

[Type here]



**University
of Manitoba**

**DR. GERALD NIZNICK COLLEGE OF DENTISTRY
RFHS
INFECTION PREVENTION AND CONTROL MANUAL
2025-2026**

Updated: August 24, 2025

TABLE OF CONTENTS

INFECTION CONTROL: QUALITY ASSURANCE	4
INTRODUCTION	4
TRANSMISSION OF INFECTIOUS DISEASES IN THE DENTAL OPERATORY	5
STANDARD PRECAUTIONS (ROUTINE PRACTICES)	11
1. IMMUNIZATION	12
2. PATIENT SCREENING.....	12
3. HAND HYGIENE	12
4. BARRIER TECHNIQUES.....	15
A. PERSONAL PROTECTIVE EQUIPMENT (PPE).....	15
B. EQUIPMENT (SURFACE) BARRIERS	19
C. TREATMENT BARRIERS	19
5. NEEDLE AND SHARP INSTRUMENT SAFETY	19
SIGNIFICANT EXPOSURES.....	21
POST-EXPOSURE PROTOCOL: MAIN CLINIC AND ROTATIONS.....	21
ACTIONS FOLLOWING EXPOSURE TO BLOOD/HIGH RISK BODY FLUIDS WITH VISIBLE BLOOD	22
6. DETERMINING WHAT SHOULD BE STERILIZED/DISINFECTED/ DISCARDED	23
DEFINITIONS.....	23
PREPARATION OF INSTRUMENTS FOR STERILIZATION.....	24
STERILIZATION METHODS	24
STERILIZATION MONITORING	24
Failure.....	26
7. SURFACE DISINFECTION AND GENERAL OPERATORY ASEPSIS	26
GUIDELINES FOR DISINFECTANT USE.....	26
CLASSIFICATION OF DISINFECTANTS.....	26
GUIDELINES FOR CARE OF CLINIC FACILITIES AND EQUIPMENT.....	27
DENTAL WATERLINE CARE	27
GUIDELINES FOR CARE OF CLINICAL EQUIPMENT	28
GUIDELINES FOR PRE-TREATMENT PREPARATION OF OPERATORIES	28
GUIDELINES FOR "DURING TREATMENT" PROCEDURES	30
GUIDELINES FOR POST-TREATMENT PROCEDURES	30
TRANSPORTING INSTRUMENTS TO MEDICAL DEVICE REPROCESSING (MDR).....	32
BREACHES/INFRACTIONS	35
"NOT SAFE" DESIGNATION	36
8. RADIOGRAPHIC ASEPSIS	36
9. LABORATORY ASEPSIS.....	38
10. CONTAMINATED DENTAL WASTE MANAGEMENT AND DISPOSAL.....	40
BIOHAZARDS – UNIVERSITY OF MANITOBA REGULATIONS.....	40
INFECTIOUS DENTAL WASTE CLASSIFICATION.....	40
MANAGEMENT AND STORAGE OF BIOMEDICAL WASTES	40
DISPOSAL OF BIOMEDICAL WASTE.....	41
HANDLING OF EXTRACTED TEETH.....	41
APPENDIX 1: BED BUGS and LICE	42
REFERENCES....	43 ¹

INFECTION PREVENTION AND CONTROL

All healthcare providers must understand the dynamic nature of infection prevention and control and their professional responsibility in maintaining IPAC standards with respect to current best practices as per provincial regulations, WRHA/Shared Health, CDC, and provincial government restrictions related to community spread of infections.

The Manitoba Dental Association Infection Prevention and Control Practices document (2025) provides general guidelines for best practice with respect to infection prevention and control and is the guiding document when on rotations and externships outside the Dr. Gerald Niznick College of Dentistry.

INTRODUCTION

The elements of a national standard for infection control in Dentistry were published in the Journal of the American Dental Association in 1978. Since then, many revisions have been made to reflect changes in knowledge, emerging diseases, and other infection control challenges and materials. This University of Manitoba College of Dentistry IPAC Manual has been written as a clinical interpretation of the most recent Center for Disease Control *“Guidelines for Infection Control in Dental Health- Care Settings, 2003”* and the 2016 *“Infection Prevention Checklist for Dental Settings”* the Manitoba Dental Association *“Infection Control Resource Manual 2025”*, *“Guideline for Disinfection and Sterilization in Healthcare Facilities 2008”*, the Alberta Dental Association and College *“Infection Prevention and Control Standards and Risk Management for Dentistry 2010”*, Royal College of Dental Surgeons of Ontario *“Standards of Practice Infection Prevention and Control in the Dental Office”* 2018, Public Health Agency (PHAC) of Canada IPAC guidelines, and Canadian Standards Association Guidelines for Steam Sterilization (Z314:2023). Also referenced are the CSA standards for Canadian healthcare facilities CSA Z8000 (2018) and CSA Z317.13. 22 Infection control during construction, renovation, and maintenance of health care facilities (2022).

The purpose of this manual is to:

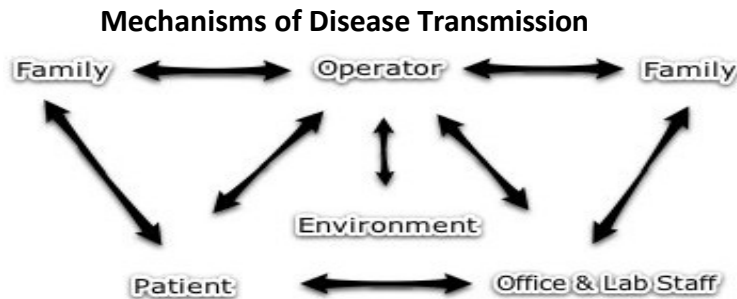
1. Provide the IPAC standards and processes applicable at the College of Dentistry.
2. Identify both behavioral and technical skills which significantly reduce, but do not eliminate the risk of exposure to and transmission during dental treatment.

Self-protection starts with the recognition that:

1. Oral health care providers may acquire an infection through professional activities (Occupational risks).
2. All patients may harbor and are therefore capable of transmitting an infectious disease
3. The use of the same set of precautions and procedures for every patient reduces the risk of transmission of infectious diseases, however this risk is never zero.

TRANSMISSION OF INFECTIOUS DISEASES IN THE DENTAL OPERATORY

To effectively guard against both the acquisition and transmission of infectious diseases, it is helpful to consider potential sources of infection and how they interact.



The two principal modes of disease transmission in which infectious diseases are acquired in Dentistry are:

1. Contact:

- a) Direct contact: human - human touch.
- b) Indirect contact: human - object - human touch. Contact with contaminated items such as surfaces, equipment, and/or instruments including contaminated sharps. Examples are Scabies, Impetigo, Shingles, Chickenpox, *Clostridioides difficile*

Contact transmission in Dentistry principal routes of microorganisms into the body are:

- i) **Touch** – direct and indirect (largely from the operator's hands).
 - ii) **Ingestion** – from improperly cleaned instruments.
 - iii) **Percutaneous** – breaking the skin with an instrument that harbors body fluids from another person (Browning & McCarthy, 2011).
 - iv) **Auto-inoculation** whereby the person introduces body fluids from another person to a portal of entry in their own body.
2. **Droplet:** transmission due to sprays, splashes, aerosols, or spatter containing pathogenic microorganisms. Droplets are >5 microns in size and do not remain suspended in the air. Examples are Influenza, SARS, Mumps, COVID-19

For Droplet transmission in Dentistry routes of microorganisms into the body are:

Direct inhalation: inhalation of small particles of moisture (spatter) generated when a person coughs or sneezes, or when water is aerosolized to a fine mist during dental procedures. Risk of disease transmission is usually limited to persons in close proximity to the droplet source. (CDC, guidelines).

3. Airborne: Aerosolized particles <5 microns. Examples are TB, Smallpox

For Airborne transmission in Dentistry routes of microorganisms into the body are:

Indirect inhalation: inhalation of particles formed by dehydration of airborne droplets containing microorganisms that can remain suspended in the air for long periods of time, or which settle on surfaces and can be readily re-introduced to the environment surface with contaminated patient care items or contaminated personal protective barriers.

****Table 3. (from CDC and ACFD) Work Restriction Guidelines for students and clinical staff infected with or exposed to major infectious diseases in healthcare settings. *In 2012, CDC issued revised guidelines for students & healthcare workers infected with Hepatitis B.***

Disease	Clinical Restriction	Duration
Conjunctivitis	Restrict from patient contact and contact with patient's environment.	Until symptoms resolve.
Cytomegalovirus Infection	No restriction	
Diarrheal Disease Acute stage (diarrhea with other symptoms). Convalescent stage Salmonella species.	Restrict from patient contact, contact with patient's environment, and food handling. Restrict care of patients at high risk.	Until symptoms resolve. Until symptoms resolve; consult with local and provincial health authorities regarding need for negative stool cultures.
Diphtheria	Exclude from duty	Until antimicrobial therapy completed and 2 cultures obtained ≤ 24 hours apart are negative.
Enteroviral Infection Norovirus Shigella	Restrict from patient care	Until symptoms resolve.
Hepatitis A	Restrict from patient contact, contact with patient's environment, and food handling.	Until 7 days after onset of jaundice.
Hepatitis B Personnel with acute or chronic hepatitis B surface antigenemia who do not perform exposure-prone procedures. Personnel with acute or chronic hepatitis B who perform exposure-prone procedures	No restrictions, refer to provincial regulations. Standard precautions are always to be followed. Do not perform exposure-prone procedures Report to MDA/CDHM Registrar	Until under care of physician with expertise in HBV management HBe antigen is negative and viral DNA $<10^3$ copies/ml and monitored regularly (every 3-6 months)
Hepatitis C if don't perform EPP Personnel who perform exposure-prone procedures	No restrictions Report to MDA/CDHM Registrar no restrictions to healthcare workers performing exposure prone procedures who tested negative to HCV RNA at least 12 weeks post-treatment	Restricted for EPP's until they are: a) under care from a physician with expertise in HCV management b) has completed effective therapy c) has tested negative to HCV RNA

Disease	Clinical Restriction	Duration
Herpes simplex Genital Hands (herpetic whitlow) Orofacial	No restrictions. Restrict from patient contact and contact with patient's environment. Evaluate need to restrict from care of patients at high risk.	Until lesions heal. Lesions are contagious at both vesicular and crusted stage. Patients identified with HSV infections should be rescheduled (decision to treat is left to discretion of student).
Human immunodeficiency virus	Do not perform exposure-prone procedures. Refer to Committee on Infectious Diseases Standard precautions are always to be followed.	
Influenza	Exclude from clinical activity.	Infectious from 2 days prior to symptoms and up to 7 days after.
Measles Active Post exposure (susceptible personnel)	Exclude from clinical activity. Exclude from clinical activity. Report to public health surveillance	Until 7 days after the rash appears. From 5 th day after first exposure through twenty- first day after last exposure or 4 days after rash appears.
Meningococcal infection	Exclude from clinical activity.	24 hours after starting effective treatment
Mumps Active Post exposure (susceptible personnel)	Exclude from clinical activity. Exclude from clinical activity.	Until 9 days after onset of parotitis. From twelfth day after first exposure through twenty-sixth day after last exposure, or until 9 days after onset of parotitis.
Pediculosis	Exclude from clinical activity.	Until treated and observed to be free of adult and immature lice.
Pertussis Active Post exposure (asymptomatic personnel). Post exposure (symptomatic personnel).	Exclude from clinical activity. No restriction, prophylaxis recommended. Exclude from clinical activity.	From beginning of catarrhal stage through 3 rd week after onset of paroxysms or until 5 days after start of effective antibiotic therapy. Until 5 days after start of effective antibiotic therapy.

