



# Infection Control Manual

## BLOODBORNE & OTHER PATHOGENS EXPOSURE CONTROL PLAN AND HAZARDOUS MATERIALS MANAGEMENT

July 2006 Revision  
Approved by Clinical Affairs Committee, August 2006

### Table of Contents

- Introduction.....132
- The Purpose of the Bloodborne Pathogens Standard.....132
- Glossary .....133
- I. Exposure Determination .....135
- II. Methods of Compliance .....137
- III. Awareness .....153
- IV. Prevention .....154
- V. Post-Exposure Follow-Up .....155
- VI. Warning .....159
- VII. Documentation ..... 161
- Appendix A, Hand Washing Techniques and Hand Care .....163
- Appendix B, Common Prosthodontic / Orthodontic Items .....165

|   |     |
|---|-----|
| Appendix C, Disinfection of Dental Impressions .....                      | 166 |
| Appendix D, Disposal of Waste Materials .....                             | 167 |
| Appendix E, Hepatitis B Vaccine Declination Form .....                    | 168 |
| Appendix F, Hazard Communication Program.....                             | 169 |
| Appendix G, Pre-Clinical Laboratories .....                               | 173 |
| Appendix H, Latex Allergy Policy .....                                    | 174 |
| Appendix I, Handling of Extracted Teeth .....                             | 177 |
| Appendix J, Sharps Management and Disposal Protocol .....                 | 178 |
| Appendix K, Hazardous Chemical Waste Management and Disposal Protocol.... | 179 |
| Appendix L, Tuberculosis Infection Control Polices and Guidelines .....   | 181 |
| Appendix M, Dental Waterline Treatment.....                               | 184 |
| Appendix N, Exposure Control Plan.....                                    | 185 |
| Appendix O, Mandatory Compliance Form.....                                | 197 |

## Introduction

Infectious diseases have been a concern of dentistry for a long time, but it has only been during the past several decades, with the emergence of the Hepatitis viruses and the Human Immunodeficiency Virus (HIV) that more attention has been turned to dental infection control. Most dental practices are concerned with preventing the spread of infectious diseases from patient to patient, from patients to health care providers, and from health care providers to patients. However the School of Dentistry is in an unusual position since dental students under the supervision of faculty provide almost all the dental care with the help of qualified staff. Therefore, this Infection Control Manual is written not only to protect the patients from infection during dental treatment but also the students, faculty and staff.

The University of Minnesota School of Dentistry's Infection Control Manual therefore follows the laws as written by our state and federal government agencies in addition to following the recommendations of various organizations such as state and federal OSHA, the Centers for Disease Control and Prevention, and the American Dental Association. Primarily this guidance comes in the form of the regulations found in the Occupational Exposure to Bloodborne Pathogens Standard, which went into full effect on July 6, 1992.

In addition, since dental schools do research involving human tissues and fluids, strict infection control regulations again must be followed by law to protect the faculty, students and staff who might be involved in such research.

## The Purpose of the Bloodborne Pathogens Standard

When brought to its attention, The Occupational Safety and Health Administration (OSHA) recognized that workers who came into contact with blood and other potentially infectious materials (such as saliva in the case of dental health care providers) were at risk of contracting a variety of infectious diseases. OSHA's purpose in writing the Bloodborne Pathogens Standard, therefore, was to minimize or eliminate exposure of health care employees to these bloodborne diseases by a variety of means as enumerated in an Exposure Control Plan which was to be developed by every employer. The exposure control plan is, in essence, an infection control plan. The means by which exposure for these workers is to be minimized or eliminated includes the following:

- Identifying those workers who, in fact, are at risk (*Exposure Determination*)
- Identifying work practices or engineering controls that minimize or eliminate exposure (*Methods of Compliance*)
- Providing a schedule of training for health care workers to educate and train them (*Awareness*)
- Providing Hepatitis B vaccination for employees (*Prevention*)
- Providing post-exposure evaluation and follow-up as required (*Post-Exposure follow-up*)
- Communicating hazards to employees by labels, signs, and training (*Warning*)
- Keeping medical records and training records for the employees (*Documentation*)

It must be kept in mind that the School of Dentistry is in a unique position, since students by law are not considered employees. However, in order to ensure the same high level of protection that the Bloodborne Pathogens Standard allows for employees is available for our students in a health care setting,

students will be considered in the same light as employees of the School everywhere in this manual except where specifically noted. Faculty and staff members are already considered employees. Therefore, as one reads the Infection Control Manual, it must be remembered that most of its provisions apply equally to students, faculty and staff. For that reason, throughout the Infection Control Manual the term “health care worker” shall be used to designate anyone in the School of Dentistry, be it student, faculty or staff, who may have exposure to infectious or contaminated materials. This infection control manual applies to all personnel in the dental school except where otherwise noted.

The Occupational Safety and Health Administration (OSHA) of the Department of Labor have put into law the Occupational Exposure to Bloodborne Pathogens Standard. This manual is to serve as the annual required review of the Exposure Control Plan and Infection Control Manual for the School of Dentistry as of September 15, 1992. Annual review and update occurs prior to the start of the new school year and in conjunction with the annual review of the SOD Clinic Manual. The Exposure Control Plan and Infection Control Manual will be modified during the year whenever new or modified procedures affect occupational exposure of the health care worker and if new job titles are created that have occupational exposure.

The person designated as the Health & Safety Officer is Ms. Teresa Ludwig. Her office is in 16-205 Moos Tower and her phone number is 625-5116. Ms. Ludwig reports directly to the Dr. Gary Anderson, Senior Associate Dean, and works closely with Dr. Robert Hirsch, Associate Dean of Clinical Affairs. However, since one person cannot oversee the day-to-day adherence to the provisions of this manual, **the faculty – especially the faculty in the undergraduate clinics, the faculty in the pre-clinical areas, and the attending faculty in the graduate clinics – will have to be responsible for seeing that infection control is carried out in those areas for which they are responsible.**

## Glossary

(Taken from: CDC. Guidelines For Infection Control In Dental Health-Care Settings, MMWR 52 (RR-17):1-66 (2003).

**Alcohol-based hand rub:** an alcohol-containing preparation designed for reducing the number of viable microorganisms on the hands.

**Antimicrobial soap:** a detergent containing an antiseptic agent.

**Antiseptic:** a germicide used on skin or living tissue for the purpose of inhibiting or destroying microorganisms (e.g., alcohols, chlorhexidine, chlorine, hexachlorophene, iodine, chloroxynol [PCMX], quaternary ammonium compounds, and triclosan).

**Dental treatment water:** nonsterile water used during dental treatment, including irrigation of nonsurgical operative sites and cooling of high-speed rotary and ultrasonic instruments.

**Disinfectant:** a chemical agent used on inanimate objects (e.g., floors, walls, or sinks) to destroy virtually all recognized pathogenic microorganisms, but not necessarily all microbial forms (e.g., bacterial endospores). The U.S. Environmental Protection Agency (EPA) groups disinfectants on their basis of whether the product label claims limited, general, or hospital disinfectant capabilities.

**Disinfection:** destruction of pathogenic and other kinds of microorganisms by physical or chemical means. Disinfection is less lethal than sterilization, because it destroys the majority of recognized pathogenic microorganisms, but not necessarily all microbial forms (e.g., bacterial spores). Disinfection does not ensure the degree of safety associated with sterilization processes.

**Droplet nuclei:** particles  $\leq 5 \mu\text{m}$  in diameter formed by dehydration of airborne droplets containing microorganisms that can remain suspended in the air for long periods of time.

**DHCW:** dental health-care worker. Sometimes the term **DHCP**, dental health-care professional is used.

**Germicide:** an agent that destroys microorganisms, especially pathogenic organisms. Terms with the same suffix (e.g., virucide, fungicide, bactericide, tuberculocide, and sporicide) indicate agents that destroy the specific microorganism identified by the prefix. Germicides can be used to inactivate microorganisms in or on living tissue (i.e., antiseptics) or on environmental surfaces (i.e., disinfectants).

**Hand hygiene:** general term that applies to handwashing, antiseptic handwash, antiseptic hand rub, or surgical hand antisepsis.

**Intermediate-level disinfection:** disinfection process that inactivates vegetative bacteria, the majority of fungi, mycobacteria, and the majority of viruses (particularly enveloped viruses), but not bacterial spores.

**Intermediate-level disinfectant:** liquid chemical germicide registered with EPA as a hospital disinfectant and with a label claim of potency as tuberculocidal.

**Occupational exposure:** reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or OPIM that can result from the performance of an employee's duties.

**OPIM:** other potentially infectious materials. OPIM is an OSHA term that refers to 1) body fluids including semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures; any bloody fluid visibly contaminated with blood; and all body fluids in situations where differentiating between body fluids is difficult or impossible; 2) any unfixed tissue or organ (other than intact skin) from a human (living or dead); and 3) HIV-containing cell or tissue cultures, organ cultures; HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

**Parenteral:** means of piercing mucous membranes or skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

**Persistent activity:** prolonged or extended activity that prevents or inhibits proliferation or survival of microorganisms after application of a product. This activity can be demonstrated by sampling a site minutes or hours after application and demonstrating bacterial antimicrobial effectiveness when compared with a baseline level. Previously, this property was sometimes termed *residual activity* or *substantivity*.

**PPE (personal protective equipment):** specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes not intended to function as protection against a hazard are not considered to be personal protective equipment.

**Sterile:** free from all living microorganisms; usually described as a probability (e.g., the probability of a surviving microorganism being 1 in 1 million).

**Sterilization:** use of a physical or chemical procedure to destroy all microorganisms including substantial numbers of resistant bacterial spores.

**Ultrasonic cleaner:** device that removes debris by a process called cavitation, in which waves of acoustic energy are propagated in aqueous solutions to disrupt the bonds that hold particulate matter to surfaces.

**Washer-disinfector:** automatic unit that cleans and thermally disinfects instruments, by using a high-temperature cycle rather than a chemical bath.

## I. EXPOSURE DETERMINATION

According to the Bloodborne Pathogens Standard, an exposure determination must be made if any health care worker has occupational exposure; that is, reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials. Other potentially infectious materials (OPIM) are most body fluids, including saliva in dental procedures, any body fluid that is contaminated with blood or any body fluid in situations where it is difficult to determine what the body fluid is. However, for the purposes of the School of Dentistry, since saliva and blood are likely to come into direct or indirect contact with most of the students, faculty and staff at some time, we shall have a large number of individuals who come under the purview of The Bloodborne Pathogens Standard. In addition, research efforts may necessitate the handling of body tissues, body fluids and cultures. Therefore, the majority of our health care workers will have occupational exposure.

To determine precisely which of these individuals are at risk, a list of tasks and procedures must be identified which could result in possible occupational exposure at our School. This exposure determination is made without regard to the use of personal protective equipment.

Tasks that could result in probable occupational exposure are the following:

- Patient treatment procedures
- Radiographic procedures
- Cleaning, disinfection and sterilization of instruments
- Environmental surface and equipment disinfection
- Dental laboratory procedures
- Handling contaminated laundry
- Handling infectious waste
- Repairing dental equipment
- Handling infectious tissues and body fluids in the research laboratory

**NOTE:** *Custodial personnel are not employees of the School of Dentistry and, as such, are not part of our Exposure Determination Plan. However, all UMN custodial personnel working in the School of Dentistry are trained by Facilities Management on proper environmental cleaning procedures and disposal of all types of waste.*

Tasks that could result in possible occupational exposure are the following:

- Filing and handling dental patient records at the main and auxiliary reception areas
- Filing and handling dental patient records at the specialty clinic reception areas
- Handling patient records in the dental insurance area
- Handling patient records at the data processing areas
- Handling patient records at the Cashiers' Office
- Handling patient records at the Office of the Associate Dean for Clinical Affairs
- Handling prosthetic cases for shipment to outside dental laboratories
- Handling patient records in the patient accounting areas

Reflecting the tasks listed above, the job classifications that have probable occupational exposure include the following:

- Clinical Dentists
- Clinical Instructors
- Clinical Staff
- Dental Engineering Services personnel

Reflecting the tasks listed above, the job classifications that have possible occupational exposure include the following:

- Receptionists
- Records clerks
- Data processing personnel
- Patient Accounting & Insurance personnel
- Cashiers
- Secretaries in the Office of the Associate Dean of Clinical Affairs
- Some research scientists & technicians

Tasks at our School that have no occupational exposure include the following:

- Routine secretarial work in non-treatment areas
- Dental School student admissions personnel
- Dental School finance personnel
- Dental School student affairs personnel
- Dental School student record keeping
- Dental School fund raising and development
- Handling and maintaining computer & audio-visual equipment

## II. METHODS OF COMPLIANCE

### GENERAL

The Bloodborne Pathogens Standard requires that health care workers practice dentistry using the concept of Universal/Standard Precautions. According to this concept, all human blood and certain other body fluids of our patients, including saliva, are treated as if they are infectious of HIV, HBV and other bloodborne pathogens. Remember that if you cannot distinguish between body fluids, you should assume that the fluid in question is infectious. Although a thorough medical history and physical exam is likely to uncover the possibility of an infectious disease in one of your patients, this is not always possible. Therefore, by assuming that all of your patients are infectious, you can proceed with the appropriate controls to protect yourself and others around you.

### ENGINEERING AND WORK PRACTICE CONTROLS

1. Under the Standard, engineering controls and work practices shall be used to minimize or eliminate exposure of health care workers to infectious diseases. When these controls cannot effectively protect the health care workers, personal protection equipment as provided by the School shall be used such as the following:
  - Engineering controls are those controls that isolate or remove the bloodborne pathogen from the workplace (e.g. sharps containers, self-sheathing scalpels and needles, foot controls for the faucet).
  - Work practice controls are controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g. prohibiting recapping of needles using a two-handed technique).
2. Engineering controls will be examined or maintained or replaced on a regular schedule. For example, sharps containers will be replaced before they become too full. The Dental Engineering Services Department is responsible for facilitating the timely removal of these containers.
3. Employer shall provide hand-washing facilities. In the School there are hand-washing facilities in every cubicle and in other appropriate convenient locations. These hand-washing facilities include a sink, disposable paper towel dispenser, antimicrobial soap and an appropriate waste disposal container for the used paper towels. Washing your hands is one of the most effective ways of controlling the microorganisms on your hands, whether they are resident or transient. OSHA recognizes this fact and, as a result, wrote several provisions of the Bloodborne Pathogens Standard to reflect the significance of hand washing as protection to the health care worker and patient alike.
4. Health care workers at the School must wash their hands immediately at the beginning of the day, before they glove, using an antimicrobial soap. Hands must be washed or an alcohol hand rub must be used before regloving. Gloves must be changed between patients and in the event of any interruption of treatment that results in hands coming into contact with objects other than those items being directly used in the treatment of that patient. For example, if you drop an instrument, you must pick up the instrument with your gloved hand, place the dirty instrument in your sink, then deglove, wash hands or use an alcohol based rub and reglove before resuming treatment of the patient.



