

# **UCONN**

## **SCHOOL OF DENTAL MEDICINE**

### **INFECTION CONTROL PROGRAM INFORMATION AND POLICY MANUAL**

**2016**

**Clinical Affairs Committee**

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## UNIVERSITY OF CONNECTICUT SCHOOL OF DENTAL MEDICINE

### INFECTION CONTROL PROGRAM

#### PROGRAM OBJECTIVES:

The purpose of the Infection Control Program is to minimize the risk of transmission of bloodborne pathogens and other infectious agents between patients and School of Dental Medicine (SDM) healthcare personnel. The program is based on the rules and regulations of the Occupational Safety and Health Administration as outlined in The Code of Federal Regulations document 29 CFR Part 1910.1030 entitled "Occupation Exposure to Bloodborne Pathogens," and the CDC Infection Control in Dental Health-Care Settings-2003.

The program is responsible for overseeing the:

1. Development and implementation of the predoctoral and postdoctoral curriculum relating to infection control;
2. Training of SDM employees and non-employees at risk for exposure to bloodborne pathogens and other infectious agents;
3. Development and maintenance of currency of infection control policies;
4. Monitoring of compliance of infection control activities;
5. Reporting of infection control outcome assessments.

This document is updated as needed according to OSHA CFR 1910.1030 section (g)(2)(v).

## UNIVERSITY OF CONNECTICUT SCHOOL OF DENTAL MEDICINE

### EXPOSURE CONTROL PLAN

Supplement to UCHC Infection Control Policy Document May 5, 1992 (revised 1/14/2000)

#### EXPOSURE DETERMINATION

These exposure determinations are made without regard to the use of personal protective equipment.

- I. Job classifications in which all employees and non-employees have occupational exposure to bloodborne pathogens and other infectious agents:

##### Dental Support Personnel

- II. Job classifications in which some employees and non-employees have occupational exposure to bloodborne pathogens and other infectious agents:

##### Employees:

Dentists  
Dental assistants  
Dental hygienists  
Non-dentist research/teaching faculty  
Research associates and technicians  
Dental laboratory technicians (in-house)  
Nurses (Oral Surgery)  
Dental radiology technicians  
Faculty (auxiliary programs)  
Clerical/administrative staff  
Material storage supervisor  
Storekeepers  
Central sterilization aides

##### Non-Employees:

Predoctoral students  
Postdoctoral students  
Dental laboratory technicians (commercial)  
Auxiliary students (community/technical programs)  
Visitors

- III. Tasks and procedures in which occupational exposure occurs.

##### Dentists and Pre-and Post-Doctoral Students

All procedures associated with the training and activities of a licensed dentist which include, but are not limited to:

Diagnosis / Periodontics / Endodontics / Prosthodontics / Operative dentistry / Oral medicine / Oral and maxillofacial surgery / Pediatric dentistry / Orthodontics / Oral and maxillofacial radiology / Oral pathology/biopsy / Emergency care / Clinical research / IV/inhalation sedation

### **Dental Assistants and Dental Assisting Students**

All procedures associated with the training and activities of a dental assistant which include, but are not limited to:

Making of impressions / Oral hygiene instructions / Exposure/processing of radiographs /  
Suction of oral fluids / Tissue retraction / Treatment room cleaning/disinfection  
Instrument/equipment sterilization / Handling of sharps and syringes / Instrument transfers  
Rubber dam application / Waste management/disposal

### **Dental Radiology Technician**

All procedures associated with the activities of a dental radiology technician which include but are not limited to:

Exposing of radiographs / Processing of radiographs

### **Dental Hygienists and Dental Hygiene Students**

All procedures associated with the training and activities of a dental hygienist which include, but are not limited to:

Tooth scaling / tooth polishing / oral hygiene instruction / fluoride treatment / sealant placement  
making of impressions / exposure/processing of radiographs / suction of oral fluids /  
tissue retraction / treatment room cleaning/disinfection / handling of sharps and syringes  
instrument transfers / rubber dam application / waste management/disposal

### **Dental Laboratory Technicians**

All procedures associated with the activities of a dental laboratory technician which include but are not limited to:

Impression/model preparation / Model/appliance/prosthesis fabrication / Appliance/prosthesis  
repairs / Model/appliance/prosthesis delivery

### **Non-Dentist Research/Teaching Faculty and Research Associates**

Research protocols as identified by IRB which involve human subjects and the examination,  
manipulation and/or collection of oral tissues or fluids.

### **Dental Support Staff**

All procedures associated with the activities of dental support staff which include but are not limited to:

Equipment/instrument sterilization / Sterilization monitoring

## **Nurses (Oral Surgery)**

All procedures associated with the activities of nurses which include but are not limited to:

Suction of oral fluids / Tissue retraction / Treatment room cleaning/disinfection /  
Instrument/equipment sterilization / Handling of sharps and syringes / Instrument transfer /  
Waste management/disposal / IV sedation/anesthesia / IV/inhalation sedation

**Schedule and Method for the Implementation** of Compliance, Hepatitis B Vaccination and Post- Exposure Evaluation and Follow-up, Communication of Hazards to Employees and Recordkeeping Requirements.

The School of Dental Medicine shall comply with all deadlines required for implementing OSHA's Bloodborne Pathogen Standards including:

Written Exposure Control Plan Requirements	May 5, 1992
Information and Training Requirements	June 4, 1992
Recordkeeping Requirements	June 4, 1992
Engineering and Work Practice Controls	July 6, 1992
Personal Protective Equipment Requirements	July 6, 1992
Housekeeping Requirements	July 6, 1992
Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up Requirements	July 6, 1992
Labeling Requirements	July 6, 1992

Following initial implementation of the Bloodborne Pathogen Standard, the John Dempsey Hospital and the School of Dental Medicine will provide annual training sessions and update information as necessary to all employees and non-employees at risk. New employees and non-employees will be required to attend training sessions prior to the beginning of activities which may place them at risk to exposure.

### **Procedures for the evaluation of circumstances surrounding exposure incidents:**

Any incident of accidental exposure to potential bloodborne pathogens or other infectious agents must be reported to the immediate supervisor and Human Resources. All medical and follow-up care will be provided by Employee Health Services as outlines in the UCHC Infection Control policy document.

### **The Exposure Control Plan shall be available to all employees.**

In addition to UCHC sources, copies of the Exposure Control Plan can be obtained at the offices of the Dental Dean, Associate Dean for Dental Clinic Affairs, Vice Dean for Dental Academic Affairs, Assistant Dean for Dental Student Affairs, all Department Chairpersons and dental clinic supervisors. The Exposure Control Plan shall be reviewed and updated annually by the School of Dental Medicine Infection Control Program Committee.

## UNIVERSITY OF CONNECTICUT SCHOOL OF DENTAL MEDICINE

### ENGINEERING AND WORK PRACTICE CONTROLS

Supplement to UCHC Infection Control Policy Document

#### Overview

In addition to the Methods of Compliance as outlined by UCHC, the following guidelines will apply to all dental clinic personnel, including students, residents, faculty, and staff, who may come into contact with blood, body fluids, and tissues. The guidelines are based on *standard precautions*. Standard precautions integrate and expand the elements of universal precautions into a standard of care designed to protect DHCW and patients from pathogens that can be spread by blood or any other body fluid, excretion, secretion or tissues. Standard precautions apply to contact with 1) blood; 2) all body fluids including saliva, secretions, excretions (except sweat), regardless of whether they contain blood; 3) nonintact skin; and 4) mucous membranes. Standard precautions require that all human blood body fluids including saliva, and body tissues are to be treated as if known to be infectious. The guidelines consist of engineering and work practice controls which must be followed when the potential for contact with infectious agents exists. The guidelines, in part, have been adopted from recommendations from the U.S. Department of Health & Human Services Centers for Disease Control and Prevention, the American Dental Education Association, the Connecticut State Dental Association and the American Dental Association.