Disease	Clinical Restriction	Duration
Rubella (should know status) Active Post exposure (susceptible personnel).	Exclude from clinical activity. Exclude from clinical activity	Until 7 days after rash appears. From 7th day after first exposure through twenty- first day after last exposure.
Scabies	Restrict from patient contact	Until cleared by medical evaluation
Staphylococcus aureus infection* see below for MRSA Active, draining skin lesion. Carrier state	Exclude from clinical activity. No restriction unless personnel are epidemiologically linked to transmission of the organism.	Until lesions have resolved.
Streptococcal Infection, Group A	Exclude from clinical activity.	Until 24 hours after adequate treatment is started.
Tuberculosis Active disease or subclinical symptomatic PPD converter	Exclude from clinical activity. No restriction.	Until proven non-infectious.
Varicella (Chicken pox) Active disease Post exposure (susceptible personnel).	Exclude from clinical activity. Exclude from clinical activity.	Until all lesions dry and crust. From 8th day after first exposure through twenty- first day (restrict to twenty-eighth day if varicella-zoster immune globulin [VZIG] administered)

Disease	Clinical Restriction	Duration
Zoster (Shingles)		
Localized, in healthy person.	Cover lesions, restrict from care of patients at high risk.	Until all lesions dry and crust.
Generalized or localized in immunosuppressed person.	Exclude from clinical activity.	Until all lesions dry and crust.
Post exposure (susceptible personnel).	Exclude from clinical activity.	From 10th after first exposure through 21 st day (28 th day if varicella-zoster immune globulin [VZIG] administered) after last exposure or if varicella occurs when lesions crust and dry.
Viral respiratory infection, acute febrile.	Consider excluding from care patients at high risk or contact with such patients' environment during community outbreak of respiratory syncytial virus and influenza.	Until acute symptoms resolve.

Methicillin Resistant Staphylococcus Aureus (MRSA)

Adherence to Standard Precautions is advised with no further precautions necessary. HH hygiene is the most effective method of preventing spread of drug-resistant microorganisms as well as health care-acquired infections (Baur et al., 2017; Salama et al., 2013).

STANDARD PRECAUTIONS

It is a set of minimal procedures for decontaminating instruments and operator surfaces to reduce the risk of transmission of infectious diseases that are performed for each patient visit. These guidelines should be followed each time treatment is performed because the patient's health status is considered uncertain, whether that is a result of undetermined disease diagnosis or patient's failure to disclose their status. Standard Precautions is the term used in Dentistry in Canada, whereas the term Routine Practices is used in Canada by the medical community.

The underlying assumption for infection prevention and control practices is that all persons are to be treated as if they are infected and infectious and therefore all instruments and surfaces will be decontaminated the same way and to the same high standard following every patient visit.

CHAIN OF ASEPSIS is everything that is done to prevent the transmission and spread of infectious disease including the precautions, procedures, and attitudes of members of the healthcare professions.

The following are a list of procedures and precautions that are elements of the chain of asepsis and together define infection prevention and control.

Components of Infection Prevention and Control Practices in Dentistry

- 1. Immunization and health status**
- 2. Patient Screening**
- 3. Hand hygiene**
- 4. Barriers**
- 5. Needle and Sharp Instrument Safety and Significant Exposures**
- 6. Sterilization**
- 7. Surface Disinfection and General Operatory Asepsis**
- 8. Asepsis related to Radiography**
- 9. Asepsis related to Dental Laboratory Procedures**
- 10. Disposal of Biohazardous Wastes**

1. IMMUNIZATIONS

Please refer to the RFHS Learner Immune Status Requirements

<https://umanitoba.ca/health-sciences/rady-faculty-health-sciences-policies#rady-faculty-of-health-sciences>

2. PATIENT SCREENING

A Point of Care Risk Assessment (PCRA) prior to patient interaction will be done. As part of this process, patients will complete a patient screening no later than 24 hours prior to their appointment, to ensure patient care can be carried out in a way to prevent transmission of infection.

Complete medical histories are taken for every new patient and updated every time a patient is seen. Treatment and care are considered based on medical histories to ensure safe patient care. When patients report positive disease status for bloodborne disease(s), this reduces questions about the 'unknown' should there be a percutaneous injury to the operator during dental treatment.

3. HAND HYGIENE (HH)

Hand hygiene is the single most effective way to prevent the spread of multi-drug-resistant microorganisms (Baur et al., 2017; Salama et al., 2013). Cleaning of the hands depends primarily on mechanical effects of vigorously rubbing the hands together to create friction, use of soap, rinsing well, and drying. For persons with skin compromised by eczema or chaffing, consultation with a dermatologist and use of appropriate emollients are recommended.

Components of good hand washing include:

- Cleaning skin thoroughly to remove all visible soil
- Rinsing well to remove all visible soap
- Drying thoroughly to reduce risk of skin integrity

Technique for Hand Washing

The preferred method for HH depends on anticipated procedures. For routine Dentistry (non-surgical procedures) a wash is used before the clinical session to prevent cross-contamination (Humphreys et al., 2007; Lin et al., 2003). Handwashing with soap followed by thorough rinsing and drying is utilized for all other washing for clinical care.

HH is to be performed:

- immediately upon entering an operatory at the start of a clinical session
- at the end of each clinical session immediately prior to leaving the clinic,
- immediately prior to placing gloves (Perri, 2020)
- following removal of gloves (CDC, 2003)
- prior to placing equipment barriers
- and/or anytime when the hands are contaminated or have the potential to be

contaminated with organic or inorganic soil

The more efficient students are with task management exiting and entering their units, the less HH opportunities exist. The technique for hand washing is for general Dentistry only. When aseptic surgical practices are performed in Oral Surgery and Graduate Periodontics, please follow instructions for hand hygiene in those areas.

Hand Hygiene Audits

HH compliance audits will continue throughout the academic year. Hand hygiene compliance is expected to be 100% when at the College or on rotation/externships to other healthcare facilities.

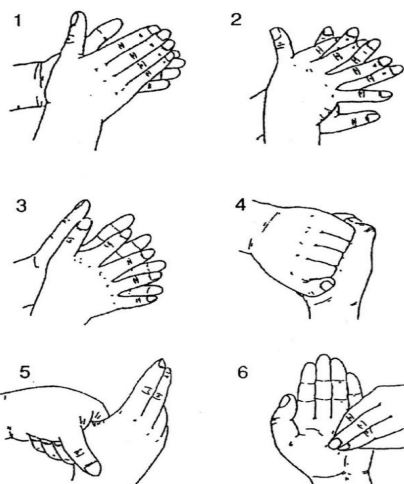
Beginning and End of Sessions:

Hands should be rubbed vigorously during washing for at least 30 seconds (sing "Happy Birthday" twice) with special attention paid to the backs of the hands, wrists, between the fingers.

HAND WASHING

To do the job thoroughly you need to clean these 6 surfaces:

- 1) the palms
- 2) the webs between the fingers
- 3) the webs again with altered grip
- 4) palms to knuckles of opposing hands
- 5) thumbs clasped in opposing palm
- 6) tips of fingers against palm of opposing hand.



(Croser and Chipping, 1989)

Courtesy Dalhousie University Faculty of Dentistry

- a) wet hands from fingertips to wrist with cool water
- b) place liquid soap on hands
- c) scrub hands vigorously following the diagrams above
- d) rinse with cool water until all traces of soap are removed
- e) dry thoroughly

All Other Washes

- a) scrub wet hands vigorously together using liquid soap for 15 seconds
- b) rinse under running water until all traces of soap are removed
- c) dry thoroughly using the minimum of paper towels to ensure proper drying
- d) perform wash in view of the patient

- e) in areas where faucets are manually operated, use paper towels to turn off water supply

Hand Disinfection with Alcohol-based Hand Rubs

Hand rubs are especially useful when water is not readily available. Use of alcohol-based handrubs is not effective when hands are visibly soiled and when skin is already compromised due to frequent washing. To be effective, sufficient alcohol-based hand rub should be used that it remains wet to allow rubbing of hands for a minimum of 30 seconds.

Nails

Use of gel nails, artificial nails, nail enhancements, and/or colored nail polish is not permitted. Nails are to be short and smooth (surgical length of 2 mm) to allow thorough cleaning and to prevent tears to gloves (Hautemaniere et al., 2010; Loeb et al., 1997; Sharedhealth, 2020). Clear polish must not be chipped (Alberta Health Services, 2013).

Jewelry & Watches

Rings that are significantly raised and/or are multifaceted may cause gloves to tear and should not be worn during active patient care. Watches or wrist jewelry are best not worn. When worn, these items shall be maintained under the cuffs of the clinic gowns to protect the wearer from splatter.

Cough and Sneeze Etiquette

Use tissues to contain respiratory secretion and when a tissue is not readily available, cough or sneeze into your upper sleeve or elbow, not into your hands. Perform HH after contact with respiratory secretions and contaminated objects/materials.