5. Health care workers must wash hands and any other skin or flush mucous membranes with water immediately after contact of said body area with blood or OPIM (e.g. saliva). Such contact could occur if ungloved hands or any other area of unprotected skin comes into direct contact with the patient or if ungloved hands happen to come in contact with an inanimate object that is likely to be contaminated with body fluids from a patient. Contact could also occur if blood or OPIM penetrate personal protection such as gloves, mask, eye protection or clothing.
6. Contaminated needles shall not be bent, recapped or removed unless they need to be recapped for specific medical reasons. In the case of many dental procedures, it is desirable to perform multiple injections during treatment. The needles can be recapped between injections on the same patient if the recapping is accomplished using the one handed “scoop” technique or using a mechanical device. After using the needle for the last time, recap it; and, with the used anesthetic cartridges, deposit them in the nearest sharps container.
7. Sharps containers are provided at accessible locations throughout clinical areas and close to the immediate area where sharps are found. Sharps containers will be as follows:
  - Closable
  - Puncture resistant
  - Leakproof on sides and bottom
  - Labeled or color coded (red) in accordance with the labeling requirements of the Standard
  - Maintained upright throughout use

If you must move a sharps container, close the container immediately to prevent spillage or protrusion of contents before you handle it or move it. If it appears leakage is possible, place it in a secondary container that is closable, leakproof and color coded or labeled.

Any other sharps, such as scalpel blades or orthodontic wire, must be deposited in the sharps container after use. Use a mechanical device or hemostat to remove a disposable blade from the handle.

8. Other regulated waste, such as blood-soaked gauze, will also be placed in appropriate containers. Regulated waste is liquid or semi-liquid blood or OPIM plus the following: contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or OPIM. In the clinical area of the School of Dentistry, waste is classified as:
  - Biohazardous waste (regulated)
  - Regular or non-biohazardous waste
  - Hazardous chemical waste

Regular non-biohazardous waste in the clinics is to be disposed of in the regular waste cans provided in each cubicle. Regular non-biohazardous waste not in the clinic areas is to be disposed of in the regular waste cans provided.

Biohazardous waste must be disposed of into the red bags, available in the Dispensary. Red bag biohazard waste is picked up daily by the University's Facilities Management staff trained in biohazard waste removal.

Amalgam contains small amounts of mercury, which is considered Hazardous Waste. All excess amalgam (i.e. scrap and capsules) from dental procedures will be collected in properly labeled waste containers. Once a container is full it will be removed by DES as hazardous waste and disposed of according to University, federal, state, and local regulations.

Suitable containers are as follows:

- Closable, Plastic Container
  - Constructed to contain all contents and prevent leakage during handling, storage or transport
  - Labeled as Hazardous Material or Amalgam Scrap.
  - Closed prior to removal to prevent spillage during transport
9. One of the simplest work practices that minimizes or eliminates exposure is to **not** eat, drink, smoke, apply cosmetics or lip balm, or handle contact lenses in dental treatment areas, dental laboratory areas or sterilization areas.

**NO EATING OR DRINKING IN ALL CLINICAL AND PRE-CLINICAL AREAS. THIS INCLUDES STUDENTS, STAFF, FACULTY AND PATIENTS.**

10. Do not store or keep food or drink in refrigerators, freezers, shelves, cabinets, countertops or bench tops in the clinics or where blood or OPIM are present.
11. Perform all dental procedures in such a manner so as to minimize splashing, spraying, and spattering or generation of droplets that might contain infectious materials. This would include the use of high volume suction, the rubber dam, judicious use of the air/water syringe, and properly positioning the patient. When hand cleaning instruments with a brush, keep the instruments and brushes below the surface of the water in the sink, therefore eliminating splashing and the release of aerosol and airborne particles.
12. Do not mouth pipette or mouth suction blood or any OPIM.
13. Before servicing or shipping any dental equipment that may have been contaminated, decontaminate the equipment. Label the parts of the equipment that have not been decontaminated and be sure to tell any serviceman, shipper or manufacturer the exact state of contamination the equipment is in.

#### **PERSONAL PROTECTIVE EQUIPMENT**

OSHA feels that engineering and work practices are not always enough to provide absolutely the maximum protection to health care workers or others exposed to infectious disease. Another layer of defense against infectious organisms is the use of personal protective equipment.

OSHA requires that employers (in our case the School of Dentistry) provide at no cost to employees, appropriate personal protective equipment such as, but not limited to, gloves, gowns, masks, eye protection, resuscitation bags, pocket masks or other ventilation devices. Students shall be provided with gloves, masks, and gowns. Students provide their own eye protection and eyewear is also available at dispensing. Personal protective equipment is only appropriate if it does not allow blood to pass through and reach the employees work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use. The School of Dentistry will also provide eye protection to all patients. Students and Faculty must request that patients wear eye protection during any and all dental procedures. If a patient refuses the eye protection, this refusal must be noted in the patient's dental record.

### 1. Protective garments

Blue clinic gowns are to be worn by students, staff, or faculty at all times in the clinical areas when providing patient care. The blue clinic gowns that are high-necked and long-sleeved are of sufficient length and size; and are made of a material that will not allow body fluids to pass through under normal conditions. This gown must be worn whenever there is likely to be exposure to infectious fluids or contaminated materials and during intra oral examinations.

**All students and staff are required to wear the blue clinic gown when performing dental treatment, when handling or exposing radiographs, or performing any other task in which exposure to OPIM is likely to occur.** Blue clinic gowns are to be removed when leaving the clinic area. Hooks are available in each cubicle and clinic area for placing these gowns. Yellow disposable gowns are worn only in laboratory areas. Dispensary personnel, dental laboratory personnel, and darkroom technicians will wear appropriate protective clothing when necessary.

You will draw a blue clinic gown from the Dispensary at the start of each clinic day. Gowns will be turned in to the "dirty" Dispensary at the end of each session, unless the gown becomes reasonably soiled or OPIM penetrates the material during the day. In that case you will return the soiled gown as soon as possible and draw a clean gown. **Under no circumstances** are gowns to be left in a clinic spaces overnight or removed from the clinics (i.e., not stored in a personal locker). Blue clinic gowns will be cleaned, laundered repaired or replaced as necessary by the School of Dentistry.

Dispensary personnel will wear appropriate gloves when handling contaminated laundry.

Dispensary personnel will ensure that the containers holding the contaminated laundry are properly labeled or color-coded. In addition, before transporting the contaminated laundry to be laundered, it must be covered to prevent the potential spread of infectious microorganisms.

To summarize:

- Wear your blue clinic gown in clinic when exposure is likely to occur. Wear your yellow disposable gowns in laboratory areas.
- When leaving the cubicle to eat or do other tasks remove your clinic gown and leave it in your cubicle or treatment area until you return. However, at the end of the session, return the clinic gown to the dirty dispensary.

- All students will wear heavy-duty gloves and protective eyewear when hand cleaning instruments.
- In addition all students will wear eye protection and facemasks when performing laboratory work in all areas, clinical or pre-clinical.

## 2. Gloves

Because our hands can easily be the source of bacteria that can infect our patients, hand washing or rubbing with an alcohol based handrub alone may not be sufficient to protect our patients from cross-infection. In addition, it is easy enough for bacteria from our patients to enter our bodies through minute breaks in our skin. Therefore, gloves protect both the patient and health care worker. For these reasons, OSHA has ordered that all health care workers wear gloves when it can be reasonably anticipated that health care workers may have hand contact with blood or OPIM, non-intact skin, or patients or when handling or touching contaminated items or surfaces.

- Disposable (single use) gloves, such as surgical and/or examination gloves, shall be replaced as soon as feasible when contaminated, when they are torn or punctured, or when their ability to function as a barrier is compromised.
- Disposable (single use) gloves shall not be washed or decontaminated for re-use.
- Utility gloves may be decontaminated for re-use if the integrity of the gloves is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.
- The School of Dentistry will provide hypoallergenic gloves for those who are allergic to the gloves normally used.
- **Do not leave your cubicle or other treatment area with your gloves on, since this could lead to contamination of other areas.** In addition, do not handle charts while wearing gloves. Only after a procedure is completed and gloves are removed, should charts or other objects be touched. If, during a procedure, treatment is interrupted and you must touch another object, either deglove or overglove.

## 3. Masks

Wear facemasks or full-length face shields with facemasks while treating patients or whenever splashes, spray, splatter or droplets of blood or OPIM could be generated. These masks should be able to prevent the passage of microorganisms. If your mask becomes damp during use, discard the mask as soon as possible, and put on a fresh mask.

## 4. Eye Protection

Eye protection must be worn in all clinical patient treatment areas. Wear appropriate eye protection whenever there is the possibility of an aerosol spray, splatter, splashes, droplets or contaminated foreign objects (i.e. pieces of amalgam). This means the use of eye protection when doing patient treatment as well as while doing laboratory work. Eye protection can be eyeglasses with solid eye shields, Googles™, goggles or full-face shields; but **must be** appropriate to the

task. Remember, during dental treatment, the patient's eyes must also be protected. Therefore, leave the patient's eyeglasses on if he/she normally wears them. Otherwise, protect the patient's eyes with suitable eye protective glasses that are provided for this purpose.

#### **5. Surgical Caps or Hoods and/or Shoe Covers or Boots**

These should be worn in instances where gross contamination could be generated. For example, this might be the case during surgery, when an aerosol-generating handpiece is causing a great deal of contamination.

### **HOUSEKEEPING**

#### **1. General**

The School of Dentistry shall ensure that the work site is kept clean and in sanitary condition. The School of Dentistry has determined and implemented an appropriate written schedule for cleaning and decontaminating various locations within the facility.

#### **2. Equipment and Services**

All equipment and environmental surfaces shall be cleaned and decontaminated after contact with blood or OPIM.

- Contaminated work surfaces should be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible, when surfaces are overly contaminated or after any spill of blood or OPIM; and at the end of the work shift if the surface may have been contaminated since the last cleaning.
- Protective coverings such as barrier film, plastic wrap, and aluminum foil or imperviously backed absorbent paper may be used to cover equipment and environmental surfaces, but shall be removed and replaced between patients, as soon as they may become inadvertently contaminated, or at the end of the work shift. Protective covering are useful in dentistry to protect those surfaces and pieces of equipment that are difficult to disinfect, such as light handles, x-ray tube heads, amalgamators, etc. In addition, barriers are faster and more effective than using disinfectants to decontaminate an area.
- All bins, pails, cans other similar receptacles intended for re-use which have a reasonable likelihood of being contaminated with blood or OPIM will be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.
- Broken glassware, which may be contaminated, shall not be picked up directly with the hands. It shall be cleaned up using mechanical means such as a brush and dustpan, tongs or forceps. If such an incident should occur, report to the dispensary, where appropriate clean up equipment is available. Remember to wear utility gloves, mask, eye protection and a protective garment during the clean up. After the spill is cleaned up, decontaminate the area using disinfectant; then decontaminate the equipment.
- Do not place reusable contaminated sharps (i.e. dental instruments) into a container that you have to reach into by hand in order to retrieve. The sink may be used since it is a large container and your risk of sustaining a puncture wound would be slight. However,

should it become necessary to wash instruments by hand, caution should be exercised. Place only a few instruments into the sink at one time and do not use a soap that creates too many suds. Also, wear utility gloves that are puncture-resistant as well as being capable of being disinfected or sterilized.

### **3. Regulated Waste**

Contaminated sharps that are disposable shall be discarded immediately or as soon as possible after their use. They shall be placed into containers that meet the standards for sharps as described in the Engineering Control section of Methods of Compliance. As stated earlier, these containers will be accessible and close to the area where they are used. They will not be allowed to overflow. Other regulated waste will be placed in containers that are suitable. In instances where blood, vomitus, fecal matter, urine or other body fluids are involved, report to the dispensary and obtain a kit which will help you safely clean up the material involved. Again, wear proper eye protection, mask, utility gloves and protective clothing. Decontaminate the area using the wipe-discard-wipe technique; then decontaminate the equipment before returning it to the dispensary.

### **4. Laundry**

Contaminated laundry shall be handled as little as possible. When you are finished with your clinic gowns at the end of the day, when it becomes visibly soiled or if OPIM penetrates the material, turn it in to the dirty dispensary. Faculty will also turn in their clinic gowns when they become visibly soiled, contaminated or if OPIM penetrates the material, and at the end of the day. Dispensary personnel shall handle the laundry in the dispensary as little as possible. Minimum sorting should be done. Dispensary personnel will place the contaminated laundry into bags or containers that are labeled or color-coded. Since our dispensary utilizes Universal/Standard Precautions in the handling of our laundry, alternative labeling or color-coding is acceptable if it permits all health care workers to recognize the containers as requiring compliance with Universal/Standard Precautions. If dispensary personnel must handle the contaminated laundry, they will wear protective gloves and aprons or gowns.

## **DAILY PROTOCOL**

### **1. General**

The real issue of infection control revolves around how we as faculty, students and staff, on a daily basis, go about our work of providing dental care for our patients in a safe manner by a routine that minimizes or eliminates the possibility of transmitting infectious diseases. This daily routine consists of a combination of using what engineering means we have at our disposal as well as using work practices. This keeps our patients and us safe. Therefore, we shall discuss some of the practices and procedure we should be following in order to achieve the maximum protection possible. Keep in mind that the principles of Universal/Standard Precautions are followed while doing all these routines.

### **2. At the Beginning of the Clinic Treatment Day**

- When you first arrive at your treatment area, wash your hands thoroughly as described in the Hand Washing Technique section of the Appendix.
- Students and staff alike should prepare their equipment, draw whatever supplies are necessary (such as instruments, disposable items and unit doses of dental materials such as restorative materials) for the treatment to be rendered, secure the patient's chart, and do what is essential to prepare for smooth, uninterrupted treatment. By being properly prepared, one does not have to stop to get additional supplies, instruments or equipment.

As interruptions occur, the chance of spreading contamination increases greatly. Also, uninterrupted treatment means safe, efficient treatment. To achieve safe dental treatment, one must keep the area of contamination as small as possible. Thus, all equipment and supplies should be within easy reach of the dental student and assistants. It goes without saying that the cubicle or dental operating area should be in a sanitary condition. Countertops should be clean and clear of clutter.

- How to prepare the dental operatory for treatment:
  - i. Gather all materials needed from the clean dispensing area. Place instruments on covered counter top. Wash hands, place gown, glove, mask and eyewear on.
  - ii. Place a clean plastic barrier over the headrest and the back of the chair.
  - iii. Remove air-water syringe and slow & high speed evacuation houses. Place a clear plastic barrier on the assisting arm. Place clear barrier bags over the air water syringe and slow & high speed evacuation hoses.
  - iv. Remove handpiece hoses, air-water syringe and cavitron hose. Place clear plastic barrier over the handpiece control arm. Place clear plastic barrier over the air water syringe, hand piece hoses and cavitron hose.
  - v. Place blue barrier film (4' x 6' piece) over the dental light handles, dental light switch, viewbox switch, intercom buttons, and curing light handle.
  - vi. Place plastic barrier over curing light wand.
  - vii. Fill water bottle with tap water.
  - viii. Flush the water lines (handpiece and air-water syringes) for one to three minutes.
  - ix. Remove gown, mask, and eyewear; wash hands. Go to reception area to greet patient; escort patient to your cubicle. Seat patient. Follow the use of PPE guidelines.
  - x. At this time your operatory should be prepared for patient treatment. Please your red light on for a clinic instructor. Instructors must verify visually that all handpieces and instruments have been sterilized (are in sealed bags) and the operatory is properly prepared. Upon approval, the clinic instructor will place an "Infection Control Observed" sticker on the daily progress note.
  - xi. Kits may then be opened in front of the seated patient, treatment may be started.