In general, the guidelines are designed to prevent the transmission of diseases through:

1. direct contact with blood, oral fluids, or other patient materials
2. indirect contact with contaminated objects (e.g., instruments, equipment, or environmental surfaces)
3. contact of conjunctival, nasal, or oral mucosa with droplets (e.g., spatter) containing microorganisms generated from an infected person and propelled a short distance (e.g., by coughing, sneezing, or talking)
4. inhalation of airborne microorganisms that can remain suspended in the air for long periods.

#### Personal Hygiene

1. Hair must be cleared away from the face.
2. Facial hair must be covered by a face mask or shield.
3. Jewelry such as rings, watches, bracelets and dangling earrings must not be worn during patient treatment.
4. Nails must be clean and short.

*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. Artificial nails have been implicated in microorganism and disease transmission from workers to patients. Jewelry should be removed for the same reasons. Chipped nail polish has been documented to harbor greater levels of bacteria and put the DHCP at risk. Employees 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.

## Hand Washing

Hand washing is mandatory (1) before treatment and glove placement, (2) after glove removal, (3) during treatment if a glove is compromised or damaged and (4) before leaving the treatment room or the dental laboratory. A double gloving technique is also acceptable where one puts on two pair of gloves and discards the outer glove following treatment activities. Hands must be washed following the removal of the undergloves.

The following is the recommended protocol for hand washing for routine dental procedures in the clinic and for routine laboratory work with contaminated items (See Table 2, CDC guidelines).

### *Hand-washing protocol:*

1. When necessary, remove gross visible debris from hands, arms and nails with appropriate cleaner/brush/nail file.
2. Wet hands under cool running water
3. Dispense sufficient soap or antimicrobial hand wash to cover hands and wrists.
4. Rub the hand wash gently onto all areas, with particular emphasis on areas around nails and between fingers, for a minimum of 15 seconds before rinsing under cool or tepid water.
5. Dry hands thoroughly with paper towels.

If the hands are not visibly soiled, an alcohol-based hand rub may be used. Alcohol hand rubs are rapidly germicidal when applied to the skin. Alcohol hand rub products should include an antiseptic such as chlorhexidine, quaternary ammonium compounds, octenidine, or triclosan to achieve persistent activity.

If using an alcohol-based hand rub, apply an adequate amount of the product, as recommended by the manufacturer, into the palm of one hand and rub hands together, covering all surfaces of the hands and fingers, until hands are thoroughly dry.

*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. Cool water prevents cornstarch from penetrating the skin pores and minimizes the shedding of microorganisms from the subsurface layers of the skin.

## Personal Protection

Routine use of barrier devices such as gloves, masks, and protective eyewear significantly reduces the possibilities for blood and salivary exposure between patients and dental health care workers. *Blood, saliva, other fluids and all oral tissues from all dental patients must be considered infectious.*

Sequence for implementing personal protective barriers:

1. Put on gown
2. Put on mask
3. Put on protective eyewear
4. Wash hands
5. Put on gloves

#### 1. Gloves

All individuals must wear disposable gloves whenever there is contact with blood, saliva, or mucous membranes. If a glove is torn or develops a hole during treatment, the gloves should immediately be removed, the hands washed, and new gloves donned. *Gloves must be removed and hands washed before leaving the dental treatment room.*

##### Utility Gloves

Sturdy, unlined utility gloves can be worn for all cleaning and disinfection of instruments, dental units, and environmental surfaces. Nitrile gloves have an increased resistance to instrument punctures and can be autoclaved. Alternatives include reusable utility gloves that can be disinfected after each use.

#### 2. Masks and Eyewear

Disposable masks and protective eyewear must be worn whenever an aerosol spray or spatter is generated. A new disposable mask is to be worn for each patient treatment session. When not in use, masks must not be placed on the forehead or around the neck.

Masks are not to be worn outside of the immediate clinic area. It is recommended that masks be changed approximately every one and one half hours during lengthy treatment procedures or if the mask becomes wet.

Protective eyewear must be considered for the patient's use. Both sets of eyewear should be cleaned between uses, being certain not to handle them with unprotected hands until they have been decontaminated. Eyewear that cannot be heat sterilized should be washed with soap and water. Eyewear should be disinfected or sterilized if visibly soiled. Follow specific manufacturer's instructions for all specialty eyewear products.

#### 3. Clinic Attire-- Gowns

All employees and non-employees at risk must routinely wear appropriate attire to prevent skin exposure and soiling of street clothes when contact with blood or saliva is anticipated. Clinical attire must not be worn outside the immediate clinic area. This area is defined as all dental treatment rooms, main clinics and the associated service corridors. It does not include the reception area, restrooms, offices, general traffic corridors, main lobby, dining areas, dental laboratory, central dispensing, or elevators.

Attire must be changed at least daily or when visibly soiled. Soiled gowns are placed in marked laundry bins in each clinic. Contaminated laundry must be bagged or containerized at the location of use. Laundry personnel handling dirty linen bags must wear moisture resistant gloves and take appropriate precautions. Since all laundry from the University of Connecticut Health Center is considered to be potentially contaminated, there is no need to label the bags as infectious.

## **Set-up for the Day/Pre-treatment Protocols**

1. Wash hands.
2. The dental operator or designated assistant must flush all the waterlines for 20 to 30 seconds at the beginning of each work day to reduce any microorganisms that may remain overnight.

*Rationale:* It has been shown that blood, saliva, and gingival fluid of patients may be aspirated into the handpiece or waterline. Therefore, flushing the unit's water reservoir between patients and before starting the day is important.

## **Preparing for the Patient**

1. Fresh bottled water with an appropriate waterline treatment product should be placed on the dental unit prior to treating the first patient of the day.
2. Flush all waterlines, including the ultrasonic scaler, for a minimum of 20 to 30 seconds between patients.
3. Clean and disinfect the unit with an EPA-registered tuberculocidal disinfectant capable of killing both lipophilic and hydrophilic viruses. Cleaning may also be accomplished by using soap and water prior to surface disinfection.
4. The environment of the dental clinics must always be clean and neat. Cover surfaces that will be contaminated, but not cleaned and disinfected between patients, with approved barriers.

Any surfaces (horizontal or vertical) within 3 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. Only current patient models and materials are allowed in the treatment room during treatment.

Barriers are most beneficially used on areas that are electrically controlled and dangerous or difficult to disinfect, such as switches on chairs, lights, x-ray units, hoses and rough surfaces. Use clear wrap over surfaces and change after each patient. Transparent barriers are preferred so as to enable personnel to see and read buttons, dials, and gauges. Protective barriers should fit loosely over objects to facilitate placement, use and removal, as well as to prevent stretching and tearing under clinical use. Barriers come in a variety of materials, some more environmentally safe than others, and include aluminum foil, poly-backed paper, as well as plastic wrap and polyethylene.

Any item which cannot be surface disinfected should be covered if contamination is anticipated.

