

- chair controls and switches
- drawer and faucet handles
- light handles and switches
- countertops
- radiography equipment
- pens
- chairside computers
- keyboards and monitors
- telephones
- doorknobs
- reusable containers of dental materials
- safety glasses - those worn by staff and those worn by patients

- bib clips

Clinical contact surfaces must be cleaned and disinfected at the beginning of the workday, between patients and at the end of the workday using an appropriate low-level disinfectant. To facilitate this, treatment areas must be well-organized and kept free of unnecessary equipment and supplies, especially on countertops. Staff must take appropriate precautions, (including wearing gloves), while cleaning and disinfecting surfaces to prevent occupational exposure to infectious agents, pathogens and hazardous chemicals.

Alternatively, clinical contact surfaces and equipment can be protected from contamination by using barriers. Barriers are particularly effective for those surfaces that are difficult to clean and disinfect, due to their shape, surface or material characteristics.

Suitable barrier materials include:

- clear plastic wrap
- plastic tubing
- plastic bags
- plastic-backed paper
- plastic sheets
- other moisture-proof materials
- overgloves

Since barriers can become contaminated during dental procedures, they must be discarded (using gloves) on a routine basis (e.g. between patients) and when visibly soiled or damaged. At a minimum, following barrier removal, the underlying surfaces must be examined to ensure they did not inadvertently become contaminated. Those that did must be cleaned and disinfected. Otherwise, clean barriers must be placed prior to the next patient.

3. Housekeeping Surfaces

Housekeeping surfaces, such as floors and walls, have a limited risk of disease transmission. Accordingly, these surfaces usually require only periodic cleaning with diluted detergents. If a surface is suspected to have become contaminated with blood, saliva or other bodily fluids, it must be cleaned first and then disinfected with an appropriate low-level disinfectant (e.g. household bleach diluted 1:50 or accelerated hydrogen peroxide). DHCPs must take appropriate precautions, including wearing gloves, for this purpose.

From a general housekeeping point of view, floors must be cleaned regularly and spills must be cleaned up promptly. Cleaning tools, such as mop heads, must be rinsed after use and allowed to dry before they are used. Fresh cleaning solutions must be made each day, discarding any that remain and allowing the container to dry between usage . In this way, the risk of these solutions becoming reservoirs for microorganisms can be minimized.

IMPORTANT

Carpeting and cloth furnishings are difficult to clean and cannot be reliably disinfected. They must not be used in patient treatment or instruments preparation areas.

4. Management of Waste

For the purposes of infection control, waste from dental offices can be divided into two categories: biomedical waste and general office waste. New Brunswick guidelines under the *Clean Environment Act* and WHMIS dictate that biomedical ("hazardous") waste **must** be handled and disposed of in a manner that avoids transmission of potential infections. Therefore, it is necessary to understand the differences between these types of waste, so that they can be separated, stored and disposed of appropriately.

i. Biomedical Waste

Biomedical waste is classified as hazardous waste and **must not** be disposed of with regular garbage. It **must** be handled safely to protect human health and the environment. In general, all biomedical waste **must** be:

- stored in colour-coded containers that are marked with the universal biohazard symbol;
- released to an approved biomedical waste carrier for disposal.

Biomedical waste can be further divided into anatomical and non-anatomical waste.

a. Anatomical waste (i.e. human tissue)

The generation of anatomical waste is normally limited to oral surgeons and periodontists, such as in the course of harvesting human tissue for treatment. Anatomical waste must be separated and collected in a red liner bag that is labelled with the universal biohazard symbol. This waste must then be stored in an enclosed storage area, such as a stand-alone refrigeration/freezer unit, that is marked "Biomedical Waste Storage Area" and displays the universal biohazard symbol. This storage area must be separate from other supply areas, locked and maintained at a temperature at or below 4 degrees Celsius. Once accumulated, anatomical waste **must** only be released to an approved biomedical waste carrier for disposal.

NOTE:

Extracted teeth are not classified as biomedical waste and should be handled differently. Please refer to the section below, "Handling of Extracted Teeth".

b. Non-anatomical waste

(i.e. sharps and blood-soaked materials)

Sharps (e.g. needles, syringes with needles, scalpel blades, clinical glass) must be separated and collected in a yellow puncture-resistant, leak proof container that is specifically designed for their management and labelled with the universal biohazard symbol. Once the container has reached the designated capacity, it **must** only be released to an approved biomedical waste carrier for disposal.

Non-anatomical waste includes blood-soaked materials that release liquid or semi-liquid blood if compressed. It must be separated and collected in a yellow liner bag that is labelled with the universal biohazard symbol. If blood-soaked materials are to remain on site for more than four days, they must be stored like anatomical waste in a refrigerated storage area that is marked "Biomedical Waste Storage Area" and displays the universal biohazard symbol.

Once accumulated, blood-soaked materials **must** only be released to an approved biomedical waste carrier for disposal.

In most instances, items such as gauze, cotton rolls and examination gloves that have come in contact with blood, saliva or other bodily fluids are not classified as biomedical waste. Provided that the item does not release liquid or semi-liquid blood if compressed, it must be considered as general office waste.

ii. General Office Waste

General office waste is no more infective than residential waste. Therefore, most soiled items generated in dental offices do not require any special disposal methods, other than careful containment and removal.

Recommendations for all types of general office waste include:

- Ensure all garbage containers are waterproof and have tight-fitting lids, preferably operated by a foot pedal. Open wastebaskets might be dangerous if children are around them.
- Use plastic bags to line the garbage containers. The use of double bagging is not necessary, unless the integrity of the bag is jeopardized or the outside is visibly soiled.
- Do not overfill garbage containers.
- Do not place sharp, hard or heavy objects into plastic bags that could cause them to burst.

Certain types of waste generated in dental offices can be detrimental to the environment if not properly handled, and their disposal is subject to provincial regulations and municipal bylaws. In addition to biomedical waste, this includes waste that contains mercury, silver, lead and other chemicals. For further information regarding the disposal of these types of waste, contact the local office of the NB Department of Environment and Local Government.

iii. Handling of Extracted Teeth

Extracted teeth without amalgam fillings may be disposed as general office waste. Extracted teeth with amalgam fillings must be treated as mercury-containing waste and disposed accordingly.

