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APPENDIX 1: COLLEGE POLICY REGARDING OCCUPATIONAL EXPOSURES TO BLOOD AND BODY FLUIDS- INFORMATION FOR PATIENTS ................................................................. 74
## HISTORY OF INFECTION PREVENTION AND CONTROL

### Historical Milestones

(To 1993 taken from Molinari, J. "Dental infection control at the year 2000 Accomplishment Recognized." JADA, Vol.130, September 2000)

<table>
<thead>
<tr>
<th>DATE</th>
<th>SCIENTIST</th>
<th>CONTRIBUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1546</td>
<td>Fracastoro</td>
<td>Reported concept of contagion and modes of disease transmission</td>
</tr>
<tr>
<td>1675</td>
<td>van Leeuwenhoek</td>
<td>First described bacteria and protozoa (&quot;animal-cules&quot;) under microscope; built first simple microscope</td>
</tr>
<tr>
<td>1750</td>
<td>Pringle</td>
<td>Observed relationship of putrefaction to disease; performed studies with agents he called &quot;antiseptics&quot;</td>
</tr>
<tr>
<td>1796</td>
<td>Jenner</td>
<td>Introduced smallpox vaccination as effective preventive method against disease outbreaks</td>
</tr>
<tr>
<td>1827</td>
<td>Alcock</td>
<td>Emphasized disinfectant properties of hypochlorite</td>
</tr>
<tr>
<td>1840s-1870s</td>
<td>Nightingale</td>
<td>Emphasized importance of sanitation; used statistics, surveillance and data collection</td>
</tr>
<tr>
<td>1843</td>
<td>Holmes</td>
<td>Applied epidemiology to demonstrate direct transmission of infection by health care personnel; demonstrated contagiousness of childbed fever (puerperal sepsis) from doctors and nurses</td>
</tr>
<tr>
<td>1861</td>
<td>Semmelweis</td>
<td>Instituted hospital procedures to reduce mortality from puerperal septicemia; emphasized role of hand hygiene in prevention of cross-infection</td>
</tr>
<tr>
<td>1860s-1870s</td>
<td>Lister</td>
<td>Was “father of clean and decent surgery”; introduced aseptic technique for surgery and care of wounds; introduced phenols (carbolic acid)</td>
</tr>
<tr>
<td>1860s-1880s</td>
<td>Pasteur</td>
<td>Established microbiology as a science; developed process of pasteurization</td>
</tr>
<tr>
<td>1870s-1880s</td>
<td>Koch</td>
<td>Isolated and demonstrated infectivity of anthrax bacillus; discovered Mycobacterium tuberculosis; formulated Koch’s postulates for infectious disease investigation; examined effects of numerous disinfectants against bacteria</td>
</tr>
</tbody>
</table>
# Modern Milestones in Infection Control Evolution

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>First occupational case of hepatitis B reported in a health care worker (HCW) this one was subsequent to needlestick exposure to contaminated blood</td>
</tr>
<tr>
<td>1963</td>
<td>First published description of microbial contamination of dental unit waterlines (DUW)</td>
</tr>
<tr>
<td>1978</td>
<td>First ADA report on infection control recommendations for dentistry</td>
</tr>
<tr>
<td>1981</td>
<td>First reports of AIDS</td>
</tr>
<tr>
<td>1982</td>
<td>Center for Disease Control (CDC) (US) releases occupational infection control guidelines for HCW including use of personal protective equipment and sterilization of instruments</td>
</tr>
<tr>
<td>1982</td>
<td>First hepatitis B vaccine commercially available</td>
</tr>
<tr>
<td>1984</td>
<td>HIV identified</td>
</tr>
<tr>
<td>1984</td>
<td>First case of occupational HIV infection from patient to HCW - needlestick AIDS patient to a nurse</td>
</tr>
<tr>
<td>1987</td>
<td>Health and Welfare Canada released the first set of Canadian recommendations for the prevention of HIV transmission in health care settings. The Principle of Universal Precautions used as basis for routine infection control.</td>
</tr>
<tr>
<td>1989</td>
<td>Hepatitis C virus identified – believed to be major cause of blood transfusion associated hepatitis</td>
</tr>
<tr>
<td>1991</td>
<td>Food and Drug Administration (USA) sends letter to dentists encouraging handpiece sterilization and publishes initial recommendations for people with latex hypersensitivity</td>
</tr>
<tr>
<td>1993</td>
<td>CDC publishes updated dental infection control guidelines, Canadian Dental Association (CDA) publishes updated guidelines</td>
</tr>
<tr>
<td>2001</td>
<td>CDA publishes updated workbook on Infection Control.</td>
</tr>
<tr>
<td>2003</td>
<td>CDC publishes updated dental IC guidelines</td>
</tr>
<tr>
<td>2006</td>
<td>Manitoba Dental Association updated version of guidelines distributed January/06</td>
</tr>
<tr>
<td>2010</td>
<td>CDA no longer provides IPC guidelines, leaving this to Provincial bodies</td>
</tr>
<tr>
<td>2010</td>
<td>First ever meeting in Canada for IPC educations from all ten Faculties of Dentistry</td>
</tr>
<tr>
<td>2010</td>
<td>Alberta Guidelines introduces daily BI as well as labeling each sterile package with sterilizer number, load number, and sterilization date</td>
</tr>
<tr>
<td>2011</td>
<td>New England J of Medicine reports two drugs effective for viral clearance HCV</td>
</tr>
<tr>
<td>2015</td>
<td>Anticipated date for updated CDC Guidelines for Dentistry</td>
</tr>
</tbody>
</table>
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 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”, the Manitoba Dental Association “Infection Control Resource Manual 2006”, “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”, Public Health Agency of Canada IPC guidelines, and Canadian Standards Association guidelines for Sterilization. Private practitioners in Canada will need to become accustomed to rotating visits/inspections by peers from their own Provincial dental associations. Many of the early proponents of infection prevention in dentistry were microbiologists that worked in various Faculties of Dentistry across the United States such as John Molinari, Chris Miller, Charles Palenik, R. Runnels, Bill Rutala, James Cottone, and Geza Terezhalmy and Canadians such as Jean Barbeau.

Governance by the University of Manitoba and the Winnipeg Regional Health Authority takes precedence over many of the activities within our setting. Some practices are determined by these two bodies. The most notable of these differences are our immunization protocols and the handling of “biohazardous wastes”. Health Canada standard for biohazardous waste is that most waste produced in a dental office poses no more significant risk than that produced in the home and therefore is disposed in general trash, whereas the University of Manitoba requires that this waste be handled separately.

The purpose of this manual is to:

1. Provide all members of the (Faculty of Health Sciences), College of Dentistry, University of Manitoba with the unique interpretation of the CDC guidelines and how these are applied to this facility.

2. Identify attitudes and skills, both behavioural and technical, that significantly reduce but do not eliminate the risk of exposure to and transmission of infectious agents during dental treatment.

Self-protection starts with the genuine recognition that:

1. oral health care providers may acquire an infection through professional activities.

2. all patients may harbor and are therefore capable of the transmission of 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.

These attitudes are translated into behavior known as STANDARD PRECAUTIONS whereby a set of minimal procedures for decontaminating instruments and operatory surfaces are used to reduce the risk of transmission of infectious diseases and are performed for each patient visit. Every patient is considered to have the same risk status for transmitting an infectious disease.

As these behavioral and technical skills are being learned, clinicians, whether students or expert level practitioners, must develop an appropriate ability to self-monitor their own infection control practices. As in all other expert-novice-learning interactions, shortcomings should be viewed as learning experiences and opportunities for thoughtful reflection, discussion, rationalization, and application to a “gold” standard, with the understanding that the “gold” standard is based on sound scientific principles.
TRANSMISSION OF INFECTIOUS DISEASES IN THE DENTAL OPERATORY

In order 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.

Mechanisms of Disease Transmission

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

2. Droplet: transmission due to sprays, splashes, aerosols, or spatter containing pathogenic microorganisms.

In dentistry, the principle routes of entry of microorganisms into the body are:

For Contact transmission

1. Touch – direct and indirect (largely from the operator’s hands)
2. Ingestion – from improperly cleaned instruments
3. Percutaneous – breaking the skin with an instrument that harbours body fluids from another person
4. **Auto-inoculation** whereby the person introduces body fluids from another person to a portal of entry in their own body

**For Droplet infection or Inhalation**

a. **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)

b. **Indirect inhalation**: inhalation of particles <5 microns in diameter 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 reintroduced to the environment surface with contaminated patient care items or contaminated personal protective barriers.
Table 2. (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, the CDC issued revised guidelines for students and healthcare workers infected with Hepatitis B. These guidelines have been accepted across the United States; however, in Canada, they are still under review and the new guidelines from Public Health Agency of Canada (PHAC) are expected to be released in 2014 following the meeting in January of 2014. Until then, these guidelines will continue to govern the workplace at the College of Dentistry.

<table>
<thead>
<tr>
<th>Disease/Problem</th>
<th>Clinical Restriction</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunctivitis</td>
<td>Restrict from patient contact and contact with patient's environment.</td>
<td>Until discharge ceases.</td>
</tr>
<tr>
<td>Cytomegalovirus Infection</td>
<td>No restriction</td>
<td>No restrictions, refer to provincial regulations. Standard precautions are always to be followed.</td>
</tr>
<tr>
<td>Diarrheal Disease</td>
<td><strong>Acute stage</strong> (diarrhea with other symptoms) Restrict from patient contact, contact with patient's environment, and food handling.</td>
<td>Until symptoms resolve.</td>
</tr>
<tr>
<td></td>
<td><strong>Convalescent stage Salmonella species</strong> Restrict care of patients at high risk</td>
<td>Until symptoms resolve; consult with local and provincial health authorities regarding need for negative stool cultures.</td>
</tr>
<tr>
<td>Enteroviral Infection</td>
<td>Restrict from care of infants, neonates, and immunocompromised patients and their environments</td>
<td>Until symptoms resolve.</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Restrict from patient contact, contact with patient's environment, and food handling.</td>
<td>Until 7 days after onset of jaundice.</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Personnel with acute or chronic hepatitis B surface antigenemia who do not perform exposure-prone procedures. No restrictions, refer to provincial regulations. Standard precautions are always to be followed. Do not perform exposure-prone procedures until counsel from the Committee on Infectious Diseases has been sought; Committee should review and recommend procedures that personnel can perform, taking into account specific procedures as well as skill and technique. Standard precautions are always to be followed.</td>
<td>Until HBe antigen is negative and viral DNA &lt;10^3 copies/mL.</td>
</tr>
<tr>
<td>Disease/Problem</td>
<td>Clinical Restriction</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>No restrictions. HCV-positive health care personnel should follow aseptic technique and standard precautions.</td>
<td></td>
</tr>
<tr>
<td>Herpes simplex</td>
<td>No restrictions</td>
<td>Until lesions heal.</td>
</tr>
<tr>
<td>Genital</td>
<td>Restrict from patient contact and contact with patient's environment.</td>
<td>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)</td>
</tr>
<tr>
<td>Hands (herpetic whitlow)</td>
<td>Evaluate need to restrict from care of patients at high risk.</td>
<td></td>
</tr>
<tr>
<td>Orofacial</td>
<td>Do not perform exposure-prone procedures until counsel from the Committee on Infectious Diseases has been sought; Committee should review and recommend procedures that personnel can perform, taking into account specific procedures as well as skill and technique. Standard precautions are always to be followed.</td>
<td></td>
</tr>
<tr>
<td>Human immunodeficiency virus</td>
<td>Exclude from clinical activity</td>
<td>Infectious from 2 days prior to symptoms and up to 7 days after</td>
</tr>
<tr>
<td>Influenza</td>
<td>Exclude from clinical activity</td>
<td></td>
</tr>
<tr>
<td>Measles</td>
<td>Exclude from clinical activity</td>
<td>Until 7 days after the rash appears. From fifth day after first exposure through twenty-first day after last exposure or 4 days after rash appears.</td>
</tr>
<tr>
<td>Active</td>
<td>Exclude from clinical activity</td>
<td></td>
</tr>
<tr>
<td>Post exposure (susceptible personnel)</td>
<td>Exclude from clinical activity</td>
<td></td>
</tr>
<tr>
<td>Meningococcal infection</td>
<td>Exclude from clinical activity</td>
<td>Until 24 hours after start of effective therapy.</td>
</tr>
<tr>
<td>Disease/Problem</td>
<td>Clinical Restriction</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Mumps</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>Exclude from clinical activity</td>
<td>Until 9 days after onset of parotitis.</td>
</tr>
<tr>
<td>Post exposure (susceptible personnel)</td>
<td>Exclude from clinical activity</td>
<td>From twelfth day after first exposure through twenty-sixth day after last exposure, or until 9 days after onset of parotitis.</td>
</tr>
<tr>
<td><strong>Pediculosis</strong></td>
<td>Exclude from clinical activity</td>
<td>Until treated and observed to be free of adult and immature lice.</td>
</tr>
<tr>
<td><strong>Pertussis</strong></td>
<td>Exclude from clinical activity</td>
<td>From beginning of catarrhal stage through third week after onset of paroxysms or until 5 days after start of effective antibiotic therapy.</td>
</tr>
<tr>
<td>Active</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post exposure (asymptomatic personnel)</td>
<td>No restriction, prophylaxis recommended</td>
<td></td>
</tr>
<tr>
<td>Post exposure (symptomatic personnel)</td>
<td>Exclude from clinical activity</td>
<td>Until 5 days after start of effective antibiotic therapy.</td>
</tr>
<tr>
<td><strong>Rubella</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active</td>
<td>Exclude from clinical activity</td>
<td>Until 5 days after rash appears.</td>
</tr>
<tr>
<td>Post exposure (susceptible personnel)</td>
<td>Exclude from clinical activity</td>
<td>From 7th day after first exposure through twenty-first day after last exposure.</td>
</tr>
<tr>
<td><em><em>Staphylococcus aureus infection</em> see below for MRSA</em>*</td>
<td>Exclude from clinical activity</td>
<td>Until lesions have resolved</td>
</tr>
<tr>
<td>Active, draining skin lesion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrier state</td>
<td>No restriction unless personnel are epidemiologically linked to transmission of the organism.</td>
<td></td>
</tr>
<tr>
<td><strong>Streptococcal Infection, Group A</strong></td>
<td>Exclude from clinical activity</td>
<td>Until 24 hours after adequate treatment is started.</td>
</tr>
<tr>
<td>Disease/Problem</td>
<td>Clinical Restriction</td>
<td>Duration</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Tuberculosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active disease</td>
<td>Exclude from clinical activity</td>
<td>Until proven non-infectious</td>
</tr>
<tr>
<td>PPD converter</td>
<td>No restriction</td>
<td></td>
</tr>
<tr>
<td><strong>Varicella (Chicken pox)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active disease</td>
<td>Exclude from clinical activity</td>
<td>Until all lesions dry and crust.</td>
</tr>
<tr>
<td>Post exposure (susceptible personnel)</td>
<td>Exclude from clinical activity</td>
<td>From tenth day after first exposure through twenty-first day (twenty-eighth day if varicella-zoster immune globulin [VZIG] administered) after last exposure.</td>
</tr>
<tr>
<td><strong>Zoster (shingles)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Localized, in healthy person</td>
<td>Cover lesions, restrict from care of patients at high risk</td>
<td>Until all lesions dry and crust.</td>
</tr>
<tr>
<td>Generalized or localized in immunosuppressed person</td>
<td>Exclude from clinical activity</td>
<td>Until all lesions dry and crust.</td>
</tr>
<tr>
<td>Post exposure (susceptible personnel)</td>
<td>Exclude from clinical activity</td>
<td>From tenth day after first exposure through twenty-first day (twenty-eighth day if varicella-zoster immune globulin [VZIG] administered) after last exposure or if varicella occurs when lesions crust and dry.</td>
</tr>
<tr>
<td>Viral respiratory infection, acute febrile</td>
<td>Consider excluding from care of patients at high risk, or contact with such patients' environment during community outbreak of respiratory syncytial virus and influenza</td>
<td>Until acute symptoms resolve.</td>
</tr>
</tbody>
</table>

*Methicillin Resistant Staphylococcus Aureus (MRSA)* is a common pathogen carried by 20-30% of the population and a higher proportion of people whose occupation is healthcare. Left untreated, the infection can become life threatening particularly in people who are already immunocompromised. Strict adherence to Standard Precautions is advised with no further precautions necessary. Due to known glove compromise, surgery is supported by double gloving at all times, not only for patients with known infectious diseases, including MRSA.
STANDARD PRECAUTIONS

STANDARD PRECAUTIONS is a set of minimal procedures for decontaminating instruments and operatory 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.

