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## Section 4

### Infection Control Procedures/Post-Exposure Protocol

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#### INTRODUCTION

##### Goals

1. Provide as safe an environment as possible (using sound biological principles) for our students, faculty, staff and patients.
2. Provide a reasonable, but effective infection control model that will aid in the education and understanding of infection control issues that are in accord with the recommendations of the American Dental Association (ADA), the American Dental Education Association (ADEA), the Centers for Disease Control and Prevention (CDC) and the Environmental Protection Agency (EPA).
3. Comply with the standards published by the Occupational Safety and Health Administration (OSHA) 29 CFR1910.1030, latest revision and CDC MMWR, Guidelines for Infection Control in Dental Healthcare Settings — 2003.

##### Policy Statement

The following guidelines are provided as a synthesis of recommendations concerning infection control procedures. Effective implementation and success of these guidelines will be determined solely by the compliance of all faculty, staff and students.

Dental personnel are exposed to a wide range of microorganisms in the blood and saliva of patients they treat. Infections may be transmitted in dental practice by blood or saliva through direct contact, droplets or aerosols. Indirect contact contamination or infection by contaminated instruments is possible and as a result patients and dental health care workers (DHCW's) have the potential of transmitting infections to each other.

A common set of infection control strategies should be effective for preventing transmission of infectious diseases (through virtually any route of infection) while providing dental care. The dynamic characteristics of clinical dentistry and the fact that all potentially infectious patients cannot be identified by history, physical examination, or laboratory tests, provide the incentive to adhere to the following guidelines while providing patient treatment. Specific infection control requirements and rationale follow. All employees and students should be familiar with the primary guidelines and rationale, and refer to this section of the manual for clarification of the basic primary guidelines.

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## **INFECTION CONTROL REQUIREMENTS**

Infection Control Requirements are based on the theory of “Standard Precautions”. This means all patients are potentially infectious. These guidelines will be adhered to by all faculty, staff, students and patients.

### **Requirement 1**

#### **Immunization Policies**

Appropriate and up-to-date immunizations are a requirement in the dental school’s infection control program.

Exemptions from the following immunizations are permitted for health and religious reasons. Any employee or student who elects not to have the vaccinations must sign a University of Missouri exemption form. For medical exemptions, the form must be completed by a physician. However, if at a later time vaccinations are desired, please see the RN in Oral surgery. It is the responsibility of the students to provide their own vaccinations.

##### **1. Measles/Mumps/Rubella**

The School of Dentistry supports the American College Health Association recommendation that all students should have two doses of measles/mumps/rubella vaccine. In the event of a measles outbreak, employees and students who have no documentation of immunization on file may be asked to leave University facilities, including the School of Dentistry.

##### **2. Hepatitis B**

Vaccination against hepatitis B is a requirement for all employees and students who will have patient contact, and who handle any infectious lab dishes.

##### **3. Tuberculosis**

The School of Dentistry requires all employees and students who are or will be directly involved in patient care to be tested for tuberculosis. It is expected that any individual who has tested positive for tuberculosis has received or will receive treatment for this condition.

### **Requirement 2**

#### **Personal Protective Equipment**

The transmission of infection between the health care giver and the patient is of great concern in the health care field, in the health care teaching environment, and to the general public. In order to help minimize the possibility of infection, the Office of Safety and Health Administration (OSHA) has established certain guidelines to which all health care facilities, including dental schools, must adhere. Included in those guidelines is the use of Personal Protection Equipment (PPE).

To provide for the safety of students and patients, and to ensure compliance with OSHA guidelines, all UMKC School of Dentistry students, staff and faculty who are exposed to blood and bodily fluids are required to wear the following Personal Protection Equipment:

1. Prescribed disposable gloves. Gloves will not be washed for reuse with another patient and gloves must be removed when leaving the patient operatory.
2. Prescribed (surgical) face masks.
3. Prescribed outer gown to be worn over appropriate street clothing. The gown is not to be worn away from the direct patient treatment areas and is used only in the prescribed treatment areas.
4. Prescribed eye wear, such as glasses with solid side shields, goggles or chin-length face shields.

The term “prescribed” refers to PPE that the School of Dentistry provides. Students must use the PPE that is provided. Students must provide their own appropriate eye wear with side shields. Eye wear may be obtained through the Health Sciences Book Store.

For protection of personnel and patients, gloves must always be worn when touching blood, saliva or mucous membranes. Gloves must be worn by Dental Health Care Workers (DHCWs) when touching blood-soiled items, body fluids or secretions, as well as surfaces contaminated with them. Gloves must be worn when examining or manipulating oral structures. Hands must be washed and regloved before performing procedures on subsequent patients. Repeated use of a single pair of gloves is not acceptable since such use is likely to produce defects in the glove material which will diminish its value as an effective barrier. Gloves will be restricted to the cubicle while providing care. Gloves should not be worn to other clinical areas.

Face (surgical) masks must be worn when splashing or spattering of blood or other body fluids is likely, as is common in dentistry. Face masks will be restricted to the patient treatment areas:

1. First floor
  - a. Treatment cubicles

- b. Dispensaries while obtaining materials/supplies (treatment gloves will be removed)
  - c. Walkways/hallways on the first floor to gain access to the various areas described (gloves and mask will be removed)
2. Second floor – Faculty Practice clinical treatment area
  3. Third floor – Oral Surgery clinical treatment area

Gowns must be worn over street clothes when treating or examining patients. Gowns should be changed at least daily or when visibly soiled with blood. Gowns should not be worn outside the patient treatment area. Clinic gowns will be restricted to the patient treatment area.

The purpose of wearing protective eye wear with appropriate side-shields is to protect the eyes from airborne particles and debris. Safety or prescription glasses with side shields or a face mask must be worn when performing all oral procedures or lab work. Eye wear should be cleaned and/or disinfected between patients according to manufacturers' recommendations.

### **Requirement 3**

#### **Sterilization**

Central Sterilization is responsible for the collection and distribution of all instrumentation used during patient services while in the clinic at the University of Missouri-Kansas City School of Dentistry for the predoctoral clinic on the first floor. Please observe their rules and regulations as they apply to patient care situations.

### **Requirement 4**

#### **Regulated Waste**

Regulated (medically-infectious) waste:

1. All sharps will be disposed of in appropriate puncture-proof containers.
2. All regulated (medically-infectious) waste will be disposed of by placing the waste in a red biohazard bag and depositing it in an appropriate biohazard container.

### **Requirement 5**

#### **Cubicle Cleaning**

Cubicles will be cleaned and readied for treatment using the following procedures:

1. Disinfect the cubicle with provided disinfectant
2. Place all barrier wraps
3. Equipment (carts, etc.) will be maintained in an aseptic state.

### **Requirement 6**

#### **After Patient Treatment**

After patient treatment and at the end of the day, the use of heavy utility gloves should be worn:

1. To remove excess debris from instruments and materials from trays and spatulas.
2. To decontaminate all surfaces by removing infectious wastes and then disinfecting all environmental surfaces
3. To rinse and disinfect all impressions, bite registrations and appliances before they are sent to the laboratory. At a minimum disposable gloves must be worn during clean-up.

### **Requirement 7**

#### **Personal Hygiene**

All DHCW's will follow basic personal hygiene procedures:

1. Hair cleared away from the face
2. Facial hair covered by a face mask
3. Fingernails should be clean and short.

### **Requirement 8**

#### **Extracted Teeth**

Extracted teeth used in education should be considered infective and classified as clinical specimens. Extracted teeth should be cleaned and disinfected.

### **Requirement 9**

## **Failure to Comply**

Failure to comply with the above basic requirements will result in appropriate disciplinary action.

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## **STANDARD PRECAUTIONS OVERVIEW**

### **Introduction**

Infection Control Requirements are based on the theory of “Standard Precautions”. This means all patients are potentially infectious.