Items which should be covered include:

- a. *Small barriers* (aluminum foil, plastic wrap polyethylene tubing)
  1. Light handles
  2. Air-water syringe
  3. Curing light-button handle
  4. Buttons on patient chair
  5. Height adjustment levers on operator's chair
- b. *Medium barriers* (paper with poly-backed lining)
  - i. Dental tray
  - ii. Auxiliary tray
  - iii. Side counters
- c. *Large barriers* (plastic wrap, clear garbage bags)
  - i. Dental chair
  - ii. Treatment room
  - iii. x-ray unit machine and cone
- d. *Hoses* (polyethylene tubing)
  1. High volume suction
  2. Handpiece hose
  3. Air-water syringe hose
  4. Saliva ejector- handle and switch

All other items not covered, yet contaminated during a procedure, must be either disposed of (if single use), cleaned and disinfected, or sterilized to eliminate cross-contamination. If in the event a barrier is compromised the underlying surface must be disinfected.

5. Attach saliva ejector tip, sterile high-speed evacuation tip, sterilized handpiece, and sterilized three-way syringe tip.

*-High-speed Evacuation System*

High-speed evacuation should be used at all possible times when using the high-speed handpiece, water spray, or ultrasonic scaler or during a procedure that could cause spatter.

*Rationale:* Appropriate use of high-speed evacuation systems has been shown to reduce spatter and droplets.

*-Three-way Syringe*

The three-way syringe is hazardous because it produces spatter. Therefore, caution must be used when spraying teeth and the oral cavity. When used, a potential for spatter must always be considered and appropriate precautions taken (for example, use of barrier protection). The use of nonspatter-producing methods of cleansing, such as warm, moist cotton pellets or use of water before air is recommended.

6. Optional: Place a cup of mouth rinse where it will be accessible to the patient.

*Rationale:* There are several mouth rinses available for patient use prior to dental treatment. All mouth rinses will reduce the number of oral microbes in the patient's mouth when used. There is no direct evidence, however, to demonstrate that spatter from a rinsed mouth is less infective than that from a non-rinsed mouth.

7. Attach a waste bag to an accessible area that will not interfere with patient treatment.
8. Set up all items to be used during the delivery of care.

Remove all unnecessary items from the treatment room. Keep it as uncluttered as possible; this will reduce the number of items that could become contaminated and consequently make post-treatment clean-up easier. Anticipate procedure and materials needed. Although careful planning before treatment begins is an extremely important aspect of infection control, treatment rooms should not be set up so far ahead of the procedure so that sterility and safety are compromised. Set out on the counter or side tray (preferably on a poly-backed paper cover) all instruments, medication, measured materials, cotton products, discs, etc., that will be needed for the procedure. Be ready for the procedure with all necessary materials and equipment within arm's reach of the operating field. Planning ahead saves time away from the chair, but more importantly avoids needless entering into drawers and cabinets once gloves are contaminated. Never reach into drawers or shelves with contaminated gloves.

Set-up instruments, with prearranged trays, bur blocks, and rubber dam supplies for each procedure. Having instruments and burs ready ahead of time eliminates the need to enter drawers, closets and tubs once gloves are contaminated. This also eliminates contamination of unused burs that will need to be sterilized. Open tubs should not be kept or placed on dental treatment delivery carts during treatment procedures. Sterile cassettes should only be unwrapped and opened at the time of use with clean treatment gloves. Sterile instruments must never be touched with ungloved hands.

## **Treatment Room Disinfection Protocols**

### **Clinic Session 1** (or first session of the day)

1. **CLEAN ALL ENVIRONMENTAL AND DENTAL UNIT SURFACES**

All environmental and dental unit surfaces in the dental treatment room must be cleaned and disinfected with disinfectant. Using a germicidal pre-saturated sheet, wipe over all surfaces, repeat, and then allow disinfectant to set for designated time on label. Remember to wear PPE.

2. **RUN WATERLINES**

Dental devices and equipment that are connected to the dental water supply system and may be used during patient care must be discharged of water and air for 20 to 30 seconds.

3. **PLACE BARRIERS ON ALL TREATMENT ROOM SURFACES**

Place barriers on all treatment room surfaces which may become contaminated during the procedure. Surfaces to be covered include: light handles, chair switches, head rests, handpiece hoses, unit controls, suction tubing/controls, bracket/-instrument tables, sink counter and the air-water syringe. Remember to apply barriers with clean hands or gloves.

#### 4. **REMOVE ALL BARRIERS AT END OF PROCEDURE AND DISINFECT ONLY CONTAMINATED AREAS**

At the end of the procedure remove all barriers and surface disinfect those areas in which a barrier may have been compromised or any non- barrier protected surface that may have been contaminated. Only those areas which have been contaminated by direct contact or have visible splash or spatter with blood or other potentially infectious fluids (saliva) need to be disinfected with the saturate-wipe/saturate method. Remember that you must disinfect all clinic supplies and equipment that have been contaminated during the procedure.

Contact dental assisting staff if you have any questions about the protocol.

#### **Additional Patient Sessions during Day**

##### 1. **RUN WATERLINES FOR 30 SECONDS**

Run waterlines for 30 seconds to reduce biofilm burden.

##### 2. **PLACE BARRIERS AND DISINFECT AS INSTRUCTED IN ITEMS 3 AND 4**

Follow barrier placement procedure and treatment room disinfection procedures as described in items 3 and 4 under Clinic Session 1. Run waterlines again for 30 seconds at the end of last session of the day to reduce biofilm build-up.

You must disinfect all dental supplies and equipment (i.e. composite light) and place them in the designated area. Do not mix contaminated and clean items. Used cassettes must be brought to the designated area.

#### **Patient Treatment**

A thorough medical history should be obtained, reviewed and updated at every patient visit. Not all patients with infectious diseases can be identified by the medical history, physical exam or laboratory tests. Therefore, each patient should be treated with standard precautions.

##### 1. **Charting/Radiographs**

The computer key board and mouse must be covered with appropriate barriers if they will be used during treatment to record findings. Once findings are recorded, the barriers should be removed and the area cleaned. Be certain not to use contaminated gloves on computer devices that are not appropriately covered. The keyboard comes with a plastic shield; however, it should be covered with a plastic bag if the operator is recording findings with contaminated gloves. The plastic shield on the keyboard should be disinfected using the same protocols as for cleaning the operatory with the germicidal wipes. A clear adhesive film is used as a barrier for the mouse. If an assistant can record findings, then the plastic bag is not needed on the key board, no is the barrier on the mouse.

Address any paperwork items before gloving and again after gloves have been removed and hands are washed. All employees must avoid touching charts, files, forms, unbarriered computers, films, etc., with contaminated gloves. Although HIV does break down after drying, many other viruses, including HBV, may survive up to 72 hours on inanimate objects. Therefore, you may be putting front desk and filing clerks at risk of cross-contamination and transmission by touching paperwork or other items that may leave the operatory.

All staff members handling paperwork must refrain from applying makeup, eating, and touching eye, nose, and mouth areas, unless they have washed their hands.

2. Optional: Instruct the patient to rinse with mouthwash for 1 minute

**3. Hand washing and gloving:**

Wash hands and wrists at the unit as described and glove. Once gloved, touch only the patient and barrier-covered areas or areas that have been cleaned and disinfected.