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 instruments and surfaces will be decontaminated the same way following every patient visit.

The term that was initially used to describe all that is done to prevent transmission of diseases through body fluids was “Universal Precautions”. This was used to describe prevention of the transmission of diseases specifically through blood. This term has now been replaced in dentistry, due to the constant presence of saliva, by the term “Standard Precautions” since this term applies to transmission through all body fluids, however, neither HIV/AIDS nor Hepatitis C are known to be transmitted through saliva, only blood.

CHAIN OF ASEPSIS

The 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.

Following is a list of all those procedures and precautions (within the attitude of safety) that together constitute 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. Instrument Sterilization and Disinfection
7. Surface Disinfection and General Operatory Asepsis
8. Asepsis related to Radiography
9. Asepsis related to Dental Laboratory Procedures
10. Disposal of Biohazardous Wastes
11. Emergence of new and potentially pandemic diseases
1. IMMUNIZATION

Dental personnel can reduce the risk of contracting infectious diseases by maintaining their health and immune status. Maintaining an up-to-date health record is an important responsibility of being a student and serves to both protect the health of the student as well as the health of vulnerable patients with whose care the students will be involved. In general, immunizations and health screening tests are voluntary procedures; however, the immunizations and/or testing outlined in these documents are also a condition of registration within the College of Dentistry and School of Dental Hygiene. Failure to maintain an up-to-date record will result in the student being barred from clinical activities involving patients.

The Faculty of Health Sciences Immunization Program established May 1, 2014, (formerly Bannatyne Immunization Status Program or BISP), requires immunization against the following diseases (see below). Incoming students are required to return completed forms (Appendix A – Bannatyne Campus Immunization Form) on or before the first day of Orientation of their first year of dental hygiene or dentistry. It is expected that all immunizations will already be completed prior to registration. Requisitions for any vaccination needs and Hepatitis B serology can be obtained from the FHSIP and can be completed on Bannatyne Campus. Annual influenza immunization must be completed once vaccine is available. Proof of immunization is a requirement of yearly registration in the program (Dentistry or Dental Hygiene). If it is determined by the Physician Director of the FHS Immunization Program that a student requires further immunization, vaccine can be obtained on campus during scheduled Med 2 Immunization clinics. Students are permitted clinic privileges only when all required documentation of all immunization and serology has been completed and clinic privileges will be withdrawn when required documentation has not been received. Proof of immunization status for influenza must be submitted annually by December 15.

- Tetanus, diphtheria, pertussis
- Polio
- Measles
- Mumps
- Rubella
- Varicella
- Hepatitis B
- Two step testing for tuberculosis
- Influenza
Health Status with regard to bloodborne diseases HBV, HCV, HIV
In keeping with the policy of the dentists of Manitoba, wherein practitioners who are bloodborne disease positive are to self-report their status to the MDA, students and clinical staff in the Faculty of Dentistry are to self-report positive status of hepatitis B, hepatitis C, or HIV to Dr. N. Mazurat, IPC coordinator, or the Dean of the School of Dentistry who will consult with the Dean of the Faculty of Health Sciences to who will determine how the individual’s care will best be managed. The student or staff member must adhere to the recommendations of Faculty of Health Sciences.

*This has also been covered by the aforementioned guidelines re students and healthcare workers infected with Hepatitis B. Until the new PHAC guidelines are released later in 2014, the College of Dentistry will continue to adhere to this guideline.

ACFD Policy
This College adheres to the ACFD GUIDELINES FOR INFECTIOUS DISEASES AND HEALTH CARE WORKERS

These guidelines were developed and adopted by the ACFD to serve as a resource to assist ACFD Member Institutions in the development of their institutional policies.

Entry into the healthcare professions is a privilege that carries a responsibility to do no harm.

Direct patient care, including invasive procedures, is required during the educational programs of dental professionals (1-4). This places patients and healthcare workers (HCWs) at increased risk of transmission of infections including airborne diseases, and bloodborne pathogens (BBPs) – HIV/AIDS, hepatitis B virus (HBV) and hepatitis C virus (HCV) (5-7). College and students should have the appropriate immunizations and the necessary training in infection control and Standard Precautions to minimize the potential for cross infection and the risk to patients, clinical students, College and staff (5-8).

Many HCWs including dental workers are reluctant to treat patients with BBPs - especially HIV/AIDS (9-13).

The Calendars of Colleges/Schools of Dentistry should inform potential applicants that:

1. Students will be required to treat patients with infectious diseases (including HIV, HBV and HCV) should they be assigned to them.
2. Applicants need to fulfill requirements related to health status - including infection with HBV, HCV and HIV – and immunizations (see below).
3. It is not possible to complete the DDS clinical program necessary for graduation without performing invasive / exposure-prone procedures.

4. Students and applicants with HIV-related health problems, hepatitis B or other infections may be unable to practice dentistry safely and competently.

HCWs including dentists and hygienists are at risk for exposure to blood-borne pathogens (7, 14, 15). Healthcare students are also vulnerable to exposures (16-20) especially those in dentistry (21, 22). Dental students are at higher risk for needle-stick injuries than are experienced practitioners (23). As such, this should be considered in the development of institutional infectious disease policies. There are vaccines to protect against HBV and other infections and a policy of mandatory immunizations and screening of HCWs and trainees protect patients, students and HCWs.

HCWs, including dental workers, who do invasive procedures, have an ethical obligation to know their own infectious disease status and to be medically assessed for risk of transmission of any infection (5). Despite this, less than 60% of HCWs report knowing that they are immune to HBV (24).

Acceptance into a dental program should be contingent upon completion of appropriate immunization and screening.

Policies for international and Canadian applicants should be the same.

**Recommended Immunization Guidelines (6, 25-31):**
Colleges or schools should have an immunization policy in place for students and student applicants. It is recommended that students seeking entrance into any healthcare programs provide the following information:

**Diphtheria and Tetanus**
Completion of a primary series of at least 3 doses of a combined tetanus, pertussis and diphtheria preparation and booster within the last 10 years is required.

**Polio**
Completion of a primary series of at least 3 doses of oral polio vaccine or inactivated polio vaccine is required.

**Measles**
Completion of two doses of measles vaccine or documented proof of disease (i.e. presence of measles IgG) is required as evidence of protection. Adults born after 1970 without a history of the disease require at least 1 dose of MMR (measles-mumps-rubella) vaccine.
**Mumps**
Completion of at least one dose of mumps vaccine or documented proof of disease (i.e. presence of mumps IgG) is required. If non-immune, 1 dose of MMR vaccine is required.

**Rubella**
Completion of at least one dose of rubella vaccine or documented proof of disease (i.e. presence of rubella IgG) is required. If non-immune, 1 dose of MMR vaccine is required.

**Varicella**
Completion of 1 dose (before age 13) or 2 doses (if given after age 13) of varicella vaccine, or proof of the disease (i.e. history of varicella or presence of varicella zoster virus IgG) is required.

**Tuberculosis (TB)**
Negative two step tuberculin skin test (TST) within the last 12 months is required. If there is a previously documented positive TST, previous treatment for active TB or treatment for latent TB, medical evaluation is needed to deem the person non-contagious.

**Hepatitis B**
Completion of a HBV-containing (hepatitis B virus) vaccine series and documented seroconversion with antibodies to hepatitis B surface antigen (anti-HBs) is required. Testing should be done at least one month (but no later than six months) after the final immunization in the series. Lack of seroconversion requires revaccination and reassessment for immunity. If a healthcare worker never before tested is found not to have protective antibody, re-immunization with a full series of hepatitis B containing vaccine is indicated (27).

HBV immunization is not required if there is evidence of immunity due to prior infection (anti-HBs positive and/or antibodies to hepatitis B core antigen [anti HBC] positive).

**Recommended Guidelines for Student and Student Applicants with Infectious Diseases**

**Bloodborne Pathogens**
Compared with HCV or HIV, transmission of HBV is the greatest hazard in healthcare settings to those who are not immune (5, 32-35). The presence of HBeAg indicates a high risk of infectivity (5, 34, 36, 37). Among HCWs who sustained injuries from needles contaminated with blood containing HBV, the risk of developing clinical hepatitis if the blood was both HBsAg-positive and HBeAg-positive was 22%-31%. By comparison, the risk of developing clinical hepatitis from a needle contaminated with HBsAg-positive, HBeAg-negative blood was 1%-6% (34). Estimates of the risk of disease transmission after needlestick injuries contaminated with HCV or HIV are approximately 2% and 0.3% respectively (34, 38, 39). Healthcare workers, including students, who are infected with HCV, HIV,
or HBV with no evidence of HBe antigen or a high viral load (>10^3 genome equivalents/mL) are considered low risk for transmission (5, 38, 40-48).

**Hepatitis B**
Applicants who are HBsAg-positive and HBeAg-positive or who have a viral load greater than 10^3 genome equivalents/mL should NOT be accepted into clinical programs. Applicants who are HBsAg-positive but HBeAg-negative can be accepted, but should receive counseling before beginning the clinical program. Non-responders (non-immune) to the hepatitis B vaccine should be tested on a regular basis for the presence of HBeAg and viral DNA and be removed from direct patient care activities if found to be positive for HBeAg or if they exceed a viral load greater than 10^3 genome equivalents/mL. Current recommendations should be followed in the event of exposure to a non-responder (27).

**Hepatitis C**
Applicants who are carriers of Hepatitis C can be accepted, but should receive counseling before beginning the clinical program.

**Human Immunodeficiency Virus (HIV)**
Applicants who are HIV positive can be accepted but should be counseled before admission to clinical programs. Students with risk factors for HIV should be counseled to seek HIV testing on a volunteer basis.

**Communicable Disease Status**
Any student or student applicant with an infectious disease (6) has a moral and ethical obligation to inform the appropriate authority in their educational institution to receive appropriate counseling and recommendations. This is consistent with the Canadian Dental Association’s Code of Ethics (49). In addition, there may be further specific reporting requirements in the various provincial jurisdictions (5).

The confidentiality of the infected student should be maintained. The name of the infected student requiring counseling cannot be divulged without permission of the student.

HCWs exposed to HIV, HBV or HCV should be advised to follow current recommendations for post exposure prophylaxis (34).

References are available on the ACFD website. These recommendations were adopted by ACFD, February 2010 but amendments are expected following the PHAC guideline release in 2014. (Presently in draft: June/2014.)
2. PATIENT SCREENING

The concept of Standard Precautions provides guidance that all instruments and surfaces will be decontaminated the same way after every visit for all patients.

Complete medical histories are taken for every new patient and updated at each appointment to determine those patients who are physiologically compromised and for whom dental treatment procedures may have to be modified and, to the extent possible, to determine infectious status.

Antibiotic Prophylaxis for Patients at Risk
Risk assessments are used to assist in appropriate prophylactic antibiotic use in patients who are considered at risk for infections (both cardiac and total joint replacement patients) as a result of dental treatment. Please refer to the Clinic Manual.

The American Association of Orthopedic Surgeons systematic review and guidelines were released in December, 2012 and state there is insufficient evidence to *routinely* prescribe prophylactic antibiotics prior to dental procedures. These guidelines have been accepted by the American, British, and Canadian Dental Associations. Patients with total joint replacements are asked to see their own Orthopedic Surgeons or physicians for risk assessment to determine need for antibiotic coverage and to prescribe if deemed necessary for that patient based on their risk assessment.

All patients in the College who require medical consultations cannot receive dental treatment until the consultation has been returned.

Screening for Bloodborne Diseases
Screening is useful when patients report positive disease status for bloodborne disease as this reduces questions about the ‘unknown’ should there be a percutaneous injury to the operator during dental treatment. Appendix 1 is a copy of the information bulletin provided to patients upon initial presentation for treatment.
3. **HAND HYGIENE**

Cleaning of the hands depends primarily on mechanical effects of rubbing the hands together to create friction, rinsing with running water, and drying. Any liquid soap is acceptable. Bar soaps are discouraged and not used within our facility. For persons with skin compromised by eczema or other chaffing, consultation with a dermatologist and use of appropriate emollients is recommended.

Controlled trials have not documented decreased incidence of infections with the use of antibacterial agents over use of plain soap for routine hand washing in the general health care setting. There is also concern that the antibacterial agents, particularly Triclosan, are entering the food chain with unknown effects to animal and human life. For these reason, our facility uses plain soap, not antibacterial soap at each sink in the Main Clinic for handwashing.

Components of good hand washing include:

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

**Technique for Hand Washing**

The preferred method for hand hygiene depends on anticipated procedures. For routine dentistry (non-surgical procedures) a wash that incorporates nail cleaning is used before and after the clinical session (both morning and afternoon). Nail brushes are available under the counter at the site of the Assistina units.

A 15 second vigorous hand wash followed by a rinse is utilized for all other washing during nonsurgical clinical care. For routine dental care, plain soap and water used for a sufficient period of time is adequate.