Name Tag

At the end of each day ensure any metal or plastic name tag is wiped thoroughly with Optim. Nametags can be worn in both clinic or preclinical settings

4. BARRIER TECHNIQUES

A. Personal Protective Equipment (PPE)

The use of personal protective equipment including outerwear (protective clothing), masks, protective eyewear, and gloves is part of routine dental treatment and used to protect the operator.

Placement of PPE	Removal of PPE
1. Hand hygiene	1. Gloves
2. Mask	2. Hand hygiene
3. Hand hygiene	3. Protective outerwear (gown)
4. Protective eyewear	4. Hand hygiene

5. Hand hygiene	5. Faceshield
6. Head covering	6. Hand hygiene
7. Hand hygiene	7. Head covering
8. Protective outerwear (gown)	8. Hand hygiene
9. Hand hygiene	9. Mask
10. Faceshield (if high-risk procedure)	10. Hand hygiene
11. Hand hygiene	11. Protective Eyewear
12. Gloves	12. Wash Hands

1. Protective Clothing

Clinic Attire

All students and staff are expected to wear clean scrubs (scrub top & bottom) and change into dedicated clinic shoes for clinic sessions (CDC, 2019). Gowns are to be worn in high-risk procedures only.

Surgical caps are only required for high-risk procedures. Students are expected to wear a clean surgical cap for each clinic session if they have performed a high-risk. Students wearing religious head covering must cover their head covering with a disposable bouffant cap for high-risk procedures. Surgical caps are to be of a professional nature and not have any logos except the University of Manitoba logo. They should be laundered daily.

Prior to exiting the College, all are expected to doff their scrubs and dedicated footwear and change into a separate set of clothing and shoes to wear home (CDC, 2019). Scrubs and surgical caps are transported home in a plastic bag and laundered on highest temp (60 deg for 30 min or 80-90 deg for 10 min of heat contact).

2. Masks

Masks are to be worn whenever there is the potential of aerosol production expected (Harrel & Molinari, 2004), including pre-op and post-op procedures. Masks are also worn when the operator has a transmissible respiratory illness. To ensure that the barrier protection afforded by a mask is not compromised:

- place by covering the mouth and nose completely and adjust the mask firmly on the bridge of the nose.
- once treatment gloves are placed, masks are not touched.
- if a mask should slip during treatment, doff gloves, perform hand hygiene, donn glove, correct mask, doff gloves and perform hand HH. Donn gloves.
- masks are changed when moist or visibly soiled
- when a mask is no longer required for patient care, it is removed and discarded and not worn otherwise or handled barehanded nor placed into the pocket or on countertops.
- masks are removed via the ear loops, discarded, and perform HH

Masks are to be worn and similarly used in pre-clinical labs when simulating patient care.

3. Protective Eyewear

Protective eyewear use is mandatory for patients and all clinical personnel during all clinical and preclinical procedures. During pre-clinical and clinical procedures, students must wear protective eyewear which includes goggles, safety glasses, or loupes with side shields. If students do not have appropriate eyewear, they are to wear a faceshield (MDA, 2022).

Disinfection of loupes after providing patient care is to be as per the Manufacturer's instructions for use (MIFU).

- Eyewear is not handled once treatment gloves are placed.
- Faceshields are required for dental hygiene students performing power instrumentation.

Eyewash stations are situated near the North entrance and South exit to the clinic in the vent students/staff need to use them for eye splashes.

Long Beards and Long Hair

- Any facial hair that could touch the patient during care or place the operator at risk must be covered using a Disposable Beard Net, available at Staples (Item 436434, Model SEC384) for operator purchase.
- Hair must be held back and up to prevent touching the patient or clinician's own gloved hands when leaning forward.

4. Gloves

Gloves are to be worn for all intraoral procedures. Gloves can become compromised during use. Therefore, hands must be washed immediately before gloving and immediately upon removal of gloves. The exception is when removal of other PPE is expected, at which time the hands are washed following removal of the mask and protective eyewear, and again following removal of outerwear.

Gloves are worn whenever contact with patients' body fluids is anticipated: patient treatment, operatory disinfection, and instrument cleaning.

- a new pair of gloves is worn for each patient.
- once treatment gloves have been placed, only the patient and those instruments, equipment, and supplies that have been prepared solely for the use of that patient are touched.
- once treatment gloves have been placed, they are *deemed contaminated* and even if gloves were just placed and clean, they are not used to access any supplies or equipment that have not been prepared for that patient.
- during active patient care, treatment gloves are placed after instrument packages, including packaging for local anesthetic and other dental materials, have been opened and HH performed
- treatment gloves are removed prior to leaving the operatory and HH is performed
- HH is performed immediately prior to placement and immediately following removal of gloves.

Dr. Gerald Niznick College of Dentistry PATIENT TREATMENT GUIDELINES

LOW RISK PROCEDURE (All procedures except those listed in moderate or high-risk)	MODERATE RISK PROCEDURE	HIGH RISK PROCEDURE
Extraoral and intraoral radiographs Hand instruments/Hand scaling High speed handpiece with RD Low speed handpiece Denture delivery/adjustments Try-in/Cementation Fixed Prosthodontics Endodontic procedures Simple Extractions Treatment planning Impressions/Intraoral scanning SDF application	High speed handpiece without RD Prophylaxis with high volume suction	Power instrumentation: Cavitron Surgical procedures: surgical extraction, periodontal surgery
PPE		
Eye protection – safety glasses, loupes with side shields or face shield Level 3 mask	Eye protection – safety glasses, loupes with side shield or face shield Level 3 mask Gown	Eye protection – safety glasses, loupes with side shields or face shield Level 3 mask Gown Surgical cap
PPE Patient: Eye protection	PPE Patient: Eye protection	PPE Patient: Eye protection
TREATMENT AREA		
Treatment Area: Use high volume suction when possible	Treatment Area: High volume suction	Treatment Area: High volume suction
UNIVERSAL PRECAUTIONS		
Headcovering: Headgear worn due to cultural or religious reasons should be completely covered with surgical cap Masks: clinic mask must be worn throughout the session when conducting exams & during patient care Scrubs: All students, staff, instructors, residents wear scrub tops and bottoms – clean set each day Hand hygiene: Hand hygiene is expected for all procedures Outside clinic setting: Students to wear long white lab coats over scrubs outside of patient treatment areas Shoes: Dedicated clinic shoes that remain at the College Pre-appointment screening as per College protocols– 24 hours prior to appointment Pre-treatment oral rinse: - for High Risk only		

Use of PPE in the Pre-Clinical Laboratories

PPE is to be worn in pre-clinical laboratory settings in the same way that they are worn and used during clinical sessions. This includes wearing scrub pants and tops, laboratory coats, masks, protective eyewear (with side shields), and gloves during all simulated patient treatment and laboratory procedures. Similarly, no other surfaces are to be touched when wearing treatment gloves other than patient care items. Masks and gloves must be removed prior to leaving the laboratory (WHMIS guidelines).

Use of PPE and infection control protocols in Clinics working on Typodonts

The above process also applies to students are working on typodonts in clinical settings.

B. Equipment (Surface) Barriers

Equipment barriers are materials such as paper, plastic that are used to protect equipment receiving high use and high volumes of bioburden i.e. light handles. Equipment barriers are placed to reduce time for cleaning organic (blood, saliva) and inorganic materials (restorative material such as composite) from surfaces.

Barriers are removed and the equipment under these barriers always receives cleaning followed by disinfection.

C. Treatment Barriers

1. Dental Dam

A dental dam reduces operator exposure to microorganisms from patients' saliva.

2. Pre-Procedural Mouth Rinse

The use of an antimicrobial mouthwash for 30 seconds prior to high-risk intraoral procedures is required. Perio Plus for 1 minute is used. Protocol includes: providing patient with the pre-procedural rinse in a disposable cup, have patient rinse and expectorate back into the cup, provide patient with paper towel to cover their cup and have patient discard cup into the garbage directly.

PAPERLESS

The College of Dentistry is paperless

- Computer keyboards and mice are disinfected and barriered before use and disinfected after use.
- Prior to requesting an instructor to complete sign off and grading, at the end of an appointment session, the barrier should be removed and the keyboard disinfected.

5. NEEDLE AND SHARP INSTRUMENT SAFETY

Needlestick injuries are wounds caused by needles puncturing the skin. **Sharps injuries** are wounds caused by instruments that puncture the skin (percutaneous injury). Both result in injuries that may cause exposure to body fluids. The concern is for risk of transmission of bloodborne diseases, including HIV and Hepatitis B and C.

A puncture from a used local anesthetic needle is *always* considered a Significant Exposure.

A puncture from an instrument is considered a Significant Exposure only when there is visible blood on the instrument and the injury punctures the skin sufficiently to allow blood from the instrument to be transmitted to the operator.

After administering local anesthetic, the needle is re-sheathed by using a one-handed scoop method. Needles are not to be left unsheathed anywhere in the operatory. All needles (local anesthetic, irrigation, acid-etch) are disposed in Sharps containers and never into trash.

Conventional needles are re-sheathed using the one-handed scoop method.

Local anesthetic needle disposal

Disassemble the needle from the syringe, and with ungloved hand, open the sharps container, and drop the capped needle into the sharps container. Doff other glove and perform HH.

Guidelines to Aid in Reducing Sharp Instrument Injuries

- a) only pass instruments over the patient's chest or behind the patient, never over the face.
- b) remove all scalpel blades with a hemostat.
- c) remove burs prior to removing the handpiece from the coupler.
- d) place handpieces with burs away from operator and remove immediately after using them.
- e) do not use fingers for tissue retraction or palpation during suturing.

To protect custodial staff, ensure that all sharps are placed into sharps containers in the clinic and pre-clinical labs including, but not restricted to the following:

- all needles: local anesthetic, applicator needles (acid etch, caries detector, flowable composite)
- scalpel blades
- endodontic files
- burs
- Tofflemire bands
- orthodontic wires
- broken denture clasps
- local anesthetic carpule

Broken glass should be handled only by custodial staff. Inform Dispensary staff and request that custodians be contacted for safe removal of glass.

Place all sharps in the preclinical and Senior Clinicians' Laboratory in the Sharps containers, not the garbage.

Critical Incidents and Near Misses

Incidents are defined as resulting in property damage, injury/illness or general loss. A near miss is defined as it could have resulted in an incident. Near misses are reported to prevent an incident going forward.