If being sent to a dental laboratory for shade or size comparisons, extracted teeth must be cleaned and surface disinfected with an appropriate low-level disinfectant. Extracted teeth being collected for use in pre-clinical education training must be cleaned of visible blood and gross debris and maintained in a hydrated state in a closed container during transportation.

Part E: Equipment and Area-Specific Practice

I. Dental Unit Waterlines

Dental unit waterlines are made of narrow-bore plastic tubing that carry water to handpieces, ultrasonic instruments and air/water syringes. They can become heavily colonized with waterborne microorganisms, including bacteria, fungi and protozoa, which form a biofilm on the interior surface of the waterline. However, they are not a supportive environment for bacteria commonly found in the oral cavity.

High numbers of these opportunistic microorganisms are not necessarily dangerous to the general population, unless the patient or DHCP is a susceptible host. This includes people who are immune compromised (e.g. persons living with HIV, persons undergoing oncology treatment or organ transplantation procedures) and those with cystic fibrosis, chronic bronchitis and bronchiectasis.
The use of monitoring systems can help to ensure dental waterline quality. The potential risk of infection from dental unit waterline microorganisms can be effectively reduced to counts like those in potable water standards by following regular waterline maintenance procedures.

(a) For offices using communal water supplies:

- Waterline heaters **must not** be used, as the heat encourages the growth of microorganisms.
- All waterlines **must** be purged at the beginning of each workday by flushing them thoroughly with water for at least two to three minutes. Before purging is carried out, handpieces, air/water syringe tips and ultrasonic tips **must** be removed from the waterlines.
- Handpieces using water coolant **must** be run for 20 to 30 seconds after patient care in order to purge all potentially contaminated air and water. The handpiece **must** then be removed and, following cleaning and disinfection of clinical contact surfaces, another sterilized handpiece may be attached for use with the next patient.

NOTE:
Sterile water or sterile saline delivered through a sterilized device must be used when irrigating open surgical sites and whenever bone is cut during invasive surgical procedures. Appropriate devices, such as bulb syringes or single-use disposable products, must be used to deliver sterile irrigation solutions since general waterline sterility cannot be ensured.

(b) For offices using closed or other water delivery systems:

The manufacturer's instructions related to dental units and equipment **must** be followed for daily and weekly maintenance.

(c) Loss of Potable Water

Boiling water advisories occur whenever public health officials determine that municipally delivered tap

water is unsafe to drink. Circumstances that compromise the safety of the municipal water system include compromises in the distribution system (e.g., water-main breaks), water treatment system failures and natural disasters (e.g., floods, hurricanes or earthquakes.

During a boiling water advisory, the following precautions must be taken:

- Public water must not be delivered to the patient through the dental unit, ultrasonic scaler or other devices or equipment.
- Utilization of an alternative water sources through a closed delivery systems.
- Postpone treatment delivery, if necessary.
- Patients must not rinse their mouths with tap water; bottled or distilled water must be used instead.

- When the boiling water advisory is cancelled, all incoming public water system lines, including any taps or other water- lines in the dental office, must be flushed for 1-5 minutes. The dental unit waterlines in all dental units and equipment must be disinfected according to the manufacturer's instructions prior to usage. There may be public health advisories which may require further measures.

2. Dental Handpieces and Other Intra-oral Devices

Several dental devices that contact mucous membranes are attached to the air or waterlines of the dental unit, including:

- High and low-speed handpieces;
- prophylaxis angles;
- ultrasonic and sonic instruments;
- air abrasion devices;
- air/water syringe tips.

These devices have the potential of becoming contaminated by retracting oral fluids into their internal compartments. Such fluids can then be expelled into the oral cavity of another patient during subsequent use. To flush out any patient material that might have entered the turbine or air and waterlines, these devices must be activated to discharge air and water for a minimum of 20 to 30 seconds after each patient.

Dental handpieces and other intraoral devices that are attached to air or waterlines **must** be sterilized after each patient use. The manufacturer's instructions for cleaning, lubricating and sterilizing these devices should be strictly followed. Some instrument components are permanently attached to dental unit waterlines (e.g. electric handpiece motors, handles for ultrasonic devices, and attachments for saliva ejectors, high-volume suction and air/water syringes). Such components must be covered with barriers that are changed after each patient use. If the item is contaminated or suspected to have been contaminated, it **must** be cleaned and disinfected with an appropriate low-level disinfectant, or barriers placed, before the next patient is seated in the operatory.

3. Saliva Ejectors

Backflow from a low-volume saliva ejector can occur when a patient closes his or her lips around the tip, forming a seal that creates a partial vacuum. This backflow can result in microorganisms from the suction lines entering the patient's mouth, a potential source of cross-contamination. **Therefore, DHCPs must not allow patients to close their mouths over the saliva ejector tip.** In addition, specially designed saliva ejectors exist that do not allow a negative pressure to form around the tip.

Suction lines **must** be purged between patients by aspirating water or an appropriate cleaning solution, thereby removing loosely adherent debris and microorganisms. At least once per week, suction lines **must** be flushed out with an enzymatic cleaner or appropriate cleaning solution. Suction traps must be inspected and cleaned on a routine basis.

4. Single-Use Devices

Single-use (i.e. disposable) devices are designed to be used on one patient and then discarded and not to be reprocessed and used on another patient. Examples include syringe needles, prophylaxis cups and brushes, and certain orthodontic brackets. Some items, such as prophylaxis angles, high-volume suction tips and air/water syringe tips are commonly available in single-use forms.
Single-use devices are usually not heat-tolerant and cannot be reliably cleaned or disinfected. Therefore, they must be disposed of appropriately after single use. Expire date must also be respected.

5. Dental Radiographic Equipment

When taking radiographs, appropriate steps must be taken to prevent cross-contamination of equipment and environmental surfaces with blood or saliva. This includes the use of gloves when taking radiographs and handling contaminated film packets. Accessories for taking intraoral radiographs (e.g. film-holders and positioning devices) **must** be sterilized between patients. Care must be taken to avoid placing or removing a lead apron with contaminated gloves. The use of over gloves or de-gloving followed by hand hygiene is recommended.