### **Rationale**

Standard Precautions as defined by the Centers for Disease Control (CDC) and the Occupational Safety and Health Administration (OSHA) refer to a set of precautions designed to prevent transmission of Human Immunodeficiency Virus (HIV), Hepatitis B (HBV), and other bloodborne pathogens in the health care setting. Using universal precautions, “. . . human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV and other bloodborne pathogens.” (29 CFR 1910.1030, (b))

### **Limitations of Health Histories**

Given the limitations of a routine health history, it is unlikely that dental personnel will identify the presence of infectious disease in patients because:

1. Many infected patients are unaware that they are infected and that their blood or saliva may be capable of transmitting certain infectious diseases.
2. Some patients will not reveal known infectious diseases to health care workers.
3. Health care providers cannot interpret negative findings from a comprehensive examination to mean that the patient is presently “infectious-disease free” or will remain so upon subsequent clinical visits.

Infection Control Procedures/Special Medical Conditions

### **Need for Protocol**

This protocol of standard precautions is necessary and is sufficient for routine outpatient treatment and for treatment of Hepatitis B carriers, HIV antibody positive patients, diagnosed AIDS patients, and patients with other known bloodborne diseases.

These guidelines will be adhered to by all faculty, staff, students and patients when indicated.

### **Note**

Infection control procedures to be used are not determined by the patient serological status for a particular infection.

### **Immunization Policies**

Appropriate and up-to-date immunizations are a requirement in the dental school’s infection control program.

Exemptions from the following immunizations are permitted for health and religious reasons. Any employee or student who elects not to have the vaccinations must sign a University of Missouri exemption form. For medical exemptions, the form must be completed by a physician. However, if at a later time vaccinations are desired, please see the RN in Oral surgery. It is the responsibility of the students to provide their own vaccinations.

1. Measles/Mumps/Rubella

The School of Dentistry supports the American College Health Association recommendation that all students should have two doses of measles/mumps/rubella vaccine. In the event of a measles outbreak, employees and students who have no documentation of immunization on file may be asked to leave University facilities, including the School of Dentistry.

2. Hepatitis B

### **Procedure/Rationale**

The OSHA Standard, 29 CFR 1910.1030, Bloodborne Pathogens, requires immunization against HBV for health care workers who have occupational exposure; this would include all students, faculty and staff who have exposure to bloodborne pathogens.

“Bloodborne pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans.

These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).” (29 CFR 1910.1030 (b).)

Specifically the standard states, “The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.” (24 CFR 1910.1030 (f) (1) (i). “The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement [of waiver]...” (29 CFR 1910.1030 (f) (2) (iii).

### **Waiver in Lieu of Vaccination**

Those faculty, staff and students who elect not to have the vaccinations must sign the waiver of vaccination in lieu of having the series of vaccinations. However, if at a later time the vaccination series is desired, please notify [the nurse](#) in Oral Surgery at extension 2017 to make application for the series.

### **Booster Inoculation**

Booster inoculation for individuals who have lost surface antibody titers continues not to be recommended.

### **Student Responsibility**

It is the responsibility of the students to provide their own vaccination. Verification of completing the vaccination series prior to enrollment or commencement of the vaccination series within the first four weeks of enrollment will be monitored.

#### 3. Tuberculosis

The School of Dentistry requires all new employees and new incoming students who are or will be directly involved in patient care to have a baseline *TB screening using two-step TST to test for infection with M. tuberculosis. After baseline testing for infection with M. tuberculosis, additional TB screening is not necessary unless an exposure to M. tuberculosis occurs, or the level TB activity increases in the patient population.*

### **Personal Protective Equipment**

The transmission of infection between the health care giver and the patient is of great concern in the health care field, in the health care teaching environment, and to the general public. In order to help minimize the possibility of infection, the Office of Safety and Health Administration (OSHA) has established certain guidelines to which all health care facilities, including dental schools, must adhere. Included in those guidelines is the use of Personal Protection Equipment (PPE).

To provide for the safety of students, faculty, staff and patients, and to ensure compliance with OSHA guidelines, all UMKC School of Dentistry students, staff and faculty who are exposed to blood and bodily fluids are required to wear the following Personal Protective Equipment:

1. Prescribed disposable gloves. Gloves will not be washed for reuse with another patient and gloves must be removed when leaving the patient operatory.
2. Prescribed (surgical) face masks.
3. Prescribed outer gown to be worn over appropriate street clothing. The gown is not to be worn away from the direct patient treatment areas and is used only in the prescribed treatment areas. Gowns should be changed when visibly soiled with blood.
4. Prescribed eye wear, such as glasses with solid side shields, goggles or chin-length face shields.

The term “prescribed” refers to PPE that the School of Dentistry provides. Students must use the PPE that is provided. Students must provide their own appropriate eye wear with side shields. Eye wear may be obtained through the Health Sciences Book Store.

For protection of personnel and patients, gloves must always be worn when touching blood, saliva or mucous membranes.

Gloves must be worn by Dental Health Care Workers (DHCWs) when touching blood-soiled items, body fluids or secretions, as well as surfaces contaminated with them. Gloves must be worn when examining or manipulating oral structures. Hands must be washed and regloved before performing procedures on subsequent patients. Repeated use of a single pair of gloves is not acceptable since such use is likely to produce defects in the glove material which will diminish its value as an effective barrier. Gloves will be restricted to the cubicle while providing care. Gloves should not be worn to other clinical areas.

Face (surgical) masks must be worn when splashing or spattering of blood or other body fluids is likely, as is common in dentistry. The mask must be worn over the nose and mouth.

Face masks will be restricted to the patient treatment areas:

1. First floor
  - a. Treatment cubicles
  - b. Dispensaries while obtaining materials/supplies (treatment gloves will be removed)

- c. Walkways/hallways on the first floor to gain access to the various areas described (gloves and mask will be removed); Masks should not be worn under the chin)
2. Second floor – Faculty Practice clinical treatment area
3. Third floor – Oral Surgery clinical treatment area
4. Private offices and team offices are not part of the patient treatment area; the prescribed outer gown and treatment gloves are not allowed in the private offices or team offices.

The purpose of wearing protective eye wear with appropriate side-shields is to protect the eyes from airborne particles and debris. Safety or prescription glasses with side shields or a face mask must be worn when performing all oral procedures or lab work. Eye wear should be cleaned and/or disinfected between patients according to manufacturers' recommendations.

### **Procedure/Rationale**

All procedures and manipulations of potentially infective materials should be performed carefully to minimize the formation of droplets, spatters and aerosols. Use of rubber dam and/or isovac, where appropriate, high speed evacuation, and proper patient positioning should facilitate this process.

### **Oral Surgery Procedures**

Sterile gloves and sterile water are recommended for all oral surgical procedures. Furthermore, either plain soap and water or an antimicrobial soap and water followed by an alcohol-based hand rub with persistent activity should be used before any oral surgical procedure.

### **Sterilization**

Central Sterilization is responsible for the collection and distribution of all instrumentation used during patient services while in the clinic at the University of Missouri-Kansas City School of Dentistry. Please observe their rules and regulations as they apply to patient care situations.

### **Regulated Waste**

Regulated (medically-infectious) waste:

1. All sharps will be disposed of in appropriate puncture-proof containers.
2. All regulated (medically-infectious) waste will be disposed of by placing the waste in a red biohazard bag and depositing it in an appropriate biohazard container located inside CSR.

### **Cubicle Cleaning**

Cubicles will be cleaned and readied for treatment using the following procedures:

1. Disinfect the cubicle with provided disinfectant
2. Place all barrier wraps
3. Equipment (carts, etc.) will be maintained in an aseptic state.

### **After Patient Treatment**

After patient treatment and at the end of the day.

1. Remove excess debris from instruments and materials from trays and spatulas.
2. Decontaminate all surfaces by removing infectious wastes and then disinfecting all environmental surfaces
3. Rinse and disinfect all impressions, bite registrations and appliances before they are sent to the laboratory.

At a minimum disposable gloves must be worn during clean-up; the use of utility gloves is recommended.

### **Personal Hygiene**

All DHCW's will follow basic personal hygiene procedures:

1. Hair cleared away from the face
2. Facial hair covered by a face mask
3. Fingernails should be clean and short.

Clinic Operations Manual Sect-3.48 Revised Dec. 2015

Infection Control Procedures/Special Medical Conditions

### **Extracted Teeth**

Extracted teeth used in education should be considered infective and classified as clinical specimens. Extracted teeth should be cleaned, disinfected and sterilized before handling.