Hands are always washed at the start and end of each clinical session, morning and afternoon, immediately prior to placing gloves and immediately following removal of gloves, prior to placing equipment barriers, and/or anytime when the hands are contaminated with organic or inorganic soil.
**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*

**Beginning and End of Sessions:**  
Hands should be rubbed vigorously during washing for at least 15 seconds with special attention paid to the backs of the hands, wrists, between the fingers and under the fingernails.

a) wet hands from fingertips to wrist with cool water  
b) place liquid soap on nailbrush and on hands  
c) clean the fingernails with brush until no visible soil remains, leave brush in sink  
d) scrub hands vigorously following the diagrams above  
e) rinse with cool water until all traces of soap are removed  
f) 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

**Hand Disinfection with Alcohol-based Hand Rubs**

Antiseptic hand washes have been demonstrated to be more effective than water washing for viral kill and due to improved compliance of use among healthcare workers. Hand rubs are especially useful when water is not readily available. They are not effective when hands are visibly soiled and when skin is already compromised due to frequent washing. The Counsel on Accreditation (2008) has recommended that antiseptic hand wash stations be made available within the College setting. In our clinics, this method is auxiliary to hand washing with water due to availability of sinks and because hands may become soiled during removal of gloves and other personal protective equipment. To be effective, sufficient alcohol based handrub should be at least 62% alcohol and sufficient should be used that it remains wet to allow rubbing of hands for a minimum of 25 seconds.

**Nails**

Use of artificial nails (including tips) and/or colored nail polish is not allowed in our clinics. Nails should be short and smooth (surgical length) to allow thorough cleaning and to prevent tears to gloves. Polish must not be chipped. Nails should be cleaned at each initial session wash with the sterilized nail brush provided.

**Jewellery**

Rings that are significantly raised and/or are multifaceted and may cause injury to the patient or readily cause gloves to tear should not be worn during active patient care. Watches or wrist jewelry must be maintained under the cuffs of the clinic jackets to protect the wearer from spatter of blood and saliva.

**Cough and Sneeze Etiquette**

Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use. When a tissue is not readily available, cough or sneeze into your upper sleeve or elbow, not into your hands. Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.
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.

Placement of PPE
1. Protective Outer Clothing
2. Mask
3. Protective Eyewear
4. Wash Hands, Place Gloves

Removal of PPE
1. Gloves
2. Mask
3. Protective Eyewear
4. Wash Hands
5. Upon Leaving Clinic, Remove Protective Outerwear
6. Wash Hands

1. Protective Clothing
Protective outerwear is worn so that aerosols are not deposited on street
clothes, (thus providing a conduit for cross-contamination to the operator or
those that may come in contact with the operator) and to protect skin from
exposures to blood and body substances. Scrub pants and tops are worn in all
clinics and all clinical rotations. When aerosol production is anticipated, (most
operations, most of the time) outerwear with long sleeves must be worn during
clinical procedures. Scrub pants with Lab coats will be worn to all pre-clinical
labs including Gross Anatomy. Individual instructors may have additional pre-
clinical requirements as provided in Course Outlines.

Scrub tops and pants and clinic jackets must be changed daily. If outerwear
becomes visibly soiled during patient care, clean outerwear needs to be
placed prior to treating the next patient.

Scrubs are not to be worn to or from the College. Contaminated student
outerwear is taken home in a closed container such as a plastic bag. Protective
clothing should be laundered separately in hot water followed by
drying.

Instructors wear long sleeved clinic jackets when involved with clinical student
instruction and only during clinical instruction (not outside the clinic).
2. **Masks**
Masks must be worn in clinic whenever there is potential aerosol production expected including during 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, place overgloves, replace with new overgloves, correct mask and dispose overgloves.
- 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 and discarded when using the phone or leaving the clinic.

Masks must be worn in pre-clinical labs when simulating patient care.

3. **Protective Eyewear**
Protective eyewear with sideshields must be worn by patients and all clinical personnel during all clinical (and preclinical) procedures that could result in damage to the eyes. Fashion frames (glasses worn daily) are not adequate for safety during patient care and will not be allowed during active patient care or in preclinical laboratories. During patient care, students must wear prescription safety glasses, safety glasses over corrective lenses, or loupes with side shields. Students who are awaiting delivery of loupes and students whose loupes are away for service are expected to wear appropriate protective eyewear during active patient care in the clinical setting.

Loupes became part of the student kit starting Fall 2009. Dental students from graduating year 2013 and onward and Dental Hygiene 2011 onward are expected to wear their loupes with sideshields during pre-clinical simulation and all active patient care.

Eyewear is not handled once treatment gloves are placed.

Faceshields are not used in our College setting. The rationale for this is that patients may perceive that they are being treated differently than other patients.

4. **Gloves**
Gloves reduce hand contamination and protect health care workers (HCW) from pathogens that increase risk to infection. There is good quality evidence that demonstrates that gloves become compromised during use. Therefore, hands must be washed immediately before gloving and immediately upon removal of gloves except when removal of other PPE is expected, at which
Gloves are worn *whenever* direct or indirect patient contact is anticipated and under utility gloves whenever utilized during operatory disinfection including 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* as it is not possible to determine if they are or are not contaminated.
- even if gloves were just placed and clean, they are not used to access any supplies or equipment other than curing lights as there is risk of cross-contamination from that surface to the patient.
- during active patient care, treatment gloves are placed only after instrument packages have been opened with clean bare hands (including packaging for local anesthetic and other dental materials).
- treatment gloves are covered with overgloves when leaving the operatory to access any other part of the clinic unless treatment gloves are visibly contaminated with blood. In this case, treatment gloves are removed prior to leaving the operatory.
- treatment gloves and masks are removed when leaving the clinic or when using the clinic telephone.
- hands are washed prior to placement and immediately following removal of gloves.

There are many different types of glove worn and each is task specific.

i) **Treatment gloves** – *vinyl, nitrile, neoprene*. Latex glove use was discontinued in 2010 in undergraduate clinics in our College due to the increased risk of latex allergy with increased use time. Vinyl has a very high rate of compromise (gloves should be changed after 15 minutes of use) and is not recommended for patient care.

ii) **Overgloves** – *‘food handler’ gloves worn over contaminated treatment gloves* The purpose of overgloves is to reduce waste of resources including reducing the number of treatment gloves used, more efficient use of time when supplies or equipment need to be accessed, and to reduce the number of hand washes required due to glove changing. Use of overgloves results in resource savings including time, water, paper towels and fewer washes resulting in less degradation of the operator’s skin. Students with very large hands for whom overgloves are not available are the only ones excused from overglove wear. However, these students are expected to be vigilant
about unit dosing so that all supplies and equipment are available prior
to treatment glove placement to reduce excessive glove use.

Overgloves are taped to the paper towel dispenser (suggested for right-
handed students) or the chart holder (suggested for left-handed students) or
the sides of the mobile during patient charting and covered by a bib during
aerosol producing procedures.

After use, overgloves are returned to this area unless they have become
contaminated during use. When this occurs, they are discarded.

Overgloves must not come directly into contact with items that will be used
intraorally such as gauze, fluoride trays, rubber dam, or compound as the
overgloves are not clean for touching intraoral items. Once gloves have been
placed, supplies in the mobile are only accessed using the cotton pliers that
are in the top drawer of the mobile.

Operators must avoid touching their own hair, skin, or other PPE, including
loupes, or contaminated patient care items while wearing overgloves. If
overgloves become contaminated, they are discarded. When overgloves will
be used to adjust masks or eyewear or for any other procedure when it is
known that they will become contaminated, the overgloves are placed, new
overgloves are dispensed and placed, the correction is made, and the
contaminated overgloves are then discarded.

iii) **Utility gloves** Heavy duty utility gloves are recommended during hand
cleaning of sharp instruments. Due to the installation of
washer/disinfectors in the academic year 2010/11, utility gloves are no
longer part of routine decontamination protocol in our undergraduate
clinics because there is no room in the student bunks for them,
however, they are available in the clinics and their use is *highly
recommended* anytime that the operator needs protection to prevent
sharps injuries during decontamination.

**Use of PPE in the Pre-Clinical Laboratories**
PPE *must* 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,
laboratory coats, masks, protective eyewear (with side shields) preferably loupes,
and gloves during *all* simulated patient treatment and laboratory procedures
(Operative, Dental Materials, Fixed, Complete and Removable Dentures, Perio,
Pedo, Ortho, and Endo). 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). Students who breach
IPC during laboratory settings are subject to breach penalties depending on
individual course coordinator discretion similar to that in the clinical setting. Please
refer to individual Course Outlines and Course Manuals for protocol and guidelines
for individual disciplines.
B. Equipment (Surface) Barriers

Equipment barriers are materials such as paper and plastic that is used to protect equipment, which receives high use and is a receptacle for high volumes of bioburden. Equipment barriers are placed to prevent excessive wear of the equipment due to corrosion from the disinfectant and to reduce time for cleaning blood and other body fluids from surfaces.

CDC guidelines for barriers state that disinfection is not required following removal of barriers. However, in the undergraduate clinics in our College where patient appointments are routinely lengthy, the potential for barrier compromise is high. Therefore, in our clinics, the equipment under barriers requires disinfection.

C. Treatment Barriers

1. Rubber Dam
   A rubber dam reduces operator exposure to microorganisms from patient’s saliva. For handling of the rubber dam please refer to “During Treatment” procedures.

2. Pre-Procedural Mouth Rinse
   Use of an anti-microbial mouthwash of 0.12% chlorhexidine gluconate solution for 30 seconds prior to intra-oral procedures is strongly advised. Having the patient rinse even with water immediately prior to treatment reduces the number of viable oral organisms by upwards of 90%.

AVOIDING PAPER CHART CONTAMINATION (directed to D1 students)

Patient Examination/Treatment Plan with Operator as Recorder

When preparing the unit for a procedure where the mobile will act as a writing surface, overgloves may be placed on the side of the mobile to make the charting procedure more efficient. Instruments and disposables are placed on the bracket table. When the mobile is going to be used to support the chart during charting, it does not have to be covered with benchpaper. Overgloves must be used by operators when charting on worksheets. If the student prefers to use a barrier on a pen, overgloves will still be used.

Suggestions for Worksheets for Charting:

► Do not place bench paper on the mobile. Set the mobile according to the dominant hand of the operator and place overgloves on the side of the mobile for convenience.

► When other tests are required such as pulp testing or temperature testing, the worksheet remains on the mobile and the testing equipment is placed on the counter or bracket table.
Charting Utilizing an Assistant
Assistants or students acting as assistants for charting may do so with clean, bare hands when there is no expectation of assistance for air/water or suction. However, if there is any potential for expectation of assisting procedures or production of aerosols, the assistant will wear all the usual PPE (mask, protective eyewear, and treatment gloves covered by overgloves and the overgloves can be stored at the side of the mobile during actual assisting). If the assistant is entering information to the electronic health record, gloves are worn when using the keyboard to protect the person entering the information.

Chart Entries
Chart entries, whether paper or computer generated electronic entries are made with clean bare hands or with overgloves. If treatment gloves are heavily contaminated (with saliva or blood), and the keyboard has not been used during the session, remove them and chart with clean hands. If the keyboard has been used, replace them with clean gloves and overgloves prior to performing documentation.

In the event that the paper chart becomes contaminated, it is to be covered with plastic for transport by the student and remain in the office of Nicole Brass for a minimum of seven days.

Think of the keyboard and mouse as being most similar to the mobile for status of contamination. The keyboard is just another clinical surface that is routinely disinfected pre and post operatively with the surface disinfectant (Optim) and if it does become contaminated during treatment, it needs to be disinfected immediately (before someone touches it with bare hands). As with the mobile, the keyboard and mouse are not handled with contaminated gloves. The mouse cannot become contaminated and a barrier should be placed on it (plastic wrap) to protect it.
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, mainly HIV and Hepatitis B and C. A puncture from a used local anesthetic needle is always considered a Significant Exposure whereas a puncture from another instrument is considered a Significant Exposure only when there is visible blood on the instrument and the injury punctures the skin sufficiently to cause bleeding.

Self-sheathing needles were introduced into the Faculty of Dentistry, University of Manitoba in 2005 due to Legislation in Manitoba and conventional needles were reintroduced in 2012 as there is documentation demonstrating difficulties with self-sheathing needles. When multiple injections are or may be required and the injections will not be repeated immediately, the needle is resheathed using a one-handed scoop method immediately following use. Needles are not to be left unsheathed anywhere in the operatory. All needles are disposed only in sharps containers (never into trash).

Conventional needles are only resheathed using the one-handed scoop method. Place the cap on the counter and using one hand, slide the needle into the cap. The cap should be further tightened onto the needle with the other hand only when the operator is certain that the needle has been fully covered by the cap.

Needle Disposal
Disassemble the needle/syringe at the end of treatment either while waiting for a final instructor check or when it is certain that no further local anesthetic will be required. Disassemble the needle from the syringe, place an overglove on the non-dominant hand to open the sharps container, and drop the capped needle into the sharps container. Replace or discard the overglove depending on what further clinical procedures are still required.

Guidelines to Aid In Reducing Sharp Instrument Injuries
- only pass instruments over the patient’s chest or behind the patient, not over the face.
- use a fulcrum and do not use excessive force when trimming or cutting compound or wax with Bard-Parker blades. Try to trim compound or wax away from the hand rather than toward the hand.
- remove all scalpel blades including Bard-Parker blades with a hemostat.
- remove burs prior to removing handpiece from coupler.
- place handpieces with burs away from operator when not in use.
- 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 dye), needles used for irrigation in surgery and in endo
- scalpels and Bard Parker blades
- endodontic files
- burs
- Tofflemire bands
- orthodontic wires
- broken denture clasps

Broken rubber dam clamps are cleaned and placed into a new sterilization bag and displayed to Central Sterilization for replacement. Broken glass should be handled only by custodial staff. Inform Dispensary staff to call custodians for safe removal of glass if an incident involving broken glass occurs.

**Sharps Safety in the Pre-clinical and Senior Laboratory Setting**

As a profession, it is our responsibility to maintain everyone’s safety with used sharps: students, staff including custodians, and workers beyond our buildings. In the pre-clinical setting, discard any sharps only into the sharps container as placement into trash could result in injury to trash handlers. Such an injury could result in anxiety for an injured person with far reaching consequences such as blood testing and/or Post-exposure prophylaxis as the injured person will not know the source. Similarly, a trash handler beyond our facility also needs to be protected as they would have no way of knowing the status of the source.

**Significant Exposures**

**Definition:** An occupational injury resulting in transfer of an amount of blood (at least a full drop) or other high risk body fluids with visible blood from a Source person (usually a patient) onto mucous membranes or non-intact skin or punctured intact skin of the Exposed person (most frequently the operator).

The first step following an injury is to determine the nature and the extent of the injury to determine that the incident is a Significant Exposure – “Was the instrument contaminated with blood?” When an incident has occurred, if it is determined to be a significant exposure, the patient will be interviewed using a Winnipeg Regional Health Authority Risk Determination questionnaire and the Source person will be asked to submit to blood testing by the Supervisor of Support Staff. Post-exposure prophylaxis is applied only when the Source tests positive for HIV/AIDS.
Post-Exposure Protocol: Main Clinic AND Rotations

1. Stop the procedure immediately.

2. Inform the patient that an injury has occurred as the patient may think that they have been injured or that an unfavourable event has occurred to them.

3. Remove gloves and wash hands
   Injuries to the skin should be washed well with copious amounts of running water. Free bleeding of puncture wounds should be encouraged only long enough to aid cleansing of the wound, however, there is no documented evidence (Manitoba Health 2009 Guidelines) to support that squeezing the wound will further reduce the risk of transmission of bloodborne infection. The site of exposure should be washed well with soap and water (not necessarily antibacterial soap) but without additional trauma. Antiseptics, bleach, and skin washes should not be used.