Radiography equipment (e.g. tube heads and control panels) must be protected with surface barriers that are changed after each patient use. If barriers are not used, equipment that has come into contact with the DHCP's gloved hands or contaminated film packets must be cleaned and disinfected after each patient use.

After a radiograph is exposed, the film packet must be dried with disposable gauze or a paper towel to remove blood or excess saliva and then placed in a container, such as a disposable cup, for transport to the developing area.

The film packet may be disinfected with an appropriate low-level disinfectant before opening to develop the film. Alternatively, a contaminated film packet may be opened using gloves. The film must be dropped onto a clean surface without touching it and the empty packet must be discarded, being careful to avoid contamination. Gloves must then be removed before developing the film.

Another option is to use a barrier pouch to prevent contamination of the film packet. If used, the film packet must be carefully removed from the pouch to avoid contamination and then placed in a container for transport to the developing area.

Care must be taken to avoid contamination of the developing equipment. Protective barriers must be used or, alternatively, any surfaces that become contaminated must be cleaned and disinfected with an appropriate low-level disinfectant.

6. Digital Radiography Sensors and Intraoral Cameras

Digital radiography sensors and intraoral cameras may come into contact with mucous membranes. Accordingly, these devices must be cleaned and disinfected between patients. Manufacturer's instructions must be followed for the disinfection of phosphor plates. Alternatively, digital radiography sensors and intraoral cameras must be protected with barriers to reduce gross contamination. However, following barrier removal, the underlying surface must be examined and if found contaminated, they must be cleaned and disinfected.

As with other dental equipment, the manufacturer's instructions must be followed regarding the use of appropriate barriers and recommended sterilization and disinfection procedures for these devices.

7. Lasers and Electrosurgery Equipment

During surgical procedures, the use of lasers and electro- surgery equipment causes thermal destruction of tissues, creating a smoke by-product that may contain viable microorganisms. In addition, lasers transfer electromagnetic energy into the tissues, resulting in the release of a heated plume that includes particles, gases, tissue debris, viruses and offensive odours.

DHCPs must take appropriate precautions to avoid inhaling or otherwise coming into contact with laser plumes and electrosurgery smoke, including the use of:

- Routine Practices (e.g. appropriate masks and face shields);
- central room suction units with in-line filters to collect particulate matter;
- dedicated mechanical smoke exhaust systems with a high-efficiency filter to remove substantial amounts of laser plume particles.

8. Dental Laboratory Asepsis

Dental prostheses and appliances, as well as items used in their fabrication (e.g. impressions, occlusion rims, bite registrations), are potential sources for cross-contamination. They must be handled in a manner that prevents exposure of patients, DHCPs or the office environment to infectious agents.

Effective communication and coordination between the dental office and the commercial dental laboratory will ensure that:

- appropriate cleaning and disinfection procedures are performed in the dental office or the commercial dental laboratory;

- materials are not damaged or distorted because of overexposure to disinfectants;
- disinfection procedures are not unnecessarily duplicated.

Impressions, prostheses or appliances must be cleaned and disinfected as soon as possible after removal from the patient's mouth, before drying of blood or other organic debris. The manufacturer's instructions regarding the stability of specific materials during disinfection must be consulted. Wet impressions or appliances must be placed in an impervious bag prior to transportation to a commercial dental laboratory.

Heat-tolerant semi-critical items used in the mouth, such as impression trays or facebow forks, must be sterilized after each patient use. Other items that do not normally come in contact with the patient, but frequently become contaminated, such as articulators and case pans, must be cleaned and disinfected according to the manufacturer's instructions. Items used in the typical in-office dental laboratory, such as burs, polishing points, rag wheels, laboratory knives and dental lathes, frequently become contaminated during adjustments to prostheses and appliances. These items **must** be sterilized, cleaned and disinfected or discarded after use.

Finished prostheses and appliances delivered to the patient **must** be free of contamination. This can be accomplished with an appropriate low-level disinfectant by either the commercial dental laboratory or dental office.

9. Handling of Biopsy Specimens

To protect people handling and transporting biopsy specimens, the specimen(s) **must** be placed in a sturdy, leak proof container that has a secure lid and is clearly labelled with the universal biohazard symbol. Care must be taken when collecting the specimen to avoid contaminating the outside of the container. If the outside of the container is suspected to be or has been contaminated, it **must** be cleaned and disinfected or placed in an impervious bag prior to transportation.

10. General and Surgical Aseptic Technique

The mouth is considered a clean-contaminated environment and the patient's own defenses (e.g. antibacterial enzymes in saliva and immune responses) play a large role in healing and preventing infection after a dental procedure. Infection is usually the result of the patient's own oral flora.

Aseptic technique is a term used to describe practices that prevent microbial contamination. These practices include environmental cleaning, effective hand hygiene, wearing appropriate clinical attire (e.g. gloves, protective eyewear, masks, gowns), proper handling of clean instruments, wrapping and sterilization, proper handling of sterile instruments as they are unwrapped, preventing sterile instruments from being contaminated from environmental sources, and properly administering medicines.
Surgical aseptic technique refers to practices that render and maintain objects and the surrounding area maximally free of microorganisms, prevent contamination of a wound, isolate the operative site from the surrounding unsterile physical environment, and create a sterile field to perform surgery as safely as possible (e.g. draping where appropriate).

For minor dental procedures, hand hygiene is performed, sterile instruments are placed at a clean chair-side area and care is taken to avoid placing unsterile equipment near sterile items. Depending on the complexity of the procedure, the chair-side area is separated into clean or sterile versus contaminated areas. Once the procedure begins, items are no longer sterile due to contamination with organisms from the patient's mouth, but the goal is to keep the tray and instruments as clean as possible, and to avoid contamination from other sources. When hands or gloves contact certain surfaces that are frequently touched by others, microorganisms can be transferred to instruments or other environmental surfaces, and to the eyes, nose or mouth. For major dental procedures (like other surgical procedures), the patient is prepared, hand hygiene is performed, sterile gloves are worn, and all items that go onto the sterile field are kept sterile, including instruments, materials and supplies that come in contact with the surgical site. Every item handled by the dental surgeon **must** be sterile or have a protective sterile covering.