**4. Sharps Management Techniques**

- A mechanical device (instead of fingers) must be employed for tissue retraction during injection of anesthesia e.g. mirror, wooden tongue depressor, or Minnesota tissue retractor. These are available in all dental clinics.
- To prevent needle-stick injuries, needles are *not* to be recapped by moving the needle towards a body part, especially a hand.
- Use an appropriate one-handed technique, a mechanical device designed to hold the needle cap or an engineered sharps injury protection device.
- Once used the syringe should only be handled by the dentist.
- Never allow the point of a needle to move in the direction of you or any co-worker. Place syringe on a sterile field away from the work area.
- Used needles are to be disposed of in an appropriate puncture-resistant container and must not be purposefully bent or broken after use. The containers are present on the wall of each treatment room. Empty anesthetic cartridges and use Tofflemire matrix bands can be disposed of in these same containers.
- To prevent accidental sticks from burs during treatment, *all handpieces not in use must be stored with the bur facing the bracket tray or away from the operator and dental assistant.* A cotton roll may be placed over the bur for additional protection.
- Dental burs must be removed from handpieces immediately at the end of treatment to prevent accidental sticks or punctures. All burs must be removed with a mechanical device such as a hemostat or locking pliers. Under no circumstances should a bur be removed from a handpiece or placed in a bur block with the fingers.
- Scalpel blades must be placed and removed with a hemostat.
- When cutting with a Bard Parker or Buffalo knife always cut with the blade moving away from hand.

## **5. Rubber Dam**

A rubber dam should be used whenever possible in tooth preparation.

*Rationale:* The rubber dam is an excellent barrier against the spread of infectious material by spatter.

## **6. Patient Positioning**

Proper patient, dentist and dental assistant positioning can reduce the risk of spatter to the face.

## **7. Dropped Instruments**

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

## **8. Disposable Items**

Used disposable items must be discarded immediately to avoid contamination of other items.

## **9. Storage and Transport of Contaminated Patient-Related Items**

Bite registrations, impressions, models, dies, and prostheses are considered contaminated. These items must be cleaned and disinfected prior to removal from clinical areas. Refer to section on Dental Laboratory Procedures.

## **10. Storage of Sterilized Items**

The shelf life of correctly packed autoclaved instruments is indefinite as long as the packaging remains intact. Do not store instruments for intraoral use unwrapped.

Instruments may be stored as sterile tray set-ups, in groups, or may be individually wrapped. There must be evidence on the wrapping, such as a color indicator, that the correct temperature was achieved in the sterilization cycle. All packets are also required to have a visible internal indicator. Instruments must be repackaged and resterilized if there is any sign of damage to the wrapping. (Sterilizers must be routinely monitored using biological indicators to guarantee destruction of bacterial spores.)

## **11. Management of Exposure**

The risk of contracting HIV infection from a percutaneous needle wound is much less than the risk of contracting HBV or HBC. Any personnel who experience percutaneous (skin puncture) or mucosal (nasal or ocular) exposures to blood, blood-contaminated saliva, or a blood-contaminated object must follow post-exposure guidelines.

## 12. Use and Disposal of Extracted Teeth in Dental Educational Settings

### Disposal

Extracted teeth that are being discarded are subject to the containerization and labeling provisions outlined by OSHA's bloodborne pathogens standard. OSHA considers extracted teeth to be potentially infectious material that should be disposed in medical waste containers.

Extracted teeth sent to a dental laboratory for shade or size comparisons should be cleaned, surface-disinfected with an EPA-registered hospital disinfectant with intermediate-level activity (i.e., tuberculocidal claim), and transported in a manner consistent with OSHA regulations. However, extracted teeth can be returned to patients on request, at which time provisions of the standard no longer apply.

Extracted teeth containing dental amalgam must never be placed in a medical waste container that uses incineration for final disposal. Teeth with amalgam must be placed in appropriately labeled containers and disposed of by Research Safety.

### Educational Settings

Extracted teeth are occasionally collected for use in preclinical educational training. These teeth should be cleaned of visible blood and gross debris and maintained in a hydrated state in a well-constructed closed container during transport. The container should be labeled with the biohazard symbol. Because these teeth will be autoclaved before clinical exercises or study, use of the most economical storage solution (e.g., water or saline) might be practical. Liquid chemical germicides can also be used but do not reliably disinfect both external surface and interior pulp tissue.

Before being used in an educational setting, the teeth should be heat-sterilized to allow safe handling. Microbial growth can be eliminated by using an autoclave cycle for 40 minutes, but because preclinical educational exercises simulate clinical experiences, students enrolled in dental programs should still follow standard precautions.

Autoclaving teeth for preclinical laboratory exercises does not appear to alter their physical properties sufficiently to compromise the learning experience. However, whether autoclave sterilization of extracted teeth affects dentinal structure to the point that the chemical and microchemical relationship between dental materials and the dentin would be affected for research purposes is unknown.

Use of teeth that do not contain amalgam is preferred in educational settings because they can be safely autoclaved. Extracted teeth containing amalgam restorations must not be heat-sterilized because of the potential health hazard from mercury vaporization and exposure. If extracted teeth containing amalgam restorations are to be used, immersion in 10% formalin solution for 2 weeks should be effective in disinfecting both the internal and external structures of the teeth. If using formalin, manufacturer SDS should be reviewed for occupational safety and health concerns and to ensure compliance with OSHA regulations.

## Clean-up After Patient Treatment

Personal protective attire including gowns, gloves, eyewear and a mask must be worn during clean-up activities.

Any surface that becomes contaminated with blood and/or saliva must be cleaned and disinfected using a liquid chemical germicide registered with the EPA as a tuberculocidal "hospital disinfectant."

At the end of each treatment procedure all surfaces must be decontaminated using presaturated germicidal sheets. A pre-saturated germicidal gauze pad is used to clean all contaminated surfaces. The same surfaces are wiped off again with a new germicidal wipe, and the surface is allowed to air dry in order to be disinfected. Blood and saliva should be thoroughly and carefully cleaned from instruments and materials that have been used in the mouth. The technique is: 1) wipe to clean; 2) wipe to disinfect; and 3) allow surfaces to air dry 10 minutes.

All waste generated during treatment which is saturated with blood or saliva must be considered bio-medical waste. Dispose of it promptly during treatment in the plastic waste bags at the treatment room and after completion of treatment in the main waste receptacle (red bag) in the clinic.

The following protocol may be used.

1. Remove gloves and wash hands immediately.
2. Complete entries on all forms and records relating to the treatment and dismiss the patient.
3. Put on gloves before beginning clean-up.
4. Remove barriers from apparatus and items from the dispensary. Clean and disinfect as necessary.
5. Remove all disposables and discard.
6. Discard needles, such as anesthetic and suture needles, and any single use disposable sharp instruments such as scalpel blades, broken instruments, dull or broken burs, or any non-reusable sharp that could puncture skin, into the rigid biohazard sharps container. The container is located on the wall of the treatment room.
7. The dental staff will address contaminated instruments by submerging them in a holding solution. If necessary, instruments can also be carefully cleaned with a scrub brush. Following the scrub brush method, the instrument is replaced in the appropriate slot in the dental cassette. The cassette is closed and secured with a rubber band. Staff will also determine if there are broken or missing instruments which require replacement. Once the inspection procedure is complete, staff sends the cassette out for sterilization.