   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: Notify clinical support staff and the clinical instructor immediately in order to determine the nature and extent of the injury. Determine if the injury was a Significant Exposure and if first aid is required. Also decide whether the operator is able to continue or if that is precluded due to need for immediate medical attention.

5. Patient care: Clinical staff and the student will determine the status of continuation of patient care. Replace instruments and active care items and disinfect surfaces that have become contaminated by the operator as a result of the injury prior to continuation of patient care.

6. Clinical support staff – and only trained clinical support staff – are to ask the patient to submit to blood testing and a risk assessment from the Winnipeg Regional Health Authority. Patients are escorted by staff to Emergency at Health Sciences, with appropriate Requisitions for appropriate blood testing.

7. Report to the Environmental Health and Safety Office (EHSO) at phone number 204-474-6633. This is mandated to provide counseling and medical follow-up for HSC staff and students after an exposure event.

   ➢ The administered post-exposure prophylaxis (PEP) to reduce risk of transmission for HIV is most efficacious if it is administered within 4 hours following the exposure. Proceed to HSC Emergency Clinic immediately. Report the nature of the incident in order that screening is triaged as “urgent”. Blood should be drawn for the student as well to establish a baseline laboratory record.
➢ After hours, leave a message with EHSO on the confidential voice mail stating your name, telephone number, facility, and exposure circumstances. Follow-up will be initiated on the next business day. However, the student should still report to HSC Emergency clinic as above.

8. An Incident Report Form will be completed.

9. Include a notation in the daily treatment record of the chart describing the incident and the patient's reaction to the exposure.

ENVIRONMENTAL HEALTH AND SAFETY OFFICE (EHS)
(Attention: Judy Shields)
204-474-6633
### Actions Following Exposure to Blood/High Risk Body Fluids with Visible Blood

<table>
<thead>
<tr>
<th>Source Individual</th>
<th>Risk Status</th>
<th>Availability</th>
<th>Action</th>
<th>Exposed Person</th>
<th>Action (regular hours)</th>
<th>Action (after hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Known positive</td>
<td>Available</td>
<td>Complete risk form Blood testing</td>
<td>Report to EHSO for appointment for assessment</td>
<td>Present to HSC for post-exposure protocol (PEP)</td>
<td>Phone EHSO and leave message on voice mail</td>
</tr>
<tr>
<td></td>
<td>Known positive</td>
<td>Not Available</td>
<td>Will be called by support staff and asked to present to complete risk form and blood testing</td>
<td>Report to EHSO for appointment for assessment</td>
<td>Present to HSC for post-exposure protocol (PEP)</td>
<td>Phone EHSO and leave message on voice mail</td>
</tr>
<tr>
<td></td>
<td>Unknown or Low</td>
<td>Available</td>
<td>Complete risk form Blood testing</td>
<td>Report to EHSO for appointment for assessment</td>
<td>Management will depend on results of risk assessment and blood test - can wait until next business day</td>
<td>Management will depend on results of risk assessment and blood test - can wait until next business day</td>
</tr>
<tr>
<td></td>
<td>Unknown or Low</td>
<td>Not Available</td>
<td>Will be called by support staff and asked to present to complete risk form and blood testing</td>
<td>Report to EHSO for appointment for assessment</td>
<td>Management will depend on results of risk assessment and blood test - can wait until next business day</td>
<td>Management will depend on results of risk assessment and blood test - can wait until next business day</td>
</tr>
</tbody>
</table>
6. INSTRUMENT AND OPERATORY STERILIZATION AND DISINFECTION

Definitions
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 life (in dentistry, this term applies especially to microorganisms) (log 0)

DISINFECTION ● the destruction of most microorganisms on surfaces by chemical or physical means – cannot occur in the presence of debris, either organic or inorganic (microbial reduction of log 9)

LEVELS OF DISINFECTION ● used for instruments, equipment, and surfaces that do not require sterility or cannot be sterilized due to size or nature of material
● there are four levels: high, intermediate, hospital, and low with the intended use for patient care items determining the level of decontamination

SANITIZATION ● the process of removing organic or inorganic debris) by vigorous scrubbing in order that decontamination, either disinfection or sterilization, can occur

Determining What Should be Sterilized/Disinfected/ Discarded
The primary guideline to be used is that “anything that can be sterilized, is sterilized.” When an instrument which requires sterilization or high level disinfection cannot withstand the rigors of this process repeatedly and the cost is not inhibitive, then it is considered a disposable item.

The Spaulding system is a standard system of classification for sterilization and disinfection. It classifies instruments according to their use which in turn determines how they will be decontaminated.

<table>
<thead>
<tr>
<th>Level</th>
<th>Definition and example</th>
<th>Method of decontamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL</td>
<td>Touches bone or penetrates soft tissue</td>
<td>Sterilize only</td>
</tr>
<tr>
<td></td>
<td>E.g. Extraction forceps</td>
<td></td>
</tr>
<tr>
<td>SEMICRITICAL</td>
<td>Touches mucous membranes only</td>
<td>Sterilize</td>
</tr>
<tr>
<td></td>
<td>E.g. Operative instruments</td>
<td>Only use high level disinfection if sterilization will alter the item</td>
</tr>
<tr>
<td>NONCRITICAL</td>
<td>Contact with intact skin only</td>
<td>Intermediate disinfection</td>
</tr>
<tr>
<td></td>
<td>E.g. Ruler to measure vertical dimension during denture fabrication</td>
<td></td>
</tr>
</tbody>
</table>
Preparation of Instruments for Sterilization

- Masks, protective eyewear, and gloves are worn when preparing instruments for sterilization.

- Instruments in cassettes will be cleaned in the washer/disinfector. However, materials that the washer/disinfector cannot remove during the wash must be removed prior to sending cassettes to Central Sterilization. These include: ZOE pastes (impression and bite registration), cements, liners, and IRM are removed using a “green scrubby” obtained from Dispensary. Wax is removed using heat and wiping off the wax with a paper towel (done with care to avoid burns). High volume evacuators – abbreviated as HVEs - must be cleaned using bottle brushes placed in the student sterilization bunks for this purpose. Once these materials have been removed from the instruments, the cassettes are to be placed into the recycled sterilization bags for transport to CS because contaminated instruments should be covered during transport to the sterilizing area.

  **Caution:** Please do not clean any instruments that will be sterilized with disinfectant as this leaves a permanent precipitate on the instrument during sterilization.

- Sharp instruments that have been obtained from the Dispensary are to be returned contaminated to the **South window** of Main Dispensary in the same bags they were received and placed directly into the “Contaminated” basket.

- Sterile instruments and equipment that have been obtained from the Dispensary that are not considered ‘sharps’ are to be washed and bagged in clean sterilization bags and returned to **South** side Main Dispensary. Instruments to be returned this way include Coe syringes, endo lip clips and leads, and composite guns. If the instrument or equipment was distributed in Dennison wrap (heavy blue paper), the equipment is returned in the same Dennison wrap. These include waterbaths and photography mirrors.

- Handpieces are to be scrubbed with a wet instrument brush, however, avoid immersing handpieces in water. Dry and inspect handpieces, remove the glove from the non-dominant hand to hold the recycled sterilization bag while placing the handpieces into the recycled bag with the gloved hand. Discard glove. Transport to the Assistina units, replace glove on dominant hand, lubricate the handpieces, bag as above into the recycled bags. Discard glove. New bags and indicators are obtained following lubrication and transported to the operatory where the handpiece is placed into the cassette and then placed into the new sterilization bag and the bag is sealed. Transport to Central Sterilization.
Couplers are disinfected and placed into a clean sterilization bag and stored in the student’s sterilization locker.

Instruments that are not placed in cassettes such as alginate trays, alginate spatulas, bite forks, and bite blocks must be washed and free of organic and inorganic debris prior to bagging. Instruments or equipment from the Dispensary are returned to the Dispensary, South window.

**Sterilization Methods**

Instruments that can tolerate heat are sterilized by one of the following two methods in this facility:

- steam under pressure, either gravity displacement Statim units (if needed quickly) or more normally in pre-vacuum Class B sterilizers
- dry heat

It is critical that all organic and inorganic materials have been removed from an item that will be sterilized to allow the steam or heat to touch every surface of the item being sterilized otherwise they are not deemed sterile following sterilization.

1. **Steam, Vapor Under Pressure**
   For sterilization to be effective, items being processed require exposure to direct steam contact at the required temperature and pressure for the specified time. Increased pressure is used to achieve the superheated temperatures 121-132°C (250-270°F) required to effect kill. Time required is 3-20 minutes depending on type of sterilizer, whether they are wrapped or not (see “flash sterilization” below), and temperature.

<table>
<thead>
<tr>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>effective</td>
<td>causes rust and corrosion in unprotected carbon steel</td>
</tr>
<tr>
<td>quick, safe, easy to use</td>
<td>instruments (anti-rust agents helps reduce this)</td>
</tr>
<tr>
<td>penetrates fabric and paper</td>
<td>may damage heat sensitive materials</td>
</tr>
<tr>
<td>wrapping</td>
<td>may dull unprotected cutting edges</td>
</tr>
<tr>
<td>reliable, can be monitored</td>
<td></td>
</tr>
</tbody>
</table>

2. **Dry Heat** – dry heat sterilizers are available but rarely used in Central Sterilization because of the long cycle and all instruments now are safely sterilized utilizing steam sterilization

Actual time needed to sterilize instruments will depend on the size and arrangement of the load, the type of wrapping material and unit efficiency. A typical dry heat cycle is 1 hour at 170° C. or 2 hours at 160°. Most manufacturers recommend use of steam sterilization for their instruments.
ADVANTAGES of Dry Heat | DISADVANTAGES of Dry Heat
--- | ---
• reliable | • long processing times
• no rust or corrosion of previously dried instruments | • damages some plastics
• little maintenance | • scorches paper or cloth wrappings
• has monitoring capabilities | • can destroy the temper of metal instruments and melt solder joints

Heat Transfer (Hot Bead “Sterilizers”)
These sterilizers are no longer used in the College setting but may still be used in some private offices. Their use is discouraged because heat is not consistent.

Sterilization Monitoring
Monitoring includes a combination of process parameters: mechanical, chemical, and biological.

Failure to follow manufacturer’s instructions on equipment usage, improper wrapping, overloading, or improper loading or sterilizer malfunctions will impair the sterilization process.

Mechanical Monitoring is an operator observational assessment that the sterilizer is working correctly. This includes observing and assessing the gauges on the sterilizer and recording that these have been observed. (Sterilizers utilized in our facility are equipped with a print out of the sterilizers’ function.)

Chemical indicators are part of the packaging or the tape used to seal the package. They are sensitive to changes in physical conditions and only indicate that (a) given parameter(s) is/are reached – time, temperature, or pressure. Tape and packaging used in the College provide a quick, visual check to verify that instruments have been exposed to elevated temperatures; however, visual changes do not guarantee that sterilization has taken place.

<table>
<thead>
<tr>
<th>*Class</th>
<th>Form</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Outside of bag and indicator inside bags</td>
<td>Used to differentiate processed from non-processed goods</td>
</tr>
<tr>
<td>2</td>
<td>Bowie-Dick</td>
<td>Designed for specific tests, most notably for air-detection tests (Bowie-Dick)</td>
</tr>
<tr>
<td>3</td>
<td>Internal</td>
<td>Respond to a single critical process variable (e.g. time or temperature)</td>
</tr>
<tr>
<td>4</td>
<td>Internal</td>
<td>Respond to two or more critical processes (e.g. temperature and time)</td>
</tr>
<tr>
<td>5</td>
<td>Internal</td>
<td>Respond to all critical variables (“integrator”)</td>
</tr>
<tr>
<td>6</td>
<td>Placed into sterilizer</td>
<td>“Emulator” – used in various areas of the sterilizer to assure conditions have been met</td>
</tr>
</tbody>
</table>

* User handbook for medical device reprocessing in Community Health Care Settings – CSA 2014
Steam sterilizers are tested daily in our setting with a Bowie-Dick test at the beginning of the day that demonstrate correct air removal from the sterilizer.

In our setting, Class I indicators are used internally because we have staff dedicated to sterilization who also observe the physical parameters and use biological indicators daily. In the CCOH settings, WRHA requires no less than a Class IV indicator in loads that are not using a spore test.

**Biologic Indicators** are spore tests used to confirm that sterilization has occurred by placing commercial test vials with spores into the sterilization loads and cultured after sterilization. Biological indicators are specific to the sterilization method used.

- Steam autoclave……… Bacillus stearothermophilus
- Dry heat ………………… Bacillus subtilis

Spore tests are performed daily.

**Instrument Storage**
To remain sterile, instruments are stored in the packages used during their sterilization. Additionally, packaging must not be compromised during storage, either intentionally or unintentionally. Packages must not be stapled or torn as this will also compromise the sterility of the instruments.

**Immediate Use Steam Sterilization (IUSS) formerly called ‘Flash Sterilization’**
Flash sterilization means that instruments are sterilized unwrapped. In our facility, IUSS sterilization is not utilized. When instruments are contaminated during use and are still required on the same patient, students place the instrument in the sink, remove PPE, wash hands, and go to Central Sterilization and receive a loaner instrument.
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 and also includes waterline disinfection and disinfection of laboratory items. 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 is the method of choice for decontamination. Operatory surfaces are disinfected. Disinfection is the use of a liquid chemical deemed appropriate for this use at the correct level (see “Spaulding”) (or the use of moist heat 75-100° C for 30 minutes for instruments). Quantitatively, disinfection means microbial reduction of log 9.

- Protective eyewear, mask, and gloves must be worn during use of disinfectants both during pre-op and post-op procedures.

- Surfaces must be free of all organic and inorganic matter for disinfectants to be effective. The physical removal of microorganisms and soil by vigorous scrubbing is as critical as the antimicrobial agent that is used for disinfection.

- An adequate margin of safety should be employed with respect to the recommended exposure time. If the manufacturer recommends that the surface stays wet for 10 minutes, then these instructions must be followed.

- Replacement of the disinfecting agent must be made according to shelf-life, use life, and reuse life of the product according to manufacturer instructions.

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 only as immersion chemicals and are not effective as surface disinfectants. High level disinfectants are used for patient items that cannot be sterilized, such as shade guides, plastic rulers, orthodontic elastics and separators (that have been contaminated by touch – not by actual contact with the patient), and single use impression trays that have been contaminated by handling but were not used for making impressions. Some authors call high level disinfectants “liquid or chemical sterilants”; however, this nomenclature should be avoided as it is deceptive as any instrument or device that can be sterilized in an autoclave, should be sterilized in an autoclave. Also, as soon as the item is removed from the high level disinfectant, it is clean but is exposed to its environment and cannot be considered ‘sterile’.
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). In our facility two intermediate level disinfectants are used:

1. Optim, a stabilized hydrogen peroxide, is used on all surfaces in the operatory except chairs and stools.

2. 5.25% sodium hypochlorite, diluted 1:10 (must be prepared daily) for laboratory disinfection.