### 3. During Patient Treatment

During patient treatment, the following procedures should be observed:

- Give/offer the patient a pair of protective eyewear to wear during dental treatment, even if the patient has eyeglasses.
- Mouth rinse will be available for patient use.
- Just before gloving, wash and dry your hands using antimicrobial soap.
- Place rubber dam whenever possible. Non-use of rubber dam must be approved by your clinic instructor
- Do not make entries in patient's record during treatment unless it is absolutely necessary; in that case, before touching the record remove gloves or overglove.
- Once gloved, do not touch anything but the patient, barrier and covered areas or areas that were already decontaminated at the end of the last patient visit.
- If you leave your cubicle for any reason, deglove and wash your hands; no one is to walk around the clinics outside their cubicles or immediate treatment areas with gloves on.

- When taking radiographs, set up the x-ray room before regloving. Place the new uncontaminated films to be exposed on a clean cover or paper cup just outside the x-ray room. Cover tube head, chair, and controls with protective covers and barrier film. After patient is seated, place lead apron on patient. Glove. Expose radiograph(s). Place exposed films on piece of paper (usually a tray table cover) or in a cup. Disinfect the film with the wipe-discard-wipe technique.
- Use high-speed evacuator to prevent spread of contamination when using high-speed handpieces, water spray, ultrasonic scalers, or any other piece of equipment likely to produce aerosols, splatter or droplets.
- If an instrument is dropped, do not pick it up and re-use it. Leave it where it has fallen, unless it is a hazard, until you are finished with your treatment; then pick it up with your gloves. If you must remove it immediately, pick it up with your gloves and then place it in the sink or any other appropriate place out of your immediate operating area. Deglove, wash your hands and reglove before proceeding.
- Disposable items are what the name implies. Use them once and only once, and then discard. This includes gloves, masks, saliva ejectors, etc.
- If, during treatment, prosthetic-related items need to be transported somewhere else in the clinic such as the laboratory, these items must be cleaned and disinfected before leaving the treatment area. These items include impressions, models, die, prostheses, bite registrations, crowns, wax-ups, etc. Clean, place in plastic bag, disinfect to transport to labs and remove gloves; then you can safely take the items to another area or ship them outside the School. All items must be disinfected in the plastic bag for 10 minutes.

#### 4. Upon Completion of Treatment

After the patient's treatment is completed, remove patient napkin and place in your trash container. Take off your gloves, wash your hands, and make your appropriate entries on the dental record. Escort the patient to the reception area.

Return to your cubicle:

- Put on your gown, gloves, and mask and proceed with cubicle cleanup.
- Place sharps in sharps container and any regulated waste product (i.e. amalgam, bio-hazardous) in appropriate waste container.
- Gather your instruments. Remove your handpiece(s) and air-water syringe tip, flush the hoses with water for 1-3 minutes to purge the lines of any contaminants. Direct the spray into your high volume evacuator or sink. The rest of your instruments should be placed back into your cassette or sterilization pouch along with your sterilizable air/water syringe tip. This cassette is then closed. Any instruments that do not go into the cassette should be returned to the dirty dispensary with your cassette. All instruments will be sent to the central sterilization area.
- Dispose of all barriers (patient napkin, plastic wrap, chair covers, dental light cover, bracket table cover, etc.) saliva ejector tip, paper cups, rubber dam and any other non-regulated waste. Disinfect all areas of your cubicle, with hospital level disinfectant supplied by the School. Use the wipe-discard-wipe technique. Be sure to use this disinfectant according to the manufacturer's recommendations.
- Remove barriers from and disinfect all equipment that will be returned to the dispensary.



- Remove your gloves, wash your hands and return any equipment to the dispensary that needs to be returned. If you have another patient, start over again with step 2 by gathering your materials (instruments, etc.), make ready your cubical with the appropriate barriers, etc.
- Remove your eye protection touching only the earpiece, and your facemask touching only the ties – not the mask itself.

## 5. At The End Of Each Clinic Treatment Session

When the end of the treatment session is reached and the protocol following the dismissal of the last patient has been carried out, then additional tasks must be carried out before leaving. While still wearing protective equipment, disinfect all clinic contact surfaces. Disinfect the countertop, dental unit, chair and light using the wipe-discard-wipe technique. Be sure the base of the dental chair is clean. Also be certain your dental stool and walls of your cubicle are clean. A neat appearance promotes patient confidence.

The end of the session also offers the opportunity to attend to other details that make for a clean and neat cubicle. Dental chairs should be raised to the highest position, dental light should be placed over the head of the chair. Be sure items such as Hanau torches and rubber bowls are cleaned and disinfected and returned to the dirty dispensary.

To be sure the standards of cleanliness and infection control are upheld, inspections of your cubicle, work practices, and equipment will be overseen by your faculty instructors daily.

## SPECIAL PROTOCOLS

### 1. General

So far this manual has described procedures for daily routine in your dental cubicles, but there are protocols for special tasks such as sterilization and disinfection as well as prosthodontic, orthodontic and radiographic procedures. These will be described in the pages to come.

### 2. Sterilization

Sterilization is at the center of what we do to prevent cross-infection, since sterilization is a process that kills all forms of life. If an instrument is sterile, there is no way it can pass on an infectious agent to another patient or health care worker. It is the ideal. Sterilization is carried out most effectively and easily with the use of the steam autoclave. The sterilization of instruments for our undergraduate students is done in the Central Sterilizing areas, although some sterilization is also done in the graduate clinics. In all these areas, the steam autoclave is also utilized. Of course, for any sterilization process to be effective in killing all the microorganisms, the instruments must be clean. Here at the School, the washer-disinfector and the ultrasonic (and occasional manual washing) techniques are used. Both are good if used properly; however, use the washer-disinfector method whenever possible since it is safer and probably more effective. Students can turn their cassettes in for processing at the dispensary or the appropriate sterilization area in their respective clinics.

#### a. Washer-disinfector Method

Dispensary and other authorized personnel using the washer-disinfector method should ensure that:

- i. The proper solutions are used in the washer-disinfector equipment. Improper solutions may damage the equipment and/or dental instruments.
- ii. The washer-disinfector is run for the recommended period of time and according to manufacture's instructions.
- iii. The instruments or cassettes are placed correctly in washer-disinfector (not too near the bottom or sides) so that the equipment can function properly.
- iv. Instruments are rinsed thoroughly and then dried thoroughly when the washer-disinfector cycle is complete.

**b. Ultrasonic Method**

Dispensary and other authorized personnel using the ultrasonic method should ensure that:

- i. The proper solution is used in the ultrasonic cleaner. Improper solutions will damage the cleaner and are not as effective as the ones that have a detergent action.
- ii. The ultrasonic cleaner has been run for the recommended period of time.
- iii. The ultrasonic cleaner is covered while in operation.
- iv. Baskets are used to prevent sharps injuries.
- v. The solution is changed when recommended or if it becomes too dirty.
- vi. The instruments or cassettes are placed in the cleaner correctly (not too near the bottom or sides) so that the cleaner will function properly.
- vii. Instruments are rinsed thoroughly after the ultrasonic cycle is completed.
- viii. Instruments are dried thoroughly, either with air-drying or clean paper.

**c. Personnel Using Manual Scrubbing**

When manually scrubbing, you should:

- i. Wear protective gear (eye protection, mask, utility gloves and protective clothing).
- ii. Use a detergent that allows you to see the instruments clearly.
- iii. Cover the instruments with sufficient water so that both the instrument and brush are beneath the surface of the water in order to prevent splashing or splattering. Have and scrub only one instrument at a time in the sink.
- iv. Rinse the instruments thoroughly.
- v. Dry the instruments completely.

After the instruments are cleaned and dried, inspect them carefully to be certain that all visible debris has been removed. The instruments for the steam autoclave must be bagged or wrapped. The use of cassettes is an ideal way to contain the instruments, for it not only helps prevent needle sticks, but also helps to minimize the loss of instruments since the instruments are kept together in a container. Sterilization pouches can be used for one or several instruments, but use caution since there is always a danger of puncture, which could result in a sharps injury or a contaminated instrument. Do not overpack cassettes or pouches with instruments, for that might impede the circulation of steam throughout the cassette or pouch. Open hinged instruments so that the steam will reach all areas of the instrument.

Dispensary and other authorized personnel will see that the cassettes are put through the washer-disinfector, rinsed and dried before being bagged or wrapped for sterilization.

After being sterilized, the students' cassettes and pouches are in the dispensary until they are returned to the students.

Dispensary and other authorized personnel operating autoclaves in other locations will ensure the autoclaves are working properly by using process indicators such as sterilization tape placing a chemical indicator inside each package and by performing biological monitoring using the appropriate spore tests. They will keep a log of the sterilization cycles. This log will contain the results of biological monitoring. The Central Sterilization supervisors will monitor all results. The spore tests will be performed at least weekly, or more often if circumstances dictate. Biological monitoring is the most reliable form of testing since live spores are used. To properly perform biological monitoring, place the biological monitors within the instrument pack according to direction and then run normal cycle of the autoclave. For a control, select a biological monitor that has not been run through the autoclave. After processing the monitors, the results will be satisfactory if the test monitor is negative and the control monitor is positive. If the biological monitor that was placed in the autoclave is positive, then these additional steps must be taken:

- Stop using the autoclave immediately.
- Re-sterilize all packs that have been processed through the sterilizer since the last negative results.
- Notify repair personnel as soon as possible.
- After repairs are complete, retest the autoclave immediately. If test results are still positive, continue to seek the cause for the positive results.
- Do not begin routine use of the autoclave until negative results from the spore tests are obtained.

### **3. Disinfection**

#### **a. General**

Disinfection is the process by which most, but not all, microbial life is killed or inhibited; therefore, it is not an ideal method of eliminating pathogens, however, it is very effective for semi-critical items, which are those items that come into contact with mucous membranes or non-intact skin but do not penetrate soft tissues, contact bone, enter into or contact the bloodstream or other normally sterile tissue. An example of a semi-critical item is the air/water syringe tip. Non-critical items are items that come into contact with only intact skin, not mucous membranes.

As said earlier, it would be ideal to sterilize everything. But for non-critical items such as countertops or the dental unit, this is neither practical nor necessary. Therefore, all surfaces touched by hands contaminated by blood or OPIM need to be cleaned and disinfected before each patient. When using a disinfectant, be sure that the disinfectant is an intermediate level EPA registered, FDA approved solution that is anti-tuberculocidal. An alternative to using disinfectants is to cover these surfaces with barriers, which can be made of plastic, aluminum foil or impervious-backed paper. In fact, covering a surface with a barrier is faster, easier on the equipment (almost all disinfectants are potent,

corrosive chemicals) and is probably more effective. In addition, a barrier is a visible sign to the patient that infection control procedures are being followed. Thus, whenever possible, use a barrier to prevent environmental surfaces from being contaminated. When using and changing barriers between patients, it is not necessary to clean and disinfect those surfaces until the end of the clinic session, unless the barrier is damaged or gross contamination occurs. Then remove the spoiled barrier, disinfect the area, and place a new barrier before proceeding with treatment.

**b. Cleaning**

Before disinfecting a surface, it must be clean. Cleaning destroys many bacteria and removes any bioburden or debris that may interfere with the effectiveness of the disinfectant to be applied. It is possible to combine the cleaning and disinfecting steps by using an appropriate disinfectant with either the “wipe-discard-wipe” technique or the “spray-wipe-spray” technique. Both techniques accomplish cleaning and disinfecting clinical contact surfaces.

The wipe-discard-wipe technique is accomplished as follows:

- i. Saturate two pieces of 4 X 4 gauze with hospital level disinfectant or use a commercial product like Caviwipes. Wipe and wet the surface with the appropriate level of cleaner/disinfectant solution to clean.
- ii. Repeat the above procedure, leaving surface wet.
- iii. Allow the surface to remain wet for at least ten minutes.
- iv. At the end of ten minutes, wipe the surface dry with a paper towel or let it continue to air dry.

The spray-wipe-spray technique is accomplished as follows:

- i. Wet the surface with the appropriate level of cleaner/disinfectant solution to clean.
- ii. Clean and dry the surface thoroughly with a paper towel.
- iii. Wet the surface again.
- iv. Allow the surface to remain wet for at least ten minutes.
- v. At the end of ten minutes, wipe the surface dry with a paper towel or let it continue to air dry.

**4. Laboratory Protocols**

The protocols for prosthodontics and orthodontics are similar since there are both a patient treatment and laboratory phase for these areas of dentistry. As a result, there is a great danger of transmitting infectious agents from the cubicles to the laboratory which many students and staff use. It is easy to see that there are multiple opportunities for cross-infection. Thus, great care must be taken by all. Think before you leave your cubicle or other patient treatment with contaminated impressions, orthodontic appliances and removable and fixed prostheses. Let's examine some of the possibilities for cross-infection.

Impressions – to prevent carrying contaminated impressions to the labs, first rinse the impression with water to remove all saliva and blood. Then disinfect it using an appropriate

disinfectant. While performing these tasks, be sure you are wearing protective clothing, mask, eye protection and gloves. Disinfecting impressions must be completed before leaving the cubical area. Pour/spray the disinfectant on material to cover the impression. Place the impression in plastic bag to transfer to laboratory for processing.

When impressions or interim prostheses are sent to an outside lab, or the School of Dentistry's internal technician's lab, they must be appropriately labeled to indicate whether they have been disinfected. Use a biohazard label if the case has not been disinfected. If they have been disinfected, the label should also clearly state that fact; otherwise, the lab will disinfect the impressions again. Cases shall also be packed to as to protect those handling the prosthesis from being stuck or injured by the prosthesis.

Laboratory areas and equipment require disinfection regularly. If possible, separate areas and equipment should be set aside for prostheses that have made intraoral contact and for prostheses that are new.

Cover the work area with disposable barriers as much as possible and change these barriers between cases. Disinfect these areas at the end of the day. Areas that are not covered should be disinfected between cases.

- Do minor adjustments of interim and completed prostheses in your cubicle using sterilized burrs, polishing wheels and disks.
- If adjustments need to be made in the student labs, rinse, disinfect for required minimum time, and bag item before going to the lab.
- In the case of completed prostheses or prostheses that need adjustment in the laboratory, use sterilized burs and disposable rag wheels and pumice.

Disposable paper basket should be placed in the lathe. When finished, dispose of all pumice and the paper basket in the regular waste.

All health care workers who work in a dental laboratory or handle laboratory cases on a regular basis should be vaccinated against Hepatitis B.

## **ORAL RADIOLOGY PROTOCOL**

### ***Standard operating procedure in Clinic***

1. Report to the Radiology technologists. Charts are to be given to staff and not brought back to the x-ray cubicles.
2. Select a cubicle.
  - a. Check control panel for proper settings. Obtain staff signatures on "starting check" slip.
  - b. Review and follow Operational Check-List and Radiation Safety Check-List posted by machine controls.
3. Cubicle will be prepared in advance by staff.