*Rationale:* This procedure is an initial step in the decontamination process. The primary reason for initially placing instruments in a liquid chemical germicide (or water) is to keep the instruments from drying prior to cleaning and sterilization procedures. Although placement in a liquid chemical germicide will lower the number of microorganisms present on the instruments and equipment, these instruments must be considered contaminated. Gloves must be worn by workers handling these items. This step does not achieve high-level disinfection or sterilization of instruments and equipment. Instruments must be cleaned and sterilized before re-use with another patient.

8. Disinfect all patient-contaminated items to be transported to the laboratory, such as impressions, prostheses, bite registrations and models, as recommended under Dental Laboratory Procedures.
9. Remove all barriers from the unit, discard in the plastic waste bag, and close securely. Patient protective eyewear is brought to the instrument processing area. Provider glasses should be cleaned with detergent and water and set aside to dry.
10. Clean, disinfect, and prepare the unit for the next patient. Any surface covered by a barrier may be recovered without cleaning and disinfecting if the barrier was not punctured or compromised. Gloves must be removed and hands washed after removing soiled barriers. New barriers must be placed with clean hands with or without new gloves. It is not recommended that new barriers be placed and left on equipment when the treatment room is not in use. This practice in a large clinic setting makes it difficult to identify barriers as used or unused.

### **Instrument Processing**

All single instruments (not part of a cassette) and bur blocks must be cleaned and returned to the clinic processing room. Items requiring sterilization will be transported to Dental Central Support Services (DCSS) in solid, covered, and appropriately labeled containers. There they will be washed, packaged and sterilized. A limited number of instruments are processed and packaged within the clinic prior to being transported to DCSS due to the intricate nature of the item, such as implant instruments.

All packaged items, including handpieces, must have an internal chemical indicator placed in the peel pouch prior to sterilizing. Indicator should be placed so that it can be viewed through the peel pouch.

All items requiring gas plasma sterilization (Sterad), must be cleaned, dried and placed in an appropriate peel pouch with gas plasma internal indicator inside and gas plasma external indicator tape outside to verify that the instrument has been exposed to the sterilization process.

Sterilized instruments are monitored by mechanical, chemical and biological indicators. After removing the instruments from the sterilizer they must be placed directly on carts to be delivered to the appropriate clinic. Sterilized instruments must never be placed on the DCSS counter, which is designated exclusively for instruments still needing sterilization.

### **Dental Handpiece Sterilization**

Follow these steps when sterilizing handpieces between patients:

1. Rinse handpiece to remove gross debris.
2. Follow manufacturer's instructions for proper pre-sterilization procedures.
3. Follow manufacturer's instructions for handpiece sterilization.
4. Do not unwrap and/or oil sterile handpieces until needed for a procedure.
5. Sterile handpieces must be attached to the dental unit by carefully opening the attachment end of the sterile wrap or bag and attaching the handpiece without removing the sterile bag. The sterile wrap must remain in place until the patient is seated and actual treatment begins.
6. To insure proper water coolant flow from handpieces make sure the water line holes in the handpiece are free of debris. Clogged holes can be cleaned with an endodontic file.

## **Sterilization**

### **StarDental-Titan 3 Low-Speed Handpiece Motor**

1. After each patient, flush air by running handpiece motor for 20 seconds.
2. Remove attachment.
3. Clean all internal surfaces at rear of handpiece motor with a cotton swab soaked in isopropyl alcohol until clean.
4. Clean all external surfaces using a small toothbrush with isopropyl alcohol.
5. Dry thoroughly.
6. Place handpiece motor and swivel in sterilization bag. Use only paper or paper/plastic bags. Follow the sterilization guidelines as stated by the manufacturer of your sterilizer.
7. Remove handpiece motor from sterilizer after drying cycle ends and allow to cool in bag. The handpiece motor must be cleaned and sterilized between patient use.
8. A wrapped handpiece motor should be steam sterilized at 132° C for a minimum of 10 minutes or at 121° C for a minimum of 50 minutes. Do not exceed 135° C.

### **Straight Nose Cone-Motor-to-Angle Adaptor Torque Multiplier**

1. Wear puncture-resistant gloves to prepare the motor and attachments for sterilization.
2. Remove bur, disc, or prophy cup from angle attachment.
3. Disconnect Straight Nose Cone, Torque Multiplier or Angle and Motor-to Angle Adaptor from Motor.
4. Disconnect angle from Motor-to-Angle Adaptor. StarDental produces both lubricated and lubefree angles. If angle requires lubrication follow instructions provided with the angle.
5. Clean all external surfaces of attachments and angles using a small brush and isopropyl alcohol.
6. Dry thoroughly.
7. Place motor and attachments in a sterilization bag. Use only paper or paper/plastic. Do not exceed 135 °C.
8. Place in steam sterilizer.
9. Remove handpiece and attachments from sterilizer immediately after completing the process including the drying cycle, and allow to cool in the sterilization bag.

Caution: Use steam sterilization exclusively for complete sterility. Never dry heat sterilize, ultrasonically clean, or expose handpieces or attachments to chemical disinfection or cold sterilization by:

- Immersion techniques or surgical milk
- Surface wipes, hand soaps, or detergents
- Surface spray
- Sterilization bags containing disinfectants.

### **Synea-high speed handpiece**

#### External cleaning

1. Clean the high-speed handpiece with running water and a soft brush. Do not submerge handpiece.
2. Dry the high-speed handpiece carefully.
3. Clean spray nozzles carefully with the nozzle cleaner.

#### Cleaning the light eye (avoid scratching)

1. Wash the light eye with cleaning fluid (e.g. alcohol) and a soft brush or cotton swab.
2. Blow the light eye dry with air syringe or dry it carefully with a soft cloth.

## Sterilization

1. Only sterilize cleaned and lubricated high-speed handpieces.
2. Place the high-speed handpiece in sterile goods packaging according to DIN 58953.
3. Make sure you only remove dry turbine from the sterilizer.

Permitted sterilization methods: (see instructions regarding recommended lubrication)

1. Steam vacuum sterilization according to prEN 13060 by a sterilization holding time at a minimum of 4 minutes at 134 (+3) ° C (273.2 + 5.4 ° F)
2. Steam gravity sterilization by a sterilization holding time at a minimum of 5 minutes at 134 (+3) ° C (273.2 + 5.4 ° F)

## **Dental Unit Care**

### Prior to first patient visit

1. Check master switch to see that unit is off
2. Remove high speed handpiece tubing connector from holder
3. Depress foot control until no water or air expresses from connector

### Between patient visits

Flush for a minimum of 20-30 seconds between patient appointments to ensure fresh water from the source and removal of any debris from the lines. Be certain handpieces are disconnected from hoses during flushing, since free running can damage the bearings.

### At the end of treatment

1. Shut unit off, using master switch.
2. Run high speed handpiece using foot control until all air and water pressure is relieved. This ensures that all air and water is removed from handpiece, tubing and unit.