An Incident report is filled out in the event of an incident. Examples: sharps in garbage, student scrapes their hand with a bur/instrument. In the event that an incident occurs on the weekend, students are to notify the Dental Assistant Lead (Kaitlin Bruce).

Significant Exposures

Definition: An occupational injury resulting in transfer of at least a full drop of blood or other high risk body fluids with visible blood or puncture with a used needle from a Source person. Usually but not always, a patient, onto mucous membranes or non- intact skin or punctured intact skin of the Exposed person, most frequently, but not always, the operator.

Following an injury, it is necessary to determine the nature and the extent of the injury to determine if the incident is a Significant Exposure.

“Was the instrument contaminated with blood?” Needlesticks from a needle are always a Significant Exposure. The patient will be interviewed using a WRHA Risk Determination questionnaire and the Source person will be asked to submit blood testing by the DA Lead. Post-exposure prophylaxis may be suggested by an Occupational Health and Safety nurse, regardless of the infectivity status is known of the Source, or the Source consents to blood testing or not.

Post-Exposure Protocol: Main Clinic and Rotations

1. Stop the procedure immediately.
2. Remove gloves and wash hands and affected area and inform Supervisor. Injuries to the skin will be washed well with copious amounts of running water and soap. No attempt to “milk” the wound should be made. The site of exposure should be washed well with normal soap and water. Alcohol, hydrogen peroxide, bleach or other chemical cleansers/antiseptics/disinfectants should not be used.
3. When splashes have occurred to the eyes or face, proceed immediately to the eye wash station where the area must be flushed for at least 15 minutes.
4. Operator care: The clinical instructor will assist the student in determining the nature and extent of the injury, and to determine if the injury was a Significant Exposure
5. Patient care: Clinical staff and the student will determine the status of continuation of patient care. Disinfect surfaces that have become contaminated with blood as a result of the injury or move to a new unit if available, remove all instruments and patient care items and replace with new instruments and active care items prior to continuation of any patient care.
6. Report to Kaitlin Bruce (DA Lead) who will complete the paperwork and escort Exposed and the Source to the HSC lab for bloodwork. Paperwork will be followed up by Kaitlin Bruce.
7. WRHA OESH staff will be contacted for appropriate support and guidance to the

Exposed. EHS will contact in case PEP (post-exposure medication) from WRHA beyond the free 3-day starter kit is required.

8. The administered PEP to reduce risk of transmission for HIV is most efficacious if it is administered within 2-4 hours following the exposure. Proceed to HSC Emergency Clinic immediately.
9. A record in the axiUm EHR is to be made of the incident.

Actions Following Exposure to Blood/High Risk Body Fluids with Visible Blood

Source Individual			Exposed Person	
Risk Status	Availability	Action	Action (regular hours)	Action (after hours)
Known positive	Available	DA Lead will complete Lab Requisition	DA Lead to contact EHSO Present to HSC for PEP	DA Lead to contact EHSO Present to HSC for PEP
Known positive	Not Available	DA Lead will complete Lab Requisition	DA Lead to contact EHSO Present to HSC for PEP	DA Lead to contact EHSO Present to HSC for PEP
Unknown or Low	Available	DA Lead will complete Lab Requisition	DA Lead to contact EHSO Present to HSC for PEP	DA Lead to contact EHSO Present to HSC for PEP
Unknown or Low	Not Available	DA Lead will complete Lab Requisition	DA Lead to contact EHSO Present to HSC for PEP	DA Lead to contact EHSO Present to HSC for PEP

6. INSTRUMENT AND OPERATORY STERILIZATION AND DISINFECTION

The following terms are used to describe processes, which involve different levels of destruction of microorganisms to which dental instruments and materials may be exposed.

- STERILIZATION**
 - a process which destroys all forms of microbial life including spores
- DISINFECTION**
 - the destruction of most microorganisms on surfaces by chemical or physical means and cannot occur predictably in the presence of debris, either organic or inorganic
 - used for instruments, equipment, and surfaces that cannot be sterilized due to size or nature of material
- LEVELS OF DISINFECTION**
 - there are four levels: high, intermediate, hospital, and low
- SANITIZATION**
 - the process of removing (organic or inorganic) debris by vigorous scrubbing in order that decontamination, either disinfection or sterilization, can occur

The **Spaulding system** classifies instruments according to their use that in turn determines how they will be decontaminated (Puttaiah et al., 2010).

Level	Definition	Method of Decontamination	Example
CRITICAL	Touches bone or penetrates soft tissue	Sterilize only	scalpels, burs, scalers
SEMICRITICAL	Touches mucous membranes only	Sterilize Use high level disinfection if sterilization will alter the item	mouth mirror, handpiece
NONCRITICAL	Contact with intact skin	Intermediate disinfection	blood pressure cuff
NONCRITICAL	Environmental surfaces	Intermediate disinfection	Floors, walls

Preparation of Instruments for Sterilization

Outerwear, masks, protective eyewear, and gloves are worn when preparing instruments for sterilization. Never use surface disinfectants on instruments that will be sterilized. Disinfectant leaves a permanent precipitate on the instrument during sterilization

- **Instruments in cassettes** are cleaned in washer/disinfectors. However, materials that the washer/disinfector cannot remove during the wash must be removed prior to sending cassettes to MDR. Remove blood, cements, wax prior to placing the instrument into the cassette. Transport cassette in the recycled peel pouch to MDR
- **Loaner instruments** obtained from Dispensary are to be returned cleaned and bagged. Waterbaths are to be returned in the Dennison wrap to dispensary
- **Handpieces:** Lubricate handpieces prior to sterilization.

Sterilization Methods

Instruments that can tolerate heat are sterilized in the undergraduate clinics UM by steam under pressure in pre-vacuum sterilizers. It is critical that all organic and inorganic materials have been removed from an item that will be sterilized. Items should be dry as well.

Following Manufacturer's Instructions for Use: MIFU for cleaning and sterilization

All instruments and devices used at the College of Dentistry need to have MIFU approved by MDR.

Monitoring

Monitoring includes documenting and ensuring the validation of a combination of process parameters: mechanical, chemical, and biological.

- a. **Mechanical Monitoring** is the observational assessment that the sterilizer is working correctly. Monitoring is completed by a printout of the sterilizers' function
- b. **Chemical** indicators are sensitive to changes in physical conditions and only indicate that (a) given parameter(s) is/are reached – time, temperature, or pressure.

*Type	Form	Parameter
1	Outside of bag and/or internal indicator that can be seen from outside	Used to differentiate processed from non-processed packages
2	Bowie-Dick	Designed for specific tests, most notably for air-detection tests (Bowie-Dick)
3	Internal	Respond to a single critical process variable (e.g. time or temperature)
4	Internal	Respond to two or more critical processes (e.g. temperature and time) – most peel pouch internal indicators are Type 4
5	Internal	Respond to all critical variables (“integrator”)
6	Placed into sterilizer	“Emulator” – used in various areas of the sterilizer to assure conditions have been met

Pre-vacuum steam sterilizers are tested at least once daily with a Bowie-Dick test to demonstrate correct air removal from the sterilizer. Class 5 integrators are used internally in each package. Students need to monitor these upon opening the sterile package to ensure that instruments have been sterilized in that package. In the event of an unsuccessful color change on the chemical indicator strip, students should return the instrument(s)/(kit) to MDR.

Biologic Indicators are spore tests used to confirm that sterilization has occurred by placing spore vials into the sterilization loads and cultured or incubated after sterilization. Biological indicators are specific to the sterilization method used.

Load Labels

Load labels are applied to all items reprocessed in MDR.

Labels identify:

- Sterilizer
- Sterilization cycle
- Date sterilized
- Other information such as expiry date
- identification of the package assembler

Instrument Storage

To remain sterile, instruments are reprocessed and stored in appropriate packaging. Torn or punctured packages are compromised and should be reprocessed.

Failure to record load label information into the patient's charting for each peel pouch that contained equipment used intraorally on that patient, will result in a major IPC breach.

Instrument reprocessing protocol for Instrument Use off-site: CSA Z314:2023 standards for steam sterilization and Transport Canada

If dental equipment is used in an offsite locations (e.g. dental examinations performed in schools), the contaminated instruments are to be sprayed with enzymatic cleaner and placed inside a covered hard container with a Biohazard label. The container is transported to the MDR at the College of Dentistry or CCOH and dropped off with MDR staff.

Failure: In the event of Sterilizers or Washers/Disinfectors fail, there will be an announcement for students to decontaminate and disinfect their own instruments. This process will begin with students heading to designated units and donning utility gloves to decontaminate and disinfect their instruments using a brush. Drying of instruments and handpieces followed by dropping off cassettes to MDR in open reused sterilization bags.

7. SURFACE DISINFECTION AND GENERAL OPERATORY ASEPSIS

Guidelines for Disinfectant Use

Disinfection is defined as the destruction of most forms of life on an instrument, device, or environmental surface. Sterilization is the preferred method of processing instruments or equipment, however, when this is not possible due to size restrictions or because sterilization may destroy the item. Disinfection has to be the method of choice for decontamination, i.e. operatory surfaces are disinfected. Disinfection is performed by using a liquid chemical.

- Protective eyewear, mask, and gloves must be worn during disinfectant use.
- Surfaces must be free of all organic and inorganic matter for disinfectants to be effective. The physical removal of soil by vigorous scrubbing.
- Manufacturer instructions for use must be followed including exposure time.

Classification of Disinfectants

High Level Disinfectants: Disinfectants in this class kill vegetative bacteria, mycobacteria, fungi, lipid and non-lipid viruses, and most but not all spores (CSA March 2014). High level disinfectants are used for patient items that cannot be sterilized.

The College of Dentistry uses a 7% hydrogen peroxide disinfectant.

Intermediate/Tuberculocidal Level Disinfectants: These are the disinfectants that are used for disinfection of clinical contact surfaces in the dental office and are considered capable of inactivating a broad spectrum of pathogens, including much less resistant organisms such as bloodborne pathogens (Hepatitis B and C and HIV). At the College of Dentistry, two intermediate level disinfectants are used:

1. Optim 0.5% hydrogen peroxide is used on all surfaces in the operatory. Alcohol wipes are used on signature pads and faceshields. Optim is virucidal and bacteriocidal with 1 minute contact time, but fungicidal with 3 minute contact time.