- a. They will wipe tube head and cone, the control buttons, and chair headrest with Cleaner/Disinfectant.
- b. Tube head and headrest will be bagged. The parts of the tubehead and handles that can't be covered with bag will be covered with cling type wrap. . Exposure switch is to be covered with disposable cling type plastic cover. Tubehead and head rest covers and tubehead bags must be changed between patients.
- c. Lead aprons and thyroid shields are to be cleaned and disinfected between uses.
4. Organize supplies needed on plastic coated paper bib napkin on the counter outside the cubicle. All supplies and instruments are to be kept on this napkin. Student is to keep personal items such as eyewear in a separate area of the work surface. Student is to ask staff for additional supplies.
5. Use universal infection control precautions for all patients. Staff will monitor students for compliance and inadequacies will be brought to the student's attention for correction.
6. Explain the procedures.
  - a. Do a brief clinical examination; determine the number of films to be exposed. Obtain required films from staff after faculty has signed orders.
  - b. Place lead apron on patient, position thyroid shield.
  - c. Have patient remove dental appliances, glasses, very large earrings, nose or lip piercing, etc. Student will put dental appliances on a moisture proof napkin or in a plastic cup.
  - d. Student is required to wear protective eyewear, gown, mask and gloves. Hands are to be washed and gloves are put on last.
7. Expose radiographs.
  - a. Wipe your films dry as they are exposed and place in plastic cup.
  - b. After exposing the last film; lower chair.
  - c. Remove gloves and discard.
  - d. Remove lead apron and thyroid shield and hang them up.
8. Return the patient to waiting room.
  - a. Explain the wait may be about 20 minutes while films are being processed and evaluated.
9. Complete evaluation slip and duplicate envelope.
  - a. Evaluation slip is placed at Output Station before entering the darkroom.
  - b. Put on new set of gloves; located outside the darkroom.
  - c. Place film cup on covered surface. Discard film wrappers. Place lead foil in lead receptacle.
  - d. After processing, discard gloves and wash your hands.
10. Go to Output Station immediately after picking up the processed radiographs.
11. Pick up your processed films at the processor Output Station.
  - a. Mount your films with help of staff.
  - b. Evaluate them.
  - c. Call an instructor to discuss evaluation.
12. If you have no retakes:
  - a. Staff will bring chart to front desk for billing.
  - b. Fill out encounter form, Progress Notes, and Radiology Log including type of exam and number of retakes.
  - c. Place Films in Chart.
  - d. Escort patient to front desk for payment (if "cash account") before dismissing patient.
- b. If you have retakes to do:

- a. Call your patient in.
  - b. Expose radiographs with assistance from technologist when necessary.
  - c. Escort patient to Cashier for payment.
13. Staff or student will process retakes. After taking radiographs:
- a. Mount them in appropriate places.
  - b. Place removed films in duplicate envelope at Output Station.
  - c. Discuss retakes with staff.
  - d. Call an instructor to discuss evaluation.
14. Clean your cubicle, if requested by staff.
- a. Fold up arm and place tube head against wall.
  - b. Lead apron hung on wall hooks.
  - c. Discard all used materials. XCP instruments are to be rinsed and placed in Ultrasound unit. Staff will cleaned, bag and have XCP instruments sterilized.
  - d. Wipe off all work surfaces; wear gloves, mask and eyewear when using approved cleaner/disinfectant and sink, all scraps, etc., off floor.
  - e. Place new covers on headrest, tubehead and exposure switch.
  - f. Shut off x-ray unit and room light when done for the day.
  - g. Place completed Evaluation Slip at the appropriate place near Output Station.

### ***Radiographs in Satellite areas***

1. Students are to follow Universal precautions. Students must wear protective eyewear, mask and clean gloves for taking radiographs.
2. Tube heads and headrests are to be bagged before a patient is seated. These are to be discarded after each patient and the student taking the radiographs must clean/disinfect the tube head and chair. The lead apron is to be hung up after removing from patient and cleaned/disinfected. Prior to seating the next patient, the student must bag the tube heads and headrests.
3. Disposable cling type covers are to be used to cover x-ray exposure switches. These are to be applied prior to each patient being seated and discarded as a part of clean up after taking radiographs.
4. Cups are to be used to transport films to darkroom. Clean gloves are to be worn for processing and discarded after loading films into processors or using quick dip type solutions.
5. Lead foils are to be placed in recycling box.
6. Students must mount films, put name and date on mounts. Duplicate films are to be put in envelope with name and date and placed in appropriate box for pick up by Radiology staff.

### ***EXPOSING FILMS***

- i. Place barriers over the tube head and chair.
- ii. Cover the controls with blue plastic wrap. Place the film on the covered counter.
- iii. Seat the patient. Place lead apron and thyroid collar over patient. Wash your hands, then glove and mask.
- iv. Student may use autoclaved or disposable position indicating devices. Rinn kits should be turned in to the dispensary for sterilization between patients.
- v. Use autoclaved or disposable panoramic bite block or cover it with a disposable cover.

- vi. After exposure of the film, the contaminated film should be wiped dry and should be placed into a paper cup for transport to a dark room and discarded.

#### ***DEVELOPING RADIOGRAPHS***

- i. To develop a film packet without barriers, clean gloves are to be used for processing after loading films into processors or using quick dip type solutions.
- ii. Put on new set of gloves; located outside the darkroom.
- iii. Place film cup on covered surface. Discard film wrappers. Place lead foil in lead receptacle.
- iv. After processing, discard gloves and wash your hands.

### **III. AWARENESS**

#### **GENERAL**

In order for health care workers to be knowledgeable of the latest infection control techniques and information, they must be continually trained. Through this training health care workers learn how to minimize or eliminate their exposure to bloodborne pathogens. OSHA has recognized this fact and requires that the employer provide training for their employees. In our case, as required by OSHA, the School of Dentistry provides the following training for faculty and staff. Students constantly receive this information throughout their four years of dental education, beginning with the freshman year.

- Training for faculty and staff shall be provided as follows:
  - At the time of initial assignment of tasks where occupational exposure may take place;
  - At least annually thereafter.

For our faculty and staff who have received instruction on bloodborne pathogens in the year preceding the effective date of the Standard, only training with respect to the provisions of the Standard, which were not included in earlier training, will be provided.

- Annual training for all faculty and staff shall be provided within one year of their previous training.
- The School of Dentistry will provide additional training when changes, such as modification of tasks or procedures or institution of new tasks or procedures, affect the occupational exposure of health care workers. The additional training may be limited to addressing the new tasks or procedures.
- Material appropriate in content and vocabulary to the educational level, literacy, and language of our health care workers will be used.
- The training program will contain at a minimum the following elements:
  - An accessible copy of the regulatory text of the Standard and an explanation of its contents;
  - A general explanation of the epidemiology and symptoms of bloodborne diseases;
  - An explanation of the modes of transmission of bloodborne pathogens;



- An explanation of the School of Dentistry's exposure control plan and the means by which the health care worker can obtain a copy of the written plan;
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and OPIM;
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
- An explanation of the basis for selection of personal protective equipment;
- Information on the Hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIM;
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
- Information on the post-exposure evaluation and follow-up that the School of Dentistry is required to provide for health care workers following an exposure incident;
- An explanation of the signs and labels and/or color coding required by the Standard to warn health care workers of potentially infected items;
- An opportunity for interactive questions and answers with the person conducting the training session.

#### IV. PREVENTION

##### **GENERAL**

According to Federal and Minnesota OSHA (MNOSHA) employees who have occupational exposure to bloodborne pathogens must be offered the hepatitis B vaccination free of charge. In addition, it is **HIGHLY RECOMMENDED** that all clinical personnel, if they are not already immune, be immunized against measles, mumps, rubella, varicella, tetanus and influenza, and to be tested for exposure to *Mycobacterium tuberculosis* by means of a TST, tuberculin skin test. Employees and students should always consult their own health-care provider prior to any immunization.

**ALL STUDENTS** matriculating into the School of Dentistry are required to submit verification of:

- Proof of vaccination, initiation of vaccination, or immunity for hepatitis B
- Proof of vaccination or immunity for varicella
- Proof of vaccination or immunity for rubella, mumps, and measles
- Proof of vaccination or immunity for tetanus/diphtheria
- Screening for tuberculosis

Note: First year student are given until the end of their 1<sup>st</sup> semester to complete all requirements, after that time registration will be withheld until completion of immunization requirements.

*Influenza (flu) shots are offered free of charge in the Fall of each year to all AHC students, faculty, and staff.*

### **HEPATITIS B VACCINATION**

Dental health care workers are at a substantial risk for acquiring hepatitis B if exposed to infected patient's blood via puncture injury, mucous membrane, or non-intact skin exposure. A safe and effective vaccine is available. The vaccine is offered to employees with occupational exposure to blood or body fluids unless: 1) the employee has received the complete hepatitis B vaccination series; 2) previous antibody testing has revealed that the employee is immune, or 3) the vaccine is contra-indicated for medical reasons. The vaccine is provided at no cost to the employee. The vaccine is strongly recommended for all employees with occupational exposure. Post-vaccination testing to document antibodies have been acquired is also provided by the School of Dentistry at no cost to the employee. If an employee declines to accept the vaccination, a Hepatitis B Vaccination Declination form must be signed. If an employee later decides to receive the vaccination, it will be made available if occupational exposure can be reasonably anticipated.

Rationale: It has been historically shown that DHCW had much higher rates of hepatitis B infection than the general population. Additionally, transmission of HBV infection from DHCW to patients has been documented. This disease can have severe and even fatal consequences. The vaccines currently used are safe and effective. They stimulate the production of protective antibodies in up to 96% of those immunized.

### **MEASLES, MUMPS, RUBELLA (MMR), VARICELLA (CHICKEN POX), AND TETANUS**

Employees should check with their physician to be assured that these vaccines have been administered, if they are not already immune, and that they are protected against these diseases.

### **TUBERCULIN SKIN TEST**

The tuberculin skin test (TST) is sometimes referred to as a PPD (purified protein derivative) or a Mantoux test. It is highly recommended that employees consult with their own health care provider to discuss a tuberculosis screening based on the latest recommendations as well as their medical history. A baseline 2-Step TST is preferred, followed by a yearly TST. If the skin test reveals a positive reaction, the employee should discuss with their physician what steps, if any, need to be taken (e.g.: chest x-ray, prophylactic medication).

The purpose of the immunization policy is to protect the student, the employee, and the patient; to provide expert and safe patient care, and to provide a safe learning and working environment.

## **V. MANAGEMENT OF BLOOD AND BODY FLUID EXPOSURE**

### **GENERAL**

The Centers for Disease Control and Prevention (CDC) has published guidelines for dealing with exposure of health care workers to body fluids. The following Exposure Incident Protocol outlines the steps to be taken to meet these guidelines.

Any employee/student experiencing a percutaneous (skin puncture) or mucosal exposure to body fluids **MUST** follow the Exposure Incident Protocol. **Adherence to steps described in the following flow charts and reporting forms is essential for timely and appropriate management of exposure incidents.**

**A. Immediately after an exposure incident:**

- i. Bleed and wash the wound with antimicrobial soap and cool water.
- ii. Report to your supervising faculty.
- iii. Perform first aid.
- iv. Supervising faculty will determine ability to complete procedure enough to ensure patient comfort and safety.
- v. Review patient's medical history. Do not release the patient at this time, even if they have a negative history and there is no suspicion of disease.
- vi. Complete the exposure incident reporting form. Obtain the appropriate form from the desk area. Document the route(s) of exposure and the circumstances of the exposure incident. To be signed by the exposed individual, reviewed and signed by the supervising faculty and then forwarded to the Clinical Systems Office.

**B. Source Individual**

- i. Identify the source individual, if possible.
- ii. Supervising faculty and/or student will talk to the source patient. The patient will be informed of the incident and asked to consent to blood tests at the appropriate health care facility. See chart.
- iii. The supervising faculty will obtain consent and send the source individual to the appropriate health care facilities for a blood test, at no cost to the patient, for HBV, HCV, and HIV infectivity. This is voluntary.
- iv. If consent for a blood test for HBV, HCV, and HIV infectivity can not be obtained from the source individual, document it on the Exposure Incident Report Form.

**C. Exposed Employee/Student**

- i. Refer the exposed individual to the appropriate health care facility. See chart.
- ii. The health care facility to provide treatment should receive a copy of the Exposure Incident Report form and a copy of the Bloodborne Pathogens Standard.

**INJURIES REQUIRING TREATMENT OUTSIDE THE U OF M DENTAL CLINICS**

The following information describes policies/procedures for referring people for medical treatment after an accident that requires treatment outside of the School of Dentistry's Dental Clinics.

This information covers:

- Patients
- Dental and dental hygiene students
- Graduate students and residents
- Auxiliary education trainees
- Faculty and Staff

**NEEDLESTICKS AND OTHER EXPOSURE TO BLOOD OR BODY FLUIDS**

*Between the hours of 8:00 a.m. and 4:30 p.m. for injuries involving exposure to blood, the injured person and the source patient should report to Boynton Health Center within two hours of the incident. After 4:30, if a student is involved in an exposure, the injured person and source patient should contact the Boynton Health Center at (612) 625-7900 to receive step-by-step directions as to where and when to go to get the services that are needed. In exposures that involve faculty*

*and/or staff members and it is after 4:30 PM, the injured person and source patient should report to the University of Minnesota Medical Center, Fairview, Emergency Room. Patients may decline treatment. When a patient consents to testing, charges will be paid by the U of M Dental Clinics.*

**ALL OTHER INJURIES:**

- **Patient Injuries and Medical Emergencies**

Call 1, 2, 3, 4, 5 (Fairview Southdale ER Coordinator) for immediate assistance. Patients requiring further evaluation and/or treatment are to be escorted to the University Hospital Emergency Room.

When patients are taken to the Emergency Room, the patients will not be billed for accidents arising as a direct result of dental treatment. Inform the Emergency Room nurse that billing should be directed to the Clinical Affairs Office, Room 8-434 Moos Tower.

- **Dental and dental hygiene students, graduate students and residents**

All students must report to Boynton Health Service if medical treatment is required following personal injury.

Student charges at Boynton Health Service and related referrals may be covered by health service fees. University policy stipulates that all students carrying more than six (6) credits must pay the health service fee. The health service fee does not cover hospitalization or surgery expenses and Regents policy stipulates that all students must carry supplemental hospitalization coverage. This additional coverage may be purchased from the University and proof of coverage may be requested by the School of Dentistry to assure compliance with the Regents policy.

Students who self-refer to the University of Minnesota Medical Center, Fairview Emergency Room between the hours of 8 a.m.-4:30 p.m. or go to the outpatient clinics in Phillips-Wangensteen will incur expenses for which they, not the UofM will be responsible.

- **Auxiliary education trainees**

Dental assistant trainees are referred to Boynton Health Service for emergency medical treatment. Payment for Health Service treatment is the responsibility of the student or his/her training program. The on-site dental assistant coordinator should be informed and accompany the trainee to Boynton Health Service.

- **Faculty and Staff**

All faculty and staff report to Boynton Health Services, their own clinic/doctor or Minnesota Occupational Health, 1661 St. Anthony Avenue, St. Paul, MN 55104. Their phone number is 651-842-5300. If the condition is life threatening, you go to the University of Minnesota Medical Center, Fairview Emergency Room.