## INSTRUCTIONS FOR MANAGEMENT OF AN EXPOSURE

1. Confirm that your patient is comfortable.
2. Manage contact with patient 's body fluid:  
**Needle Stick or Puncture Wound:** Immediately remove gloves and wash the contaminated area with an antimicrobial soap and water; apply an antiseptic (optional), such as hydrogen peroxide; and bandage.  
**Eye/Mucous Membrane Contact:** Proceed to the nearest Eye Wash Station/Sink and wash the area with copious amount of COLD Water.  
**Non-intact Skin Contact:** Wash skin thoroughly with an antimicrobial soap and water; apply an antiseptic (optional), such as hydrogen peroxide; and bandage.
3. Immediately after cleaning the exposure site, call a Dental Administrator:  
Ms. Karolina Piotrowski, CDA, Patient Care Coordinator/DC#3, Ext 6587  
Ms. Violet Pierson, CDA, Patient Care Coordinator/DC#3, Ext 7677  
Ms. Denise Byczko, CDA, Patient Care Coordinator/DC#3, Ext 8959  
Ms. Colleen Majsak, CDA, Patient Care Coordinator/DC#3 Ext 8167  
Ms. Pamela Miles, Clinical Practice Manager, Dental Clinics, Ext 7140  
Ms. Bibi Mayalall, Clinical Practice Manager, Dental Clinics, Ext 8383
4. The Dental Clinic Administrator will arrive with a folder of necessary paperwork that needs to be filled out before you go to Employee Health and the source patient is taken to the Blood Lab. Both you and the patient will be assigned a number that is the tracking device for the lab results.
5. Once the paperwork has been reviewed with your patient and the necessary paperwork completed, a Clinic Administrator will call Employee Health Services (X 2893) to notify them of the exposure and to set up a time for you to go down for treatment. After 4 pm you will need to go to the hospital ER. A call will also be made to the blood lab (X 3281) to inform them we will be walking a source patient up for testing. The Clinic Administrator will direct someone to walk the patient upstairs to the Blood Lab.

### **Employee Health Services**

Located at  
"Out-Patient Pavilion"  
2nd Floor East  
Health Center Shuttle is located at the front of the Hospital Entrance

### **Hospital Emergency**

Main Floor, Main Hospital entrance: go toward windows of Center Court Yard; turn right walking toward Cafeteria, first hallway on your right, ¾ the way down the hallway, doors on your left.

### **Report all Exposures!**

*There is a two hour window to be seen and treatment started if deemed necessary*

## Post Exposure Protocol for Kane Street and CCMC Dental Clinics

1. Confirm that the patient is comfortable.
2. Manage contact with patient's body fluid.
  - **Needstick or Puncture Wound**  
Immediately remove gloves and wash the contaminated area with an antimicrobial soap and water. Apply an antiseptic(optional), such as hydrogen peroxide, and bandage.
  - **Protocol for Eye/Mucous Membrane Contact**  
Proceed to the nearest Eye Wash Station/sink and wash the area with copious amounts of cold water.
  - **Protocol for Non-intact Skin Contact**  
Wash skin thoroughly with an antimicrobial soap and water. Apply antiseptic (optional) such as hydrogen peroxide.
3. For exposures taking place at **CCMC**, contact faculty the member in charge or Dental Assisting supervisor. They will assist you in following the CCMC Exposure Control Plan. You may choose to follow up with UCHC Employee Health Service.
4. For exposures taking place at **Kane Street**, contact the faculty member in charge, the Dental Hygienist or Lead Dental Assistant. They will explain the incident to the patient or parent/guardian and request that the patient be tested for HBsAg, Hep C and the HIV virus on the same day as the exposure, after pretest counseling. They will also provide all necessary forms for the laboratory tests and will walk the patient to the laboratory. (Located across the hall from the waiting room on the 2nd floor). All blood drawn for both patients and providers will be transported to UCHC Employee Health Service in appropriate labeled containers by trained personnel.
5. The health care provider should seek medical attention from Employee Health Service as soon as patient care allows. If after regular working hours, contact the John Dempsey Hospital Emergency Department. This should be done as soon as possible, the same day as the exposure. If this is not possible please contact Employee Health Service regarding proper procedure for follow up.
6. UCONN School of Dental Medicine employees (those individuals who receive Health Center paychecks only) must report injuries directly to Human Resources by dialing x2426. (Voice mail is available during the hours Human Resources are closed.) All others, including those receiving stipends, must report to Public Safety and complete a written accident report. Please remember that it is important to report all injuries and to do so within 24 hours.

## Intraoral Radiology

### Room Preparation

1. The room should be disinfected and barriers placed on working surfaces, activation switch and control panel when feasible. The x-ray head can be covered by a barrier or disinfected following use.
2. Place the Photostimulable Phosphor Plate (PSP) into an infection control barrier envelope, remove the adhesive liner and press the edges together. The envelopes can be used with Type 0, 1, and 2 PSPs. Then place the PSPs that are to be exposed on a paper towel or in a disposable container. This will prevent any contamination of the main PSP supply.
3. Place the Precision biteblocks on the selected instruments and set them on a paper towel on the work bench. Take out any other additional items that you will need including: bitewing loops, denture cup, etc. It is very important not to contaminate supplies with contaminated gloves. If during the exam additional items are needed, remove gloves before selecting the item.
4. Place a disposable cup in a radiation protected area to receive the PSPs after each exposure. The cup can be placed in a leaded receptacle within the operatory or behind appropriate shielding.
5. When using digital radiography sensors, wrap with appropriate FDA-cleared barriers prior to patient placement.

### Patient Preparation and Radiographer Attire

1. The patient should be seated and the medical status and exposure history discussed. Verify that the patient is not allergic to latex.
2. Safety glasses, masks and protective gowns must be worn during all radiographic procedures.
3. Use a single pair of gloves and put on a new pair before film development.
4. Place and secure the lead drape and thyroid shield on the patient and remove eyeglasses, dentures and removable appliances. Remember to place any contaminated items in disposable containers.
5. Follow standard procedures for exposure of radiographs. After exposure, wipe off excess saliva from the barrier envelope and then wipe it with a germicidal wipe and place in a clean cup for transport to the processing room.
6. Process the PSPs according to standard procedures.

## Room Decontamination

1. Personal protective equipment must be worn during room clean-up.
2. Remove the biteblocks from the instruments and discard them. Put the instruments into a plastic bag and place it in the designated area. All instruments must be sterilized after use.
3. When using digital radiography sensors: Replace sensor(s) with clean FDA-cleared barriers. Clean and heat-sterilize, or high-level disinfect sensors between patients. If the item cannot tolerate these procedures, then at a minimum, protect with an FDA-cleared barrier and clean and disinfect with an EPA-registered hospital disinfectant with intermediate-level (i.e., tuberculocidal claim) activity, between patients. Consult with manufacturer for methods of disinfection and sterilization of digital radiology sensors and for protection of associated computer hardware.
4. Wipe down lead apron and collar with disinfectant.
5. Replace all contaminated barriers and disinfect working surfaces as required.

## Dental Laboratory Procedures

Hands must be washed and personal protective equipment (gloves, mask, gown and protective eyewear) must be worn for all prosthodontics and dental laboratory related activities.

### **Disinfection of Impressions and Prostheses** (Complete Dentures, Partial Dentures, Fixed and Removable Appliances, Night Guards, Temporaries, etc)

1. Impressions and prostheses must be rinsed under cold gently running water to remove debris, saliva, and blood. Do not splash water excessively because droplet spatter can carry microorganisms. (Appliances with a buildup of calculus/plaque must be ultrasonically cleaned before being disinfected. Place temporary crowns/dentures etc., in ziplock bag with cleaning agent, prior to placement in ultrasonic cleaner.)
2. **All impressions and prostheses must be disinfected by spraying them completely in an EPA-registered intermediate level hospital disinfectant, which is available in clinic spray bottles.** The impression thoroughly sprayed with disinfectant and set on paper towel or plastic tray for 1 minute (confirm disinfectant spray time specifications). *If the impression is an alginate, it must remain wrapped with a damp paper towel at all times.*
3. Following the disinfecting procedure, impressions and prostheses must be immediately rinsed under copious amounts of cold running water to avoid surface damage.
4. Impressions and prostheses must then be placed in a closed plastic bag prior to transport to the dental laboratory. Impressions are now ready to be poured.