2. 5.25% sodium hypochlorite diluted 1:10 for laboratory disinfection

Low Level Disinfectants: The majority of household surfaces (floors, walls, sinks) are cleaned only with a detergent and wet cloth or mop. The vinyl portion of operator chairs, operator and assistant stools are cleaned using only a wet paper towel and a small amount of dish soap.

Guidelines for Care of Clinic Facilities and Equipment

No food or drink is allowed in the clinic or preclinical lab spaces.
Cell phones should be placed in the closet or in the lab jacket.

Disinfect all supply packaging prior to returning to dispensary. Unit dosing is used to reduce potential for contamination. Unused Local anesthetic carpules placed in the cup on top of the closet can be disinfected and returned to dispensary.

General Rules for Surface Disinfection

- Protective eyewear, mask, and gloves must be worn during disinfection.
- Contaminated surfaces are disinfected following each patient visit.
- Apply equipment barriers to high touch surfaces

Dental Unit Waterline (DUWL) Care

- Dental water must be at least the standard of potable water that is, <500 CFU/ml (CDC, 2003; CDC, 2022; CDC, 2021) and 0 for Total Coliform and 0 for *E. coli* (Health Canada, 2021). DUWL become contaminated mostly due to suck back that occurs during normal use of air/water syringes and highspeed handpieces (CDC, 2016).

Dentapure cartridges are used in each of the dental units which provide iodine to be dispensed over time.

- At the beginning of the day the water bottle is filled with reverse osmosis water.
- Waterlines are then to be purged for a minimum of 2 minutes during pre-op preparation.
- If using ultrasonic/piezo electric scalers, 2 minute initial flush is required prior to use as well.
- Flush all waterlines after completion of patient care. The inside and threads of the water bottle when the bottle are not to be touched when removed and replaced.
- At the end of the day, bottles must be emptied and replaced onto the unit at night
- Water testing occurs monthly.

Guidelines for Care of Clinic Equipment

Endodontic Microscope

Pre-op

- Plastic bag will be used on the endodontic microscope
- Tear open the viewing area for the operator and patient only

Post-op

- Using clean treatment gloves, remove barriers and disinfect handles only

Electric Pulp Tester

Tips are cleaned, placed in small peel pouch bags and returned to the Main Clinic Dispensary. The handle is disinfected with surface disinfectant.

Apex Locator

Disinfect the white electrical lead and unit. The grey lead and metal lip clip is washed, dried and placed in small peel pouch and returned to MC Dispensary.

Organizer Sponges

Hold sterile endo rotary tips discard used files in sharps.

Touch and Heat - tips are re-processed

Amalgam Triturator

Amalgam tritulators are to have a barrier placed on the lid when triturating the amalgam. Disinfect unit after use.

Blood Pressure Units

Disinfect the earpieces and diaphragm of the stethoscope with disinfectant. The sphygmomanometer can be disinfected with wipes.

Ultrasonic Scalers

Post-op

- Remove handpiece during post-op unit cleaning and disinfect the surface of the ultrasonic scaler. Disinfect the bin and return to South Dispensary.
- The handpiece and scaler tips are placed into the recycled peel pouch and placed on top of the ultrasonic.
- The handpiece wand must be cleaned using a bottle brush, rinsed, and air dried by placing it away from the student using the air tap at their unit. Wear PPE: mask and glasses and gloves.

Air Polishers

Air Polisher units (4 different models) are available for DH students from the Dispensary. After use, a new HVS tip is used to suction out the remaining powder from the reservoir. The external portion of the handpiece is disinfected with a wipe. Donn gloves, masks and protective eyewear, and utilize the air line on their operator counter to blow excess powder out of the powder reservoir.

Guidelines for Pre-Treatment Preparation of Operatories

1. Laboratory items are disinfected in sodium hypochlorite bleach bath for 10 minutes and rinsed prior to treatment.
2. Obtain instruments from MDR. Place peel pouches, blood pressure cuffs, Cavitron units on top of closet only, not on any countertops or mobiles
3. Wash Hands/HH.
4. Place mask and protective eyewear, HH, donn treatment gloves.

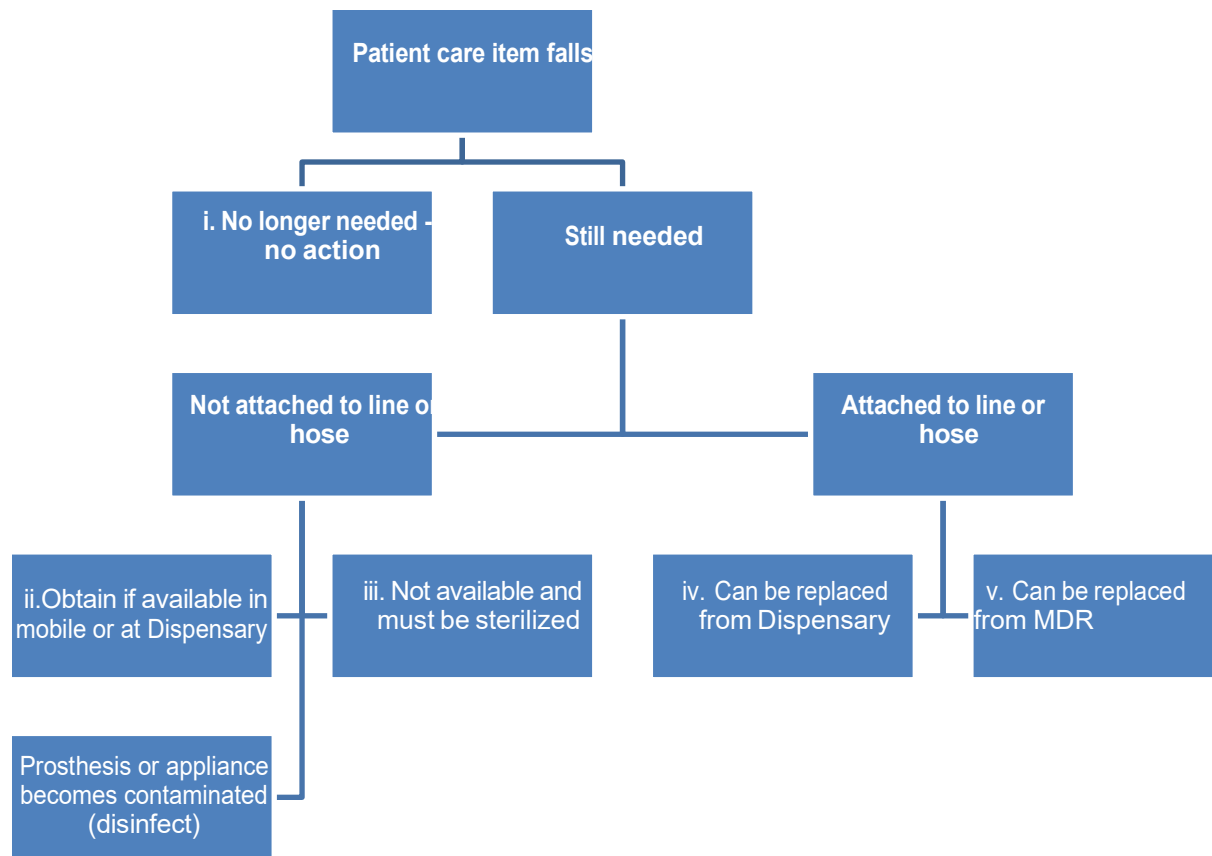
5. Position mobile.
6. Beginning of day: Fill container with suction line cleaner with hot water and turn on both high & low volume suction. Once solution is emptied, disinfect container and place on unit ledge.
7. Wipe down chair, doctor and assistant stools with dish soap and warm water with a paper towel.
8. Wipe down all operatory counters.
9. Remove gloves, HH
10. Remove unit water bottle and fill water bottle with reverse osmosis (RO) water. Do not touch the Dentapure cartridge. Replace the water bottle on the unit.
Flush all water lines for minimum of 2 minutes
Note: If Ultrasonic/Piezo is being use – flush line for 2 minutes.
11. Dispense and place:
 - bench paper - 5 pieces – 3 for counter, 2 for mobile
 - bracket table paper – 1 piece
 - patient bib, patient safety glasses
 - plastic wrap for light handles, light switch, computer keyboard, mouse, headrest, switch pad, adjustment handles on the operator and asst chairs
 - plastic sleeve barrier for curing light
12. Using cotton pliers to unit dose from Supermobile.
13. Obtain dental materials needed from the Dispensary from North Dispensary window and store on top of the closet.
14. Escort the patient to the unit and place patient's personal items in the closet.
15. Once patients are seated and daily treatment is to begin, packaged instruments, hand pieces, and local anesthetic are opened with clean bare hands.
HH and treatment gloves. Remove instruments from the sterilization bags and avoid touching the outside of the bags (outside is not sterile) with gloved hands. Place the sterile instrument cassette on the bracket table. Empty peel pouches are scooped from the inside and placed on top of the closet. These peel pouches will be used to transport cassettes to MDR following patient care.
16. Open instrument trays, check and discard chemical indicators or report problems.
If chemical indicator and/or peel pouch has not changed color, return contents to the MDR immediately. If load label is missing from peel pouch, notify MDR
17. Assemble local anesthetic needle/syringe. Place suction tips, AW tips, and run handpieces and AW tips to ensure they are working.

If using a Facebow

1. Perform HH, don gloves and disinfect facebow, transfer assembly, and earpieces with Optim wipe.
2. The bitefork (dentate or edentulous) is in a peel pouch.
3. Doff gloves, HH, and wrap the earpieces with plastic barrier.
4. With bare hands, slide bitefork onto tray paper and use treatment gloves to place bitefork in facebow and create the wax rim. Place on bench paper.
5. After making record, release the transfer assembly from the frame, and remove the barriers from the facebow frame and earpieces.
6. Wearing gloves, the Facebow frame is then disinfected and transported in student bin out of clinic.
7. The bite fork/transfer assembly are sprayed with the sodium hypochlorite spray (rinse, spray, rinse) & placed in the Ziploc bag with label "Disinfected".
8. After mounting the cast, wearing gloves the wax is removed and the bitefork is placed in a new peel pouch with CI.
9. The transfer assembly is disinfected and placed in student locker.