In addition to following routine practices, and performing appropriate disinfection and sterilization of dental instruments and devices, DHCPs reduce the risk of transferring bacteria from the environment to patients by adhering to some basic steps:

- Prepare and organize work procedures so that all the required equipment is gathered for the task.
- Sterile instruments and devices **must** be stored in an enclosed space, such asclosed or covered cabinets. They **must** remain wrapped until ready foruse.
- Spatially separate work areas and equipment into "clean" versus "contaminated"; "sterile" versus "unsterile".
- Use protective covers and barriers ac- cording to approved office-specific work procedures.
- If an item is needed for a procedure, but not on the procedure tray, it must only be retrieved using transfer forceps or by first ensuring that the DHCP's hands are clean.
- Gloves **must** be put on immediately before initiating the procedure for the patient.
- If you observe or suspect that gloves have become torn or perforated, remove them, perform hand hygiene and re-glove where appropriate.

Maintaining aseptic technique is a co-operative responsibility of the entire dental team. Each member **must** develop a professional conscience for infection prevention and control, as well as a willingness to supervise and be supervised by others regarding aseptic techniques.

IMPORTANT

If an item is needed for a procedure, but not on the procedure tray, it must only be retrieved using transfer forceps or by first ensuring that the DHCP's hands are clean. Transfer forceps must always be readily available

KEY PRINCIPLE: DHCPs must utilize appropriate equipment and employ routine cleaning, prevent disease transmission and ensure patient safety.

Part F: Additional Considerations for Alternative Practice Settings

Alternative practice settings include any setting where dental or dental hygiene services may be provided that are not confined to a conventional clinical operatory. These settings may include, but are not limited to, the following:

- Group homes
- Long term care/residential care facilities
- Rehabilitation facilities
- Private residences
- Community centres
- Educational facilities
- Hospitals
- Mobile dental/dental hygiene clinics

Due to the lack of standardized dental equipment and patient care equipment (dental units, dedicated waterlines and suction, etc.) available in many of these settings, DHCPs **must** take appropriate measures to ensure that infection control protocols are followed, and patient safety is maintained. It is the responsibility of the DHCP to check with any alternative practice setting/institution to review sterilizing policy before practice begins.

The following topics must be carefully considered when providing oral care in alternative care settings:

1. Disposal of biomedical waste

Biomedical waste is classified as hazardous waste and **must not** be disposed with regular garbage. It **must** be handled safely to protect human health and the environment. In general, all biomedical waste **must** be:

- stored in colour-coded containers that are marked with the universal biohazard symbol;
- released to an approved biomedical waste carrier for disposal.

Biomedical waste can be further divided into anatomical and non-anatomical waste. Refer to "Management of Waste" Page 41 for instructions on disposal of biomedical waste items.

2. Disposal of environmentally hazardous waste

Certain types of waste generated in dental offices can be detrimental to the environment if not properly handled, and their disposal is subject to federal and provincial regulations and municipal bylaws. In addition to biomedical waste, this includes waste that contains mercury, silver, lead and other chemicals. Mercury-containing items must be treated as hazardous materials and should not be thrown in the garbage, and liquid mercury should never be poured down the drain.

3. Disposal of sharps

Sharps (e.g. needles, syringes with needles, scalpel blades, clinical glass) **must** be separated and collected in a puncture-resistant, leakproof container that is specifically designed for their management and labelled with the universal biohazard symbol. Once the container has reached the designated capacity, it **must** only be released to an approved biomedical waste carrier for disposal.

4. Transportation of contaminated and sterile equipment

When transporting instruments between practice settings, contaminated instruments **must** be packaged in sealed, sturdy, leakproof containers to prevent cross-contamination. Similarly, sterile instruments **must** be transported in sealed packages to maintain sterility until opened for use on site. Disposable sharps such as needles and blades must be removed and disposed of in an appropriate puncture-resistant sharps container at point of use, prior to transportation. Soiled instruments **must** be handled in a manner that reduces the risk of exposure and/or injury to personnel and clients/patients/residents, or contamination of environmental surfaces. A process must be in place to ensure that instruments that have been reprocessed (sterilized) can be differentiated from those that have not been reprocessed (e.g. color-coding).

Part G: Glossary of Infection Prevention and Control Terms

Additional precautions: A term used to describe infection prevention and control interventions that are taken in addition to Routine Practices for certain pathogens or clinical presentations, based on the method of transmission (e.g. contact, droplet, airborne).

Aerosol: Particles of respirable size (<10um) generated by both humans and environmental sources that can remain viable and airborne for extended periods, commonly generated in dentistry during use of hand pieces, ultrasonic scalers, and air/water syringes.

Asepsis: The absence of pathogenic (i.e. disease- producing) microorganisms.

Aseptic technique: A term used to describe practices that prevent microbial contamination.

Biological indicator (BI): A device that is used to monitor the sterilization process, which consists of a standardized population of bacterial spores known to be resistant to the mode of sterilization being monitored. BIs indicate that all the parameters necessary for sterilization were present.

Chemical indicator (CI): A monitoring device that is designed to respond with a chemical or physical change to one or more of the sterilization process parameters. CIs do not verify sterility, but they do assist in the detection of potential sterilization failures, which could result from incorrect packaging, incorrect loading of the sterilizer or equipment malfunction. There are several classes of CIs:

> **Classe 1 Process indicator:** An external indicator that is used to demonstrate that an item has been exposed to a sterilization process, and to distinguish between processed and non-processed items. Class 1 CIs are usually applied to or visible on the outside of packages (e.g. sterilization tape or packaging printed with colour changing ink). Class 1 CIs are directly exposed to the sterilization environment, so they usually fail only when there is a gross malfunction of the sterilizer.
>
> **Classe 2 Specialty indicator:** An indicator that is designed for use in specific test procedures in special sterilizers (e.g. dynamic air-removal sterilizers). Examples of Class 2 CIs include **Bowie Dick** and Dart products, which are used for steam sterilizers and Type B sterilizers.
>
> **Classe 3 Single-parameter indicator:** An internal indicator that responds to only one critical parameter of the sterilization process, usually time or temperature. It is important to note that the sterilization process has more than one critical parameter, and all of them **must** be reached for sterilization to occur.
>
> **Classe 4 Multi-parameter indicator:** An internal indicator that responds to two or more critical parameters of the sterilization process.