Hospital Level Disinfectants: This level is mentioned in this Manual because this term is frequently used by disinfectant manufacturers. At best, this class is considered useful as a low level disinfectant unless the claim includes assurance of tuberculocidal activity as well. If the claim is only termed “hospital level” then it is inadequate for use as a surface disinfectant in the dental operatory.

Low Level Disinfectants: The majority of household surfaces (floors, walls, sinks) need to be cleaned only with a detergent and wet cloth or mop or a hospital level disinfectant. The leather portion of patient chairs and operator and assistant stools in our clinics are cleaned using a wetted paper towel and a tiny (less than pea sized) amount of antimicrobial dish soap in our facility due to instructions from the manufacturer. (ALWAYS FOLLOW MANUFACTURER INSTRUCTIONS.)

Summary of Advantages and Disadvantages of Different Types of Disinfectants

<table>
<thead>
<tr>
<th>TYPE</th>
<th>LEVEL</th>
<th>MAJOR ADVANTAGES</th>
<th>MAJOR DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glutaraldehyde</td>
<td>Sterilant/High level</td>
<td>-Good materials compatibility</td>
<td>-Slow mycobactericidal activity (up to 10 hours)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Active in presence of organic material</td>
<td>-Coagulates blood and fixes tissue to surfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Prolonged activated life</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Sterilant/High level</td>
<td>-Environmentally compatible</td>
<td>-Poor metal compatibility for brass, zinc, copper, and nickel/silver plating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Compatible with plastics and elastomers</td>
<td>-Serious eye damage if contacted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Does not coagulate blood and fix tissue to surfaces</td>
<td></td>
</tr>
<tr>
<td>Orthophthaldehyde</td>
<td>Sterilant/High level</td>
<td>-Fast acting</td>
<td>-Stains proteins gray</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Good materials compatibility</td>
<td>-Disposal can be problematic (should not be poured into sewer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-Does not coagulate</td>
<td></td>
</tr>
<tr>
<td>TYPE</td>
<td>LEVEL</td>
<td>MAJOR ADVANTAGES</td>
<td>MAJOR DISADVANTAGES</td>
</tr>
<tr>
<td>------</td>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Peracetic acid | Sterilant/high level      | - Fast acting
- Good materials compatibility
- Does not coagulate blood and fix tissue to surfaces                          | - Low temperature immersion system (not just a chemical)
- Concentrated solution can cause serious eye and skin damage               |
| Superoxidized Water | High level              | - Environmentally compatible
- Rapidly effective                                                            | - Equipment required (additional cost)
- Does not work well in presence of organic material                          |
| Chlorine releasing compounds- hypochlorite | Intermediate level/low level | - Inexpensive, Rapidly effective                                                  | - Requires daily mixing
- Not compatible with metals and can also damage plastics, vinyls, fabrics  |
| Chlorine dioxide | Sterilant/high level/intermediate | - 6 hours for sterilization
- 3 minutes for disinfection                                                   | - Requires daily mixing
- Not compatible with aluminum
- Adequate ventilation required                                               |
| Iodophors | Intermediate level        | - Biocidal activity within 5-10 minutes                                           | - Requires daily mixing
- Corrosive
- Stains
- Irritation of tissues
- Allergenicity                                                               |
| Complex (Synthetic) Phenols | Intermediate level | - Useful on metal, glass, rubber, and plastic                                   | - Skin and eye irritation
- Degrades some plastics and etch glass over prolonged use                   |
| Alcohols (Ethyl and isopropyl) | Not recommended          |                                                                                    | - Exposure to alcohol denatures and dehydrates proteins making them insoluble and adherent to most surfaces which can protect them from disinfectant property of alcohol or other chemical |
| Quaternary ammonium compounds (Quats) | Low level               | Not recommended                                                                   | - Inactivated by organic matter                                                  |
| Quats/alcohols | Intermediate              | Tuberculocidal activity                                                          | - Sanitization step has to be done with a water based cleaner                   |
Guidelines for Care of Clinic Facilities and Equipment

No food or drink is allowed in the clinic or left outside clinic doors by students, clinical support, or clinical academic staff.

Cell phones must be turned off during patient care and used only outside the clinic (not by Dispensary) by students during clinic hours. Cell phones are known to be highly contaminated and are not to be left anywhere in the operatory.

Contaminated equipment/supplies/ gloved hands/loupe cases are not to be placed on the top of the closet or on the oak unit partitions or inside the mobiles or cupboards. Sterile instruments should not be placed onto the floor at the sterilization lockers since that will contaminate the surface where they are placed once brought into the clinic. Students may access the curing light during treatment, however, the light, drawer, and drawer handles must be disinfected during post-op. Random checks using ultraviolet markers will be used to assess disinfection efficacy.

Disinfectant containers must be closed tightly after use to avoid drying, thus changing the nature of the disinfectant. Ensure that disinfectant wipes are thoroughly moist during use or they are not considered useful. Disinfect all supplies prior to returning to mobile or dispensary including those found in the mobile such as floss dispensers, hand mirrors, and bib chains. Unit dosing is used to reduce potential for contamination and to save time.

As part of the global community, students should remove excess wax, compound, and soil (from their own footwear and patient footwear) to assist in keeping clinic floors, stairways, and hallways safe and tidy.

General Rules for Surface Disinfection

- Protective eyewear, mask, and gloves must be worn during operatory disinfection.
- Surfaces must be sanitized or cleaned before they can be disinfected or sterilized. Sanitization is achieved using the same chemical disinfectant that is used for disinfection.
- Contaminated surfaces are disinfected routinely with intermediate level disinfection following each patient visit unless the patient will be seen for both same day morning and afternoon sessions.
- Equipment barriers are used to protect those surfaces that will be damaged due to the liquid disinfectant leaking into seams and causing corrosion or otherwise disabling the equipment as is the case with the curing lights. Barriers are also used to reduce time required to clean areas that receive higher bioburden loads such as light handles.
**Dental Waterline Care**

- Waterlines are to be purged for 15 seconds during pre-op preparation and post-op decontamination. Performing this immediately following completion of patient care while waiting for instructor checks saves time during post-op.

- To ensure that neither lines nor bottles are contaminated by hands during water refilling, please do not touch the inside of the water bottles or the waterline when the bottle is removed or replaced.

- ICX tablets are always added when water bottles are refilled.

- The water bottle remains on the unit at all times in our facility – however, the correct method for dedicated waterlines is to empty the water bottle at the end of the day and then to replace the water bottle followed by purging air and water from the lines using the A/W syringe.

**Guidelines for Care of Endodontic Equipment**

**Endodontic Microscope**

**Pre-op**
- X-ray tubehead barrier will be used on the endodontic microscope
- please transport with clean bare hands and place barrier when the microscope is at the operatory
- barrier the entire working area of the endodontic microscope and tear open viewing area for the operator and patient only

**Post-op**
- following patient care, place clean treatment gloves to remove barriers and disinfect handles only
- if any part of this equipment (other than those areas that are barrier covered) is contacted and contaminated during patient care, that area will also need to be disinfected

**Electric Pulp Tester** Tips are available in Main Clinic Dispensary. After use, the tips are cleaned, placed with a chemical indicator in small autoclave bags and returned to the Main Clinic Dispensary for sterilization. The handle is sanitized and disinfected with surface disinfectant.

**Root ZX** is available from the Dispensary. The power switch and face must be protected with plastic wrap to prevent corrosion due to the disinfectant. After use, unplug the Root ZX, disinfect the white electrical lead, decontaminate the grey patient lead and metal lip clip by washing under running water, dried, and inspected, and bagged together for sterilization before returning to the Dispensary

**Organizer Sponges** hold sterile files only. Use the triangle shaped sponge to hold working files and return used files on these sponges to indicate which files need to be replaced on the organizer sponge.
**Touch and Heat** - tips are sterile and kept on the large sterile organizer sponge. When used, place into the triangle shaped sponge. Return in the recycled bag.

**Endo Instruments And Cassettes** - line up instruments on rubber mat in the same direction to prevent injury by sterilization staff.

**GP Points**
GP points that are to be saved between appointments are wiped with a gauze soaked in sodium hypochlorite from the irrigation medium and then immersed in full strength 5.25% sodium hypochlorite for 1 minute, placed with sterile forceps into the smallest plastic and paper sterilization bag available in the unit (to allow viewing of contents), and stored by the student. It would be advisable to mark the bag with the student’s name, chart number, and date that the GP point was placed into the bag. Prior to obturation, the point will again be subjected to disinfection by immersion in 5.25% sodium hypochlorite for 1 minute and rinsed with reverse osmosis water prior to obturation.

**Guidelines for Care of Other Clinical Equipment**

**Amalgam Triturator**
Amalgam triturators are kept on the counter and not moved to a different unit. Barrier the lip and use overgloves when triturating the amalgam.

**Cordless Light Curing Units**
Light curing units are to be left in the drawers. Cordless light curing units are sensitive to liquid disinfectant being deposited in the seams of the unit which could result in malfunction of the units. Tips and handles are covered by a barrier during use. Should the handle become contaminated during removal of the barrier, caution must be taken to wipe it without chemical disinfectant spilling inside the curing light. Avoid wetting the electrical contacts at the bottom of the unit.

**Pre-op**
- place barrier ensuring that the wrap fully covers the handle

**Post-op**
- during operatory sanitization, holding a disinfectant wipe in the nondominant hand, reach under the barrier to hold the light firmly while removing the barrier with the dominant hand, wipe the curing light to sanitize it, paying particular attention to the tip. Disinfect with a second set of wipes, replace the wand into the charger, close the drawer, and complete drawer handle disinfection with a final wipe.

**Blood Pressure Units**
Disinfect the ear pieces and diaphragm of the stethoscope. Do not disinfect any part of the sphygmomanometer.
Ultrasonic Scalers

Pre-op
- College-owned ultrasonic scalers are kept in a locked cupboard and accessed by request from the Dispensary. The sterilized handpiece/wand will be found attached to the ultrasonic scaler when these are dispensed.

Post-op
- Dentistry students will remove the handpieces during post-op unit cleaning and disinfect the surface of the ultrasonic scaler, disinfect the bin, and return the unit to the bin and returned to the Dispensary (South).
- The handpiece and scaler tips are placed into the recycled bag and placed on top of the ultrasonic – not in the bin.
- Dental hygiene students own their ultrasonic scaler tips and will maintain present sterilizing protocol for these instruments.

Computers
Keyboards are very similar to mobiles for status as an operatory surface. Although they can be disinfected, they may only be used with bare hands or overglove covered treatment gloves during patient care and need to be disinfected during pre-op and post-op.

Avoid touching or disinfecting the monitors and do not bag monitors as they will become too hot and the fan will burn.

Paper Charts and Radiographs
Paper charts and analogue radiographs are to be handled with clean bare hands or overgloves covering treatment gloves. Similarly only overgloves over treatment gloves or clean hands are used when making entries or handling paper entries or observations. Should charts or radiographs become contaminated, they must be covered with plastic barrier, and quarantined for seven days should this occur. See Nicole Brass Lacasse if this should occur. It is not appropriate to use a pen with barrier and a paper towel when charting. Only use overgloves during charting or making observations on a worksheet that will become a permanent record. (Pens can be disinfected, paper cannot.)
Guidelines for Pre-Treatment Preparation of Operatories

1. Laboratory items, in progress and ready to insert, are rinsed and transported from labs and disinfected by placing in sodium hypochlorite immersion for 10 minutes during pre-op preparation, removed, and rinsed prior to treatment.

2. Obtain instruments and sterile brushes from Central Sterilization (CS). Place instruments on top of closet. Loupe cases when brought into clinic are to be stored on the floor not on a counter or on top of the closet. Bring patient safety glasses from student lockers.

3. Obtain 25-30 cm of tape from the Dispensary for overgloves & protective bib.

4. Wash hands and clean nails using the nailbrush.

5. Open disinfectant wipes.

6. Place mask, protective eyewear, wash hands and place treatment gloves.

7. Position mobile.

8. Using a disinfectant wipe in each hand, wipe all operatory surfaces except the leather portion of the patient chair and operators stools once only to disinfect since sanitization and disinfection should have been performed by previous operator. Remember to include the computer keyboard. If the unit displays evidence of inadequate post-op decontamination from the previous operator, wipe all surfaces twice. The chair and stools are cleaned only with a paper towel that is wet (water). Using clean wet paper towels, wipe any partition tops, radiators, and window ledges to remove dust when these are present and where the patient can observe dust.

9. Remove PPE (gloves, protective eyewear, mask) and wash hands.

10. Power the chair by turning on the master switch.

11. Flush water through all the waterlines for a minimum of 15 seconds. Using the purge button on the unit controls is more efficient than using the rheostat. Replenish water now if required. Remove the bottle taking care to avoid touching the threads of the bottle or the tubing from the unit. Empty remaining water. At the reverse osmosis sinks, run the water for 5-10 seconds prior to filling the bottle and fill the bottle without touching the tap to the water bottle. Dry the bottle with a paper towel. Obtain an ICX tablet at the Dispensary. Return to the unit, place the bottle on the counter, obtain the cotton forceps from the mobile, open the package containing the ICX tablet and place the tablet into the bottle using the cotton forceps and replace the cotton forceps. Replace the bottle without touching the mouth of the water bottle or the unit tubing. Flush the lines following replacement of the water bottle.

12. Dispense and place:
   - benchpaper - 5 pieces – 3 for counter, 2 for mobile
   - bracket table paper – 1 piece
• place overgloves and bib (dull side to the outside/shiny side inward) to cover the overgloves on the towel holder, chart holder, or mobile depending upon activity
• patient bib, bib chain, patient safety glasses from student locker
• water cup for patient rinse then saved for placing into biohazards bag
• obtain biohazard bag and elastic if it will be required
• denture cup when patient has removable appliances or if the cup will be needed for transporting an impression, interim prosthesis, or appliance to the wet lab for immersion disinfection
• plastic wrap for light handles, light switch, and headrest
• plastic sleeve barrier for curing light when need is anticipated

13. Use the cotton pliers in the mobile to obtain supplies and unit dose only the amount needed.

14. Obtain supplies needed from the Dispensary from North Dispensary and store on top of the closet, away from aerosols. When needed, the material will be dispensed using clean bare hands.

15. Remove and rinse laboratory items from disinfectant when this applies.

16. Position the patient chair and overhead light and bracket table so that when the patient is being seated, they will be safe from falls or injury.

17. Escort the patient to the unit. Place patient’s personal items in the closet. Place bib and safety glasses for patient. Use a pre-procedural rinse to reduce microorganisms that could aerosolize, becoming part of the ambient clinic air:

   a) When considerable spatter is expected, a commercial antiseptic rinse is available at the Dispensary for 30 seconds.

   b) Patients undergoing all other procedures should use a 30 s. water rinse.