## **Failure to Comply**

Failure to comply with the above basic requirements will result in appropriate disciplinary action.

## **Amalgam Waste**

Concern about the effects of mercury in the environment has increased over the years. Mercury in the environment is bioaccumulative, and can cause health problems in humans.

Many state health professionals recommend limiting fish consumption, especially for children and pregnant women.

The University of Missouri-Kansas City School of Dentistry will adhere to the American Dental Association's Best Practices for the disposal of amalgam waste.

## **Protocol**

The Pediatric Dentistry Clinic, Emergency Clinic, Oral Surgery Clinic, each clinical team, and other clinical areas as needed will have amalgam -safe containers for the disposal of amalgam waste. Amalgam scrap includes contact and non-contact amalgam waste.

Contact amalgam waste is amalgam that has been in contact with the patient. Examples are extracted teeth with amalgam restorations, carving scrap collected at chairside, and amalgam captured by chairside traps, filters or screens.

**Non-contact waste (scrap)** is excess mix leftover at the end of a dental restorative procedure that has not come in contact with the patient. Empty amalgam capsules are considered non-contact waste and should be placed in the separate container marked amalgam capsules.

All personnel are expected to place all contact and non-contact amalgam scrap in containers marked with AMALGAM SCRAP FOR RECYCLING. These containers are placed throughout the clinic.

The Oral Surgery Clinic is equipped with a container for contact amalgam scrap. All personnel are expected to place all extracted teeth that have amalgam restorations in the container marked AMALGAM SCRAP FOR RECYCLING.

[HTTP://WWW.ADA.ORG/SECTIONS/PUBLICRESOURCES/PDFS/TOPICS AMALGAM.](http://www.ada.org/sections/publicresources/pdfs/topics/amalgam)

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# **Central Sterilization Room**

## **Introduction**

Dental healthcare workers must always follow standard precautions and utilize appropriate infection control protocols to prevent cross-contamination and the transmission of disease. The chain of infection requires that sufficient levels of a pathogen are present to cause disease, that there is a source or reservoir for that pathogen, that a mode of transmission and entry portal are present, and that the host is susceptible. The ability to implement infection prevention protocols is essential for all health care facilities.

The Central Sterilization Room (CSR) comprises that service within the SOD in which all instruments, burs and hand pieces used for direct patient care are cleaned, prepared, sterilized, stored, and re-issued for patient care.

## **Function**

CSR is divided into four major areas to accomplish the functions of decontamination, inspection and packaging, sterilization, and storage and distribution.

**Decontamination:** To make safe by the reduction of contamination to an acceptable level. An item that has been disinfected is less likely to transmit infection than one that hasn't, but because there is only a reduction in the number of microorganisms, there is no guarantee.

The decontamination area is the first step in receiving soiled instruments, burs and hand pieces. Here the items are cleaned and decontaminated by means of manual or mechanical cleaning processes and some chemical disinfection.

**Attire** in this area is: moisture-resistant gown, utility gloves, nitrile gloves, safety glasses and sometimes a face shield.

## **Manual cleaning:**

Hand pieces are cleaned manually with alcohol wipes.

Alginate trays and alginate syringes are placed in a container filled with a cleaning solution to soak for 24 hours. After 24 hours they are placed in the sink with more cleaning solution and manually cleaned.

## **Mechanical cleaning:**

Ultrasonic Bath: All bur blocks and loose items are placed in the ultrasonic for a 15-minute cycle.

Ultrasonic cleaners are one of the methods recommended by the CDC as the first step to remove tissue, blood and other contaminants from reusable instruments found in dental offices. Ultrasonic energy creates billions of minute bubbles in an ultrasonic cleaning bath that implode with tremendous force when they contact dental instruments. The process called cavitation, reaches into tiny cracks and crevices, literally blasting contaminants away from the surface in a much more efficient manner than manual scrubbing.

#### **Automated Mechanical Washers:**

Cassettes are placed on racks and loaded into the washer. The cycle time for a load is approximately 1 hour and 15 minutes. Washers work on the principle of impingement. They are an effective means to disinfect instruments because of their thermal action and because enzymatic detergents can be used.

Impingement is the spray action of pressurized water against instruments being processed to physically remove bioburden.

Once the items have been manually or mechanically cleaned they are ready to be inspected and packaged for sterilization.

\*Without thorough cleaning, any organic matter remaining on the instruments can protect microorganisms during the sterilization process; sterilization cannot be assured, even with longer sterilization times.

#### **Inspection:**

Each item is carefully inspected for cleanliness and proper function. While the ultrasonic and washer removes blood and saliva, some dental materials remain. Instruments are further cleaned with the use of wire brushes, alcohol wipes and sometimes acetone.

Instruments that are broken or badly worn are replaced.

The last step in the inspection process is to insure that the instruments are in the proper order and that all hinged instruments are in the unlocked-open position.

#### **Packaging:**

Cassettes are packaged in sterilization bags that have Internal and External multi-variable chemical indicators. **External indicators** are used to verify that items have been exposed to the correct conditions of the sterilization process and that the specific pack has been through the sterilization process. **Internal indicators verify that items inside the bag have been exposed to the sterilization process.**

Attire in this area is: Nitrile gloves and safety glasses.

Packaged items are now ready for sterilization.

#### **Sterilization:**

A process by which all forms of microbial life including bacteria, viruses, spores, and fungi are completely destroyed. While there are several methods in which to achieve this process, steam sterilization is the most commonly used type of sterilization in healthcare facilities.

Remember, “You can clean without sterilizing, but you can never sterilize without cleaning. Without proper cleaning and decontamination, sterilization cannot be assured.”

CSR primarily uses steam autoclaves. We use the mid-size Steris and the tabletop MidMark autoclaves.

Attire in this area consists of nitrile gloves and safety glasses.

#### **Steris Autoclave:**

The temperature must reach 270° F for the sterilization process to begin. Once the correct temperature is reached the cycle time to sterilize is 4 minutes. The rest of the cycle time is reaching the sterilization temp and proper drying time. The average cycle time on the Steris autoclave from start to finish is 56 minutes.

**MidMark Table Top Sterilizer:** A table top sterilizer is a compact pressure vessel that has a chamber volume of not more than 2 cubic feet that generates its own steam when distilled or deionized water is added by the operator. Distilled or deionized water is recommended to prevent buildup of minerals in the reservoir, on processed devices and to ensure the purity of the steam generated for sterilization. Packaging materials should not touch the chamber walls of the sterilization unit. When the sterilizer is loaded there should be space for free circulation of steam around and within each packaged device. It is important to have the steam contact all surfaces that are to be sterilized. The temperature must reach 270° F for the sterilization process to begin.

Sterilization time on the table top is 15 minutes. The average cycle time on a table top is 1 hour 15 minutes.

Note: Most dental offices utilize the table top sterilizers.

An air-removal test (Bowie-Dick Test) is performed daily in an empty dynamic-air-removal sterilizer to ensure air removal. This is done daily on all Steris autoclaves.

**\*IMPORTANT:** Each week a biological indicator test must be performed on all sterilizers. This is recommended by the CDC, OSHA, the ADA, and is required by most state laws.

Once sterilization has been achieved, instrument packs are ready to be stored and distributed.

**Storage:** Sterile instruments are stored on shelves until needed. Some consideration here is shelf life. Sterile packages should be arranged and maintained to allow stock rotation on a **First In/First Out** system. This insures the oldest items are used first.

The longer an item is in storage, the longer it is exposed to the environment and physical abuses that can cause the package to be compromised. Any package that is torn, shows signs of wear, has punctures, or dirty should be pulled to be re-sterilized.

**Distribution:** Sterile instruments can be checked out directly from CSR or the instruments can be ordered by the students and delivered to the student's mailbox. Ordering instruments for the mailbox insures that the instrument needed is available.

### **One final consideration: *Hazardous Substances***

\*Every employer is responsible for developing and maintaining a hazardous materials management program to best ensure the safety of employees. This is required by state and federal regulations and Joint Commission requirements.

Components of an effective departmental hazardous substance management program include:

Container Labeling Safety Data Sheets (SDS)

Employee Information & Training

Procedures to Manage & Handle Hazardous Substances

Employee Monitoring

Hazardous Waste Management

**SDS** — A written statement detailing information about a chemical or toxic substance including potential hazards and appropriate handling methods. An MSDS is provided by the product manufacturer to the product buyer, and it must be posted and/or made available in a place that is easily accessible to those that will use the product.