**UNIVERSITY OF MINNESOTA DENTAL CLINICS  
ACCIDENTAL INJURIES REQUIRING TREATMENT OUTSIDE OF THE U OF M DENTAL CLINICS**

**Accidental Injuries (EXCEPT NEEDLESTICKS see below)**

|   | <b>Between 8-4:30:</b>  | <b>After 4:30:</b>   | <b>Complete:</b>                              | <b>Submit Form To:</b>   |
|---|---|--|---|--|
| <b>Patients</b>   | University of Minnesota Medical Center, Fairview Emergency Room   | University of Minnesota Medical Center, Fairview Emergency Room  | U of M Dental Clinics Incident Report (SD130) | Clinical Systems Office, 8-434 Moos Tower                      |
| <b>All Students<br/>Predoctoral,<br/>Graduate,<br/>Resident,<br/>Trainees</b> | Boynton Health Service  | University of Minnesota Medical Center, Fairview Emergency Room  | U of M Dental Clinics Incident Report (SD130) | Clinical Systems Office, 8-434 Moos Tower                      |
| <b>Faculty and Staff</b>  | Boynton Health Service or Clinic/doctor of employees choice or Minnesota Occupational Health<br>1661 St. Anthony Ave.<br>St. Paul, MN 55104<br>651-842-5300 or for Critical Care Injuries*<br>Hospital Emergency Room | Fairview Riverside Medical Center<br>2450 Riverside<br>or for<br><b>Critical Care Injuries*</b><br>Hospital Emergency Room | U of M Employee Incident Report               | Supervisor for forwarding to Workman's Compensation Department |

**NEEDLESTICKS and other Exposures to Blood or Body Fluids**

|                          | <b>Between 8-4:30:</b>                                  | <b>After 4:30:</b>  | <b>Complete:</b>  | <b>Submit Form To:</b>   |
|--------------------------|---|---|---|--|
| <b>Patients</b>          | Boynton Health Service within two hours of the incident | Contact Boynton Health Center (612) 625-7900 for step-by-step directions within two hours of the incident | U of M Dental Clinics Incident Report (SD130)                     | Clinical Affairs Office, 8-434 Moos Tower                      |
| <b>Students</b>          | Boynton Health Service within two hours of the incident | Contact Boynton Health Center (612) 625-7900 for step-by-step directions within two hours of the incident | U of M Dental Clinics Incident Report (SD130)                     | Clinical Affairs Office, 8-434 Moos Tower                      |
| <b>Staff and Faculty</b> | Boynton Health Service within two hours of the incident | University of Minnesota Medical Center, Fairview Emergency Room within two hours of the incident          | U of M Employee Incident Form and First report of Injury (UM1536) | Supervisor for forwarding to Workman's Compensation Department |

\*Critical Care Injuries are defined as those injuries which prohibit travel and demand immediate active medical attention but are not so severe as requiring 911 service. Examples are chemical burns or eye injuries. Sprains, strains, and contusions are not considered Critical Care Injuries. All required forms are available at the clinic reception desks.

October 1987: Revised 7/06

## VI. WARNING

### GENERAL

Even though a health care worker may be well trained in infection control procedures and may have his/her vaccinations up to date, he/she may still be at risk. Infectious organisms are invisible to the naked eye. Therefore, at times, only warning a health care worker has that he/she is about to come into contact with contaminated materials or surfaces is by the use of labels and signs. OSHA has recognized this danger and mandated the use of labels and signs.

### LABELS

Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or OPIM, and other containers used to store, transport or ship blood or OPIM.

Labels required by the Standard shall include the following legend:



BIOHAZARD

These labels shall be fluorescent orange or orange-red and predominantly so, with lettering or symbols in a contrasting color.

Labels required to be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

Red bags or red containers may be substituted for labels.

Containers of blood components or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from labeling requirements.

Individual containers of blood or OPIM that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.

Labels required for contaminated shipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.

Regulated waste that has been decontaminated need not be labeled or color-coded.

**SIGNS**

The School of Dentistry will post signs at the entrance to work areas specified as HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:

**BIOHAZARD**

(Name of the infectious agent)

(Special requirements for entering the area)

(Name, telephone number or the laboratory director or other responsible person)

These signs shall be fluorescent orange-red and predominantly so, with lettering or symbols in a contrasting color.

## VII. DOCUMENTATION

### GENERAL

The last part of the Standard is concerned with recordkeeping. OSHA has mandated that certain records be kept. These include medical records and training records.

### STERILIZATION LOGS

Each area that operates an autoclave will keep an operating and testing log. This log will indicate when the loads of instruments were processed, whether they reached temperature as indicated by the sterilization tape or wheel, and results of the integrator test. Biological spore monitors must be done at least weekly. Multiparameter integrators are placed in each autoclave load run in Central Sterilizing. The load must pass the integrator test before it is released to the clinics. The sterilization log should be checked and initialed by the Central Sterilizing supervisors.

### MEDICAL RECORDS

The School of Dentistry shall establish and maintain accurate records for each dental health care worker in accordance with Federal, State, and local regulations.

#### CONFIDENTIALITY

The School of Dentistry shall ensure that the following health care worker medical records required by the Standard are:

- Kept confidential
- Not disclosed or reported without the health care worker's express written consent to any person within or outside the workplace except as required by the Standard or as may be required by law.

The School of Dentistry shall maintain the medical records as specified by the section on Recordkeeping for as least the duration of employment plus 30 years.

### TRAINING RECORDS

Training records shall include the following information:

- The dates of the training sessions;
- The contents or a summary of the training sessions;
- The names and qualifications of persons conducting the training;
- The names and job titles of all persons attending the training sessions.
- Training records shall be maintained for three years from the date on which the training occurred.

### AVAILABILITY

- The School of Dentistry shall ensure that all records required by the Standard shall be made available on request to the Assistant Secretary of Labor for Occupational Safety and Health or designated representative (hereafter referred to as "Assistant Secretary"), and the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative (hereafter referred to as ("Director"), for examination and copying.



- Health care workers' training records shall be provided upon request for examination and copying to health care workers, to health care workers' representatives.
- Health care workers' medical records shall be provided upon request for examination and copying to the subject health care worker, and to anyone having written consent of the subject health care worker.

**TRANSFER OF RECORDS**

If the school of dentistry ceases to do business, medical and training records must be transferred to the successor employer. If there is no successor employer, the employer must notify the Director, NIOSH, U.S. Department of Health and Human Services, for specific directions regarding disposition of the records at least three months prior to intended disposal.

## APPENDIX A

### HAND WASHING TECHNIQUES AND HAND CARE

The following guidelines apply to ALL clinic personnel including students, residents, faculty, and staff who may come in contact with blood, body fluids, and/or tissues.

#### PERSONAL AND HAND HYGIENE

1. Eating, drinking, smoking, applying cosmetics or lip balm, or handling contact lenses is prohibited in the clinics, laboratories, sterilization, and dispensary areas. Additionally, food and drink may not be stored in these areas.
2. Long hair must be pulled back to avoid contamination.
3. Hands must be thoroughly washed and dried just before placing gloves, and immediately after removal of gloves. Hands must also be washed immediately after barehanded contact with contaminated objects or surfaces. Hands should be free of large and rough surface rings that could damage gloves. Excess moisture and organisms also tends to collect under rings, contributing to the development of dermatitis. Wrists should be free of watches and jewelry that cannot be decontaminated if exposed to patient's body fluids. Items may be worn on the wrists or arms if protected by clinic coat sleeve during the procedure.
4. Individuals with open lesions or weeping dermatitis of the hands must refrain from direct patient contact and contact with patient care equipment until the condition is resolved.
5. Keep fingernails short with smooth, filed edges to allow thorough cleaning and prevent glove tears. Use of artificial fingernails is not recommended.

**Rationale:** Hair and nails are known to harbor higher levels of bacteria than skin. Long nails are more difficult to clean and may potentially penetrate gloves. Jewelry must be removed for the same reasons. DHCW with injured or cracked skin, erosions, or eczema on hands or arms should exercise additional caution until the lesions are healed.

#### HAND HYGIENE PROCEDURE

Hand hygiene is mandatory 1) when hands are visibly soiled; 2) after barehanded touching of inanimate objects likely to be contaminated by blood, saliva, respiratory secretions, or OPIM; 3) before and after treating each patient; 4) before donning gloves; 5) immediately after removing gloves; and 6) before leaving the cubical.

The following is the recommended procedure for hand washing for routine dental procedures in clinics, as well as for routine laboratory work.

1. Wet hands and wrists under cool running water.
2. Dispense sufficient antimicrobial hand wash to cover hands and wrists.
3. Rub the hand wash gently onto all areas, with particular emphasis on areas around nails and between fingers, before rinsing under cool water.
4. Dry thoroughly with paper towels.

**Rationale:** Hand washing (1 minute [initial] and for 15 seconds minimum [subsequent]) is a basic and an extremely effective procedure for the prevention of many infections that are acquired from the transmission of organisms on the hands. Cool water minimizes the shedding of microorganisms from the subsurface layers of the skin and assists in reducing the potential for skin irritation. The antiseptic hand

wash used in the clinical areas has a residual long lasting antimicrobial effect on the skin that improves with more frequent use throughout the day. It also contains emollients to help protect the skin from irritation.

In 2002 updated CDC guidelines included recommendations for inclusion of alcohol-based hand antiseptics as components of a hand hygiene program. These may only be used instead of hand washing when hands are not visibly soiled. This is designed to serve as an adjunct to the dental school's primary antiseptic mode of hand washing with a parachlorometaxlenol (PCMX) antiseptic soap.

### **SURGICAL SCRUBS**

A surgical procedure requires a higher standard of hand washing, since invasive procedures would allow a greater transmission of bacteria. Therefore, before surgery:

1. Be sure all jewelry is removed. This would include rings, bracelets, watches, etc.
2. Clean fingernails.
3. Scrub hands, fingernails and forearms to the elbows with antimicrobial soap for two minutes.
4. Rinse thoroughly, first the hands, then forearms, allowing the water to run from your hands down the forearms.
5. Repeat this several times.
6. Dry with a sterile towel.
7. Use an alcohol based Handrub, apply to palm of one hand, rub hands together covering all surfaces until dry.

Hand lotion can be applied at lunchtime, after the treatment day, and before bedtime to help keep your skin from drying and chapping.

## APPENDIX B

### COMMON PROSTHODONTIC / ORTHODONTIC ITEMS

#### To Be Sterilized (Autoclaved)

bristle brushes  
orthodontic pliers  
all burs including acrylic  
stock impression trays  
central bearing plates for articulator  
rag wheels  
compound heater tray  
#7 wax spatula  
metal handle mixing spatulas  
facebow fork

#### To Be Disinfected

articulator  
trial bases  
casts  
torch  
compound heater  
shade guides  
facebow (minus fork)  
rulers  
knives  
mold guides  
mixing bowl & mixing spatulas

*Adapted from: Cohen, J.A., Terezhalmay, G.T., and Molinari, J.A. (1991). Practical Infection Control in Dentistry (1st Ed) Philadelphia: Lea and Febiger.*

## APPENDIX C

### DISINFECTION OF DENTAL MATERIALS AND USE OF DISPOSABLE PUMICE WHEELS

Items such as impressions, jaw relation, records, casts, prosthetic restorations and devices that have been in the patient's mouth should be properly disinfected (as shown in the table below) prior to transferring a student laboratory to a dental laboratory. Disinfected impressions that are sent to the dental laboratory should be labeled as such in order to prevent duplication of the disinfection protocol. Impressions must be rinsed to remove saliva, blood and debris, and then disinfected at the cubical area. Impressions can be disinfected with an EPA registered hospital level disinfectant. Since the compatibility of an impression material with a disinfectant varies, manufacturers' recommendations for proper disinfection should be followed. The use of disinfectants requiring times of no more than 10 minutes is recommended.

#### **DISINFECTION OF PROSTHETICS AND IMPRESSIONS PROTOCOL**

The required protocol for disinfection of Prosthetic and Impression materials is:

1. Place Items in Plastic Bag.
2. Apply EPA-Registered Hospital Level Disinfectant Thoroughly.
3. Disinfect For Time Recommended by Manufacturer.

Materials included in this protocol are:

1. All Impressions
2. Acrylic Prostheses
3. Wax Bites/Rims & Bite
4. Removable Prostheses w/ Metal Frame/Base
5. Porcelain/Gold

#### **INSTRUCTIONS FOR THE USE OF DISPOSABLE PUMICE WHEELS**

Disposable wheels, single dose pumice and disposable trays are available at the dispensing station.

1. Mount wheel on blue mandrel only and secure with black "O" ring\*
  - a. If not secured by the "O" ring the wheel will not stay on the mandrel.
  - b. The disposable wheels will not work on any other type of mandrel.
2. Make stiff slurry of pumice and water. Apply liberal amounts of pumice slurry to the restoration to be polished. It is important to keep the wheel and restoration wet with the pumice slurry, if the wheel becomes too dry it will burn the acrylic.
  - a. Initially more pressure may need to be applied to the area to be polished. To achieve a higher polish, thin the pumice slurry and use lighter pressure to polish. Always use liberal amounts of pumice slurry to prevent burning the acrylic.
3. When finished, remove the wheel replacing the black "O" ring on the mandrel and dispose of the wheel and unused pumice. Disinfect "O" ring with hospital grade disinfectant. Be sure to save the black "O" ring! Replace on mandrel for further use.
4. Rinse the restoration and place in a plastic bag with hospital grade disinfectant according to the school's infection control policy.
  - a. Instructions are posted on the yellow signs by each sink in the labs.

\*If “O” ring is missing or broken please get a new “O” ring from dispensing, as the wheel will not stay on the mandrel when polishing.

## APPENDIX D

### DISPOSAL OF WASTE MATERIALS

Disposable materials such as gloves, masks, wipes, paper drapes and surface covers that are contaminated with body fluids should be carefully handled with gloves and discarded in the appropriate waste container. Blood, disinfectants and sterilants may be carefully poured into a drain connected to a sanitary sewer system. Care should be taken to ensure compliance with applicable local regulations. It is recommended that drains be flushed or purged each night to reduce bacterial accumulation and growth. Sharp items, such as needles and scalpel blades, should be placed in puncture-resistant containers marked with the biohazard label. Human tissue may be handled in the same manner as sharp items, but should not be placed in the same container. Regulated medical waste (sharps and tissues, for example) should be disposed of according to the requirements established by local or state environmental regulatory agencies (see U of M Infectious and Pathological Waste Management Plan).

### PRACTICES FOR THE DENTAL LABORATORY

Dental laboratories should institute appropriate infection control programs. Such programs are to be coordinated with the School of Dentistry.

**9<sup>TH</sup> FLOOR GOLD ROOM (RECEIVING AREA):** A receiving area has been established separate from the production area. Countertops and work surfaces should be cleaned and then disinfected daily with an appropriate surface disinfectant used according to the manufacturer's directions.

**INCOMING CASES:** All cases should be disinfected before they are received. Containers should be disinfected after each use. Packing materials should be discarded to avoid cross contamination.

**DISPOSAL OF WASTE MATERIALS:** Solid waste that is soaked or saturated with body fluids should be placed, and then sealed, in a sturdy impervious bag labeled as **BIOHAZARD**. The bag should be disposed of following regulations established by local or state environmental agencies.

**PRODUCTION AREA:** Persons working in the production area should wear a clean uniform or laboratory coat, a facemask, protective eyewear and disposable gloves. Work surfaces and equipment should be kept free of debris and disinfected daily. Any instruments, attachments and materials to be used with new prostheses or appliances should be maintained separately from those to be used with prostheses or appliances that have already been inserted in the mouth. Disposable rag wheels and single use disposable containers of pumice are available for individual use on each case. Brushes and other equipment should be disinfected at least daily. The excess should be discarded.

**OUTGOING CASES:** Each case should be disinfected before it is returned to the School of Dentistry. The School of Dentistry should be informed about infection control procedures that are used in the dental tech laboratories.