## **Impression Trays**

- **Metal trays** must be sterilized by autoclaving prior to each use. They are stored in individual sterilization bags until use. Cleaning the tray immediately after separating the impression from the cast will simplify the procedure.
- **Plastic trays** should not be reused. Discard after use. If reuse is required, the trays must be sterilized with gas plasma in hospital sterilization.
- **Custom trays** must be disinfected prior to use. They should be washed with a detergent and water and then immersed in a disinfectant solution. The trays must be completely dry before application of adhesive.

## **Articulators**

Every attempt must be made to keep articulators from becoming contaminated. Any articulator which is contaminated (used within 3 feet of the dental unit during patient treatment) should be wiped with a germicidal wipe to clean any debris and then sprayed with Cavicide. After 1 minute, the disinfectant can be rinsed from the articulator.

The above policy also pertains to direct post and cores, solder indexes, bite registrations, case pans, denture and partial denture repairs, denture and esthetic try-ins and their associated models.

## **Laboratory Equipment**

All laboratory equipment which has come in contact with patient's oral fluids or appliances, including acrylic burs, water bath inserts, facebow forks, metal handle mixing spatulas, wax spatulas, bristle brushes, central bearing plates for articulators and stock impression trays, must be sterilized after use. Case-pans must be disinfected after use.

## **Grinding and polishing**

1. Place disposable foam tray in tray pan.
2. Unit-dose fresh pumice moistened with water into the tray
3. Place a disposable rag wheels on lathe and begin work. Don't contaminate polishing compound with used rag wheel.

When finished...

4. Remove the rag wheel, and discard in trash.
5. Dispose of used tray with contaminated pumice.
6. If you have used any burs, brushes, etc., during the procedure they must be rinsed and returned to the block for sterilization.
7. New production items (anything not already worn in the mouth) may be handled as noninfectious after initial impression decontamination. If decontaminated items require additional work or manipulation, safety glasses and a mask must be worn for protection from projectiles and dust.

## **Cases received from the laboratory**

### 1. Fixed Restorations

All fixed restorations will be cleaned, disinfected, steamed and bagged prior to delivery. At the time of final adjustments the restorations will be cleaned, disinfected and placed in a small container of diluted mouthwash.

### 2. Removable Restorations

All removable restorations will be cleaned, disinfected, steamed and bagged. At the time of final adjustment the restorations will be disinfected and placed in a mouthwash solution and bagged.

## **Oral Surgery**

Infection control in the Oral Maxillofacial Surgery Clinic entails adherence to standard precautions and principles of asepsis when treating patients and handling instruments and equipment. The main objective of maintaining sterility during oral and maxillofacial surgery procedures is to prevent microorganisms from the surgical staff or other patients from entering the patient's wound. In practice, there are the surgical and medical aseptic techniques are dictated by the nature of the procedure.

### **Surgical Asepsis**

Surgical asepsis attempts to prevent microbes from entering a wound. It requires a more strict sterile technique than medical asepsis, also called the clean technique, and close cooperation among the health care team members. It is commonly used for placing certain maxillofacial implants, any surgical procedure with a skin incision, for wound care in fractures and skin lacerations in the clinic, and for performing surgeries in the operating room.

Basic rules of sterile technique include:

1. Keeping sterile personnel well within the sterile area
2. Keeping talking during the surgery to a minimum
3. Keeping excessive movements of team members to a minimum
4. Avoiding reaching over the sterile field
5. Requiring sterile team members to face each other and/or the sterile field
6. Sterilizing all instruments and equipment that enter the sterile field
7. Preventing breaks in sterile technique (i.e. non-sterile team members handling sterile instruments)
8. Requiring that if the sterility of an item is in question, the item must be considered contaminated
9. Requiring tables covered with sterile drapes to be considered sterile only at table height

10. Considering gowns to be sterile only in front of the chest area to table level and the sleeves to two inches above the elbows
11. A sterile field can become contaminated by becoming wet and the underlying area is unsterile.
12. Prohibiting non-sterile personnel to pass between two sterile areas.

Prior to the procedure, the surgical team changes from uniform or street clothes into surgical scrubs. Scalp hair is covered with a cap. A mask covering the nose and mouth is worn. For eye protection, glasses with side shields or safety glasses or mask with face shield are worn. If a handpiece is used, appropriate eyewear should be worn. All jewelry should be removed before scrubbing the hands and arms. Artificial nails should not be worn. The hands and forearms up to about 5 cm above the elbows are scrubbed with a disposable brush soaked with Betadine or other antimicrobial solution, such as chlorhexidine, following the Operating Room adopted scrub protocol to lessen the surface bacterial level. Routinely, it calls for removing debris from under the nails with the use of a nail cleaner under running water, twenty firm strokes of scrubbing on each surface of the hand, and ten strokes on each surface of the forearm. The hands and arms are dried with a sterile towel before donning a sterile gown and gloves.

### **Medical Asepsis**

Medical asepsis (clean technique) attempts to keep patients, the care providers and objects as free as possible from pathogens and is used during routine office-based procedures such as extraction of teeth, biopsy of intra-oral tissue, irrigation of extraction sites, mounting and removal of appliances etc. The dental staff can wear clean uniform or street clothes underneath a long sleeved protective gown for these procedures. A mask with a face shield or safety glasses with side shields is also worn.

Hands are washed with antiseptic soap and dried on a disposable paper towel before gloving. Disposable clean gloves are used.

### **Instrumentation**

There are three different sets of instruments contained in cassettes used in the Oral and Maxillofacial Surgery Clinic: (1) simple extraction sets, (2) surgical extraction sets and (3) biopsy sets. Each cassette of soiled instruments must be cleaned after each procedure in the clinic before it is sent to the Central Sterile Supply Room for sterilization. All cassettes for extractions and biopsies are wrapped in double layers of papers prior to sterilization. Other instruments used for minor procedures and single pieces such as dental mirrors, suture scissors, forceps, suction tips, etc., are cleaned, packaged and autoclaved in the DCSS.

### Instrument Set-up

The following steps and precautions are taken in setting up instruments for use during procedures.

1. Gather sterile supplies such as sutures, the scalpel blade, the dental needle, the suction tubing, the irrigation syringe and tip, a cup for sterile saline for irrigation, a bite block and sterile gauzes. Remove the wrapping from the supplies in a sterile fashion by carefully peeling open from one end without touching the inside content before dropping it onto the draped Mayo tray.
2. Place the instrument pack on a Mayo stand, grasp the corners of the sterile package and open out the edges without touching the interior of wrapping paper and instruments. Tuck the excess wrapping material under the Mayo tray. Open the cassette and leave the lid aside on a nearby stand.

3. To obtain the required number of the local anesthetic cartridges from a storage container pick up the container and carefully shake out the appropriate number of cartridges onto your clean set up.
4. Put on a pair of clean gloves for arranging the instruments and supplies when getting ready for a procedure.
5. Cover the tray with a sterile self-sticking paper towel. This serves as a protective drape over the patient's clothing when placed across the patient's chest, as well as a clean work area for the surgeon.