## **Utilization of Central Sterilization Room (CSR)**

### **About CSR**

A. CSR Location — Room #108

B. CSR Hours — Monday through Friday, 7:30 a.m.–5:00 p.m.

C. CSR contains three large steam sterilizers, six small steam sterilizers, three large instrument washers, and storage shelves for dental and resident instrument cassettes and kits.

### **Instrument Check-out**

Instruments that are requested with the scheduler will be distributed to student boxes twice a day, once for the morning session of patients and again in the afternoon.

1. Any change in instrumentation or additional instruments needed should be checked out from CSR.
2. Your student I.D. badge will be required to check out any instruments from CSR.
3. Students will be given 30 minutes after each session begins to check instrument kits to make sure they are complete and in working order. Any problems with instruments must be brought to CSR staff attention during this time period so that instruments can be exchanged. If CSR staff is not notified of any problems with instruments during this time, the student will then be responsible for any broken or missing instruments.

Clinic Operations Manual Sect-3.53 Revised Dec. 2015

Infection Control Procedures/Special Medical Conditions

### **Instrument Check-In**

1. Preparation of instrument cassettes for sterilization:
  - a. Remove excess debris from instruments (cements and sealers from spatulas and placing instruments, amalgam from amalgam carriers, impression materials from impression trays and mixing spatulas)
  - b. Check that all instruments are in the cassette and that cassette is closed and complete.
  - c. Return the cassette to CSR for sterilization.

- d. Wait while the cassette is checked in to assure you are cleared for the cassette you checked out.
- e. If cassette, handpiece or any instrument is not returned to CSR, the student's deposit will be charged for replacement.

## **Regulated Waste**

Regulated Waste means 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 capable of releasing these materials during handling; contaminated sharps; and pathological microbiological wastes containing blood or other potentially infectious materials." (29 CFR 1910.1030 (b).)

### **“Other Potentially Infectious Materials”**

OTHER POTENTIALLY INFECTIOUS MATERIALS has been defined to specifically include saliva in dental procedures. The definition states “the following human body fluids: 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.” (29 CFR 1910.1030 (b).) These regulated (medically-infectious) waste will be disposed by placing the waste in a red biohazard bag and then into an appropriate biohazard container located inside CSR.

## **Sharps**

All sharps will be disposed of in appropriate puncture-proof containers.

**Procedures/Rationale:** Sharp items (needles, empty anesthetic carpules, scalpel blades, and other sharp instruments) should be considered as potentially infective and must be handled with extraordinary care to prevent unintentional injuries.

Disposable syringes and needles, scalpel blades, and other sharp items must be placed into the puncture-resistant containers located in the team area in which they were used. To prevent needlestick injuries, disposable needles should not be purposefully bent or broken, removed from disposable syringes, or otherwise manipulated by hand after use.

All other waste should be disposed in the cubicle trash container. This waste would consist of paper towels used to dry your hands, bags used to sterilize instruments, cotton products, gloves, barrier wraps, etc.

## **Cubicle Preparation and Patient Treatment**

### **Requirement**

Cubicle treatment components will be cleaned, disinfected and readied for treatment using the following procedures:

1. Clean and disinfect the cubicle treatment components with provided disinfectant
2. Place all barrier wraps
3. Equipment (carts, etc.) will be maintained in an aseptic condition.
4. No laboratory work is to be performed in cubicles unless required during patient treatment.

Any surface within three feet of the patient's mouth must be considered contaminated after providing treatment that produces spatter. Therefore, cabinet doors and drawers must be closed during treatment. However, only surfaces that are touched must be cleaned and disinfected or have disposable covers changed between patients.

*Clinic Operations Manual Sect-3.54 Revised Dec. 2015*  
Infection Control Procedures/Special Medical Conditions

### **Cubicle Prep**

1. Put on gloves (to prevent any skin irritation from surface disinfectant)
2. Wipe down countertops and patient chair with disinfectant wipes
3. Remove gloves and discard into trash can
4. Get the following supplies from your team supply cart:
  - a. headrest bags
  - b. 5 small (~ 6”) pieces & 2 large (~ 24”) pieces of plastic wrap
  - c. 1 pair of gloves
  - d. 1 mask
  - e. 2 patient napkins
5. Place one headrest bag over the patient chair's headrest

6. Place one headrest cover over the computer mouse
    - a. put hole in back of cover and feed mouse through hole
  7. Place one large piece of plastic wrap over handpiece hose rest area
  8. Place one large piece laid over computer keyboard (tuck in sides)
  9. Place two small pieces of plastic are wrapped around light handles and switch
  10. Place one small piece over saliva ejector handle
  11. Place one small piece over high-speed evacuation handle
  12. Place one small piece over the patient chair control
  13. Place patient napkins over bracket tray and sink counter
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## Patient Treatment

### Hand Washing Rationale

Hand washing is an extremely effective procedure for the prevention of many infections that are acquired from the transmission of organisms on the hands.

Hand washing is mandatory (1) before treatment, (2) between patients, (3) after glove removal, (4) during treatment if an object is touched that might be contaminated by another patient's blood or saliva, (5) if the glove has a tear, and (6) before leaving the operatory.

The rationale for handwashing after gloves have been worn is that gloves become perforated, knowingly or unknowingly, during use and allow bacteria to enter beneath the glove material and multiply rapidly. Extraordinary care must be used to avoid hand injuries during procedures.

However, when gloves are torn, cut or punctured, they must be removed immediately, hands thoroughly washed, and regloving accomplished before completion of the dental procedure.

Persons with Herpes Simplex are restricted from patient contact and contact with patient's environment until lesions heal.

**Hand Washing Procedure:** The following is the recommended procedure for hand washing for routine dental procedures in the clinic and for routine laboratory work with contaminated items:

1. At the start of each day, wash hands with soap and water for 15 seconds.
2. Dispense sufficient soap or antimicrobial handwash to cover hands and wrists.
3. Rub the hand wash gently on all areas, with particular emphasis on areas around nails and between fingers, for 15 seconds minimum before rinsing under cool water.
4. "Residual" antiseptic handwash has a long lasting antimicrobial effect on the skin that improves with more frequent use throughout the day. (Journal of the American Dental Assoc., Vol. 55, No. 9, p.624)
5. If hands are not visibly soiled, a non-antimicrobial soap, an antimicrobial soap or an alcohol-based hand rub may be used.

*Operations Manual Sect-3.55 Revised Dec. 2015: Infection Control Procedures/Special Medical Conditions*

### Medical History

Always obtain a thorough medical history. Include specific questions about medications, current illnesses, hepatitis, recurrent illnesses, unintentional weight loss, lymphadenopathy, oral soft tissue lesions, or other infections. Medical consultation may be indicated when a history of active infection or systemic disease is elicited.

### Protective Eyewear

Protective eyewear must be worn when treating patients. Patients, faculty, staff, and students are required to wear protective eyewear under the following conditions:

1. While using hand instruments.
2. While operating rotary cutting instruments.
3. While operating lathes, torches, autoclaves, and other types of equipment.
4. While using or manipulating any material (liquid or solid).
5. During any other activity that could be construed as a potential danger to the eyes.

6. Since the use of protective eyewear is required by state law, any patient refusing to wear them will not be treated in this clinic.

### **Dental Unit Water Quality**

The ADA recommends flushing between patients on all devices connected to the DUWL approximately 30 seconds.

Maintenance flushes and disinfects all three vacuum lines weekly.

Maintenance test all filtered and unfiltered water in all dental units for levels of TDS monthly.

### **Barrier Wraps**

Surfaces that will be contaminated, but not cleaned and disinfected between patients, should be covered with barrier wrap. Some examples include: light handles, light switch, air/water syringe control, etc.

### **Rubber Dam and Isovac Use**

A rubber dam or isovac should be used whenever possible in tooth preparation. Both are an excellent barrier against the spread of infectious materials caused by spatter.

### **High Speed Evacuation Use**

High-speed evacuation should be used whenever possible when using the high-speed handpiece, water spray, ultrasonic scaler or during a procedure that causes spatter.