## APPENDIX E

### HEPATITIS B VACCINE DECLINATION

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

---

Employee signature

---

Date



## APPENDIX F

### HAZARD COMMUNICATION

#### I. GENERAL

This written hazard communication program has been established for the University of Minnesota School of Dentistry in compliance with federal and state regulations. This program applies to all procedures and tasks in this department where employees may be exposed to hazardous substances under normal working conditions or during an emergency situation.

Under this program, employees will be informed of the contents of the hazardous properties (if any) of the chemicals, products and materials with which they work, safe handling procedures and measures to take to protect themselves from chemical hazards. Employees will also be informed of the hazards (if any) associated with non-routine tasks or outside contractors working within this department.

#### II. HAZARD DETERMINATION

This School of Dentistry relies on the evaluation of the chemical manufacturer, distributor, and importers shown in the MSDSs, to meet hazard determination requirements.

#### III. LABELS

- A. The School's Materials Manager or the person in charge of ordering or receiving supplies will be responsible for seeing that all containers of hazardous products coming into the department are properly labeled.
  - 1. Identity
  - 2. Appropriate hazard warning
  - 3. Company name and address
- B. If employees transfer materials containing a hazardous chemical from labeled container to a portable container that is intended for immediate use only, no labels are required on the portable container.
- C. If employees become aware of any portable or non-portable container holding a product or material containing a hazardous chemical that may be used more than once, it is their responsibility to immediately notify their supervisor or the health & safety officer.
- D. The following are exempt from the labeling requirements:
  - 1. Consumer products and hazardous substances subject to a consumer product safety standard of labeling requirements.
  - 2. Distilled beverage alcohols.
  - 3. Pesticides subject to the labeling requirements of the Federal Insecticide, Fungicide, and Rodenticide Act.
  - 4. Any food, food additive, color additive, drug or cosmetic.
- E. Medical devices are exempt from labeling requirements if they are in their original container.
  - 1. Amalgam alloy
  - 2. Resin tooth bonding agent
  - 3. Calcium hydroxide cavity liner
  - 4. Cavity varnish
  - 5. Zinc-oxide eugenol dental cement

6. Dental cement other than zinc oxide eugenol
7. Coating material for resin fillings
8. Partially fabricated denture kit including teeth
9. Impression material
10. Resin impression tray material
11. Tooth shade resin material
12. Dental mercury
13. Bracket adhesive resin and tooth conditioner
14. Denture relining, repairing or rebasing resin
15. Denture adhesive or cleaner
16. Pit and fissure sealant, and conditioner
17. Temporary crown and bridge resin
18. Root canal filling resin, paper point, silver point, gutta percha
19. Oral cavity abrasive polishing agent
20. Intraoral dental wax
21. Stabilizing splints
22. Articulating paper
23. Base plate shellac
24. Rubber dam and accessories
25. Dental floss
26. Disposable fluoride trays

F. All labels shall contain:

1. Identity
2. Physical and Health hazards (including target organ effect)

#### **IV. MATERIAL SAFETY DATA SHEETS**

- A. The Materials Manager is in charge of ordering and receiving supplies and will assist the Health & Safety Office to maintain a file with an MSDS on every product that contains a hazardous chemical.
- B. Copies of MSDSs for all hazardous chemicals to which the school may be exposed are available from vendors electronically online or by fax by phoning the School of Dentistry, Dental Engineering Services, Health & Safety Office.
- C. MSDSs will be available for review by all employees during working hours. Copies will be available upon request from the Health & Safety officer.
- D. The school's health and safety coordinator and/or the person in charge of ordering supplies is responsible for acquiring and updating MSDSs. He/She will request MSDSs on all orders of new products or if an MSDS had not been supplied with an initial shipment.
- E. This school posts the required MNOSHA posters.

#### **V. EMPLOYEE INFORMATION AND TRAINING**

- A. Everyone in the school who works with (or is potentially exposed to) hazardous chemicals will receive initial training on the Minnesota Employee Right To Know Act, The Federal Hazard Communication Standard and the safe use of chemicals.

- B. The training program will be administered by the Health & Safety Officer. She will maintain the training records.
- C. Regular departmental meetings are used to review information presented at the trainings and any new hazard in the work area. Employees would be asked to sign health & safety review session records.
- D. Before starting work, or as soon as possible thereafter, each new employee will be trained on the hazardous materials in their department/division.
- E. Information and training includes:
  - 1. Summary of The Minnesota Employee Right To Know Act, The Federal Hazard Communication Standard and this Written Hazard Communication Program.
  - 2. Any task in the department where hazardous chemicals are present.
  - 3. The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals and MSDSs.
  - 4. Methods and observations that will be used to detect the presence or release of a hazardous chemical in the work area.
  - 5. The physical and health hazards of the chemicals in the work area.
  - 6. The measures employees can take to protect themselves from these hazards.
  - 7. The details of this written hazard communication program including an explanation of the labeling system and the MSDSs and how employees can obtain and use the appropriate hazard information.
- F. Employees are informed that:

The employer is prohibited from discriminating against an employee who exercises their rights regarding information about hazardous chemicals in this department.

## **VI. HAZARDOUS NON-ROUTINE TASKS**

- A. Prior to starting work on non-routine tasks, each employee will be given information about the hazards involved with non-routine tasks. This information will include:
  - 1. Specific chemical hazards.
  - 2. Protection/safety measures employees can take to lessen risks.
  - 3. Measures the department has taken to lessen the hazards including ventilation, safety glasses, gloves, masks, presence of another employee, and emergency protocol.
- B. It is school policy that no employee is allowed to begin work on any non-routine task without first receiving a safety briefing.

## **VII. INFORMING CONTRACTORS**

- A. The Dental Engineer Services supervisor, Joyce Lantto, and the Health & Safety Officer, Teresa Ludwig, will advise outside contractors with employees exposed to dental chemicals, of any chemical hazards that may be encountered in the normal course of their employees work on the premises, the labeling system used, the protective measures to be taken and the safe handling procedures to be used. These contractors will also be notified of the location and availability of MSDSs. It is the responsibility of the contractor to inform his/her employees.

- B. Any outside contractor bringing chemicals onto the premises where our staff may be exposed to them must provide the appropriate hazard information, including labels used and the precautionary measures to be taken with these chemicals. It is the responsibility of the Director of Infection Control and Safety to obtain this information and pass it on to the employees of this department.

### **VIII. PIPES AND PIPING SYSTEMS**

- A. Information on the hazardous contents of pipe or piping systems will be obtained by Joyce Lantto in DES.
- B. Piping systems shall be identified at access points and labeled every ten feet where the piping is eight feet or closer to employee contact by Facilities Management for the University.

### **IX. HOW TO REVIEW MSDSS**

- A. The MSDSs are arranged alphabetically. A database of MSDSs is in the Health & Safety Office.
- B. If in place of an MSDS you find a letter requesting the MSDS this means the manufacturer, distributor or importer has not responded to our request for an MSDS. This letter is proof of our intent.
- C. In place of an MSDS you may find a letter from the manufacturer stating that either the product is non-hazardous or that they do not need to comply with the Federal Hazard Communication Standard.
- D. For your information The Federal Hazard Communication Standard does not apply to:
  - 1. Hazardous waste
  - 2. Tobacco or tobacco products
  - 3. Wood or wood products
  - 4. Articles
  - 5. Food, drugs or cosmetics intended for personal consumption by employees in the workplace.

## APPENDIX G

### PRE-CLINICAL LABORATORIES

During sessions in the pre-clinical laboratories, appropriate barrier precautions (masks, gloves, gowns, and protective eyewear) must be worn. Work habits should be taught which will enhance infection control procedures during clinical performance. Tissues, blood, and other body fluids from all patients should be considered infectious. To conform to the standard blood and body fluid precautions, the following precautions are recommended for students in pre-clinical laboratories.

- A protective blue clinic gown must be worn for work in all clinic areas (patient treatment).
- White lab coats will be worn in the 8 South and 8 Central Pre-Clinic Lab. The lab coats may also be worn throughout Moos Tower.
- Laboratory work surfaces should be cleaned and disinfected with the intermediate disinfectant provided when work activities are completed. This is an EPA registered tuberculocidal, hospital grade disinfectant.
- Laboratory equipment that has been contaminated with blood or other body fluids should be cleaned, and disinfected or sterilized, before being repaired in the laboratory or transported to the manufacturer for repair. If unable to disinfect all parts of laboratory equipment, prior to servicing, a label must be attached to the equipment identifying which parts remain contaminated.
- Hands must be washed before and after completion of laboratory activities.

#### 8 SOUTH PRE-CLINICAL AREA INFECTION CONTROL PROTOCOL

1. Fill plastic water bottle with tap water but **DO NOT OVERTIGHTEN**.
2. Place white cover paper on countertop with the plastic side down.
3. Mount typodont and manikin assembly to dental chair.
4. Set up instruments and connect handpieces.
5. Wear required scrub and shoes, clean white lab coat with name tag, gloves, protective eyewear, and mask.
6. **NEVER** wear gloves outside cubicle.
7. Use 4 x 4 gauze moistened with Cavicide to wipe down dental chair (twice, if needed), hoses, dental unit, curing light, LCD monitor screen, countertop, sink, etc. **ALL** surfaces must be wiped clean.
8. Remove handpieces, typodont and manikin assembly and put away.
9. Empty water bottle and return to original location.
10. Raise chair to the highest position and lower overhead light on top of headrest.
11. Turn unit off.

## APPENDIX H

### LATEX ALLERGY POLICY

#### INTRODUCTION

##### *Background*

Latex gloves have proved effective in preventing transmission of many infectious diseases to health care workers. But for some workers, exposures to latex may result in allergic reactions. Reports of such reactions have increased in recent years, especially among health care workers.

Latex allergy is a reaction to certain proteins and chemicals in latex rubber products. The amount of latex exposure needed to produce sensitization or an allergic response is unknown; however, increasing the exposure to latex increases the risk of developing allergic symptoms. Health care workers are at risk due to their continued exposure to the latex proteins. Since 1988, FDA reported the number of allergic reactions to latex - containing medical devices at 1% of the general public and 8-12% of healthcare workers and others exposed to latex on their jobs.

In sensitized persons, symptoms usually begin within minutes of exposure; but they can occur hours later and can be quite varied. Mild reactions to latex involve skin redness, rash, hives, or itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, and asthma (difficult breathing, coughing spells, and wheezing). Rarely, shock may occur; however, a life-threatening reaction is seldom the first sign of latex allergy.

Latex is a common component of disposable gloves, stethoscopes, adhesive bandages, syringes, rubber dams, prophylactic cups, suction tips, bite blocks, IV tubing, rubber bands, pencil erasers, and many other medical and dental supplies. Because of frequency of use, latex gloves are the most significant source of exposure among healthcare workers. Cornstarch powder previously used to line disposable gloves can absorb latex proteins and then become airborne resulting in asthmatic reactions among individuals who did not use gloves but merely inhaled latex-containing dust.

##### *Definitions*

**Irritation Dermatitis** - is the most common reaction to latex products and is characterized by development of dry, itchy, irritated areas on the skin, usually the hands. This reaction is caused by skin irritations from using gloves, powder in the gloves, and possibly exposure to other workplace products and chemicals. Irritation dermatitis is a non-specific response and a true immune allergic reaction.

**Allergic Contact Dermatitis (Type IV hypersensitivity or delayed hypersensitivity)** - results from exposure to the chemicals added to latex during harvesting, processing, or manufacturing. These chemicals can cause skin reactions similar to those caused by poison ivy. As with poison ivy, the rash usually begins 24-48 hours after contact and may progress to oozing skin blisters.

**Latex Allergy (Type I or immediate)** - the most serious of the reactions that usually begins within minutes of exposure to latex, but can occur hour later with a variety of symptoms. Mild reactions to latex involve skin redness, hives, or itching. More severe reactions may involve respiratory symptoms such as runny nose, sneezing, itchy eyes, scratchy throat, and asthma. Anaphylactic shock may occur on rare occasions.

### ***Incidence of latex Reaction***

Studies indicate that 1-6% of the general population are sensitized to latex. A smaller group of the population has been classified as higher risk for latex sensitization. Those individuals include:

1. persons with multiple allergies, including food allergies,
2. persons with spina bifida or other neural tube defects,
3. persons who have undergone multiple surgical procedures
4. persons requiring multiple bladder catheterizations.

### ***Severity of Latex Reaction***

The type and severity of reaction depend on the level of sensitivity, the amount of allergen, and the site of exposure. A number of exposures may occur before any clinical symptoms appear. In attempting to predict latex reaction, it is important to remember three key factors:

1. the severity of a previous reaction does not reliably predict the severity of a future reaction,
2. even casual contact with latex can cause severe reactions in highly sensitive individuals, and
3. latex allergy can be mistaken for other allergies.

### ***Exposure Control for Health Care Workers***

Implementing the following recommendations outlined by NIOSH (National Institute for Occupational Safety and Health) can minimize latex exposure in the dental setting:

1. Use non-latex gloves for activities that are not likely to involve contact with infectious materials, e.g. routine housekeeping.
2. Use powder-free latex gloves for activities that potentially involve contact with infectious materials.
3. When wearing latex gloves, do not use oil-based hand creams or lotions unless they have been shown to reduce latex-related problems.
4. Wash hands with a mild soap and dry thoroughly after removing gloves.
5. Frequently clean work areas that may be contaminated with latex particles.
6. If you develop symptoms of latex allergy, avoid direct contact with latex gloves and products until you can see a physician experienced in treating latex allergy.
7. Attend continuing education programs and review training materials about latex allergy.

## **PROCEDURES FOR TREATING PATIENTS**

### ***Identification***

Identifying patients at risk should be a specific and integral part of the medical history, both initial and update. The following questions can help determine the likelihood of a patient with a latex allergy:

1. Have you ever had or been told you had an allergy to latex (rubber) products?
2. When exposed to rubber gloves, glove powder, balloons, adhesive bandages, rubber toys, or other rubber products have you ever experienced: itching, swelling, watery eyes, hives, wheezing, or other breathing difficulties.
3. Have you ever experienced itching, swelling of the lips, or other allergic reaction during a dental exam or during the use of a dental rubber dam?
4. Have you ever experienced an unexplained allergic reaction during surgery, a urinary catheterization, barium test, or other medical procedure?

5. Have you ever experienced itching or swelling of the mouth or other allergic reaction when eating avocados, chestnuts, bananas, kiwi, papaya, or other tropical fruits?

If the patient answers YES to any of these questions, the dental healthcare provider should consult with the patient's allergist before proceeding with any dental care.

### ***Precautions for latex allergic patients***

1. Obtain latex-free materials from the Dispensary for each appointment. Vinyl and nitrile examination gloves are available.
2. Encourage latex-allergic, latex-sensitive patients to obtain and carry with them some type of allergy identification such as a medical alert bracelet.
3. If a patient demonstrates symptoms of latex allergy, immediately stop procedure, remove any problematic items from contact with patient, and notify your supervising faculty. They will determine if a medical emergency response is necessary.

### ***Exposure control for patients***

The amount of exposure necessary to sensitize individuals is not known, but reductions in exposure to latex proteins can result in decreased sensitization and symptoms, according to NIOSH. Care must be taken with all patients to reduce their levels of exposure to latex by:

1. Wear non-latex gloves when setting up the dental operatory and handling instruments.
2. To reduce the possibility of the latex protein becoming airborne, care must be taken by the healthcare worker not to snap powdered gloves off and on.
3. By touching any latex object, or object that has been stored with a latex product, then touching the patient, the healthcare worker can transmit the latex allergen to the patient. Caution should be taken to keep glove powder away from the patient since the powder will act as a carrier for the latex protein; hands should be washed after removing gloves.
4. Non-latex gloves and Non-powdered latex gloves should be utilized whenever possible.