Guidelines for "During Treatment" Procedures

1. Once treatment gloves are donned, they are considered contaminated. Avoid touching any object other than that required for treating the patient including mask, glasses, operator hair, skin, or clothing including turning on light for loupes.
2. During treatment, if additional materials or supplies are required from the mobile or the Dispensary, remove gloves, HH, and access supplies with clean bare hands with the cotton forceps.
3. Gauze and cotton rolls visibly saturated with blood are placed into small cups and transferred into biohazard bags.
4. During treatment, if an instrument falls, it needs to be replaced and cannot be used until it is reprocessed.



i) The instrument is no longer required

- drop a paper towel over the instrument in order that it can be pushed aside with your foot to an area where there is no safety hazard. After patient care is completed, prior to discarding gloves, pick up the instrument and place it into the cassette.

ii) The instrument is required, not attached to a line, and can be replaced from the Dispensary or MDR

- retrieve instrument with contaminated gloves and place in sink
- remove and discard PPE, wash hands.
- access new instrument from MDR and/or Dispensary, open bag, and spill onto the bracket table.
- HH, donn gloves, and continue with treatment.

iii) Instrument or device is attached to a line and is still required (handpiece)

- put hose onto housing, remove handpieces and place into the sink.
- Discard gloves, HH, open wipes, donn gloves and access wipes
- Disinfect housing, coupling, and hose.
- Discard gloves, HH
- Access new handpiece from MDR & open handpiece onto tray.
- Perform HH, donn gloves.

iv) Crown/Denture/Interim Prosthesis/Appliance

- Place stopper in sink. Wash prosthesis under water.
- Place into a cup for transport, remove gloves, HH
- transport item for immersion in sodium hypochlorite immersion bath for 10 minutes.
- remove from bleach bath using cotton pliers and place into a clean cup
- stopper the sink, rinse thoroughly under running water.
- HH, donn gloves, continue treatment.

During treatment, instruments, supplies, or devices are not to be placed on the patient's chest/bib.

Guidelines for Post-Treatment Procedures

Post-op consists of four phases:

- 1. Instrument Preparation for sterilization**
- 2. Disinfect laboratory items**
- 3. Preparation for Operatory Decontamination**
- 4. Operatory Decontamination**

Handling of Items from Dispensary

- Return supplies, instruments, and devices only at South Dispensary.
- Waterbaths are cleaned returned wrapped in the original Dennison wrap
- Wipeable items are disinfected and returned to the South Dispensary Windows
- Instruments are scrubbed, dried, inspected, bagged, stamped and the peel pouch is left open

Guidelines for Instruments submitted to Medical Device Reprocessing

- Remove all disposable items from cassettes.
- carefully inspect and remove cements, wax, composite, compound, and impression materials from the instruments. If necessary, use alcohol with a gauze to remove excess.

STEPS FOR EFFICIENT POST-OP DECONTAMINATION

- 1. Prepare instruments and submit to sterilization**
- 2. Remove disposables and clean instruments of debris. Remove treatment glove from the non-dominant hand and place the cassette into the recycled bag.**
- 3. Complete preparation of handpieces and burs**

Handpiece preparation

- Wipe down handpiece with damp paper towel to remove debris. If excess debris, run handpiece under warm water. If prophylaxis paste is present, can use nail brush to gently scrub the head of the handpiece.
- Remove glove from the non-dominant hand, place hand pieces into the recycled peel pouch for transport to an Assistina/iCare unit. Remove remaining glove.

- At the lubrication station, place new treatment glove on dominant hand or glove both hands, remove handpieces and complete lubrication, remove non- dominant glove if it is being worn, and replace the hand pieces into the recycled bag. Clean the spray nozzles with the nozzle cleaner and wipe gently with a 2x2 gauze Remove remaining glove, pick up new peel pouch transport hand pieces to the operator. Place gloves and run handpieces for a 20 seconds with any bur to remove excess lubricant.
- Place handpieces in cassette (Dentistry) and/or peel pouch (Dental Hygiene), place CI.

Dental dam kit

- Wash clamps by scrubbing bur brush
- Open scissors and place curved side downward

Burs Blocks

- Wash, dry, and inspect bur block.
- Wash all burs with bur brush, dry, inspect, and place burs into the bur block, bag, place CI but do not seal.
- Discard diamonds

4. Lab Items

Rinse lab items first at unit and transport in bag to place in bleach bath for 10 minutes. For alginate and PVS impressions, disinfect with sodium hypochlorite spray at unit.

5. Preparatory Steps for Unit Disinfection

Necessary peel pouches– stamp and place on top of closet

Wetted Paper towel with dish soap

Disinfectant wipes container

6. Operatory Disinfection

- Place mask and protective eyewear, HH and donn gloves
 - Flush water lines for 2 minutes
 - Discard low and HVE, AW tips in garbage.
 - Place low and HVE at the bottom of the sink. Run hot water and suction it up.
 - Turn off suction. Clean the internal surface of the saliva and HVE with a sterile soft bristle brush or cotton tip applicator.
 - Suction Trap: Turn on suction, remove suction trap & disassemble by tapping against the side of the sink and scrub under running water. Reassemble, return it to the unit, turn the suctions off. Clean the sink.
7. Change gloves after cleaning suction & remove all barriers. Disinfect all materials or devices with disinfectant wipe.
 8. Disinfect operatory and surfaces. Wipe in the following order: bracket table; handpiece and AW syringe and suction lines; housings; arms, computer arm, light handles and light switch; chair and stool levers, keyboard and mouse; counter top; air and gas lines; the amalgamator when present; drawer handles; sink; and base of chair and rheostat.
 9. Wipe down unit chair, doctor and assistant chairs with wetted paper towel and dish soap.
 10. Remove the glove from the non-dominant hand to hold peel pouch, and using the dominant hand, place all cassettes into recycled peel pouch with an indicator,

handpiece cassette into new peel pouch with an indicator, and any single items into new peel pouches with an indicator. Do not seal any bags.

11. Turn unit power off, place rheostat beside chair, reposition operator stool under the counter, assistant stool in the corner and mobile behind the chair.
12. HH. Empty the water bottle and replace on unit.
13. Transport remaining bagged items to MDR & place them onto the conveyor belt. Wait for MDR Tech/DA to check items

Protocol for post-operative decontamination for same patient in the morning and afternoon sessions

In the event students are providing treatment to the same patient during both the morning and afternoon clinic sessions on the same day, request a closed room unit with Katalin Munoz, Rotations Coordinator. After morning session, the door is to be closed, and signage placed on the door to prevent custodial staff from entering the room during the lunch hour. Instruments are to be covered within a cassette and a fresh bib is to be placed overtop the bracket table tray equipment. The unit is disinfected at the end of the day

Final Checklist

Equipment or Operatory	Position
Chair	Elevate and power off
Backrest	Vertical position
Headrest	Raised
Bracket table	Position over foot of chair with lines not touching chair
Operator light	Raise to arm's length, position to face headrest
Operator stool	Under counter
Assistant stools	Corner of unit
Countertop	Clear
Mobile	Use care when moving mobile to avoid damaging mobile, counter, wall, or chair.
Rheostat	To the right of the chair on the grey chair pad
Keyboard	Keyboard shelf under counter

Breaches/Infractions

The patient's health and safety, along with well-being of dentistry and dental hygiene, and the staff and instructors, clinical treatment including IPAC must be following the established processes within this document. If there is a breach in the chain of asepsis, these are deemed breaches or infractions. These are further defined as an infraction, minor breach, and major breach.

DR. GERALD NIZNICK COLLEGE OF DENTISTRY & SCHOOL OF DENTAL HYGIENE INFECTION PREVENTION AND CONTROL CLINICAL INFRACTION AND BREACH RUBRIC

INFRACTION	MINOR BREACH	MAJOR BREACH
1. Instrument hinges not open or pointing down 2. Leaving dental materials on instruments 3. Inadequately cleaned handpiece 4. Leaving debris in dental operator 5. Leaving barriers or overgloves in dental operator 6. Leaving dental dam material in the dental dam punch (preclinic setting only) 7. Failure to clean the suction trap 8. Failure to clean suction lines with disinfectant 9. not emptying waterbottle on unit after clinic session 10. touching water purification cartridge with bare hands	1. Inappropriate clinic attire 2. Clinic attire stained or dirty 3. Clinic attire worn outside clinic setting 4. Hair not tied back completely and securely. 5. Fingernails or jewelry do not follow clinical Infection Prevention and Control Guidelines (artificial or gel nails, nails > 2 mm) 6. Inappropriate PPE 7. Inadequate surface cleaning of dental operator 8. Not flushing water lines prior to patient care 9. Insufficient use of protective barriers 10. Improper glove use	1. Touching unclean surface, object, chart, loupes, hair, cell phone, lead apron etc., and proceeding intraorally 2. Inadequate storage of contaminated items 3. Transporting equipment, supplies, materials to the lab that has not been properly disinfected 4. Supplies or instruments placed on patient's chest 5. No eyewear protection on patient 6. Use of contaminated equipment on a patient 7. Inappropriate disposal of sharps 8. Poor hand hygiene 9. Failure to record load label information from all peel pouches used on a patient in that patient's charting a) first offense not referred for remediation or disciplinary action b) second or more repeated offenses referred for remediation and disciplinary action
Dentistry: Minus one grade level for summative assessment 5 infractions total – refer for remediation	Dentistry: Minus 1-2 grade levels for summative assessment 3 Minor breaches – refer for remediation	Dentistry: Sessional grade will be reduced to 1 Overall performance reduced to Unsatisfactory 1 Major breach - refer for immediate remediation and possible disciplinary action
HYGN 2312 & HYGN 2316 a -1% deduction in the final grade for any 1 major breach or 3 minor breaches, also 3 infractions a -1% deduction.	HYGN 2312 & HYGN 2316 a -1% deduction in the final grade for any 1 major breach or 3 minor breaches, also 3 infractions a -1% deduction.	HYGN 2312 & HYGN 2316 a -1% deduction in the final grade for any 1 major breach or 3 minor breaches, also 3 infractions a -1% deduction.
HYGN 1238 & HYGN 1234 merit system starting with 10 merits, lose 2 merits for every major breach & 1 merit for any minor breach or infraction. If the merits are reduced to 6, a 1% deduction in the final grade occurs.	HYGN 1238 & HYGN 1234 merit system starting with 10 merits, lose 2 merits for every major breach & 1 merit for any minor breach or infraction. If the merits are reduced to 6, a 1% deduction in the final grade occurs.	HYGN 1238 & HYGN 1234 merit system starting with 10 merits, lose 2 merits for every major breach & 1 merit for any minor breach or infraction. If the merits are reduced to 6, a 1% deduction in the final grade occurs.