### **Reduce Splatter**

The three-way syringe is another source of cross-contamination because it produces spatter. Therefore, caution must be used when spraying teeth and the oral cavity. When used, a potential for splatter must always be considered and appropriate precautions taken. The use of non-splatter producing methods, such as use of warm moist cotton pellets or use of water before air, is recommended.

### **Dropped Instruments**

An instrument that is dropped will not be picked up and reused. If the instrument is essential for the procedure, a sterilized replacement must be obtained.

### **Radiology**

See “Radiology” and “Treatment Planning” sections in your student orientation manual.

### **Cleanup after Patient Treatment**

#### **Requirement**

After patient treatment and at the end of the day, donning nitrile gloves:

1. Remove excess debris from instruments (cements and sealers from spatulas and placing instruments, amalgam from amalgam carriers, impression materials from impression trays and mixing spatulas).
2. Decontaminate all surfaces by removing infectious wastes and then disinfecting all environmental surfaces.
3. Rinse and disinfect all impressions, bite registrations and appliances before they are sent to the laboratory.

*Clinic Operations Manual Sect-3.56 Revised Dec. 2015*  
Infection Control Procedures/Special Medical Conditions

#### **Procedures/Rationale**

Any surface that becomes visibly contaminated with blood or saliva must be cleaned immediately and disinfected using the disinfectant provided in the cubicle. These products are usually applied, carefully wiped off with a disposable wipe, reapplied, and left moist for the recommended time interval. Blood and saliva should be thoroughly and carefully cleaned from instruments and materials that have been used in the mouth.

Many blood and saliva-borne disease-causing microorganisms, such as HBV and Mycobacterium tuberculosis, can remain viable for many hours (even days) when transferred from an infected person to environmental surfaces within dental operatories and other clinical areas. Since subsequent contact with these contaminated surfaces can expose others to such microbes and may result in disease transmission, adequate measures must be used in each clinical area to control possible transmission from contaminated surfaces.

## **Use of Barriers**

A practical and effective method for routinely managing operatory surface contamination between patients is to use disposable blood/saliva impermeable barriers, such as plastic film and aluminum foil, to shield surfaces from direct and indirect exposure.

Removal of blood, saliva and microbes is accomplished by routinely changing surface covers between patients. Time-consuming cleaning and disinfection procedures between patients can then be minimized.

## **Cleaning Between Patient Visits**

Thorough cleaning between patients is necessary for those uncovered operatory surfaces that are routinely touched and become contaminated during patient treatment. The following guidelines will be followed.

## **Acceptable Disinfectants**

Only those chemical disinfectants that are EPA-registered, ADA approved hospital-level mycobactericidal agents capable of killing both lipophilic and hydrophilic virus at use dilution are considered acceptable agents for environmental surface disinfection.

Use of any chemical killing-agent not so approved is unacceptable.

## **Cleaning Protocol**

The following protocol for disinfecting the dental delivery unit between patients will be used:

1. Remove gloves and wash hands immediately.
2. Complete entries on all forms and records relating to the treatment provided and dismiss the patient.
3. Put on gloves (utility gloves are preferred) before beginning the clean-up.
4. Remove barriers from the dental equipment and items from the dispensary. Clean and disinfect as necessary and return all items to the dispensary in a clean container.

Separate Trash

5. Care should be taken to discriminate between “regulated” waste and “non-regulated” waste and disposed of properly.

## **Sharps**

Discard needles, such as anesthetic and suture needles, used anesthetic carpules and any disposable sharp instruments, such as scalpel blades, broken instruments, used burs, or any item that could puncture skin, into the rigid sharp’s container.

## **Disinfect Impressions, etc.**

Bite registrations, impressions, models, dies and prostheses become contaminated. These items must be cleaned and disinfected prior to removal from clinical areas. Impressions made with materials containing an approved antimicrobial agent and poured with a gypsum product also containing an approved antimicrobial agent shall be rinsed with water, shaken dry and bagged in a headrest cover for transport to the laboratory.

## **Clean Eyewear**

Rinse and clean eyeglasses, goggles or faceshield with detergent and water. Set aside to dry.

## **Prepare Cubicle**

Prepare for next patient or prepare cubicle for days end. The following items should be disinfected:

1. Delivery system
2. Light handles and switch
3. Saliva ejector holder
4. Evacuator hose and on-off knob on evacuator
5. Patient chair - including base
6. Assistant chairs and non-fabric parts of Doctor’s chair
7. Paper product container
8. Partition
9. Top of rheostat
10. Top and front of mobile cabinet

11. Don't disinfect or use alcohol on the light shield as it will pit and discolor.

*Clinic Operations Manual Sect-3.57 Revised Dec. 2015*  
Infection Control Procedures/Special Medical Conditions

### **Cubicle Breakdown**

1. Put on gloves (utility gloves preferred)
2. Any sharps go in red sharps disposal container
3. Any amalgam scrap goes into amalgam safe, any capsules into white container labeled amalgam capsules.
4. Gather all disposables ( 2x2s, cotton rolls, masks, gloves, saliva ejectors, high speed evacuation tips, plastic wrap, etc.) and determine if hazardous or not.
  - a. hazardous waste (squeezeable, dripping w/ blood or blood-tinged saliva) is placed in a small red biohazard bag and taken to CSR
  - b. non-hazardous waste (not squeezeable, dripping) can go into the regular trash can
5. Instrument cassettes
  - a. Wipe excess cement off instruments and place back inside cassette, close and lock cassette(s)
  - b. Wearing gloves, return cassette(s) back to CSR (Central Sterilization)
6. Return to cubicle and don new gloves
7. Wipe counter tops, hoses and patient chair with disinfectant
8. Remove gloves and discard into trash can
9. Gown: place in blue laundry bag at the end of the day, or when visibly soiled.

### **End of Clinic Day Cubicle Policy**

After the cubicle has been disinfected at the end of the day, place patient chair in the upright position and raise the chair to maximum height. Place the light over the headrest of the chair. **DO NOT** wrap/prepare cubicle for the next morning clinic.

Cubicles may be prepped 90 minutes prior to patient appointment. Instruments **MUST** remain bagged and should be opened in the patient's presence.

### **Preclinical Labs (clean labs & dirty labs)**

Because preclinical lab educational exercises simulate clinical experiences, students in lab must also adhere to infection control and safety regulations.

Infection Control:

1. Wash hands after handling equipment, removing gloves, after contact with bodily fluids, and before leaving the laboratory.
2. All appropriate personal protective equipment must be worn when working in the lab.
  - a. Lab coat or apron
  - b. Eye protection (safety glasses with side shields, face shield)
  - c. Mask and gloves
  - d. Gloves and mask must be removed when leaving the lab
3. No eating or drinking allowed in the lab areas.
4. **Extracted teeth** (for endodontic labs) are considered medical waste and must be handled as such.
  - a. Never leave teeth in the lab, they need to be disposed of in the proper medical waste containers:
    - i. Two types of containers, one marked teeth with amalgam and one marked teeth without amalgam. **USE THE PROPER WASTE CONTAINER.**
5. Must follow infection control procedures when handling casts, impressions and other contaminated items.

Safety:

1. Long hair must be secured away from the operating field and to prevent it from being caught in machinery.
2. Polishing lathe: When using the polishing lathe, the safety shield (when present) must be down and in place, and central vacuum turned on.
  - a. Never attempt to stop the lathe by grasping the attachment with hands.