18. Instruments are accessed from sterilization bags only after patients are seated AND daily treatment discussed. Packaged instruments, hand pieces, and local anesthetic are opened with clean bare hands and opened only wide enough to be able to access, not removed from packaging prior to placement of PPE. If using an operator light on loupes, turn the light on prior to washing hands. Place mask, protective eyewear, wash hands and place treatment gloves. Remove instruments from the sterilization bags and avoid touching the outside of the bags (outside is not sterile). Place the instrument cassette on the bracket table. Empty bags are scooped from the inside and placed on top of the closet and will be used to transport the cassettes back to Central Sterilization following patient care.

19. Open instrument trays, check then discard chemical indicators or report problems. Do not use instruments if there is concern for sterility.

20. Assemble local anesthetic needle/syringes now. Following application of local anesthesia and for efficient use of time, place suction tips, air/water syringe tips, and run handpieces and air/water syringes for a minimum of 10 seconds to ensure that they are placed properly and working.
**Guidelines for “During Treatment” Procedures**

1. Turn off cell phones during patient care and do not leave them anywhere in the operatory. When checking for messages, do so outside the clinic (and not at the Dispensary window). Use the computer calculator rather than a cell.

2. As soon as treatment gloves have been placed, they are considered contaminated. Avoid touching any object other than that required for treating that patient including mask, glasses, operator hair, skin, or clothing including turning on light for loupes; paper charts, analogue radiographs, x-ray viewer, and oak trim.

3. During active treatment, if additional materials or supplies are required from the mobile or the Dispensary, overgloves will be placed over treatment gloves, however, materials that will be used intraorally are not to be touched with overgloves. Instead, these are handled with cotton pliers. For replacing torn rubber dams during treatment, remove gloves completely, wash hands, and handle with clean bare hands.

4. Keyboards are used with clean bare hands or overgloves.

5. Gauze and cotton rolls visibly contaminated with blood are placed into small cups that were used during rinsing and then transferred into biohazard bags.

6. During active treatment, if an instrument falls, what is done depends on the situation. Any patient care item that falls and will be reused intraorally requires sterilization prior to use. Following are the possible scenarios:

   - **Patient care item falls**
     - i. No longer needed - no action
     - ii. Still needed
       - not attached to line or hose
         - Obtain if available in mobile or at Dispensary
       - iii. Not available and must be sterilized
       - iv. Prosthesis or appliance becomes contaminated (disinfect)
         - can be replaced from Central Sterilization
     - iv. Attached to line or hose
       - iv.1. Can be replaced from Dispensary

   - **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 it does not pose a safety hazard.
when patient care is completed, just 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 Central Sterilization**
- retrieve instrument with contaminated gloves and place and leave in sink (for safety to ensure no one slips on instrument).
- remove and discard gloves, wash hands.
- access instrument from Dispensary, open bag, and spill onto the bracket table.
- wash hands, place clean treatment gloves, continue with treatment.

iii) **Instrument or device is attached to a line and is still required including handpiece**
- replace hose onto housing, remove the equipment from the hose and place into the sink using contaminated treatment gloves.
- remove and discard gloves, wash hands, open wipes, replace gloves and access two wipes (one to sanitize, one to disinfect).
- sanitize and disinfect housing, coupling, and hose.
- discard gloves and wash hands.
- items retrieved from the mobile are accessed with clean bare hands
- items available and accessed from Dispensary are handled as all sterile instruments are handled
- if item is available for loan only from Central Sterilization, remove mask prior to leaving clinic and then dispense sterile instrument appropriately
- replace PPE

iv) **Crown/denture tooth/interim prosthesis/appliance**
- stopper the sink
- retrieve object and wash prosthesis or appliance, place into a cup for transport, remove gloves, wash hands.
- transport item to the wet lab for disinfection by immersion in sodium hypochlorite immersion for 10 minutes.
- remove from sodium hypochlorite using cotton pliers accessed from Dispensary and place into a clean paper or denture cup.
- stopper the sink, rinse thoroughly under running water.
- wash hands, place gloves, continue treatment.
Guidelines for Post-Treatment Procedures

The steps outlined below have been developed for greatest efficiency and least wasteful of resources including time, water, towels, and supplies such as gloves. Consider post-op as consisting of four phases:

1. Instrument Preparation for sterilization – priority. 12:15 and 5:15
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 (following the flow concept of clean to contaminated, South is considered contaminated).
  > Scalers and cheek retractors are returned contaminated in the original bag.
  > Waterbath inserts are cleaned using the green scrubby provided with the waterbath and returned wrapped in the original Dennison wrapper.
  > Beakers are washed and returned in the original Dennison.
  > All other items such as impression guns are returned clean and disinfected or ready for sterilization ie scrubbed, dried, inspected, bagged, and sealed in a new sterilization bag. Cements, liners, and impression materials need to be removed at point of use from all instruments and devices before these materials dry and harden and are very difficult to remove. **DO NOT USE DISINFECTANTS ON INSTRUMENTS AND DEVICES THAT WILL BE STERILIZED AS DISINFECTANTS LEFT ON SURFACES LEAVE A SALT PRECIPITATE RESIDUE ON THE INSTRUMENT THAT CANNOT BE REMOVED.**

Guidelines for Instruments submitted to Central Sterilization
- Remove all disposables from cassettes.
- Remove cements, liners, wax, composite, compound, and impression materials immediately following use from all instruments and ensure their removal prior to submitting to Central Sterilization.

Efficient use of time
> Remove rubber dam pieces from the rubber dam punch.
> Flush waterlines
> Disassemble syringes and discard sharps in sharps containers when it is determined that additional local anesthetic will not be required.
> Discard disposables from the operatory and cassettes
> Place instruments in correct order in cassettes, open hinged instruments (to allow steam to reach all areas), place curved instruments downward and place cotton pliers so that beaks face the other instruments to prevent injury during transport and cleaning.
> Retrieve biohazard bags as necessary.
> When patient care is completed for the session, ensure that stools, lights, and the bracket table are moved out of the way prior to uprighting the patient. Drop the biohazards at North wet lab and instruments off at Central Sterilization when accompanying the patient to the waiting room.
**STEPS FOR EFFICIENT POST-OP DECONTAMINATION**

1. **Prepare instruments and submit to sterilization.**

   1. Instruments must be submitted to Central Sterilization promptly to allow staff time to prepare the instruments for the next session. While the patient is still recovering, complete the preparation of the instrument cassettes for transport to Central Sterilization. Ensure disposables are removed and materials have been removed from instruments. Remove the treatment glove from the non-dominant hand, and place the cassette(s) into the sterilization bag(s) that were saved for this purpose and place biohazards in the biohazard bag.

2. **Complete preparation of the hand pieces, rubber dam kits, and burs**

   - **Handpiece preparation**
     - Ensure all PPE is in place.
     - Scrub hand pieces with the instrument brush. Dry and inspect.
     - Stopper the sink, run enough water to soak clamps and contaminated burs during handpiece preparation.
     - Remove glove from the non-dominant hand, place hand pieces into the recycled sterilization bag for transport to an Assistina unit. Remove remaining glove.
     - At the Assistina unit, place new treatment glove (dominant hand) or glove both hands, remove handpiece and complete lubrication, remove non dominant glove if it is being worn, and replace the hand pieces into the recycled bag. Remove remaining glove, access a new sterilization bag and chemical indicator and transport hand pieces to the operatory. Place a glove on the dominant hand, place handpieces and chemical indicators into the cassette, bag the cassette, remove the glove, wash hands, seal the bag. **CLEAN WELL, THESE ARE NOT INSPECTED!**

   - **Rubber dam kit**
     - Wash clamps by scrubbing with the nail brush and/or bur brush
     - Clean HVE lumen with bottle brush
     - Open scissors and place curved side downward
     - Kit place into recycled bag (goes through washer/disinfector)

   - **Rubber dam Punch**
     - Ensure rubber dam pieces are removed from the rubber dam punch.
     - Wash, dry thoroughly especially at the hinge, inspect
     - Place in dry heat bag, place chemical indicator, do not seal as this will be inspected and returned if not clean

   - **Burs**
     - **STUDENTS MAY TAKE OUT ONLY ONE BUR BLOCK AT A TIME.**
     - Clean diamonds using the white stone.
     - Wash, dry, and inspect bur block.
     - Wash all burs with bur brush, dry, inspect, and place burs into the bur block, bag, do not seal.
     - Replace lost or dull burs as needed from the Dispensary.

   **INSTRUMENTS MUST BE IN CENTRAL STERILIZATION BY 12:15 AND 5:15 TO ALLOW STAFF TIME TO PREPARE THEM FOR THE NEXT CLINIC.**
2. Laboratory Item Disinfection
- Rinse laboratory items and transport to wet lab across from North or South Dispensary to place into immersion disinfectant while cleaning the operatory.

3. Preparatory Steps for Unit Disinfection
1) Dispense supplies for cleaning:
   - bags for instrument sterilization as needed – stamp with student name and place on top of closet except for dry heat bags
   - cotton rolls for suction housings
   - paper towels wetted and dispense a ‘less than pea-sized’ amount of detergent on the towels, return detergent bottle, and distribute detergent on the towels
   - open disinfectant wipes container

2) Place PPE

3) If water has not been flushed from waterlines, do this now. While flushing waterlines using purge button, stopper sink and fill the sink to half full.

4) Discard saliva ejector. Plunge both high volume suction and saliva ejector lines into the water, removing when the suction can be heard to labor which means that the suction is unable to accommodate the volume of water being suctioned. Continue to run this way intermittently until sink is empty.

5) Clean the internal surface of the saliva ejector with a cotton tipped applicator and use a moist cotton roll to clean the tubing when the ejector head is removed from the tubing.

6) Turn on suctions to facilitate removal of the 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, and ensure there are no sounds (indicating that the trap was assembled correctly) or remove and reassemble correctly. Clean the sink.

7) Change gloves after cleaning suction. Remove barriers including curing light barrier.

8) To disinfect materials or devices that have been removed from the mobile or Dispensary during the procedure, place all the materials or devices including patient safety glasses on one side of the mobile. Dispense two disinfectant wipes, one for each hand, sanitize the mobile half that is clear of these items, then thoroughly and vigorously wipe these articles and transfer them to the sanitized half of the mobile. Wipe the remaining half of the mobile surface. Replace wipes as they become dry or soiled.

9) Vigorously clean the rest of the operatory to sanitize it using the disinfectant wipes in the following order: bracket table; hand piece and air/water syringe
and suction lines; housings; arms, light handles and light switch; the chair and stools including the outside of the water bottle, back of chair, base of stools including the hydraulic lift lever, keyboard; counter top; x-ray holder; air and gas lines; the amalgamator when present; drawer handles; soap dispenser and around sink; and finally base of chair and rheostat.

10) Repeat as above ensuring that the disinfectant stays in contact with the surfaces long enough for adequate disinfection.

11) Because the light will now be cool enough to clean, wipe off the front and back with wet paper towels then dry with fresh towels.

12) Using the towels prepared with soap, vigorously wipe the leather portion of the chair and stools. Clean, starting with the head, then the main body of the chair, the arms including the underside where patients are contacting with their hands, and finally at the foot. Using clean wet paper towels, repeat rinses until no soap remains.

13) Wash brushes and dry off prior to bagging.

14) Remove the glove from the non-dominant hand to hold bags. Using the dominant hand, place rubber dam kit into recycled bag; brushes into new sterilization bag; and rubber dam punch and bur block into new dry heat bags.

15) Remove glove from dominant hand, wash hands, place indicator and seal bag containing brushes. Do not place an indicator and do not seal dry heat bags containing burs or rubber dam punch. Replace and return materials and devices to mobile and Dispensary.

16) Rinse patient safety glasses and patient hand mirror with water to remove disinfectant residue and wipe dry.

17) Turn power off, place rheostat beside chair, reposition operator stool under the counter, assistant stool in the corner and mobile behind the chair.

18) Transport remaining bagged items to Central Sterilizing.

- Report any missing or damaged items from the unit or contaminated units to one of the dental assistants or the Dispensary staff. Do not take supplies from other units.
- Leave containers from depleted items out on the counter to signal the assistants to replace that item when they are stocking the units.
- Receive permission for leaving units over the lunch break with Supervisor of Dental Assistants when a patient is being treated in both the morning and afternoon sessions (D4GP clinic only). Communicate this also to a DA.
- Check out: Check with the dental assistant in charge to see if your unit is one of the units chosen for a random check. D3 and DH 2 should request check out. DH3 students check out Tuesday mornings and are also subject to random checks. UV markers may be used to assist with pointing out challenging areas.

**Positioning of Unit at End of Clinical Session**
Anytime the chair is positioned, move the bracket table, mobile cabinets, and operator/assistant stools out of the way to avoid damage to the chair or unit. Report damage or units not working properly to equipment repair.

**Cleanliness, maintenance, and positioning of the units is part of the monitoring checklist with deviations resulting in infractions.**

<table>
<thead>
<tr>
<th>Equipment or Operatory</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>Elevate and power off</td>
</tr>
<tr>
<td>Backrest</td>
<td>Vertical position</td>
</tr>
<tr>
<td>Headrest</td>
<td>Raised so bottom does not touch chair</td>
</tr>
<tr>
<td>Bracket table</td>
<td>Position over foot of chair with lines not touching chair</td>
</tr>
<tr>
<td>Operator light</td>
<td>Raise to arm’s length, position to face headrest</td>
</tr>
<tr>
<td>Operator stool</td>
<td>Under counter</td>
</tr>
<tr>
<td>Assistant stools</td>
<td>Corner of unit</td>
</tr>
<tr>
<td>Counter top</td>
<td>Clear other than barriers and tissue</td>
</tr>
<tr>
<td>Mobile</td>
<td>Use care when moving mobile to avoid damaging mobile, counter, wall, or chair. Placed behind the chair at session’s end.</td>
</tr>
<tr>
<td>Rheostat</td>
<td>To the right of the chair on the grey chair pad</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Keyboard shelf under counter is closed</td>
</tr>
</tbody>
</table>

**Clinic Late Procedure**
Students who are unable to prepare their instruments to meet the Central Sterilization deadline for instrument sterilization following afternoon clinic (5:15) will place their instruments on a trolley set aside for this purpose. This measure was introduced as a compromise to a “clinic late slip” in fall/10 and is to be used only for occasional and extenuating circumstances. *Abuse of this system will be reported and dealt with by the Associate Dean of Clinics.*

Sterilization loaners will not be provided due to chronic abuse of clinic late privileges.
**Transporting Instruments to Central Sterilization**

When sterilization bags for cassettes have been discarded in clinic and are not available for transport to Central Sterilization, request a bag from CS that has been discarded by other students at CS. Do not touch the inside of the bag.

Instruments discovered by the student after returning their cassette to Central Sterilization should be hand washed and bagged. Place treatment gloves under utility gloves and scrub the instrument with an instrument brush. Dry the instrument, inspect it, and bag it by removing the utility glove from the non-dominant treatment gloved hand to hold the bag, and placing the instrument into the bag using the utility covered dominant hand. To sterilize the utility gloves, wash and dry the utility gloves wearing the treatment gloves, remove the treatment glove from the non-dominant hand to hold the sterilization bag and place the utility gloves and brushes into the bag using the treatment gloved hand. Remove the remaining glove, wash hands, label the bags for size, and submit to Central Sterilization.