Classe 5 Integrating indicator: An internal indicator that responds to all critical parameters of the sterilization process, heat, time and pressure. Class 5 CIs are correlated to the performance of biological indicators (BIs).

Cleaning: The physical removal of foreign material (i.e. organic and inorganic matter) from an object or item using water and mechanical action, with or without detergents. Cleaning removes rather than kills microorganisms. Cleaning and then rinsing is performed before further processing.

Decontamination: A process of cleaning, followed by inactivation of pathogenic microorganisms from objects to render them safe to handle.

DHCP: Dental health care provider.

Disinfection: A process that kills most pathogenic micro-organisms but rarely kills all bacterial spores. Disinfection is achieved through pasteurization or the use of some chemical agents (i.e. disinfectants). The term falls between physical cleaning and sterilization. There are various levels of disinfection:

- **High-Level Disinfection (HLD):** A process capable of killing vegetative bacteria, mycobacteria (including Mycobacterium tuberculosis), fungi, and enveloped and non-enveloped viruses, as well as some, but not necessarily all, bacterial spores. HLD is considered to be the minimum level of decontamination required for semi-critical patient care items. HLD is performed after items are thoroughly cleaned and rinsed. HLDs include 2% glutaraldehyde, 7% accelerated hydrogen peroxide, 6% hydrogen peroxide, 0.2% peracetic acid and 0.55% ortho-phthalaldehyde.

- **Intermediate Level Disinfection (ILD):** A process that kills all microbial pathogens, except bacterial endo-spores, when used according to labelling. ILDs include ethylalcohol or isopropyl alcohol, hypochlorites, iodine and iodophors.

- **Low-Level Disinfection (LLD):** A process capable of killing most vegetative bacteria, as well as some fungi and enveloped viruses. LLD is the minimum level of decontamination required for non-critical patient care items and some environmental surfaces. LLD is performed after items are thoroughly cleaned and rinsed. LLDs include chlorine-based products (e.g. diluted household bleach), 0.5% accelerated hydrogen peroxide, 3% hydrogen peroxide, 60 to 95% alcohol, iodophors, phenolics or quaternary ammonium compounds.

Droplets: Small particles of moisture (e.g. spatter) generated when a person coughs or sneezes, or when water is converted to a fine mist by an aerator or shower head. Intermediate in size between drops and droplet nuclei, these particles, although they may still contain infectious microorganisms, tend to quickly settle out from the air so that any risk of disease transmission is generally limited to persons and surfaces near the droplet source.

Exposure-prone procedures (EPPs): A term used for the purpose of managing the risk of transmitting blood-borne pathogens. These are procedures during which transmission of HBV, HCV or HIV from a health care worker to patients is most likely to occur. Exposure-prone procedures (EPPs) are invasive procedures where there is a risk that injury to the dental health care provider may result in the exposure of the patient's open tissues to the blood of the dental health

care provider. Any dental health care provider with HBV, HCV or HIV is restricted from performing EPPs in the high-risk exposure procedure until their condition is managed as per the NBDS policies on infectious diseases. There would be no restrictions on performing procedures in the moderate or low risk categories.

High risk exposure-prone procedures

- All surgical procedures (hard and soft tissue including suturing)
- Periodontal scaling and root planning

Moderate risk exposure-prone procedures

- Locally anaesthetized operative, prosthetic and endodontic procedures
- IV insertion
- IM injections

Low risk exposure-prone procedures

- Gloved oral examinations
- Routine preventive procedures
- Pit & fissure sealants
- Topical fluoride
- Prophylaxis
- Diagnostic procedures
- Orthodontic procedures
- Prosthetic procedures (e.g. dentures)
- Cosmetic procedures (e.g. bleaching) not requiring local anesthesia

Implantable devices: A **dental implantable device** refers to a medical device that is surgically placed into the jawbone to support dental prosthetics like crowns, bridges, or dentures. These devices are typically made of biocompatible materials such as titanium, which allows them to integrate with the bone through a process called osseointegration.
Implantable devices that have been prepared and packaged by the manufacturer and are received pre-sterilized do not require re-sterilization. Implantable devices are not intended for reuse. If an implantable device has been used in a patient's mouth it **must not** be reused.

Infection and Prevention Control Officer (IPAC Officer): this person is responsible for the education and the training of the IPAC standard. This person is named by the responsible dentist or the owner of the dental/dental hygiene clinic.

Process Challenge Device (PCD): A process challenge device is a key element in the quality assurance testing of dental office sterilizers. It is used to monitor the performance of the sterilization process. The process challenge device simulates an equal or greater challenge than the most difficult instrument/item routinely processed in a sterilization cycle. A PCD is a device that can be bought for multiple usage or one that can be fabricated for a single use.

Personal protective equipment (PPE): Specialized clothing or equipment worn by staff and patients for protection against hazards.

Reusable device: A device that has been designed by the manufacturer, through the selection of materials and/or components, to be reused.

Risk class: The class assigned to patient care items based on the potential risk for infection associated with their intended use. The risk class determines the processing requirements of an item. The risk classes are as follows:

Critical items: Items that penetrate soft tissue or bone enter into or contact normally sterile tissue or the bloodstream. Critical items present a high risk of infection if the item is contaminated with any type of microorganism, including bacterial spores. Processing of critical items involves meticulous cleaning followed by sterilization.