## APPENDIX I

### HANDLING OF EXTRACTED TEETH

Extracted teeth used for the education of dental health care personnel (DHCP) should be considered infectious and classified as clinical specimens because they contain blood. If extracted teeth are to be saved for educational exercises, the teeth first should be cleaned of any gross debris, then immersed in a solution of 10% buffered Formalin (4% Formaldehyde). Extracted teeth must be placed in a well-constructed container with a secure lid to prevent leaking during transport. Care should be taken when collecting the teeth to avoid contamination of the outside of the container. Prior to use in an educational setting, extracted teeth may be heat sterilized. Heat sterilization of extracted teeth containing amalgam restorations could create a potential health hazard due to the risk of mercury exposure, therefore the use of teeth that do not contain amalgam may be preferred because they can be autoclaved. Autoclaving teeth for pre-clinical laboratory exercises does not alter their physical properties sufficiently to compromise the learning experience.

Gloves need to be worn when handling extracted teeth that have not been sterilized. Gloves should be disposed of properly and hands washed after completion of work activities. Additional personal protective (e.g., face shield, surgical masks, protective eyewear, gowns) should be worn if mucous membrane contact with debris or spatter is anticipated when the specimen is handled, cleaned, or manipulated. Environmental surfaces should be cleaned and disinfected with an appropriate environmental surface disinfectant after completion of work activities. Because preclinical educational exercises simulate clinical experiences, students enrolled in dental educational programs should adhere to standard precautions in both preclinical and clinical settings, even if the teeth have undergone heat sterilization.

The handling of extracted teeth used in dental educational settings differs from giving patients their own extracted teeth. The School of Dentistry allows patients to keep such teeth, because these teeth are not considered to be regulated (pathologic) waste or because the removed body part (tooth) becomes the property of the patient and does not enter the waste system.

## APPENDIX J

### SHARPS MANAGEMENT AND DISPOSAL PROTOCOL

“Sharps” must be placed in disposable, closable, leak proof, puncture-resistant containers that are labeled or color-coded (red). These containers are located in clinic cubicles, laboratories and dispensing areas. These containers should not be over-filled or have any objects protruding from the opening. Sharps containers are checked weekly by the SOD’s Dental Engineering Services (DES) staff and collected when full. Individual containers are then transported to a central collection location where they are placed in large color coded tubs. The University’s Hazardous Waste Management staff will pick up the tubs when full, approximately every other week.

New containers are available from DES. Call 625-7112

Dental assistants or designated staff will periodically check the sharps containers to assure safe function. Containers should not be over-filled.

Dental assistants, or designated personnel, will close and lock the container when full.

## APPENDIX K

### HAZARDOUS CHEMICAL WASTE MANAGEMENT AND DISPOSAL PROTOCOL

The School of Dentistry handles & disposes of all hazardous materials as directed by the University of Minnesota's Department of Environmental Health & Safety, division of Hazardous Waste Management. Policies are enforced by the School of Dentistry's Health & Safety Officer, clinic supervisors, and lab supervisors. Faculty and staff provide observational oversight assistance.

Furthermore, the Faculty and Dental Assisting staff works with the Health & Safety Officer and will alert her any time hazardous materials are found in the clinics and throughout the school or when expired dental materials disposal is needed. When alerted of material either the Health & Safety Officer or the Dental Engineering staff will remove the material from the location and will store it in the Dental Engineering workspace. Once these materials are brought to the Dental Engineering work area, they are boxed and packaged as required for safe transportation and the appropriate paperwork (including a manifest) is completed prior to arranging for the University's Hazardous Chemical Waste Management division to pick up the material.

#### ***X-ray Fixer Solution***

In a similar fashion, x-ray fixer solution is collected in the x-ray rooms in small quantities less than or equal to 3 gallons. Whenever a collection container is near full, the staff will contact SOD Dental Engineering Services to request a pick-up and the SOD Dental Engineering staff picks up the used fixer solution. This solution is then added/pooled in a 35-gallon drum, which is stored in the Dental Engineering area. The University's Hazardous Waste Management staff checks the status of the drum minimally once a week, and will swap out a full drum for an empty one when appropriate. The agreement with the University's Hazardous Waste Management division is such that both the contaminated "sharps" and the x-ray fixer are on a routine pick-up schedule and the SOD staff is responsible for the safe collection of the material from the clinics and the transportation of these materials to the appropriate collection sites.

#### ***Lead Foils and Film***

The collection of lead foil from exposed/developed x-ray film packets and developed or unused film also takes place in the x-ray room in appropriate collection containers. The x-ray staff is responsible for notifying Dental Engineering Services when containers are full to arrange for pick up of the material by the SOD Dental Engineering staff. Once these materials are brought to the Dental Engineering work area, they are boxed and packaged as required for safe transportation and the appropriate paperwork (including a manifest) is completed prior to arranging for the University Hazardous Chemical Waste Management division to pick up the material.

#### ***Amalgam***

In a similar fashion, amalgam scraps are collected in each cubical and in the laboratories in airtight containers. Whenever a collection container is full, the staff will contact SOD Dental Engineering Services to request a pick-up and the SOD Dental Engineering staff will pick up the scrap amalgam. This material is again brought to the Dental Engineering work area and is prepared for disposal in the same fashion as that used for the lead foil.

### *Other Materials*

Furthermore, the Faculty and Dental Assisting staff works with the Health & Safety Officer and will alert her any time hazardous or “unknown” materials are found in the clinics and throughout the school or when expired dental materials disposal is needed. When alerted of material either the Health & Safety Officer or the Dental Engineering staff will remove the material from the location and will store it in the Dental Engineering work space. Once these materials are brought to the Dental Engineering work area, they are boxed and packaged as required for safe transportation and the appropriate paperwork (including a manifest) is completed prior to arranging for the University’s Hazardous Chemical Waste Management division to pick up the material.

## APPENDIX L

### TUBERCULOSIS INFECTION CONTROL POLICIES AND GUIDELINES

Tuberculosis (TB) has remained a major public health problem for much of the world's population for centuries. It is responsible for the largest number of deaths caused by a single infectious agent in the world (1 in 4 preventable deaths), with the total mortality estimated at 3,000,000 annually. The reemergence of *Mycobacterium tuberculosis* (Mtb) infection and TB in the United States as a significant health problem, appears to be due to a combination of factors, primarily that of changing host susceptibility and declining societal conditions for particular population groups and geographic locations. Within the past 15-20 years many hospitals and other health facilities continued to report a number of patient admissions with TB.

A variety of compromising conditions can predispose a person to develop clinical TB following infection with Mtb (Table 1).

TABLE 1. FACTORS THAT INCREASE TB RISKS

1. HIV infection
2. Medical conditions that increase risk of TB (i.e. diabetes mellitus, silicosis)
3. Prolonged corticosteroid therapy
4. Immunosuppressive therapy
5. Persons with close contacts with infectious patients
6. Persons from countries with high TB prevalence
7. Alcoholics or parenteral drug abusers
8. Prisoners or long-term nursing home residents
9. Being 10% or more below ideal body weight
10. Healthcare workers with occupational exposure

#### **FEATURES OF MTB INFECTION AND CLINICAL MANIFESTATIONS OF TB**

Mtb is an aerobic, acid-fast bacillus which is primarily transmitted the air in small "microdroplet" particles less than 5 microns in size. These microdroplet nuclei are produced by a person with untreated TB during breathing, coughing, sneezing, speaking, or forced exhalation. When susceptible people have prolonged contact with the air contaminated by an infectious individual, the tubercle enter the alveoli. With weeks after the infective exposure, the tubercle bacilli can spread through the lymphatics to regional lymph nodes and hematogenously to more distant tissues and organ sites. Administration of the tuberculin skin test is used to identify people who have been exposed to and are infected with Mtb. A significant positive test reaction to mycobacterial Purified Protein Derivative (PPD) normally can be detected with 2- 10 weeks post-infection, however, the individual is not normally considered infectious unless they demonstrate clinically active pulmonary or laryngeal disease. Only 5-10% of immunocompetent persons infected with Mtb develop active TB at some time, and this percentage can be reduced when preventive chemotherapy is given. Unfortunately, persons with a variety of compromising conditions are at greater risk of developing clinically active disease following microbial infection. The risk of clinical TB is greater within the first year following establishment of Mtb infection.

It is extremely important to note that Mtb is **not** a highly contagious microorganism. The wax and lipid coating on the cell surface appears to be the major factor responsible for the organism's pathogenesis. The ability of tubercle bacilli to multiply with host tissues, while at the same time resisting host phagocytic and cellular immune defenses, constitutes the basic mechanism for mycobacterial infection. In addition, infection with Mtb typically requires extended close contact of a susceptible host with an infectious source person. The closeness of the contact and the degree of infectivity of the source are the most important considerations for Mtb infection.

### **INFECTION CONTROL**

The CDC finalized a series of guidelines in 1994 which were intended to minimize TB risks to healthcare workers and their patients. These were updated in 2003 in the most recent CDC Guidelines for infection control in dentistry. Specific recommendations were incorporated into U of M SOD Infection Control Policies that same year. The following text is taken from the 2003 CDC recommendations, and has been adapted for all U of M SOD M clinical settings.

TB transmission is controlled through a hierarchy of measures, including administrative controls, environmental controls, and personal respiratory protection. The main administrative goals of a TB infection-control program are early detection of a person with active TB disease and prompt isolation from susceptible persons to reduce the risk of transmission. Although DHCP are not responsible for diagnosis and treatment of TB, they should be familiar with the signs and symptoms to help with detection.

A community risk assessment should be conducted periodically, and TB infection-control policies for each dental setting should be based on the risk assessment. The policies should include provisions for detection and referral of patients who might have undiagnosed active TB; management of patients with active TB who require urgent dental care; and DHCP education, counseling, and tuberculin skin test (TST) screening.

DHCP who have contact with patients should have a baseline TST, preferably by using a two-step test at the beginning of employment. The facility's level of TB risk will determine the need for routine follow-up TST.

While taking patients' initial medical histories and at periodic updates, dental DHCP should routinely ask all patients whether they have a history of TB disease or symptoms indicative of TB.

Patients with a medical history or symptoms indicative of undiagnosed active TB should be referred promptly for medical evaluation to determine possible infectiousness. Such patients should not remain in the dental-care facility any longer than required to evaluate their dental condition and arrange a referral. While in the dental health-care facility, the patient should be isolated from other patients and DHCP, wear a surgical mask when not being evaluated, or be instructed to cover their mouth and nose when coughing or sneezing.

Elective dental treatment should be deferred until a physician confirms that a patient does not have infectious TB, or if the patient is diagnosed with active TB disease, until their physician confirms that the patient is no longer infectious (i.e., negative chest x-ray or three (3) negative sputum AFB cultures).

If urgent dental care is provided for a patient who has, or is suspected of having active TB disease, the care should be provided in a facility (e.g., hospital) that provides airborne infection isolation (i.e., using such engineering controls as TB isolation rooms, negatively pressured relative to the corridors, with air either exhausted to the outside or HEPA-filtered if recirculation is necessary). Standard surgical face masks do not protect against TB transmission; DHCP should use respiratory protection (e.g., fit-tested, disposable N-95 respirators).

Settings that do not require use of respiratory protection because they do not treat active TB patients and do not perform cough-inducing procedures on potential active TB patients do not need to develop a written respiratory protection program.

Any DHCP with a persistent cough (i.e., lasting > 3 weeks), especially in the presence of other signs or symptoms compatible with active TB (e.g., weight loss, night sweats, fatigue, bloody sputum, anorexia, or fever), should be evaluated promptly. The DHCP should not return to the workplace until a diagnosis of TB has been excluded or the DHCP is on therapy and a physician has determined that the DHCP is noninfectious (CDC. MMWR 52(RR-17):1-66, 2003).

## APPENDIX M

### DENTAL UNIT WATERLINE MAINTENANCE

The U of M School of Dentistry currently uses long-acting DentaPure® Iodine tubes inserted in units to reduce microbial growth in dental waterlines. Follow manufacture instructions.

Water lines must be maintained following these guidelines before patient treatment and after:

- a. Check water reservoir and fill with tap water.
- b. Turn on master switch, wait a few seconds for system to pressurize.
- c. Flush water lines for at least 1 minute.
- d. After patient treatment, empty water bottle and replace on unit.

**AT THE END OF THE DAY: Empty all water bottles.**



## APPENDIX N

### EXPOSURE CONTROL PLAN

For the University of Minnesota School of Dentistry

This Exposure Control Plan is located: in the Health & Safety Office and on the School of Dentistry's website.

**Employer Responsibilities:** The University of Minnesota School of Dentistry will:

1. Accept responsibility for leadership of the exposure control program and infection control in the School of Dentistry.
2. Determine which employees have occupational exposure.
3. Ensure that the provisions of this exposure control plan are followed by all employees who have occupational exposure.
4. Ensure that new employees are trained within 10 working days.
5. As appropriate provide free of charge:
  - Gloves
  - Masks
  - Eye protection
  - Face shields
  - Gowns or lab coats
  - Ventilation devices
  - Any equipment designed to remove or isolate the hazard of bloodborne pathogens from the employee
  - Hepatitis B vaccination
  - Medical evaluation and follow-up treatment following an exposure incident
  - Training

**Employee Rights:** Employees are entitled to a clean and sanitary workplace and have the right to be provided with appropriate protective equipment and measures to eliminate or minimize occupational exposure to bloodborne pathogens.

**Employee Responsibilities:** The employees of the School of Dentistry will:

1. Comply with the provisions of this exposure control plan.
2. Utilize personal protective equipment designed to protect them from occupational exposure to bloodborne pathogens as described in this plan.
3. Follow established work practice controls.
4. Report all occupational exposures.

## Important Definitions To Know

*Contaminated* - the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

*Contaminated Laundry* - laundry which has been soiled with blood or other potentially infectious materials or which may contain sharps.

*Contaminated Sharps* - any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wire.

*Decontamination* - the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

*Disinfect* - to inactivate virtually all recognized pathogenic microorganisms, but not necessarily all microbial forms, on inanimate objects.

*Engineering Controls* - controls that isolate or remove the bloodborne pathogens hazard from the workplace.

*HBV* - hepatitis B virus.

*HIV* - human immunodeficiency virus

*Licensed Healthcare Professional* - a person whose legally permitted scope of practice allows him or her to independently perform the activities of hepatitis B vaccination and post-exposure evaluation and follow-up.

*Occupational Exposure* - reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

*Other Potentially Infectious Materials (OPIM)* - semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; and any unfixed tissue or organ (other than intact skin) from a human (living or dead).

*Personal Protective Equipment* - specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes not intended to function as protection against a hazard are not considered to be personal protective equipment.

*Regulated Waste* - liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

*Standard Operating Procedures* - Written policy, procedure, directive, standard of practice, protocol, system of practice, or element of infection control program which addresses the performance of work activities so as to reduce the risk of exposure to blood and other potentially infectious materials.

*Source Individual* - any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee.

*Sterilize* - the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

*Universal / Standard Precautions* - all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

*Work Practice Controls* - controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

*Work Area* - the area where work involving exposure or potential exposure to blood or saliva exists, along with the potential for contamination of surfaces, equipment and instruments.

### **Occupational Exposure in Dentistry**

Occupational exposure means contact with blood or OPIM.