Student name: _____

Comments: _____

Date: _____ AM/PM _____ Unit# _____ Clinic: _____

Reported by: _____

“Not Safe” Designation

“Not safe” is designation in which patients, staff, or operators are placed at risk of transmission of disease or injury. If treatment is identified as ‘not safe’, the supervising dentist/dental hygienist will complete the treatment. In situations in which there is a disregard to IPAC practices, the student will be referred to Associate Dean Clinics/Academic and relevant disciplinary action will be taken as indicated. Examples of “Not Safe”

- ▶ Reusing instruments or laboratory items intraorally that have become contaminated (item fell on floor).
- ▶ Placing designated sharps items into trash in cassette, rather than into designated Sharps containers.

Please note infection prevention and control infractions and breaches are linked to students' clinical grades in some courses. Please refer to the rubric for reference.

8. RADIOGRAPHIC ASEPSIS

1. Book appointment into a Radiology Room in axiUm.
2. Prior to your appointment, check in with Radiology to confirm that the room is ready for your patient.
3. Accompany patient to radiology. The X-Ray tube head, sensor, keypad, mouse, and exposure button have all been set-up by the Radiology staff.
4. Log into the computers Clinic account with MiPacs_01.
5. Open axiUm and access your patient’s chart.
6. Open MiPacs using the ‘X-Ray’ icon in axiUm and let MiPacs load!! You need to allow time for MiPacs to load properly.
7. Use the hand sanitizer.
8. Collect RINN kits and open onto bench paper.
9. Remove patient eyeglasses and place patient’s prosthesis in Denture cup.
10. Position the thyroid collar on the patient.
11. Check exposure settings. Refer to the exposure chart posted on the wall.
12. HH , donn treatment gloves to assemble Rinn holder and sensor
13. ‘Click’ on the circular green Activation Capture icon on the monitor and it says ACTIVE
14. Place Rinn & sensor in patient’s mouth and press exposure button.
15. Remove Rinn & Sensor.
16. When all images are complete, leave sensor and Rinn on bench paper. Staff will decontaminate the room and items. Used Rinn holders are placed in the solution.
17. Remove gloves and HH
18. Remove thyroid collar.
19. Ensure patient takes their personal items (i.e. glasses, prosthesis)
20. Note: the chair, counter, tube head, keyboard, mouse are disinfected with Optim wipes. The sensor and the wiring is disinfected with alcohol.

- **ASEPSIS FOR INTRAORAL RADIOGRAPHS PHOTOSTIMULABLE PHOSPHOR PLATES (PSP) – please see posted guidelines in Radiology**
- **ASEPSIS FOR INTRAORAL RADIOGRAPHS USING PSP PLATES FOR THE SCAN X SWIFT VIEW AT DEER LODGE CENTRE DENTAL CLINIC – please see posted information at Deer Lodge**

9. LABORATORY ASEPSIS

All laboratory items are expected to be disinfected in a sodium hypochlorite bleach bath and rinsed before entering and prior to leaving clinics and laboratories with the exception of remount casts during remount appointment and this only due to expediency. (Sharma et al., 2021).

CLEANING PROCEDURES		
USE	CLEANER	TECHNIQUE
DENTURES	General All Purpose Cleaner	In a plastic cup with all purpose cleaner, place denture with patient's name on lid Transport to ultrasonic cleaner in North lab for 10 minutes. Wearing gloves, dry lid and cup with paper towel and transport to unit. Rinse with water prior to delivery to patient.

SUMMARY OF DISINFECTANT USE FOR CLINIC/LABORATORY PROCEDURES		
USE	DISINFECTANT	TECHNIQUE
Impressions Alginate	Sodium hypochlorite 1:10	Wearing gloves, rinse, spray, rinse, spray and leave in paper towel for 10 minutes Rinse and remove excess moisture and seal in clean bag for transport.
PVS impressions/custom trays, bite forks/bite registrations	Sodium hypochlorite 1:10	Wearing gloves, rinse, place in paper cup & transfer to bleach boat 10 minutes
Metal and Acrylic RPD, FPD, irreversible hydrocolloid, ZOE, polysulfide, polyether, silicone		Rinse, place in fresh paper cup and transfer to unit.
Other equipment Articulator Hanau Torch	Wipe with disinfectant wipes	
Waterbath basin	Scrub to remove compound, wash, dry, return to Dispensary wrapped in original Dennison wrap	
Waterbath		

Adhesive Application to Custom Trays

1. Small amount of adhesive is placed into plastic well
2. Paint tray with disposable

Disinfecting Definitive Crowns

1. Place crown in paper cup containing 1:10 diluted sodium hypochlorite for 10 minutes.
2. Rinse well with water

Cleaning Provisional Crowns

1. place provisional crown in amber jar with crown cleaner & place in ultrasonic for 10 minutes
2. Wearing gloves, rinse provisional crown with water well & transport back to unit in container. Discard gloves.
3. HH and don new treatment gloves, retrieve crown and cement.

10. CONTAMINATED DENTAL WASTE MANAGEMENT AND DISPOSAL

Biohazards – University of Manitoba Regulations

Dental waste from dental health-care settings requires special storage, handling, neutralization and disposal. Such waste includes:

- solid waste soaked or saturated with blood or saliva
- surgically removed hard or soft tissue
- all needles, syringes, scalpels

Within the University of Manitoba waste including gauze soaked with blood and/or hard or soft body tissue be placed into plastic bags, tied, and placed into biohazard bins.

The biomedical sharps are disposed of in Sharps Containers.

Biomedical Waste includes:

1. Anatomical Waste:

■ **human anatomical waste**

human tissues, organs and body parts, but excluding teeth, hair and nails). Teeth are not considered biomedical waste in Manitoba according to CSA 317.10-15 handling of healthcare waste materials 5.1.2.

2. Non-anatomical Waste, prior to disinfection or decontamination:

■ **microbiology laboratory waste**

(lab cultures, stocks or specimens, vaccines and materials in contact with them)

■ **blood and body fluid waste**

(fluid blood and blood products, items saturated or dripping with blood, body fluids contaminated with blood and body fluids removed for diagnosis or removed during surgery or treatment but excluding urine or feces.

■ **waste sharps**

(clinical and lab materials consisting of needles, syringes, blades, microscope slide covers or laboratory glass capable of causing cuts or punctures)

Management and Storage of Biomedical Wastes

Management and storage of biomedical wastes prior to disposal must be done in accordance with Manitoba Workplace Health Hazard Regulation 53/88. This involves:

- labelled containers
- maintaining an up-to-date, written inventory of controlled products in biomedical wastes produced in the facility.

Disposal of Biomedical Waste

Biomedical wastes considered hazardous wastes and therefore subject to The Dangerous Goods Handling and Transportation Act, which stipulates that hazardous waste must only be disposed of at a licensed hazardous waste disposal facility or in a manner approved or specified by the Department.

WASTE CLASSIFICATION	PROCEDURE FOR DISPOSAL
Body tissue, organs or parts (excluding teeth)	Place in durable, leak-proof containers, color-coded and labeled with the biohazard symbol, and arrange for incineration in a biomedical waste or municipal solid waste incinerator.
Blood, suctioned fluids, or other liquid waste	Carefully pour into a drain connected to a sanitary sewer system.
Sharp items	Place in sealed, puncture-proof containers, identified as containing sharps and color-coded " <i>Sharps containers</i> ".

Handling of Extracted Teeth

Extracted teeth are not to be given to patients.

Extracted teeth are appropriate to be used in the preclinical labs and must be handled while wearing PPE (mask, gloves and protective eyewear). Pre-treatment of extracted teeth includes the immersion of teeth in a 10% formalin solution for 2 weeks and rinsed well prior to use.

Extracted teeth are to be stored between preclinical sessions in sealed container in a hydrated state, in student lockers.

https://professionals.wrha.mb.ca/old/extranet/ipc/files/Tools/BedBugsLiceScabies_IPC_Highlights.pdf

BED BUGS

Bed bugs appear reddish brown color size of apple seed and are rarely seen during the day. Bed bugs do not jump or fly, but crawl.

It is important to maintain the patient's dignity and retain a professional demeanor. If a patient self-identifies in the waiting room they have bed bugs, arrangements need to be made to provide treatment in the quiet rooms if it is possible.

- Contact Precautions: PPE required for the operator includes gown, scrub cap, mask & gloves
- Patient's outerwear and personal items to be placed in a new transparent plastic bag during the appointment
- At end of appointment, gather patient's coat and personal items in operatory and trash bag will be disposed of by Physical Plant.
- Transport instruments from appointment to MDR immediately after use.
- Dental unit sign "Needing Repair" is placed in unit
- Disinfect unit as per usual post-decontamination
- Physical Plant will fumigate the unit & it will be not be used for 24-48 hours.
- Student scrubs/scrub cap placed in a plastic bag and washed at highest temperature followed by a drying cycle (high heat for 30 min).