Examples of instruments that are considered critical include (note this is not an exhaustive list):

- Air/water syringe tips
- Anesthetic syringes
- Endodontic instruments, including files, reamers, broaches
- Handpieces
- Metal matrix bands
- Periodontal instruments including ultrasonic tips
- Polishing cups, points and mandrels
- Restorative and operative instruments
- Rotary burs and diamonds
- Rubber dam clamps
- Stainless steel crowns
- Surgical suction tips

Semi-critical items: Items that contact mucous membranes or non-intact skin, but ordinarily do not penetrate them. Processing semi-critical items involves meticulous cleaning followed by sterilization (preferred) or high-level disinfection (minimum). Semi-critical instruments or devices that have been exposed to blood or have the potential to be exposed to blood **must** be treated as critical. DHCPs **must** use their professional judgment for every instrument, device and surface for their specific practices to ensure that these Guidelines are being met.

Examples of instruments that are considered semi- critical include (note this is not an exhaustive list):

- Articulating paper holders
- Crown removing instruments
- Impression trays
- Lab burs
- Mixing spatulas

- Nasal hoods (e.g. for use with nitrous oxide)
- Orthodontic pliers
- Rubber dam frame and clamp forceps
- Suction tips other than for surgery (does not include single-use saliva ejectors)

Non-critical items: Items that contact intact skin, but not mucous membranes, or do not directly contact the patient. Processing of non-critical items involves cleaning followed by low-level disinfection.

Examples of instruments that are considered noncritical include (note this is not an exhaustive list):

- Curing Lights
- Bib clips
- Light handle covers
- Laboratory knives and spatulas
- Rubber dam punch
- Shade guides

Routine practices: A term used to describe basic standards of infection prevention and control that are required for safe patient care. Routine Practices are based on the concept that all patients are potentially infective, even when asymptomatic, and that the same safe standards of practice should routinely apply to contact with blood, body fluids and secretions (e.g. saliva), mucous mem- branes and non-intact skin.

Single-use/disposable device: A device that has been designed by the manufacturer for single-use only.

Spatter: Visible drops of liquid or body fluid that are expelled forcibly into the air and settle out quickly, as distinguished from particles of an aerosol, which remain airborne indefinitely.

Sterilization: A validated process that kills all pathogenic microorganisms, including bacteria, fungi, viruses and spores.

Ultrasonic cleaner: A machine that cleans patient care items by the cavitations produced by ultrasound waves.

Part H: Additional Resources

Best Management Practices for Hazardous Dental Waste Disposal

Nova Scotia Dental Association
OHS-20181204-NSDA-HazardousWasteDocuments.pdf

Guidelines for the Management of Biomedical Waste in Canada

Guidelines for the Management of Biomedical Waste in Canada

Public Health Agency of Canada 2024

Canadian Immunization Guide - Canada.ca

Decontamination and reprocessing of medical devices for health-care facilities

Aide-Memoire
WHO-UHL-IHS-IPC-2022.4-eng.pdf
WHO 1-118 BenedettaFinal5

New National Standard of Canada CAN/CSA-Z314-18 Canadian medical device reprocessing

Slide 1

Infection Control in Dental Settings

Centers for Disease Control and Prevention
Summary of Infection Prevention Practices in Dental Settings: Basic Expectations for Safe Care

Manufacturers Information for Reprocessing Reusable Devices

Guidance Document: Information to Be Provided by Manufacturers for the Reprocessing and Sterilization of Reusable Medical Devices - Canada.ca

Workplace Hazardous Materials Information System Regulation - Occupational Health and Safety Act (New Brunswick Regulation 88-221)

88-221 - Workplace Hazardous Materials Information System

WHMIS/SIMDUT training

WHMIS (GHS) Online Training | Danatec.com
WHMIS Certificate - Workplace Hazardous Materials Safety Training
WHMIS Online Certification | 1 Hour | Recognized Across Canada
WHMIS Online Training Course and Certification

Part I: Exposure Management and Prophylaxis

Percutaneous Injury

Exposure to blood or saliva by percutaneous injury is the greatest risk for acquiring a blood-borne pathogen in the dental health-care setting. Every effort should be made by all DHCP to avoid percutaneous injury.

Significant exposures must be dealt with immediately. A significant exposure exists whenever any of the following events occurs:

- Percutaneous injury, where the skin of the DHCP is punctured (i.e. blood is drawn).
- Blood, saliva or other body fluid is splashed onto non- intact skin (dermatitis, cuts or abrasions).
- Blood, saliva or other body fluid is splashed onto mucosa of the eyes, the mouth or the nose.

The steps in managing significant exposure are:

1. Remove gloves or immediate clothing, if necessary, to assess the extent of the injury.
2. First-aid must be administered, if necessary, for percutaneous exposures.
3. Immediately wash the area, including the puncture or wound using antimicrobial soap and water. Exposed eye, mouth
   or nose mucosa must be flushed with copious amounts of water. The application of caustic agents such as bleach, or the injection of antiseptic agents into the wound is not advisable.
4. Report the injury to the Infection Control Officer, (IPAC officer), who is often the practice owner, who must then contact the appropriate health-care professional for advice and possible referral, and begin the necessary documentation. Ensure that the confidentiality of the health and personal data is strictly maintained.

Documentation must include **(see template, Exposure documentation)**

- The name of the exposed DHCP, and details regarding the exposed person's vaccination status.
- The date and time of the exposure.
- The nature of the exposure, including the dental procedure being performed, the extent of the exposure, and immediate action taken.
- The name and health status of the source person, including details regarding any infectious diseases known or suspected.
- Referral for follow-up counseling and post-exposure management, as necessary.

Post-Exposure Prophylaxis

Every significant exposure must be evaluated by a qualified health-care professional for the potential to transmit a blood borne pathogen. The assessment of risk of transmission will be based on:

- The type and amount of body fluid or tissue involved.
- The nature of the exposure (e.g., percutaneous injury, mucous membrane or non-intact skin exposure).
- The known or unknown infection status of the source.
- The susceptibility of the exposed person.