**Unit Checks**

Random unit checks will be performed to determine that operatories have been properly decontaminated and UV markers may be used (also randomly) to encourage compliance. After students have completed post-op, they are asked to check with the assigned DA to determine if their unit is on the daily randomized unit check list. Students must remain with the assistant during the check to learn if there are any omissions to their cleaning to correct the problem. When there is a problem with the unit and the student accompanies the assistant, a level 2 infraction will be reduced to a 1 demerit and a level 1 will not be charged with a demerit (although the infraction will be noted). If the student does not check out and there is a problem with the unit, the full infraction will be noted (reported).

**Breaches and “Not Safe” Designation**

“Not safe” is defined as inappropriately performing clinical duties resulting in patient, self, or other team members being placed at increased risk for cross-contamination. When student behavior is identified as ‘not safe’, treatment will cease as soon as it is noted, an academic staff member will directly supervise or complete treatment for the day, and the situation will be discussed with the student and their clinical supervisor away from the patient. Cases in which there appears to be disregard to IPC practices due to convenience are to be regarded as unprofessional conduct and referred to Associate Dean Clinics/Academic.

**Breaches/Infractions**

The primary clinical concern is everyone’s health and safety, especially patients. The evaluation method is a merit/demerit based system. Students start with 10 merits with infractions/breaches reducing these by either 2 or 1 demerit depending on the nature of the infraction. See the tables following. Students will not be allowed clinic privileges if they are operating at less than 6 merits. Level 2
infractions result in 2 demerits, Level 1 infractions result in 1 demerit. Demerits are carried over from year to year.

**Level 2 Infractions**

*Level 2 infractions = 2 demerits*

The following is a list of Level 2 or 2 demerit infractions. This list is not complete as not every situation that occurs can be considered during development of such a list. Should a novel situation arise, its level will be determined by the IPC Committee. This IPC Manual is the reference for guidelines.

- Reusing instruments or laboratory items intraorally that have become contaminated (for example, having fallen on floor), without appropriate decontamination (sanitization and sterilization).
- Placing, or supervising anyone who places, any sharp items into trash or remaining in cassette rather than into designated sharps containers.
- Failure to remove organic or inorganic materials from equipment or operatory surfaces during post-op.
- Failure to remove inorganic material (cements, IRM, wax) from instruments that cannot be removed by the washer/disinfectors (including high volume evacuators), from instruments readied and bagged for Central Sterilization (examples are alginate trays, forceps, pliers, burs), from non-sharps or equipment returned to Dispensary ready for sterilization (examples are water bath inserts) or that were to be returned disinfected (for example, ultrasonic scalers, EPT, Root ZX, and electrosurgery units).
- Leaving the operatory and/or clinic with any lab related cases such as impressions, interim prosthesis, or appliances without appropriate disinfection (spray for alginates, immersion for all others).
- Intraoral use of patient prosthesis, interim prosthesis, or appliances that have not been appropriately disinfected and transported appropriately from the student laboratory.
- Failure to wear appropriate PPE during patient care, preparation of units both pre-op and post-op, including during lubrication of handpieces at Assistina units.
- Failure to provide patients with protective eyewear.
- Failure to dispose masks and gloves immediately following removal.
- Touching surfaces with unknown status with treatment gloved hands during patient care including packaging for instruments, masks, protective eyewear, computer, radiographs, charts, oak trim or entering mobile with treatment gloved hands.
- Leaving clinic or answering telephone with mask and gloves including overgloves.
- Wear of soiled outerwear
- Scraping alginate or other materials from spatula directly onto trash area in the countertop.
- Failure to clean laboratories or failure to clean adequately, especially as designated.
- Storage of contaminated items anywhere.
- Routine use of late system for contaminated instruments.

**Summary of Outcome Following Level 2 Infractions**

<table>
<thead>
<tr>
<th>Breach</th>
<th>Level 2 Demerits</th>
<th>Educational component: students must arrange to meet with Assisting Supervisor within 24 hours of receiving notice of infraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>- Meet with Assisting Supervisor to identify concepts that are problematic and develop oral list of strategies to avoid repeat offence – removes 1 demerit</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>- As above</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>- Will be requested to see Associate Dean Clinical – removes 1 demerit</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>- As above - removes 1 demerit</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>- Will be denied clinic privileges</td>
</tr>
</tbody>
</table>
Level 1 Infractions

Level 1 infractions = 1 demerit

The following is a list of Level 1, 1 demerit infractions. This list is not complete as it is difficult to predict every situation that could occur during development of such a list. Should a novel situation arise, its level will be determined by the IPC Committee. This IPC Manual is the reference for guidelines.

- Failure to wear PPE correctly (for example, wearing masks below the nose or around neck).
- Wear of clinic jacket anywhere other than to and from the change area, to and from lab, and in clinic.
- Wear of fingernails longer than surgical length, false nails or tips, colored or chipped polish.
- Wear of finger jewelry other than smooth surface.
- Wear of watches or hand jewelry that are not covered by cuffs.
- Failure to tie hair back securely to prevent falling into patient’s or operator’s face.
- Routine use of late system.
- Placing surfaces with unknown status (e.g. bagged instruments) onto disinfected and barrier prepared areas in the operatory that will be used for patient care.
- Storage of coupler in incorrect bag.

Summary of Outcome Following Level 1 Infractions

<table>
<thead>
<tr>
<th>Breach</th>
<th>Level 1 Demerits</th>
<th>Educational component: students must arrange to meet with Assisting Supervisor within 24 hours of receiving notice of infraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Meet with Assisting Supervisor to identify concepts that are problematic and develop oral list of strategies—removes 1 demerit</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>As above—removes 1 demerit</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>As above—removes 1 demerit</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Meet with Associate Dean Clinics to identify concepts that are problematic.—removes 1 demerit</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Meet with Associate Deans Clinics and may be subject to denial of clinic privileges</td>
</tr>
</tbody>
</table>
8. RADIOGRAPHIC ASEPSIS

**CCD**

1. In the Radiology Clinic, seat the patient in the X-ray room, position the thyroid collar and lead apron on the patient. Adjust the headrest. Place clean bench paper on the counter.

2. If the patient has eyeglasses, remove them and place onto the counter. Remove any intraoral prosthesis or appliances and have the patient place them into a denture cup.

3. Remove disinfectant wipe from the container using the large metal clip and place wipe into an empty cup and place on the counter.

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 MiPacs to load properly.

7. Use the hand sanitizer.

8. Using proper technique, collect the CCD holders, treatment gloves and any other supplies required and place onto the bench paper.

9. Open sterile bags containing holders and empty them onto the clean bench paper.

10. Place barriers for tube head, chair controls, exposure switch and mouse, and activation switch.

11. **Check exposure settings**. Refer to exposure chart. Wash hands or use hand sanitizer.


13. Cover the sensors that you will use with the correct sensor sleeve.

14. Assemble the holder(s).

15. Place CCD in patient’s mouth, press activation switch. Check monitor to ensure the timer is on and then take the exposure.

16. Remove CCD from patient’s mouth. Check the monitor to see if you have a diagnostic image. Close acquisition timer. Repeat steps #14, 15, and 16 as necessary.

17. When all images are complete, remove CCD sensor from holders and place in contaminated bracket or on the bench paper. Take CCD holder to the sink and place in the disinfectant solution. While still gloved, remove and dispose of all barriers and garbage. Remove one glove. With gloved hand, hold contaminated sensor. With ungloved hand, hold the wire and remove the sensor cover with the gloved hand. Place sensor in contaminated bracket.
18. Change gloves
19. Disinfect the sensor, the wire and the bracket.
20. Discard gloves.
21. Remove lead apron and thyroid collar from patient and hang on wall bar. HANDLE LEAD APRON AND THYROID COLLAR WITH BARE HANDS ONLY.
22. You MUST save your images, DO NOT approve them and log off AxiUm.
23. Leave the area clean and tidy.
24. Wash hands.
25. Leave with your patient.

Radiology staff performs complete unit disinfection frequently, however, if there is a known blood or saliva contamination, you, as the operator, will ensure that this area is decontaminated as soon as the patient is seated in the waiting area.

July 21, 2014
Revised June, 2015
Asepsis in the Radiology Area – Analog and PSP

1. In the Radiology Clinic area, seat the patient in the X-ray room, position the thyroid collar and lead apron on the patient. Place a clean bench paper on the table.

2. If the patient wears eyeglasses, remove them onto the bench paper. Remove any intraoral prosthesis or appliances and have the patient place them into a denture cup.

3. Wash hands at the sink in the hallway.

4. Obtain equipment and supplies from the supply table. Using cotton pliers, collect the film/PSP plates, bitewing tabs or cotton rolls and place in a clean paper cup. Collect the film/PSP holder, treatment gloves and any other supplies required and place onto the clean bench paper in the X-ray room. Remove the films/PSP plates from the paper cup onto the bench paper.

5. Remove disinfectant wipe from container using the large metal clip and place into an empty cup.

6. Place barriers for tube head, chair controls, exposure switch, keyboard and mouse.

7. Check exposure time. Refer to chart.

8. Wash hands and place treatment gloves.


10. Place film/PSP packet in patient’s mouth and take exposure. Analogue is ‘white to the bite’, PSP is ‘black to the bite’.

11. Remove film/PSP from patient’s mouth. Film/PSP that comes from the manufacturer with a barrier wrapper should be opened now and dropped, without touching the film/PSP onto a clean area of the counter. Repeat until all exposures have been made. Size 1 film no longer comes with a barrier wrap and requires disinfection with the disinfectant wipes being careful not to touch the film with the contaminated gloves. Do this after all exposures that size have been taken and then drop onto a clean paper towel. Allow adequate time for the film to be disinfected. Open the #1 PSP wrappers the same as the #2 PSP wrappers.

12. When all images are complete, remove film/PSP holders to the container (pail) beside the sink. While still gloved, remove and dispose of all barriers and other trash.

14. Remove lead apron and thyroid collar from patient and hang on wall bar. HANDLE LEAD APRON AND THYROID COLLAR WITH BARE HANDS ONLY.

15. Leave the area clean and tidy.

16. Return patient to waiting area in hallway.

17. Develop film or scan the PSP plate.

Radiology staff performs complete unit disinfection frequently, however, if there is a known blood or saliva contamination, you, as the operator, will ensure that this area is decontaminated as soon as the patient is seated in the waiting area.

June, 2014
9. LABORATORY ASEPSIS

All laboratory items are expected to be disinfected 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. Any item that will be placed intraorally is disinfected with sodium hypochlorite only (surface disinfectants used for operatory disinfection may not be safe for intraoral use).

### SUMMARY OF DISINFECTANT USE FOR CLINIC/LABORATORY PROCEDURES

<table>
<thead>
<tr>
<th>USE</th>
<th>DISINFECTANT</th>
<th>TECHNIQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alginate</td>
<td>Sodium hypochlorite 1:10</td>
<td>Rinse, spray, rinse, spray and leave in paper towel also wetted with sodium hypochlorite, seal in plastic bag for 10 minutes, remove, rinse and remove excess moisture and seal in clean bag for transport</td>
</tr>
<tr>
<td>All other impression</td>
<td>Sodium hypochlorite 1:10</td>
<td>Rinse, immerse 10 minutes, rinse, bag for transport</td>
</tr>
<tr>
<td>materials, custom trays,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bite fork with wax,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interim prosthesis, bite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>registrations,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal and Acrylic RPD, FPD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal and Porcelain,</td>
<td>Sodium hypochlorite 1:10</td>
<td>Rinse, immerse 10 minutes, rinse, bag for transport</td>
</tr>
<tr>
<td>including bisque</td>
<td></td>
<td>Rinse under running water, No disinfection, handle in lab with clean treatment gloves</td>
</tr>
<tr>
<td>Other equipment</td>
<td>Surface disinfectant (Aseptix II wipes)</td>
<td></td>
</tr>
<tr>
<td>Articulator</td>
<td>Wash, disinfect, bag and</td>
<td>Scrub to remove compound, wash, dry, return to Dispensary for sterilization</td>
</tr>
<tr>
<td>Hanau torch</td>
<td>return to Dispensary</td>
<td></td>
</tr>
<tr>
<td>Plastic ruler</td>
<td>Scrub to remove compound,</td>
<td></td>
</tr>
<tr>
<td>Waterbath basin</td>
<td>wash, dry, return to</td>
<td></td>
</tr>
<tr>
<td>Waterbath</td>
<td>Dispensary for sterilization</td>
<td></td>
</tr>
</tbody>
</table>

Care must be taken in preparing the custom tray with tray adhesive. To avoid cross contamination of the adhesive, place a small amount into a disposable dappen dish or paper cup and use a disposable brush found in the mobile to this purpose.

Lab prescriptions are to be attached to the outside of the bag only.
10. CONTAMINATED DENTAL WASTE MANAGEMENT AND DISPOSAL

Biohazards – University of Manitoba Regulations
Dental waste from dental health-care settings is no more infective than residential waste. Medical waste of concern requires special storage, handling, neutralization and disposal, according to provincial and municipal regulations. Such waste includes:

- solid waste soaked or saturated with blood or saliva
- surgically removed hard or soft tissue

Within the University of Manitoba, biohazard regulations require that these waste items are placed into plastic bags, tied, and placed into biohazard bins. Biohazard bags and bins are located in the wet labs located in the Main Clinic.

Infectious Dental Waste Classification

| Note that this document deals only with infectious wastes. It does not deal with chemical, pharmaceutical or other hazardous materials and controlled products and wastes which may be used or generated by dental offices and which are regulated in Manitoba under Workplace Health & Safety Regulations 52/88 and 53/88, and the Dangerous Goods Handling and Transportation Act. |

The Canadian Standards Association has developed Guidelines for the Management of Biomedical Waste in Canada in the form of a report to the Canadian Council of Ministers of the Environment (CCME), which are applicable to dentists' offices/clinics. It is anticipated that these guidelines, accepted by the CCME as minimum national standards, will form the basis of provincial and municipal biomedical waste regulations.

The definition of biomedical, or infectious waste, is pertinent to assist dentists in identifying those waste products which are subject to provincial and federal regulation for both their handling and disposal.

Biomedical Waste includes:

1. Anatomical Waste:
   - human anatomical waste
     (human tissues, organs and body parts, but excluding teeth, hair and nails)
   - animal anatomical waste
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, treatment or autopsy, but excluding urine or feces)

- **waste sharps**
  (clinical and lab materials consisting of needles, syringes, blades or laboratory glass capable of causing cuts or punctures)

*NOTE:* Non-anatomical wastes identified above which have been disinfected or decontaminated are not considered biomedical or infectious waste for the purpose of regulation.

The Canadian Standards Association reiterates the CDC position that, while any item that has had contact with blood exudates or secretions may be potentially infectious, it is not usually considered practical or necessary to treat all such waste as infectious, since these waste materials do not generally provide the conditions required to support the growth and survival of infectious agents, or the means by which the agent can escape from its source via an infectious mode of transmission.