LICE

- Lice cannot hop or fly, they crawl, Lice are identified by seeing the nits (empty eggshell), on all body hair and they are wingless and 2-4mm long. At least one live louse indicates an infestation.
- Contact Precautions: PPE gown, scrub cap and mask & gloves.
- Place disposable bouffant on patient
- Disinfect headrest as per decontamination of the operatory
- Student scrubs/scrub cap in a plastic bag and washed at highest temperature following by a drying cycle

References:

- ACFD Guidelines for infectious diseases and healthcare workers. 2010 <http://www.acfd.ca/about-acfd/publications/acfd-guidelines-for-infectious-diseases-and-health-care-workers/>
- Alberta Health Services (2013). Surgical aseptic technique and sterile field. Guideline for aseptic for invasive surgical procedures conducted in community-based healthcare settings.
- Allison JR, Dowson C, Jakubovics NS, Nile C, Durham J, Holliday R. Waterline Disinfectants Reduce Dental Bioaerosols: A Multitracer Validation. *J Dent Res*. 2022 May 1;220345221093522. doi: 10.1177/00220345221093522. Epub ahead of print. PMID: 35492016.
- Amato, A., Caggiano, M., Amato, M., Moccia, G., Capunzo, M., & De Caro, F. (2020). Infection control in dental practice during the COVID-19 pandemic. *International Journal of Environmental Research and public health*. 17, 4769; doi:10.3390/ijerph17134769
- Al-Yaseen W, Jones R, McGregor S, Wade W, Gallagher J, Harris R, Johnson I, Kc S, Robertson M, Innes N. Aerosol and splatter generation with rotary handpieces used in restorative and orthodontic dentistry: a systematic review. *BDJ Open*. 2022 Sep 6;8(1):26. doi: 10.1038/s41405-022-00118-4. PMID: 36068221.
- Araujo, M. W. and Andreana, S. Risk and prevention of transmission of infectious diseases in dentistry. *Quintessence Int*. 2002;33(5):376-382. <https://www.ncbi.nlm.nih.gov/pubmed/12014168>
- Bedbugs as vectors for drug-resistant bacteria. Mark Romney, Medical director of infection control and prevention, St Paul's hospital Vancouver, BC. *Emerging infectious diseases* Vol 17, Number 6, June 2011 online, CDC, <https://wwwnc.cdc.gov/eid/article/17/6/pdfs/10-1978.pdf>
- Brie Hawley Blackley, Kimberly R. Anderson, Fotinos Panagakos, Tammy Chipps & M. Abbas Virji (2022) Efficacy of dental evacuation systems for aerosol exposure mitigation in dental clinic settings, *Journal of Occupational and Environmental Hygiene*, 19:5, 281-294, DOI: [10.1080/15459624.2022.2053140](https://doi.org/10.1080/15459624.2022.2053140)
- Browning WD, McCarthy JP. A case series: herpes simplex virus as an occupational hazard. *J Esthet Restor Dent*. 2011;24(1):61-6.
- CDA Infection prevention and control in the dental office: An opportunity to improve safety and compliance, 2006.
- CDC Dental Unit water quality, 2021 https://www.cdc.gov/oralhealth/infectioncontrol/summary-infection-prevention-practices/dental-unit-water-quality.html?ACSTrackingID=USCDC_19_2-DM93149&ACSTrackingLabel=Outbreaks%20of%20Nontuberculous%20Mycobacteria%20Infections%20Highlight%20Importance%20of%20Maintaining%20and%20Monitoring%20Dental%20Waterlines&deliveryName=USCDC_19_2-DM93149
- CDC Health Alert Network, 2022, Outbreaks of Nontuberculous *Mycobacteria* Infections Highlight Importance of Maintaining and Monitoring Dental Waterlines, https://emergency.cdc.gov/han/2022/han00478.asp?ACSTrackingID=USCDC_19_2-DM93149&ACSTrackingLabel=Outbreaks%20of%20Nontuberculous%20Mycobacteria%20Infections%20Highlight%20Importance%20of%20Maintaining%20and%20Monitoring%20Dental%20Waterlines&deliveryName=USCDC_19_2-DM93149
- CDC, ACFD Guideline for infection control in health care personnel, 1998. *AJIC*, 26(3): <https://www.cdc.gov/infectioncontrol/pdf/infection-control-hcw.pdf>
- Centers for Disease Control and Prevention. Guideline for hand hygiene in health-care settings: recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *MMWR Recomm Rep*. 2002;51(No. RR-16). <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5116a1.htm>
- CDC Guidelines for environmental ipac in healthcare facilities, 2003 (updated July 2019) <https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines-P.pdf>
- CDC, Guidelines for Infection control in dental health-care settings-2003. *Morbidity and Mortality Weekly Report*, 52: No. RR-17.
- CDC Guidelines for preventing the transmission of *Mycobacterium tuberculosis* in health-care settings, 2005 see <https://www.cdc.gov/mmwr/pdf/rr/rr5417.pdf>

CDC (2019). Treating latent TB infection.

<https://www.cdc.gov/features/tuberculosis/treatment/index.html?deliveryName=US> CDC_201-DM6571

CDC Infection Prevention Checklist for Dental Settings: Basic expectations for safe care. 2016.

CDC, 2002 Guideline for Hand hygiene in health-care settings: Recommendations of the healthcare infection control practices Advisory committee and the HICPAC/SHEA/APIC/IDSA hand hygiene task force

• <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5116a1.htm>

CDC Interim infection prevention and control recommendations for healthcare personnel during the Coronavirus disease 2019 (COVID -19) Pandemic. May 22, 2020

CDC, 2024 CDC Reports Second Human Case of H5 Bird Flu Tied to Dairy Cow Outbreak

Centers for Disease Control and Prevention. Investigations of Persons Treated by HIV- Infected Health-Care Workers - United States. MMWR. 1993;42(17):329-331, 337. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00020479.htm>

CSA Z314: 2023 Canadian Standards for Steam Sterilization.

Cimex lectularius (bed bugs) protocol in client's and staff homes WRHA/WIS community health services (Nov, 2011) <https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/community/6.1.4.pdf>

Grant KL, Naber ED, Halteman WA. Evaluating Utility Gloves as a Potential Reservoir for Pathogenic Bacteria. J Dent Hyg. 2015 Aug; 89(4):258-63. PMID: 26304950.

Harrel, S.K. & Molinari, J. (2004). Aerosols and splatter in dentistry: A brief review of the literature and infection control implications. JADA 135: 429-437.

Hautemaniere A, Cunat L, Diguio N, et al. Factors determining poor practice in alcoholic gel hand rub technique in hospital workers. Journal of Infection and Public Health. 2010;3(1): 25-34.

Head lice Public health factsheet Manitoba Health. August 2014.

Health Canada (2021). Guidance for providing safe drinking water in areas of federal jurisdiction.

<https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-providing-safe-drinking-water-areas-federal-jurisdiction-version-3.html#a3>

Health Canada. Radiation Protection in Dentistry, Safety procedures for the installation, use and control of Dental X-ray equipment. Safety Code 20(2022).

Humphreys CP, Morgan SJ, Walapu M, Harrison GA, Keen AP, Efstratiou A, Neal SE, Salmon RL. Group A streptococcal skin infection outbreak in an abattoir: lessons for prevention. Epidemiol Infect. 2007 Feb;135(2):321-7. doi: 10.1017/S0950268806006819. PMID: 17291367; PMCID: PMC2870572.

Infection Prevention and Control in the Dental office, Royal College of Dental Surgeons of Ontario, Standard of practice, 2018.

Infection prevention and control Bed Bug: Quick reference for the community based clinic setting, WRHA.

Lin CM, Wu FM, Kim HK, Doyle MP, Michael BS, Williams LK. A comparison of hand washing techniques to remove Escherichia coli and caliciviruses under natural or artificial fingernails. J Food Prot. 2003 Dec;66(12):2296-301. doi: 10.4315/0362-028x-66.12.2296. Erratum in: J Food Prot. 2004 Mar;67(3):following table of contents. PMID: 14672227.

Manitoba Dental Association (2022). Infection prevention and control manual.

National Services Scotland Infection Control Team. Standard infection control precautions literature review: personal protective equipment (PPE) gloves. <https://www.nipcm.hps.scot.nhs.uk/media/1882/2022-05-30-ppe-gloves-review-v40.pdf>

Pediculosis capitis (head lice); Communicable disease management protocol Manitoba Public Health Branch (July 2014).

PHAC Guideline on the Prevention of Transmission of Bloodborne Viruses from Infected Healthcare Workers in Healthcare Settings, (June 2019)

PHAC Classic Creutzfeldt-Jakob Disease in Canada: quick reference guide. 2007

<https://www.canada.ca/en/public-health/services/infectious-diseases/nosocomial-occupational-infections/creutzfeldt-jakob-disease/infection-control-guidelines.html>

PIDAC (2018). Best Practices for environmental cleaning for prevention and control of infections.

PIDAC (2013). Best practices for cleaning disinfection and sterilization of medical equipment/devices in all health care settings, 3rd edition.

PIDAC Best practices for hand hygiene in all healthcare settings (2014)
<https://www.publichealthontario.ca/-/media/documents/B/2014/bp-hand-hygiene.pdf?la=en>

Puttaiah, R., Youngblood, D., Verma, M., & Reddy, A. (2010). World Journal Dentistry 1(2): 129-134.

Royal Canadian Dental Corps, Chief Dental Officer's interim clinical directive dental treatment during the COVID-19 Pandemic June 1, 2020

Royal College of Dental Surgeons of Ontario, Standard of Practice: Infection Prevention and Control in the Dental Office, 2018.

Salama, M.F., Jamal, W.Y., Al Mousa, H., Al-AbdulGhani, K.A., Rotimi, V.O. (2013). The effect of hand hygiene compliance on hospital-acquired infections in an ICU setting in a Kuwaiti teaching hospital. Journal of infection and public health, 6: 27-34.

Schönning C, Jernberg C, Klingenberg D, Andersson S, Pääjärvi A, Alm E, Tano E, Lytsy B. Legionellosis acquired through a dental unit: a case study. J Hosp Infect. 2017 May;96(1):89-92. doi: 10.1016/j.jhin.2017.01.009. Epub 2017 Jan 20. PMID:28228245.

SharedHealth (2020). Routine Practices Protocol.
<https://healthproviders.sharedhealthmb.ca/files/routine-practices-protocol.pdf>

US Army Public Health Centre. Management of waste dental amalgam.
https://phc.amedd.army.mil/PHC%20Resource%20Library/ManagementofWasteDentalAmalgam_FS_37-004-0221.pdf

Washington State Legislature (Jan, 23, 2021). Washington Administrative code for Dental waterlines. WAC 246-817-660 Dental unit water quality. <https://app.leg.wa.gov/wac/default.aspx?cite=246-817-660>

World Health Organization, 2009. WHO guidelines on hand hygiene in health care: first global patient safety challenge: clean care is safer care.

WRHA infectious disease table see <http://www.wrha.mb.ca/extranet/ipc/files/manuals/acuteecare/Rev1611-06.pdf>

WRHA IPAC Manual for Acute Care facilities (2008). WRHA IP&C manual Tuberculosis protocol, June 16, 2023 WRHA IP&C manual Routine Practices Protocol, July 2023 WRHA IP&C Management of TB, June 2018

WRHA IPC (May 2021). Lice (pediculosis) protocol
<https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/community/6.1.2.pdf>

WRHA Containment precautions protocol January 2019