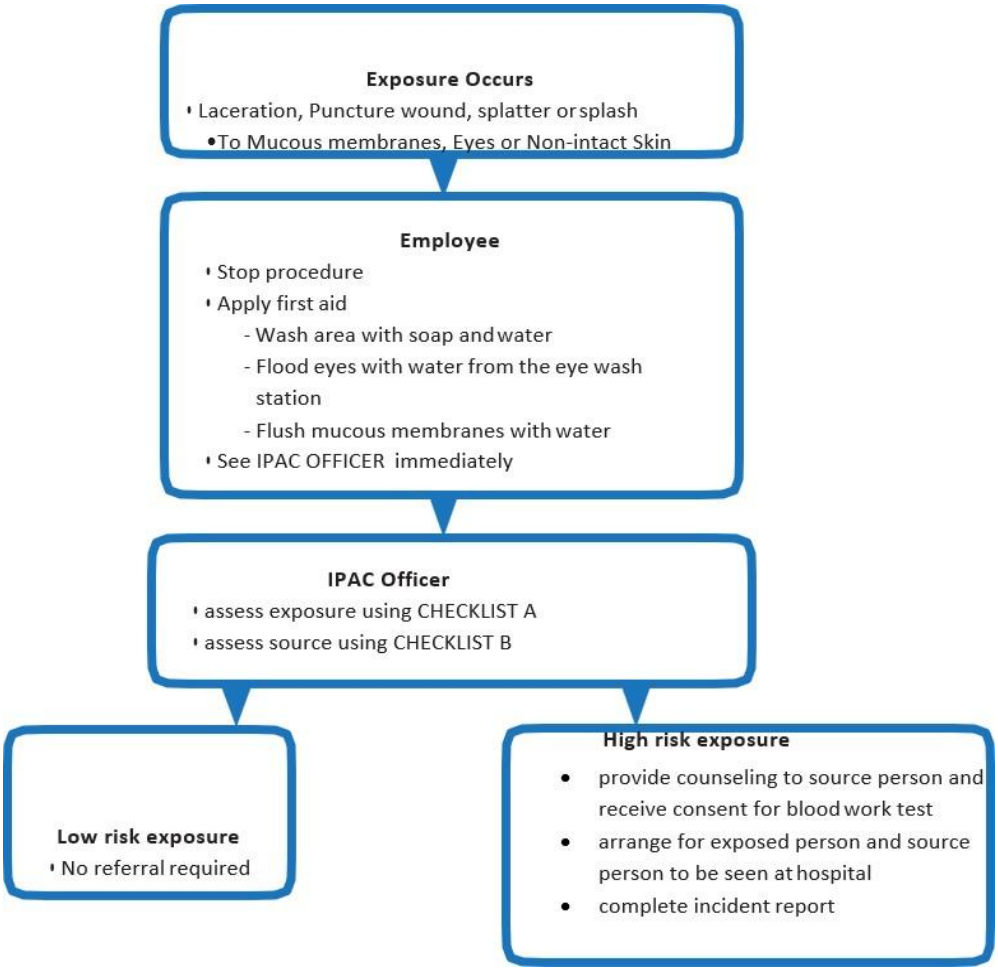
All these factors must be considered in determining the need for further follow-up care, including Post- Exposure Prophylaxis (PEP).

If the need to administer PEP is determined to be necessary, it must be done as soon as possible after the exposure. For example, anti-retroviral drugs to treat an HIV exposure must be given within one to two hours after the exposure.

The PEP regimen considered will be determined by the health-care professional contacted by the Infection Control Officer following the exposure. The PEP regimen must be consistent with current infection prevention and control guidelines, as recommended by the Public Health Agency of Canada.

As well as having a written office Infection and Prevention Control Program and identifying an Infection Control Officer (IPAC Officer) the appropriate arrangements and contact health- care personnel must be determined well before an actual significant exposure occurs.

Management of Needlestick and Mucous Membranes Exposition



Needlestick Exposure Information and Consent

An accidental needle stick injury has occurred to our staff. Sometimes this injury may expose them to a source person's blood. This may lead to an infection. To reduce the risk of infection after injury it is important to know if the source person is infected with certain organisms. These include Hepatitis B, Hepatitis C and Human Immunodeficiency Virus (the virus thought to cause AIDS).

Given any positive risk factors, we ask you to go to the hospital to allow an immediate blood test to be taken so that we can determine if there is a risk of passing on an infection from you to our employee.

Our office has policies and procedures in place to reduce injuries to employees. However, when accidents occur, we want to ensure that our employees receive proper care. We appreciate your cooperation in helping us to achieve this.

Consent to contact family physician for infectious disease blood test results

The above information has been reviewed and explained to me, and I consent to have my blood test at the hospital and the results be communicated to the medical personnel treating the affected staff.

Source person's name

Signature

Date:

Infection Control Officer

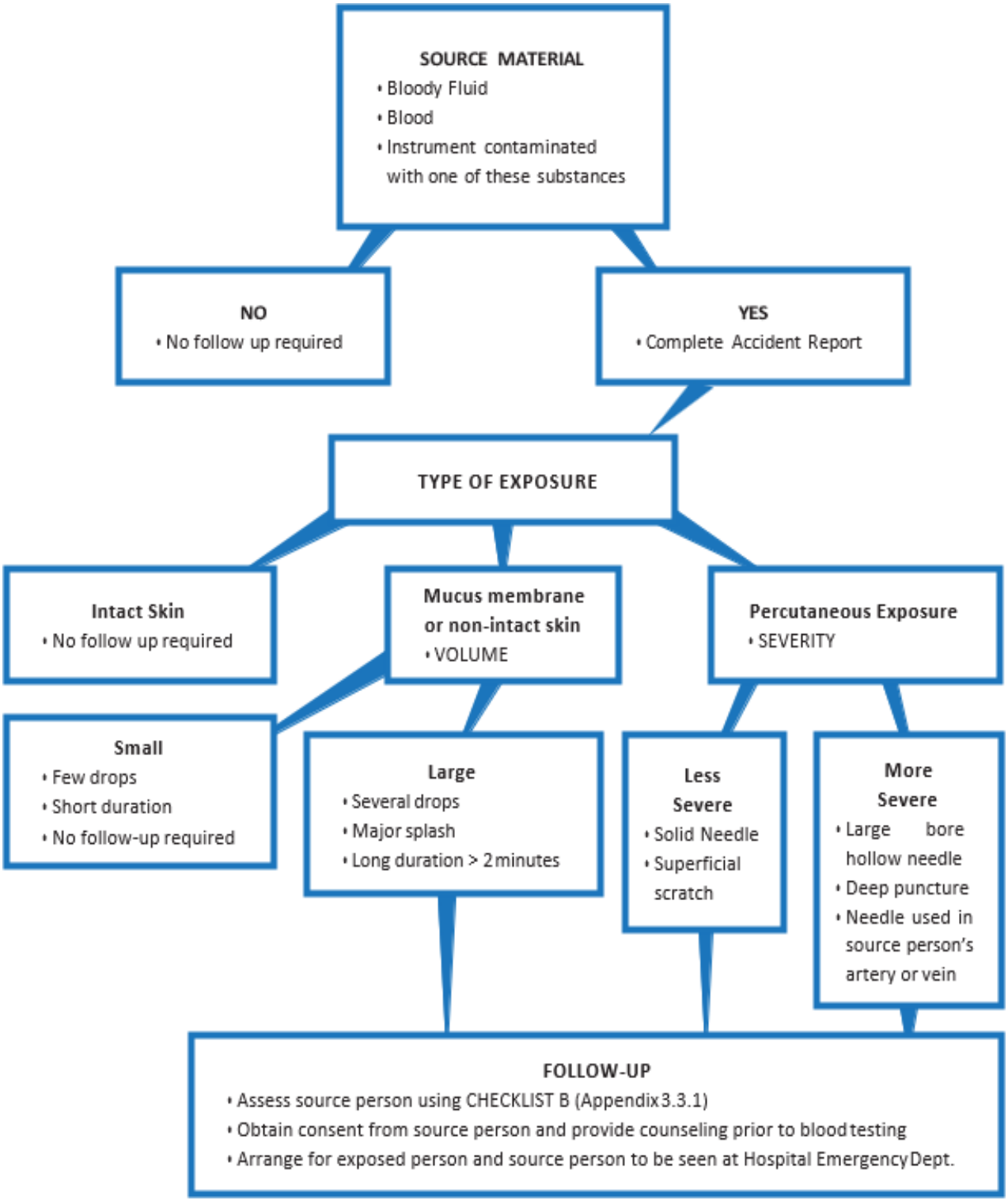
Signature

Witness Name

Witness Signature

CHECKLIST A

To Assess Exposure to the Risk of Infection (completed by the Infection Control Officer)



Medical Follow-Up to Needlestick and Mucous Membrane Exposures

The Following Procedures will be directed by the IPAC Officer:

1. **Medical management** of the injury.
2. **Referral of the source person** to the family physician or emergency physician for testing for Hepatitis B surface antigen, Hepatitis C surface antigen, and HIV antibodies. HIV testing will be done with appropriate pre- and post- counseling and informed consent.
3. **Referral of the exposed person** to the family physician or emergency physician for testing for Hepatitis B surface antibodies (if vaccinated) or Hepatitis B surface antigen (if not vaccinated), Hepatitis C antibodies, and HIV antibodies and to determine the need for Post-Exposure Prophylaxis.
4. **Documentation** of the following information (see template Exposure documentation) in the employees' confidential medical file:
   - date and time of exposure
   - details of the procedure being performed by the employee at the time of exposure
   - details of exposure including amount of fluid or material, type of fluid or material, and severity of exposure
   - details of exposure source
   - details of counseling, post-exposure management and follow-up
5. **Follow-up care** of the employee (see template Exposure and follow up care document) including counseling, medical evaluation and blood tests at 6 weeks, 3 months, and 6 months.

CHECKLIST B

To Assess Source Person After Exposure (Completed by Infection Control Officer)

❑ Inform the source person of the reason for the enquiry and allow them to read Needlestick Exposure Information and consent form

❑ Evaluate the source person's risk of blood-borne infection by reviewing their medical history for clinical symptoms and asking them for additional information.

Do you know if you are Hepatitis B, C or HIV positive or have any risk factors for exposure to viruses?

Hepatitis B ❑ Yes ❑ No ❑ Not sure Date Diagnosed _____

Hepatitis C ❑ Yes ❑ No ❑ Not sure Date Diagnosed _____

HIV ❑ Yes ❑ No ❑ Not sure Date Diagnosed _____

Risk Factors ❑ Yes ❑ No ❑ Not sure

Risk factors may include:

a) IV drug use/shared needles
b) Receiving blood products
c) Multiple sex partners and/or sex partners who have one or more of the listed risk factors
d) Unprotected/unsafe sex

❑ Request source person's consent to go for blood testing of their Hepatitis B/C and HIV status.

Source person's family physician

Dr._____ Telephone Number _____

Address _____

Test results will be sent to the treating physician overseeing our staff member.

Exposure Documentation

Name of Exposed Person:		
Hepatitis B vaccination completed:	**Date**:	**Post-vaccination titre**: mIU/mL
Date and **Time** of Exposure:		

Procedure being performed:

Where and how exposure occurred:

Did exposure involve a sharp device: ❒ No ❒ Yes

Type and brand of device: _____

How and when during handling exposure occurred: _____

Extent of the exposure (describe): _____

_____

❒ Blood ❒ Saliva ❒ Other body fluid Describe: _____

Percutaneous injury

- ▶ Depth of wound: _____
- ▶ Gauge of needle: _____
- ▶ Was fluid injected: ❒ No ❒ Yes

Skin or mucous membrane exposure

- ▶ Estimated volume of fluid: _____
- ▶ Duration of contact: _____
- ▶ Condition of skin: ❒ Intact ❒ Chapped ❒ Abraded

Source person information

- ▶ Known infectious disease(s): HIV ❒ No ❒ Yes ❒ Possible
- ▶ Anti-retroviral therapy: ❒ No ❒ Yes Viral Load: _____

Exposure and Follow up Documentation care

*(NOTE: Confidentiality of this form **MUST** be ensured, i.e. only those people who need to see this form may do so)*

Follow-up care (describe in detail):

Date Y/m/d	Caregiver	Action Taken

Notes