- b. Never make any adjustments or replace chucks, wheels, etc., when lathe is running.
  - c. Never use gloves while operating the lathe. Wearing glove could result in serious injury.
3. Vapors: Never inhale acrylic resin monomer or any health hazardous solvent. Work with good ventilation or use chemical protection.
    - a. A charcoal filter is recommended when using monomer or any other health hazardous solvent. Charcoal filters are for fumes and are not to be used for suction of debris, such as stone, resin, etc.
    - b. Chemical spills should be covered immediately with paper towels, then call Gary Wauthier, ext. 5459 or campus police, ext. 1515, or Environmental Health and Safety (EHS), ext. 5241.
  4. Never have an open flame within 10 inches of flammable materials (e.g. acrylic monomer, acetone, alcohol, etc.).
  5. Gas: Shut off all gas/air valves at the end of each laboratory period. Turn off all Bunsen burners and alcohol torches when not in use.
  6. Fire: If a material ignites, turn off the gas jets immediately. Fire extinguishers and fire blankets are available in the laboratory.
  7. Broken glass must be picked up with mechanical means (e.g. forceps, broom and dustpan), **not with fingers**.
  8. Never blow dust off casts / prostheses with your breath. Remove dust using the laboratory air supply.
  9. Used blades, pins, broken glass or other like items must be placed in a sharps container.
  10. Amalgam scrape must be placed in containers labeled: Amalgam Scrap
  11. Accidents: All accidents must be reported immediately to faculty or laboratory assistants. If one is not immediately available, contact Oral Surgery Emergency (Code Blue) ext. 4444, after hours and weekends call 1515.

Labs must be clean & neat:

1. Students are responsible for maintaining the laboratory work stations including:
  - a. Benches, model trimmers, lathes, polishing and finishing benches.
  - b. Dental stone must be properly discarded after completion of work. Dental stone and casting material are not to be discarded in the sink as this will cause plumbing problems. All gypsum must be discarded in the waste receptacles.
  - c. All impression materials must be disposed of in the waste receptacles. Alginate must not be cleaned from mixing bowls in the sinks.
  - d. Wax must be removed from benchtops and floors.
  - e. Sweep up any grinding debris on the floor. Be careful to avoid acrylic powder spills as it causes an extremely slippery floor surface that is not easily visible.
  - f. Stone vibrators must be protected with plastic covers. Replace plastic as needed.
2. Students using the laboratories after hours must wear their UMKC identification.

## **Personal Hygiene and General Clinic Policy Requirement**

All DHCW's will follow the personal hygiene procedures:

1. Personal hygiene, including body and clothing, should always be above reproach, and adhere to the dress code.
2. Hair, beards and mustaches must be clean and neat. Hair must be cleared away from the face and secured in such a way that it will be out of the operating field. Facial hair must be covered by a face mask.
3. Fingernails should be clean and short. Length of nails should not interfere with instrumentation.
4. When working in the clinical laboratory, a student must have clinic dress and PPE available so that he/she can treat patients in the clinic.
5. No eating in the first floor patient treatment areas, Faculty Practice or Oral Surgery patient treatment areas.

When participating in lectures and in preclinical or production laboratory activities, student must comply with the dress code. However, rather than clinic PPE, lab coats should be worn.

6. Gowns worn in laboratories must be clean and neat.
7. Clean socks or hose and shoes are required. Sandals are not acceptable in laboratory or on clinic floor; neither are surgical clogs with holes.

*Clinic Operations Manual Sect-3.58 Revised Dec. 2015: Infection Control Procedures/Special Medical Conditions*

## **Procedures/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 that may potentially penetrate gloves should be removed for the same reasons. Dental health care workers with injured or cracked skin, erosions, or eczema on hands or arms should exercise additional caution such as using mild soaps and lotion until the lesions are healed.

Food consumption or preparation in the first floor patient treatment areas, clinical area of the Faculty Practice, and the oral surgery clinic is not allowed. Food can be stored in these areas and taken to authorized eating areas.

Beverages such as coffee, tea, and soft drinks can be consumed in areas away from designated patient treatment such as private offices and team offices (see Guideline 2 for definition of patient treatment area(s)).

Points of note concerning food consumption are as follows: 1) You may eat food in the graduate orthodontic conference room, but food preparation is not allowed; 2) You may eat food in oral surgery conference room, but food preparation is not allowed.

## **Use of Extracted Teeth**

### **Teeth with Alloy Restorations**

Teeth removed in the oral surgery clinic are separated into two groups: teeth that contain alloy restorations and teeth that don't contain alloy restorations. Teeth that contain alloy restorations are placed in household bleach diluted to 1:10. They are disposed of by the normal process used to destroy contaminated human tissue. They are placed in a biohazard waste receptacle. The teeth are put in to a wide-mouth container to which bleach is added. The container is covered with a spill-proof lid.

### **Teeth Without Alloy Restorations**

The second (and largest) group of extracted human teeth do not contain amalgam restorations. These teeth are placed in plastic autoclavable cups to which distilled water is added. On Tuesdays and Fridays the teeth are autoclaved for 40 minutes at a temperature of 121 degrees centigrade at 15 PSI. After the specimen receptacles have been autoclaved, the distilled water is poured down the drain. The teeth are transported in the receptacles to the Department of Endodontics, where 0.2 thymol solution is poured in to the containers. They are then labeled "Autoclaved Teeth: Solution Is Harmful If Swallowed; May Cause Liver and Kidney Damage."

Autoclaved teeth that have been approved for use in dental school classes are removed from the jars with cotton pliers and rinsed with tap water. These teeth are then soaked for several minutes in a separate container filled with tap water and then rinsed again. The teeth can now be safely handled with ungloved hands, but because preclinical educational exercises simulate clinical experiences, students will wear appropriate standard precautions. Extracted teeth that have not been autoclaved must be handled with appropriate standard precautions (i.e., gloves, eyewear and PPE).

The collections of teeth with or without amalgam are kept in a biohazard container that has a wide mouth and secure lid. All containers must be labeled properly.

Comments regarding this protocol should be referred to Dr Robert Blundell.

## **Enforcement of Clinical Guidelines**

### **Requirement**

Failure to comply with the above Standard Precautions will result in appropriate disciplinary action.

### **Procedures/Rationale**

Enforcement of infection control violations will be heard by the administrator directly responsible for the student's education (e.g., Team Coordinator, Faculty Practice administrator, Chairman of Oral Surgery, etc.)

As additional developments may be needed, the Associate Dean for Clinical Programs should be consulted for recommendations.

**All appeals** will be heard by the Academic Standards Committee.

**Final disposition of discipline** within the University of Missouri-Kansas City School of Dentistry will be heard by the Dean of the School of Dentistry.

Clinic Operations Manual Sect-3.59 Revised Dec. 2015

Infection Control Procedures/Special Medical Conditions

### **Preclinical Labs (clean labs & dirty labs)**

Because preclinical lab educational exercises simulate clinical experiences, students in lab must also adhere to infection control and safety regulations.

## Infection Control

1. Wash hands after handling equipment, removing gloves, after contact with bodily fluids, and before leaving the laboratory.
2. All appropriate personal protective equipment must be worn when working in the lab.
  - a. Lab coat or apron
  - b. Eye protection (safety glasses with side shields, face shield)
  - c. Mask and gloves
  - d. Gloves and mask must be removed when leaving the lab
3. No eating or drinking allowed in the lab areas.
4. **Extracted teeth** (for endodontic labs) are considered medical waste and must be handled as such.
  - a. Never leave teeth in the lab, they need to be disposed of in the proper medical waste containers:
    - i. Two types of containers, one marked teeth with amalgam and one marked teeth without amalgam. **USE THE PROPER WASTE CONTAINER.**
5. Must follow infection control procedures when handling casts, impressions and other contaminated items.

## Safety

1. Long hair must be secured away from the operating field and to prevent it from being caught in machinery.
2. **Polishing lathe:** When using the polishing lathe, the safety shield (when present) must be down and in place, and central vacuum turned on.
  - a. Never attempt to stop the lathe by grasping the attachment with hands.
  - b. Never make any adjustments or replace chucks, wheels, etc., when lathe is running.
  - c. Never use gloves while operating the lathe. Wearing gloves could result in serious injury.
3. Vapors: Never inhale acrylic resin monomer or any health hazardous solvent. Work with good ventilation or use chemical protection.
  - a. A charcoal filter is recommended when using monomer or any other health hazardous solvent. Charcoal filters are for fumes and are not to be used for suction of debris, such as stone, resin, etc.
  - b. Chemical spills should be covered immediately with paper towels, then call Gary Wauthier, ext. 5459 or campus police, ext. 1515, or Environmental Health and Safety (EHS), ext. 5241.
4. Never have an open flame within 10 inches of flammable materials (e.g. acrylic monomer, acetone, alcohol, etc.).
5. Gas: Shut off all gas/air valves at the end of each laboratory period. Turn off all Bunsen burners and alcohol torches when not in use.
6. Fire: If a material ignites, turn off the gas jets immediately. Fire extinguishers and fire blankets are available in the laboratory.
7. Broken glass must be picked up with mechanical means (e.g. forceps, broom and dustpan), **not with fingers**.
8. Never blow dust off casts / prostheses with your breath. Remove dust using the laboratory air supply.
9. Used blades, pins, broken glass or other like items must be placed in a sharps container.
10. Amalgam scrap must be placed in containers labeled: Amalgam Scrap
11. Accidents: All accidents must be reported immediately to faculty or laboratory assistants. If one is not immediately available, contact the Director of Clinical Services at ext. 2152, or contact Oral Surgery Emergency (Code Blue) ext. 4444, after hours and weekends.