Accordingly, the following items can be considered general waste:

- soiled dressings
- sponges
- surgery drapes
- lavage tubes
- disposable casts
- disposable gloves
- specimen containers

It is adequate to place such waste items in sealed, sturdy impervious bags (*heavy duty garbage bags or double bagging*) to prevent leakage or breakage, and to dispose of them as regular garbage. Within the College, soiled dressings and sponges are placed into biohazard bags and placed into bins designated for biohazardous waste and sterilized before retrieval by University Biohazardous Waste technicians.
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:

- labeling the container in which the biomedical waste is stored;
- ensuring that up-to-date material safety data sheets (MSDS) are maintained, disclosing hazardous ingredients and exposure limits, disease transmission or contamination routes, toxicological properties, first aid and prevention measures;
- implementing and documenting a worker education program regarding hazards, proper handling and disposal of controlled products in the identified biomedical waste products;
- maintaining an up-to-date, written inventory of controlled products in biomedical wastes produced in the facility;
- maintaining an up-to-date, written prevention program which details the steps taken to ensure that no worker is exposed to a controlled product in biomedical wastes in excess of the occupational exposure limit.

Disposal Of Biomedical Waste

Provincial and municipal authorities in Manitoba do not specifically regulate the disposal of biomedical wastes from dental offices. However, biomedical wastes, as defined above, are -- prior to disinfection or decontamination -- considered hazardous wastes and therefore subject to The Dangerous Goods Handling and Transportation Act, which stipulates that hazardous wastes must only be disposed of at a licensed hazardous waste disposal facility or in a manner approved or specified by the Department.

The following guidelines are recommended for disposal of biomedical waste likely to be produced in a dental office.

<table>
<thead>
<tr>
<th>WASTE CLASSIFICATION</th>
<th>PROCEDURE FOR DISPOSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body tissue, organs or parts (excluding teeth)</td>
<td>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.</td>
</tr>
<tr>
<td>Lab cultures, stocks or specimens</td>
<td>Place in durable, leak-proof containers for incineration as above, or autoclave prior to disposal with general waste.</td>
</tr>
<tr>
<td>Blood, suctioned fluids, or other liquid waste</td>
<td>Carefully pour into a drain connected to a sanitary sewer system.</td>
</tr>
<tr>
<td>Items saturated or dripping with blood</td>
<td>Autoclave or arrange for incineration as for body tissue or organs.</td>
</tr>
<tr>
<td>Sharp items</td>
<td>Place in sealed, puncture-proof containers, identified as containing sharps and color-coded “Sharps containers”. Dispose of in a sanitary landfill -- waste should not be subject to impaction.</td>
</tr>
</tbody>
</table>
Handling of Biopsy Specimens and Extracted Teeth

Biopsy specimens should be placed in a sturdy, leak-proof container with a secure lid prior to transport. If the outside of the container becomes or is suspected to be contaminated, it should be cleaned and disinfected or placed in an impervious bag prior to transport.

Extracted teeth collected for use in preclinical educational training should be handled only while wearing PPE, cleaned of visible blood and gross debris, and maintained in a hydrated state in a well-constructed closed container during transportation. Prior to being used in the educational setting, teeth restored with amalgam should be immersed in a 10% formalin solution for 1 week and rinsed well prior to use. Teeth that are amalgam free should be autoclaved at 121°C for 30 minutes. Teeth must be handled with gloved hands whether they are sterilized or not. Between laboratory sessions, teeth may be stored in student lockers and maintained in a hydrated state in a well-constructed sealed container.

When working with extracted teeth in the labs (Endo, Crown & Bridge, Operative), appropriate disinfection & sterilization protocol must be followed to ensure that the areas are clean and safe for all students. Eye protection, face masks and gloves should be worn at all times when working with extracted teeth. Please note, contaminated gloves should be worn only in your working area, and not be touching common areas (door handles, soap dispensers, faucets etc.).
11. INFECTION PREVENTION AND CONTROL IN THE PRE-ClinICAL LABORATORY SETTING

The same guidelines for IPC in the clinical area are used in the pre-clinical setting, both to keep students safe and to role model appropriate clinical behaviour so that poor habits are not developed during the pre-clinical years.

**Outerwear:**
Scrub pants and lab coats must be worn for all pre-clinical laboratory sessions by all students, both dentistry and dental hygiene. Shoes, as in the clinic, must not be open-toed.

**Jewelry**
Hand and wrist jewelry, except for plain bands are not to be worn. Wrist jewelry that is part of religious ceremony must be covered with cuffs or with treatment gloves.

**Fingernails**
No false nails or extensions are permitted. If polish is worn, it must be clear and fresh.

**Gloves**
In the same way that hands are washed upon entering the clinical setting, hands should be washed upon entering the laboratory.

Gloves MUST be worn for all pre-clinical laboratory sessions.

Gloves must not to be worn when leaving the pre-clinical laboratory. To save on resources, students may walk away from their unit in the pre-clinics wearing treatment gloves. This practice must not be duplicated in the clinic. However, gloves and masks must be removed whenever leaving the pre-clinical lab.

**Facemasks**
A fresh facemask is to be worn for each laboratory pre-clinical session and worn during all exercises. The facemask must cover your mouth and nose and not be worn around the neck.

Once placed, facemasks are not touched by gloved hands.

The mask must not be worn loosely around the neck or outside the laboratory area.

The mask should be removed by touching the strings only, discarded immediately and hands washed. Masks, like gloves, are worn only inside the pre-clinical laboratory setting.
**Protective Eyewear**

**Safety glasses with side shields or loupes with side shields must be worn**
when working in the pre-clinical laboratory.

**Surface Disinfection**
Students should treat their workspace as if it were an Operatory. New benchpaper
should be placed at the beginning of the pre-clinical session and the area cleaned
including use of paper towels to role model use of surface disinfectant wipes at the
end of the session.

**Instruments**
Whenever students work with extracted human teeth, even though the teeth have
been sterilized prior to use, instruments that have been used are to be sterilized.
Instruments from pre-clinical settings are to be treated in the same manner as
instruments in the clinical setting – disposables removed from the cassettes,
cements removed immediately after use, placed in proper order, and rebagged in
the original sterilization bag. Please allow at least two working days for
instruments to be sterilized and returned to lockers.

**Brass and Hart Regulations for Dentistry I, II & DH I:**
1. Students are to sit in their assigned workstation at all times, including
evenings and weekends, unless otherwise instructed. If there are abuses of
the work areas, video surveillance tapes and card access reports will be
obtained from Campus Security to identify the students and class
accountable.

2. Students are responsible to clean their workstation after each use, including:
   a. Melted wax and other debris on bench top - remove
   b. Bench tops wiped down and **new bench paper placed**
   c. Mannequin faces wiped clean with liquid soap and J-cloth.
   d. Torso of mannequin wiped down with wet paper towel (and cleaner if
      necessary)
   e. Garbage from individual trays thrown out
   f. Dremel foot pedal placed in unit drawer
   g. Rheostat placed on bottom shelf of mobile Adec unit
   h. Operator chair placed on top of bench and lights turned off
   i. Dremel cords neatly tied with elastic bands & placed in unit main
drawer.
   j. Curing lights should be left at the designated station & neatly put away
after use.
   k. The last student in the lab should ensure that windows are shut and the
main gas valve is off.
3. Students whose workstations are found in unacceptable condition will be removed from clinic/class by the lab supervisors to clean them.

4. Students are to report any mechanical issues with their workstation promptly by filling out a repair requisition form and handing it directly to Ms. Heather Reid in Central Sterilization. Equipment Repair will only repair stations in which requisitions have been filled out properly.

5. Students are not permitted to remove equipment or parts from other workstations if their unit is damaged. If equipment such as Bunsen Burners, Curing Light Units, Dremel Foot pedals are not functioning, the item may be borrowed from another station temporarily. However, it MUST be returned to its original station and a Repair Requisition Form accompanying the equipment is to be handed to Ms. Heather Reid in Central Sterilization in order for it to be repaired in a timely fashion.

6. Students will be assigned to clean the common areas of the Brass, Hart and adjoining wet lab on a weekly rotational basis (see attached). Students will be responsible for cleaning the assigned area on a daily basis and the labs will be inspected.
   a. DHI student – cleans the sink/counter area in Hart Lab and wet lab when using during impression making.
   b. DI student – cleans sink/counter areas in Brass lab (near main door) & central island of the wet lab.
   c. DII student – cleans wet lab (all counters) and wet lab when using during impression making.

7. Students who are responsible for the common areas will be removed from clinic/class if their areas are not found to be clean during the daily inspection.

8. Overall, if cleaning of the individual bench stations and lab is neglected by a single class, the access to the Brass & Hart labs will be denied for a period of 48 hours to the entire class.

9. Use of the pre-clinical laboratories is a privilege & the labs are shared by three classes. Please ensure that the labs are kept tidy & clean.
## 12. HANDLING OF INSTRUMENTS FROM AN EXTERNAL ROTATION

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ULTRASONIC</th>
<th>STATIM</th>
<th>PROTOCOL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Siloam Mission:</strong></td>
<td>YES</td>
<td>NO</td>
<td><strong>Term I:</strong> 6 students work in pairs and each bring one set of instruments and students should be able to return to the clinic in time to hand them in to CS. 2 sets of instruments are being purchased for Siloam. Students pick up one of their sterile instruments kits at noon Tuesday, Term I and Wednesday pm Term II. They have a sterile kit for use on their next clinic day. <strong>Carrying back contaminated bagged instruments in a cassette.</strong></td>
</tr>
<tr>
<td>Siloam Mission:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Siloam Mission:</td>
<td></td>
<td></td>
<td>Term II: 2 sets of instruments can be cleaned but not sterilized. **Term I: 6 students work in pairs and each bring one set of instruments and students should be able to return to the clinic in time to hand them in to CS. 2 sets of instruments are being purchased for Siloam. Students pick up one of their sterile instruments kits at noon Tuesday, Term I and Wednesday pm Term II. They have a sterile kit for use on their next clinic day. <strong>Carrying back contaminated bagged instruments in a cassette.</strong></td>
</tr>
<tr>
<td>Access Downtown:</td>
<td>YES</td>
<td>YES</td>
<td><strong>Term I and II:</strong> 1 student brings only one kit and manages with that and instruments provided by Deer Lodge. Students pick up one sterile tray on Friday afternoon for use Monday morning at rotation. Carrying back sterile bagged cassettes. Term II: on Fridays, in addition to the one student that week, 5 students each bring one set of instruments and students are able to return with sterilized instruments.</td>
</tr>
<tr>
<td>Access Downtown:</td>
<td></td>
<td></td>
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</tr>
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</tr>
<tr>
<td>Deer Lodge:</td>
<td>YES</td>
<td>YES</td>
<td><strong>Term I and II:</strong> 1 student brings only one kit and manages with that and instruments provided by Deer Lodge. Students pick up one sterile tray on Friday afternoon for use Monday morning at rotation. Carrying back sterile bagged cassettes. Term II: on Fridays, in addition to the one student that week, 5 students each bring one set of instruments and students are able to return with sterilized instruments.</td>
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<td>Term II: on Fridays, in addition to the one student that week, 5 students each bring one set of instruments and students are able to return with sterilized instruments.</td>
</tr>
</tbody>
</table>
**Mount Carmel Clinic:** Tues PM only, both Terms; clinic closes at 4:30; students will be departing with sterilized instruments (the Sunday “Wish Clinic” would operate the same way)

| YES | YES | 2 students bring one or both kits each. Students only have a 10:00 AM start for clinic in Term I and no Wednesday clinic in Term II
Return with sterile bagged instruments |

**Students are finding ways to manage their Friday or previous clinic to make sure that their sterilized instruments are available to them. Contaminated instruments MUST NOT be transported.**
13. EMERGENCE OF NEW AND POTENTIALLY PANDEMIC DISEASES

Guidelines for Patient Care and Student Attendance During a Pandemic

In the event of an emerging disease, especially one that has the potential to become a pandemic, care in dental offices may temporarily be reduced to emergent care only, not in small part due to illness amongst staff members. During the time of uncertainty regarding a new disease and how it is transmitted, Standard Precautions are adhered to – as always.

The guiding principle during times of acute emerging disease or pandemics is “triage, cohort, and isolate”. Patients are asked during their confirmation phone call or email prior to their appointments to determine whether or not they are presently ill and/or if they fit a case definition. Routine care is not appropriate for those patients who are ill or fit the case definition. However, if these patients are emergent, they must be treated to relieve pain. Upon presentation, they will be encouraged to use a hand sanitizer and to place a mask. They should be transferred to an operatory where the door can be closed and a window opened if available. Treating staff may use extra precautions such as a properly fitted N-95 mask, however, if these masks are not available or staff have not been fitted, it is best to wear a comfortable, tight fitting, good quality mask in a room with good ventilation. Staff should be encouraged to eat and rest well, have adequate liquids, and to obtain immunization as available to maintain maximum immunity. Additionally, it is critical that staff members who are not well or who are responsible for care of family members who have succumbed, must not come to work until their symptoms are no longer present.

In both SARS and 2009 H1N1 outbreaks, the stages were:

- recognition of an emerging disease
- increased surveillance
- increased vigilance
- plans for reduced elective care in the event of a full pandemic
- pandemic plans for schools and businesses

Dental offices need to have a plan for communication among all dental team members. Students must communicate their status to the Dean’s office. Students, academic, clinical, and support staff who do not feel well are strongly encouraged to stay home until they are well. A buddy system between classmates should be developed so that notes and other information continues to transfer between the College and the student. Course Outlines clearly define how assignments and tests are to be handled in the event of illness. During the 2009 H1N1 pandemic, the University of Manitoba acknowledged that students were not to be penalized for delayed assignments or tests missed due to illness and that students were strongly encouraged to stay home during illness.
APPENDIX 1: College Policy Regarding Occupational Exposures to Blood and Body Fluids- Information for Patients

This is not a consent form. However, by signing and dating this form and then taking an identical one home to read, the College of Dentistry will know that you are aware that this is our policy should exposure occur.

Sometime, during the course of treatment at the College, injuries occur to our students or staff that expose them to a patient's blood. This may lead to transmission of an infectious disease. In order to reduce the risk of transmission following injury and to ensure that proper care is given to an injured person, it is important to know if the patient is infected through the use of a blood test.

If such an injury does occur to one of our students or staff, the College is bound by the guidelines provided by the Winnipeg Regional Health Authority. A risk assessment as well as a blood test will be requested. You will be given a Consent Form to read and sign. If you are under 18 years of age, we will ask for a Parental/Guardian Consent form to be signed. A staff member will be available for any questions or concerns you may have and provide escort assistance to the Emergency Department of Health Science Centre to facilitate your blood test. The test results will be released to Occupational and Environment Safety and Health (OESH) and the person who was exposed.

The College of Dentistry has policies and procedures in place to reduce injuries to students and staff. However, when an incident occurs, we want to be certain that our students and staff receive proper care. We are sure you can understand this and that your cooperation will be greatly appreciated.