Universal/Standard precautions, careful patient assessment, the use of adequate personal protective equipment, sterilization and/or chemical disinfection of instruments, environmental surface and equipment disinfection, and aseptic technique will be conscientiously utilized to prevent or minimize the occupational exposure of employees to blood and other potentially infectious materials.

### **Communicating Hazards to Employees**

1. A BIOHAZARD warning label must be placed on containers and bags containing regulated waste and any other containers used to store, transport, or ship blood or other potentially infectious materials.
2. These BIOHAZARD labels must be fluorescent orange or orange-red with lettering or symbols in a contrasting color.
3. Red bags or red containers may be substituted for BIOHAZARD labels.

### **Exposure Determination**

1. All the employees in clinical staff have occupational exposure including:
  - Dentists
  - Instructors
  - Clinical Researchers
  - Clinical Staff

Category A consists of occupations that require procedures or other occupation-related tasks that involve exposure or reasonably anticipated exposure to blood or other potentially infectious material or that involve a likelihood for spills or splashes of blood or other potentially infectious material. This includes procedures or tasks conducted in non-routine situations as a condition of employment.

Category B consists of occupations that do not require tasks that involve exposure to blood or other potentially infectious material on a routine or non-routine basis as a condition of employment. Employees in occupations in this category do not perform or assist in emergency medical care or first aid and are not reasonably anticipated to be exposed in any other way.

- An exposure determination shall be made without regard to the use of personal protective clothing and equipment.
- An employer shall determine and document a rationale for an exposure determination.
- An employer shall maintain a list of all job classifications which are determined to be Category A.

Some employees in the following job classifications have occupational exposure.

All Category A employees

### **Employee Training**

Employees will receive initial training within 10 working days of their first day of work at no cost to the employee and during working hours. Retraining will take place when changes in procedures or tasks occur will affect occupational exposure. Annual update training will take place one year from the initial training date or sooner. Training will include the following areas:

- An explanation of the Bloodborne Pathogens Standard, its contents and how it relates to the employee's position within this dental office.
- A general explanation of the epidemiology and symptoms of bloodborne diseases like HBV, HCV, and HIV.
- An explanation of the modes of transmission of bloodborne pathogens such as HBV, HCV, and HIV.
- A general explanation that a number of other occupational diseases other than HBV and HIV exist, such as hepatitis C, herpes simplex virus infections, and staphylococcal infections.
- An explanation of this exposure control plan, where it is located and how the employee can obtain a copy of it.
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood, saliva or unfixed tissue.
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment.
- An explanation of the basis for selection of personal protective equipment based upon the task being performed and the degree of exposure anticipated.
- Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials outside the normal scope of work.
- An explanation of the procedures to follow if an exposure incident occurs, including the method of reporting the incident, and the medical follow-up that will be made available.

- Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
- An explanation of the signs and biohazard labels and/or color coding used in the office

The person(s) conducting training sessions will be knowledgeable in the Bloodborne Pathogens Standard, the subject matter covered by the training program and how it relates to the dental office environment. There will be an opportunity for interactive questions and answers with the person conducting the training session.

### **Preventing Occupational Exposure**

The primary means of eliminating or minimizing employee exposure is through the use of engineering controls and work practice controls.

**1. Engineering controls** act on the source of the hazard and eliminate or reduce employee exposure without reliance on the employee to take self-protective action. This is achieved through the use of equipment designed for this purpose. This department/clinic utilizes the following engineering controls:

- Needle recapping devices and techniques
- Disposable sharps container
- Tongs/forceps
- Emergency eye wash
- Utility gloves

For each engineering control checked above, detail its use on the Engineering Controls chart on the next page. This chart describes when and how these items are used (under what circumstances or in which particular tasks or procedures).

The engineering controls will be inspected and maintained according to the following schedule:

- The needle recapping device, utility gloves and tongs/forceps will be visually inspected before they are used.
- The disposable sharps container(s) will be visually inspected daily and not allowed to overfill.
- The emergency eyewash station will be tested weekly to ensure proper functioning.

The Health & Safety Officer will evaluate the effectiveness of existing engineering controls and review the feasibility of instituting more advanced engineering controls.

## ENGINEERING CONTROLS

### Schedule

| ENGINEERING CONTROLS                | WHEN IS IT USED?  | HOW IS IT USED?   |
|-------------------------------------|---|---|
| Sharps Container                    | To discard needles, scalpels, broken glass, dental wire | Simply drop item into container. Do not allow to overflow.  |
| Utility Gloves                      | To handle contaminated instruments during processing    | Worn when handling contaminated sharps, removed and autoclaved.   |
| Tongs/Forceps<br>Dust pan and Brush | To pick up broken glass and contaminated objects.       | Pressure on the tongs/forceps holds the item between the jaws so it can be transported. Sweep material into dust pan with brush. Disinfect equipment when items are contaminated. |

2. **Work practice controls** also work on the source of the hazard. They reduce the likelihood of exposure to blood or other potentially infectious materials through changes in the way in which a task is performed. The protection they provide is based upon the behavior of the employee. The following work practice controls are employed by the School of Dentistry:

- Contaminated equipment will be labeled prior to servicing or shipping.
- Hands will be washed after removal of gloves and other personal protective equipment.
- Hands will be washed after contact with blood or saliva.
- Antiseptic handwash will be used every time hands are washed.
- All personal protective equipment will be removed when leaving the work area to go to a "clean area" or a non-patient treatment area.
- Glasses will be decontaminated prior to leaving the work area or prior to leaving the lab.
- Broken glass will be picked up by using a brush and dust pan, and discarded into a sharps container. Broken glass will not be picked up by hand and/or vacuum.
- No two-handed needle recapping is allowed, but the one-handed scoop technique or use of a needle recapping device is acceptable.
- Needles will not be broken or sheared.
- Eating, drinking or smoking is prohibited in the work area.
- Application of cosmetics or lip balm is prohibited in the work area.
- The handling of contact lenses is prohibited in the work area.

- The storage of food or drink is prohibited in the work area.
- Biopsy specimens will be placed in a container that is labeled with a biohazard label. Care will be taken not to contaminate the outside of the container by handling it with a contaminated gloved hand.
- All reusable equipment will be sterilized.
- If it is not feasible to sterilize some reusable equipment, it will be decontaminated.
- When reusable equipment is heavily soiled, it will be precleaned to remove the heavy contamination prior to decontamination or sterilization.
- All tasks and procedures, will be performed in such a manner as to minimize splashing, spraying, spattering or generation of droplets of blood or saliva.
- Personal protective equipment will be utilized during every situation or procedure where exposure to blood or saliva is reasonably anticipated intra oral exam.
- While working in the lab, students and employees will refrain from touching anything not needed for the procedure.
- Employees should keep gloved hands away from eyes, nose, mouth or hair.
- Hair should be kept away from the face.
- Nails must be clean and short.
- Paper work should never be touch by a contaminated gloved hand.
- University of Minnesota School of Dentistry policies and procedures outlined within this manual will be followed.
- Single and disposable use items, such as needles, are not to be reused.

### **Personal Protective Equipment**

Where occupational exposure remains after institution of engineering controls and work practice controls, personal protective equipment will be provided as supplemental equipment.

The following personal protective equipment is supplied by the University of Minnesota School of Dentistry and intended for employee protection against occupational exposure. The personal protective equipment will be of the proper size, material and will be readily accessible by all employees.

|                           |                               |
|---------------------------|-------------------------------|
| Gloves                    | Face shields                  |
| Masks                     | Protective clinic gowns       |
| Glasses with side shields | Pocket masks for CPR          |
| Goggles                   | Emergency ventilation devices |

- The type and amount of personal protective equipment chosen to protect against contact with blood or saliva is based upon the type of exposure and quantity of these substances which can be reasonably anticipated to be encountered during the performance of a dental procedure.
- The University of Minnesota School of Dentistry is responsible for providing, laundering, repairing, replacing and disposing of personal protective equipment.
- Personal protective equipment that is penetrated by blood will be removed immediately or as soon as feasible.
- All personal protective equipment will be removed prior to leaving the work area.

- A new pair of gloves is to be used with each procedure. Gloves are not to be washed or decontaminated for re-use.
- All personal protective equipment shared by employees must be decontaminated between employee uses.
- Personal protective equipment will be considered "appropriate" only if it does not permit blood or saliva to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time the protective equipment will be used.
- For all personal protective equipment checked above, refer to the chart on the next page which describes where personal protective equipment is located, when it is to be worn, when it is to be changed, how it is to be decontaminated or disposed of and where it is to be stored after removal.
- To minimize the need for emergency mouth-to-mouth resuscitation, pocket masks, resuscitation bags or other ventilation devices will be provided in strategic locations where the need for resuscitation is likely.



## PERSONAL PROTECTIVE EQUIPMENT

### Schedule

| PERSONAL PROTECTIVE EQUIPMENT        | LOCATION     | TO BE WORN WHEN...                             | TO BE CHANGED WHEN...           | DECONTAMINATE OR DISPOSE OF IN THIS MANNER      | AFTER REMOVAL IT IS TO BE STORED                  |
|--------------------------------------|--------------|--|---------------------------------|---|---|
| Gloves                               | Lab / Clinic | Contacting blood, saliva or contaminated items | After each laboratory procedure | Dispose of in unregulated trash can             | -----   |
| Masks                                | Lab / Clinic | Anticipating splashing and splattering         | Moist or visibly contaminated   | Dispose of in unregulated trash can             | -----   |
| Glasses with side shields or goggles | Lab / Clinic | Anticipating splashing and splattering         | -----                           | Decontaminated with surface disinfectant        | Dispensary with staff member                      |
| Gown – disposable                    | Lab / Clinic | Anticipating splashing and splattering         | Visibly contaminated            | Dispose of in unregulated trash can             | -----   |
| Gown – cloth                         | Lab / Clinic | Anticipating splashing and splattering         | Visibly contaminated            | Dispose of in “dirty” dispensary laundry hamper | On cubical hook or disposed at “dirty” dispensary |
| Pocket mask for CPR                  | Lab / Clinic | Administering CPR                              | After each use                  | Dispose of in unregulated trash can             | -----   |

## Housekeeping

### 1. Cleaning and Disinfection

- a. The University of Minnesota's Facilities Management department will ensure that the School of Dentistry is maintained in a clean and sanitary condition.
- b. An appropriate schedule for cleaning and disinfecting the various surfaces, equipment and rooms in this department/clinic has been determined. Refer to the Cleaning and Disinfection schedule on the next page.
- c. The following sterilants and disinfectants are used in this department/clinic according to manufacturer's directions. All disinfectants meet the following criteria: they will be EPA registered tuberculocidal hospital disinfectants.
- d. Contaminated reusable instruments are ultrasonically cleaned, rinsed, and sterilized in the autoclave or processed in the washer-disinfector.
- e. Contaminated instruments, which could penetrate the skin, are considered reusable sharps in the department/lab. When such instruments are stored or processed in containers, employees will not reach into the container by hand to remove these instruments. They instead, will be removed from the container with tongs or forceps.

## CLEANING AND DISINFECTION

### Schedule

| WORKSITE LOCATION                           | PROCEDURES PERFORMED  | TYPES OF CONTAMINATION | SURFACE(S) OR ITEM(S) TO BE CLEANED | DISINFECTANT USED | DISINFECTION PROCEDURES                          |
|---|-----------------------|------------------------|-------------------------------------|-------------------|--|
| <b>ALL<br/>laboratory/<br/>clinic areas</b> | Research procedures   | Blood and saliva       | Environmental surfaces              | Cavicide          | wipe-discard-wipe                                |
|   | Research procedures   | Blood and saliva       | Non-autoclavable equipment          | Cavicide          | wipe-discard-wipe                                |
|   | Research procedures   | Blood and saliva       | Reusable instruments                | -----             | Washer disinfectant or ultrasonic then autoclave |
|   | Intra oral procedures | Blood and saliva       | Environmental surfaces              | Cavicide          | wipe-discard-wipe                                |
|   | Intra oral procedures | Blood and saliva       | Reusable instruments                | -----             | Washer disinfectant or ultrasonic then autoclave |

## 2. Regulated Waste

- a. Regulated waste will be properly contained and disposed of so it will not become a means of transmission of disease to employees.
- b. Contaminated disposable sharps will be discarded into a sharps container immediately or as soon as feasible after use. In the SOD sharps containers will be:
  - closable (closed prior to removal or replacement)
  - puncture resistant
  - leak-proof on sides and bottom
  - labeled with a biohazard label or be red in color
  - maintained upright during use
  - replaced routinely, and disposed of according to the U of M waste management policy
  - located in each laboratory, patient care area, dispensary and clinical support labs
- c. Other non-sharps regulated waste will be discarded into appropriate containers. In this dental school containers will be:
  - closable (closed prior to removal or replacement)
  - constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping
  - labeled with a biohazard label or be red in color
  - disposed of according to University Policy
- d. Whenever the outside of a primary container holding regulated waste becomes contaminated, it should be placed into a secondary container that meets the requirements of the first container.

## 3. Laundry

Clinic gowns used in the School of Dentistry must be turned in at the reprocessing “dirty” dispensary. Gowns are placed in appropriate bins (containers), and are picked up by the laundry service.

Disposable gowns are to be discarded with regular waste.

## Hepatitis B Vaccination

Hepatitis B vaccination is available to all employees in the School of Dentistry who have occupational exposure. The vaccination series will begin after the required training is given and within 10 working days of an employee's first day at work. The vaccination is available at no cost to the employee and is administered at Boynton Health Service.

The hepatitis B vaccination will not be given if the employee:

- has previously received the vaccination series
- is found to be immune through antibody testing
- should not receive the vaccine due to medical contraindications
- declines vaccination

Employees who refuse to be vaccinated must sign the Hepatitis B Vaccine Declination form.

If an employee initially declines Hepatitis B vaccination, but at a later date decides to accept vaccination it will be made available at no cost.

While current U.S. Public Health Service guidelines do not recommend Hepatitis B vaccine booster doses, if they should in the future, the University of Minnesota School of Dentistry will provide these at no cost.

### **Recordkeeping**

The University of Minnesota School of Dentistry Health and Safety Office will maintain the following records.

#### 1. Medical Records

- Employee's name and Employee ID number.
- Copy of employee's Hepatitis B vaccination status, dates of all Hepatitis B vaccinations.
- Signed Declinations.

Employee medical records must be kept for the duration of employment plus 30 years.

#### 2. Training Records

- Dates of the training sessions.
- Contents or a summary of the training sessions.
- Names and qualifications of persons conducting the training
- Names and job titles of all persons attending the training sessions

Training records must be kept for 3 years from the date on which the training occurred.

The Office of the Associate Dean of Clinical Affairs keeps the following records:

- Copy of Exposure Incident Records, Hepatitis B Vaccine Declination, Post-Exposure Medical Evaluation
- Copy of licensed healthcare professional's written opinion concerning Hepatitis B vaccination.
- Copy of all results of examinations, medical testing and follow-up procedures.
- Copy of licensed healthcare professional's written opinion concerning post-exposure evaluation.
- Copy of information provided to the licensed healthcare professional.

APPENDIX O

MANDATORY COMPLIANCE

The provisions contained in this infection control manual shall be adhered to by all faculty, staff and students.

---

Name (please print clearly)

---

Student Number

---

Signature

---

Date

Please sign and return this form to the Associate Dean of Clinical Affairs office.