## Labs Appearance

Students are responsible for maintaining the laboratory work stations including:

1. Benches, model trimmers, lathes, polishing and finishing benches.
2. Dental stone must be properly discarded after completion of work. Dental stone and casting material are not to be discarded in the sink as this will cause plumbing problems. All gypsum must be discarded in the waste receptacles.
3. All impression materials must be disposed of in the waste receptacles. Alginate must not be cleaned from mixing bowls in the sinks.
4. Wax must be removed from benchtops and floors.

5. Sweep up any grinding debris on the floor. Be careful to avoid acrylic powder spills as it causes an extremely slippery floor surface and not easily visible.

6. Stone vibrators must be protected with plastic covers. Replace plastic as needed.

Students using the laboratories after hours must wear their UMKC identification.

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## **Additional Areas of Concern**

### **Handling of Biopsy Specimens**

#### **Requirement**

All tissue removed should be subjected to gross and/or microscopic examination, with all findings placed in the patient treatment record. In general, each specimen should be put in a sturdy container with a secure lid to prevent leaking during transportation.

Care should be taken when collecting specimens to avoid contamination of the outside of the container. If the outside of the container is visibly contaminated, it should be cleaned and disinfected, or placed in an impervious bag. Each container must be clearly marked with a biohazard sticker.

### **Tuberculosis**

#### **Tuberculosis (TB) precautions for outpatient dental settings.\***

##### ADMINISTRATIVE CONTROLS

- Assign responsibility for managing TB infection control program
- Conduct baseline assessment on all-new hire and first time students.
- Develop written TB infection control policies for promptly identifying and isolating patients with suspected or confirmed TB disease for medical evaluation or urgent dental treatment
- Instruct patients to cover mouth when coughing and/or wear a surgical mask
- Ensure that dental health care personnel (DHCP) are educated regarding signs and symptoms of TB
- When hiring DHCP, ensure that they are screened for latent TB infection and TB disease
- Postpone urgent dental treatment

##### ENVIRONMENTAL CONTROLS

- Use airborne infection isolation room to provide urgent dental treatment to patients with suspected or confirmed infectious TB
- In settings with high volume of patients with suspected or confirmed TB, use high-efficiency particulate air filters or ultraviolet germicidal irradiation

##### RESPIRATORY PROTECTION (RP) CONTROLS

- Use RP—at least an N95 filtering face piece (disposable)—for DHCP when they are providing urgent dental treatment to patients with suspected or confirmed TB
- Instruct TB patients to cover mouth when coughing and to wear a surgical mask

\*Source: Jensen and colleagues.3 (PP 25, 126)

\*\*At this time the School of Dentistry does not have the environmental controls needed to treat patients with active TB. They should be referred to another facility for treatment.

#### **Respiratory hygiene and cough etiquette measures.\***

- Use tissue to cover the nose and mouth and to contain respiratory secretions when coughing or sneezing.
- Dispose of tissues in no-touch receptacles (such as those with foot-pedal-operated lids or an open, plastic-lined wastebasket).
- When coughing or sneezing, if tissues are not available, cover the mouth and nose with the inner surface of the arm and forearm, to keep pathogenic organisms away from the hands; although Mycobacterium tuberculosis cannot spread by the hands, other respiratory pathogens such as rhinoviruses can.

- Practice hand hygiene (such as hand washing with non-antimicrobial soap and water, alcohol-based hand rub or antiseptic hand wash) after having contact with respiratory secretions or contaminated objects and materials; hand hygiene is recommended to prevent transmission of all respiratory illnesses, in general, but will not affect tuberculosis transmission

*Clinic Operations Manual Sect-3.61 Revised Dec. 2015: Infection Control Procedures/Special Medical Conditions*

### **Tuberculosis (TB) risk categories and recommended testing frequency.\***

#### **Risk Category Risk Classification TB Testing Frequency**

Low: People with TB disease unlikely to be seen

Fewer than three patients with unrecognized TB treated in past year

Baseline, \*\* at hiring; further testing not needed unless exposure occurs

Medium: People with TB disease likely to be seen

Three or more patients with unrecognized TB treated in past year

Baseline, \*\* then annually

Potential Ongoing Transmission

Evidence of ongoing person-to-person transmission

Baseline, \*\* then every eight to 10 weeks until evidence of transmission has ceased

\*Source: Jensen and colleagues.3 (pp. 9-11, 134)

\*\* Baseline screening should be conducted by a qualified health care professional using a two-step tuberculin skin test or single blood assay interferon gamma release assay.

### **Contact Dermatitis and Latex Hypersensitivity**

Dental health care providers must familiarize themselves about the signs, symptoms, and diagnoses of skin reactions associated with frequent hand hygiene and glove use. Immediate and delayed hypersensitivities have been associated with natural rubber latex (NRL) proteins and processing chemicals used in the manufacture of NRL gloves. Lotions should be used to prevent skin dryness associated with hand washing at the end of the workday. Lotions must be compatible with antiseptic products and must not compromise the integrity of gloves. Petroleum-based lotions will degrade NRL gloves.

### **Boil Water Advisories**

While a boil-water advisory is in effect do not deliver water from the public water system to the patient through the dental operative unit, ultrasonic scaler, or other dental equipment that uses the public water system. Do not use water from the public water system for dental treatment, patient rinsing or hand washing. Use antimicrobial-containing products for hand washing that does not require water for use, such as alcohol-based hand rubs. If hands are visibly soiled, use bottled water and soap for hand washing or a detergent-containing towelette. When the boil-water advisory is cancelled, follow guidance given by the local water utility on proper flushing of waterlines. If no guidance is provided, flush dental waterlines and faucets for one to five minutes before using for patient care. Disinfect dental waterlines as recommended by the dental unit manufacturer.

### **Other Infectious Diseases**

The use of the recommended sterilization and disinfection procedures will prevent or greatly reduce the danger of the spread of most infectious diseases, i.e., measles, mumps, colds, influenza, etc. It is recommended that all dental faculty, staff and students receive all standard immunizations.

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# Occupational Exposure Protocol

## Introduction

Significant Exposures:

- Contaminated needle-stick.
- Puncture wound from a contaminated sharp instrument.
- Contamination of any obviously open wound or the mucous membranes by saliva, blood, or a mixture of both saliva and blood.

Exposure to the patient's blood or saliva on the unbroken skin is not considered significant.

If you have been exposed to blood or body fluid from a patient, you may be at risk of exposure to bloodborne pathogens (disease-causing germs carried by blood, such as Hepatitis or HIV). Since we never know whose blood may carry germs, we need to take precautions regarding your exposure.

## Risk of Infection after Exposure

While the risk is very low, it is not zero.

- Exposure from needle sticks or cuts cause most infections. The average risk of HIV infection after a needle stick/cut exposed to HIV infected blood is about 1 in 300. 99.7% of needle stick/cut exposures do not lead to infection.
- The risk after exposure of the nose or mouth to HIV infected blood is estimated to be about 1 in 1,000.

## Exposure Accident Protocol

1. Immediately cleanse the wound thoroughly with soap and water.
2. It is recommended that you seek evaluation/treatment as soon as possible. If you are treating a patient, we recommend you stop dental treatment and take the patient to Oral Surgery to have their blood drawn. You can then dismiss the patient and proceed to Truman Medical Center Occupational Health Department for evaluation/treatment.
3. If the source patient is unavailable or unknown, it is still imperative that you report to Truman Occupational Health Department as soon as possible for evaluation and determination of prophylactic drug regime.
4. If Truman Medical Center Occupational Health Department is closed, you should report to Truman Medical Center Emergency Department.
5. **If the source patient of the body fluids is known, please take the patient to Oral Surgery to have blood drawn. The following tests will be done on the patient:**
  - a. HIV — Consent is required.
  - b. HbsAG (Hepatitis antigen) — to see if the patient is a Hepatitis B carrier
  - c. HCV — to see if patient is a Hepatitis C Carrier.
6. The student will report to Truman Medical Center's Occupational Health Department with the patient's blood for counseling and blood work assessment. You may obtain a map to the Occupational Health Department from Oral Surgery or Ms. Dana Linville, room 168B.
7. In order to assess whether the student has been previously exposed to Hepatitis or HIV, the student's blood will be drawn at Truman Medical Center and tested for the following:
  - a. HIV (Human Immunodeficiency Virus), consent is required
  - b. HbsAB (Hepatitis Antibodies)
  - c. HCV
8. When you return from Truman Medical Center Occupational Health, report the exposure incident to Jennifer Smith, RN in Oral Surgery.
9. After-Hours Exposure: In the event of an after-hours exposure, please call Truman Medical Center Emergency Department (TMC ED) at 816-404-1500. The supervising faculty should speak to the charge nurse so that care can be expedited when you arrive at TMC ED.

## **HIV Blood Test Results and Treatment Recommendations**

### **Source Patient**

1. Diagnosed AIDS; HIV positive; refuses testing; or unknown source
2. Anti-HIV negative optional follow-up at 3 and/or

### **Student or Worker Exposed**

1. Receive counseling and medical evaluation for post-exposure medication
2. Receive counseling and 6 months

### **If Post-Exposure Medication Is Indicated**

The short-term and long-term harmful effects of taking anti-viral medication by a non-infected individual is uncertain at this time. The adverse effects of taking antiviral medication during pregnancy is not fully known at this time.

When taking post exposure prophylactic medication, you should be aware of the following side effects of each drug.

- Upset stomach (e.g. nausea, vomiting, diarrhea), tiredness, or headache for people taking ZDV
- Upset stomach and, in rare instances, pancreatitis for people taking 3TC
- Jaundice and kidney stones in people taking IDV, although these side effects are infrequent when IDV is taken for less than one month. The risk of kidney stones may be reduced by drinking 48 oz. of fluid per 24 hour period.

### **Is post-exposure treatment recommended for all types of occupational exposures to HIV?**

No. Because most occupational exposures do not lead to HIV infection, the chance of possible serious side effects (toxicity) from the drugs used to prevent infection may be much greater than the chance of infection from the exposure. The risk of infection and possible side effects of the drugs should be carefully considered when deciding whether to take the medication. Exposures with a lower risk for infection may not be worth the side effects associated with these drugs.

### **What about exposures to blood for which the HIV status of the source patient is unknown?**

If the source individual cannot be identified or tested, decisions regarding follow-up should be based on the exposure risk and whether the source is likely to be a person who is HIV positive.

Follow-up HIV testing is available to all workers who are concerned about possible infection through occupational exposure.

## **Hepatitis C Blood Test Treatment Recommendations**

- For the source, baseline testing for anti-HIV
- For the person exposed to the HCV-positive source, baseline and follow-up testing including:
  - baseline testing for anti-HCV; and
  - follow-up testing for anti-HCV at 12 weeks and 6 months
- Confirmation by supplemental anti-HCV testing of all anti-HCV results reported as positive by enzyme immunoassay

### **Definitions**

1. HBsAg refers to the Hepatitis B surface antigen.
2. Anti-HBs refers to the antibody to the Hepatitis B surface antigen.
3. HBIG refers to Hepatitis B immune globulin.
4. Anti-HIV refers to the antibody to the human immunodeficiency virus.
5. Anti-HCV refers to the antibody to the Hepatitis C antigen.

### **References**

Public Health Service Guidelines for the Management of Health-Care Worker Exposures to HIV and Recommendations for Post-exposure Prophylaxis; MMWR 47 (RR-7); 1-28; Publication date 5/15/1998

Truman Medical Center-West Blood/Body Fluid Exposure on Health Care Workers

MMWR Oct. 16, 1998; 47 (RR-19); 1-39 Recommendations for Prevention and Control of Hepatitis C (HCV) Infection and HCV-Related Chronic Disease

MMWR 1997; 46 (RR-18); 23 Immunization of Health-Care Workers; Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practice Advisory Committee.

**TABLE 3. Recommended post-exposure prophylaxis for exposure to hepatitis B virus**

Vaccination and antibody response status of exposed workers <sup>1</sup>	Treatment		
	Source HBsAg' positive	Source HBsAg' negative	Source unknown or not available for testing
<b>Unvaccinated</b>	HBIG <sup>4</sup> x 1 and initiate HB vaccine series <sup>1</sup>	Initiate HB vaccine series	Initiate HB vaccine series
<b>Previously vaccinated</b>			
Known responder**	No treatment	No treatment	No treatment
Known Non-responder''	HBIG x 1 and initiate revaccination or HBIG x 2*	No treatment	If known high risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed person for anti-HBs <sup>1</sup> 1. If adequate/* no treatment is necessary 2. If inadequate, administer HBIG x 1 and vaccine booster	No treatment	Test exposed person for anti-HBs 1. If adequate, <sup>1</sup> no treatment is necessary 2. If inadequate, <sup>1</sup> administer vaccine booster and recheck titer in 1-2 months

\* Persons who have previously been infected with HBV are immune to reinfection and do not require postexposure prophylaxis.

<sup>1</sup> Hepatitis B surface antigen.

<sup>4</sup> Hepatitis B immune globulin; dose is 0.06 mL/kg intramuscularly.

<sup>1</sup> Hepatitis B vaccine.

A responder is a person with adequate levels of serum antibody to HBsAg {i.e., anti-HBs >10 mIU/mL}.

\* A nonresponder is a person with inadequate response to vaccination (i.e., serum anti-HBs < 10 mIU/mL).

<sup>1</sup> The option of giving one dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred.

\* Antibody to HBsAg.

# Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis

## *Summary*

This report updates and consolidates all previous U.S. Public Health Service recommendations for the management of health-care personnel (HCP) who have occupational exposure to blood and other body fluids that might contain hepatitis B virus (HBV), hepatitis C virus (HCV), or human immunodeficiency virus (HIV).

Recommendations for HBV postexposure management include initiation of the hepatitis B vaccine series to any susceptible, unvaccinated person who sustains an occupational blood or body fluid exposure. Postexposure prophylaxis (PEP) with hepatitis B immune globulin (HBIG) and/or hepatitis B vaccine series should be considered for occupational exposures after evaluation of the hepatitis B surface antigen status of the source and the vaccination and vaccine-response status of the exposed person. Guidance is provided to clinicians and exposed HCP for selecting the appropriate HBV PEP.

Immune globulin and antiviral agents (e.g., interferon with or without ribavirin) are not recommended for PEP of hepatitis C. For HCV postexposure management, the HCV status of the source and the exposed person should be determined, and for HCP exposed to an HCV positive source, follow-up HCV testing should be performed to determine if infection develops.

Recommendations for HIV PEP include a basic 4-week regimen of two drugs (zidovudine [ZDV] and lamivudine [3TC]; 3TC and stavudine [d4T]; or didanosine [ddI] and d4T) for most HIV exposures and an expanded regimen that includes the addition of a third drug for HIV exposures that pose an increased risk for transmission. When the source person's virus is known or suspected to be resistant to one or more of the drugs considered for the PEP regimen, the selection of drugs to which the source person's virus is unlikely to be resistant is recommended.

In addition, this report outlines several special circumstances (e.g., delayed exposure report, unknown source person, pregnancy in the exposed person, resistance of the source virus to antiretroviral agents, or toxicity of the PEP regimen) when consultation with local experts and/or the National Clinicians' Post-Exposure Prophylaxis Hotline ([PEpline] 1-888-448-4911) is advised.

Occupational exposures should be considered urgent medical concerns to ensure timely postexposure management and administration of HBIG, hepatitis B vaccine, and/or HIV PEP.

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