### **Care of Instruments/Cassettes**

All soiled instruments are rinsed initially under running cold water to rid them of gross debris. Instruments should then be immediately soaked in an appropriate enzymatic solution. Precautions are taken to separate the sharp and pointed instruments to avoid a needle stick accident. A pair of heavy duty latex gloves must be worn by the handler for extra protection. Each heavily contaminated instrument should be scrubbed with a stiff nylon-bristle brush saturated with the enzyme solution.

Particular attention should be made to any cutting edges, contact areas, the teeth and grooves in beaks of instruments. Instruments are then rinsed under running water. The suction tip is cleaned with a pipe cleaner saturated with enzyme solution and rinsed thoroughly. All the instruments are then returned to the cassette and carefully put in the ultrasonic washer containing enzyme solution. The washer is turned on for 20 minutes. After this is done the instruments are rinsed and then two strips of aluminum foil are placed in the cassette to be used to cover the light handles. The cassette is closed shut and taped on the outside to prevent the lid from springing open. The cassette is placed in the cyberail cart for sterilization in the Central Sterile Supply Room.

Single instruments requiring sterilization are rinsed before being placed in a holding solution. Throughout the day, they are scrubbed, rinsed and dried before they are packaged in a peel- pack wrapper ready for sterilization. The wrapper consists of two layers of materials: one paper, the other cellophane. On the outside of the steam wrap there are indicators. When exposed to sterilizing temperature these areas darken. The appropriate internal indicator for gas or steam must be placed inside each package prior to sealing. The packages are then sent to DCSS or CSS to be sterilized.

### **Operatory Preparation and Disinfection**

1. Head cover: A large single-use paper cover is placed over the headrest and changed between patients.
2. Plastic barriers and then small strips of sterilized aluminum foil are placed over the light handles for light manipulation without cross-contaminating patients and staff members.
3. Nasal mask and tubings: For nitrous oxide sedation, a clean disposable nasal mask is attached to a set of tubing connecting to tubes leading from the oxygen and nitrous oxide machine and from the patient to a scavenger system. It collects the patient's expired air and any excessive nitrous oxide gas to a wall-mount exhaust system. A plastic bag barrier is placed over the nitrous oxide unit. After the nitrous procedure, the nasal mask is discarded and the connecting tubing is washed with a disinfectant and then sterilized

4. Oxygen nasal cannula: the disposable plastic cannula is attachable to a wall-mount unit connected to the oxygen supply source for patients with cardiac or respiratory problems.
5. Suctioning apparatus: The suction is turned on with clean gloves. The suction tube is connected to a canister which is hooked to the wall-mount vacuum system that derives its pressure from the water main. The proximal end of the tube is connected to a suction tip for evacuating blood and saliva or drainage from the patient's mouth or wound. The tubing and canister are discarded after each use.
6. Hand pieces: The hand piece is sterilized separately in the clinic after each patient. All burs are to be disposed of after use. They are to be considered sharps and should be placed in the rigid sharps container.
7. Soap dispensers are at each sink and will be filled with the hospital approved antimicrobial soap provided by UCHC and approved by the infection control committee.
8. Disinfection of the operatory: Throughout the day, the dental chair is disinfected between procedures. Other surfaces not directly in contact with patients, such as the light, the counter top, the wall unit panels and tubings, etc., are disinfected at the end of the day with SOM approved disinfectant. The sink, the floor and the waste container are maintained by housekeeping.

#### **Postsurgical Asepsis and General Safety Precautions**

1. All sharps should be handled, removed, and disposed of properly. Containing contaminated sharps in impervious disposal containers helps prevent injuries to the personnel cleaning the room or equipment after use. Used needles should not be sheared, bent broken, recapped, or resheathed by hand. If recapping is required, mechanical devices or the one-hand technique should be used. Knife blades should be removed using an instrument or device. Disposable sharps should be placed in a puncture-resistant, labeled container - such as the rigid red plastic sharps container.
2. As a precaution for potential abuse, any unused portion of a narcotic solution from a syringe is discarded, with a Registered Nurse present, before disposal of the syringe and needle into the sharps container. The same routine is followed for expired oral medications and small drug solution bottles. When the sharps container is full, the opening is closed and sealed with strips of wide cloth tape, before it is removed by housekeeping.
3. Blood or mucus stained gloves, or the blood saturated gauzes, drapes and supplies, the intravenous fluid bag and tubing, the suction tubing and canister, and other medical-regulated wastes are discarded into the red waste bag enclosed in a corrugated box. The maintenance crew changes the bag daily, or as needed.
4. Any post-operative patient's wound is handled with strict sterile techniques, using sterile gloves to change the dressings.

## School of Dental Medicine Policy/Procedure Pertaining to the Handling and Treatment of a Suspect TB (Tuberculosis) Patient

Early identification by front line staff is critical for timely containment and minimization of risk to staff and caregivers.

If a patient or visitor exhibits signs or symptoms of TB (chronic productive cough, night sweats, etc.) staff should immediately contact a faculty member for further analysis. If the faculty member determines that this individual is a potential TB case and requires assessment (a rule out) the following steps must be taken as soon as possible.

- Provide the patient or visitor with a surgical mask (do not give them a respirator mask) or tissues to cough into.
- Isolate the individual in a vacant patient room with a door and close the door. Post an isolation "STOP" sign on the door. An inventory of patients and staff who may have come in contact with the suspect individual should be maintained incase follow-up procedures are necessary.
- Contact one of the Dental Clinic Managers: Pamela Miles or Bibi Mayalall.
- Movement of the patient must be coordinated through the Hospital Transportation Department at X-1948. You must convey your concerns about the suspect individual and inform the Transportation Department representative that respiratory precautions are necessary. Only employees who have been trained, medically qualified to wear a respirator and who have completed their annual fit testing may wear a respirator.
- The patient may then be transported to the Emergency Department.  
**Advanced notice to all receiving areas is mandatory to allow for preparation of the isolation room and to provide time for staff to don personal protective equipment (respirators).**
- If the suspect patient is confirmed by the ED to be active, but requires dental treatment that cannot be postponed, the patient must be transferred to DC # 5, room 16 by Hospital Transportation, again following the above procedures. Prior to moving the patient instruct DC#5 staff that the negative pressure room will be required. They should turn on the HEPA unit, post the respiratory isolation "STOP" sign and visually verify the room is negative by the "ball in the wall" indicator and close the door.
- If the provider is not certified to wear a N95 respirator, notify the Research Safety Office for training, medical evaluation and fit testing or obtain a PAPR (positive air pressure respirator) by contacting Facilities Management – ECC at X-2338.

Nights, weekend or holiday emergency patient visits must be seen in the Emergency Department. The Emergency Department is trained to receive potentially infectious TB patients.

Additional information (UCHC TB Policy) and subsequent procedures that must be adhered to are contained on the Office of Research Safety home page and the Hospital Infection Control Manual. This information may be obtained by going to the UCHC Home page, clicking on Research Administration, then on Office of Research Safety. The Infection Control Manual may also be obtained within the Dental School and on the Infection Control shared folder.

## Additional considerations

- 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.
- 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 confirmed the patient is no longer infectious.
- 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.

## Hepatitis B Vaccine

Hepatitis B vaccine has the potential to eliminate the risk of acquiring the virus as well as prevent secondary transmission to family and patients by dental personnel who may be in the carrier state. Ideally this vaccine should be given at the initial stages of training or employment. The vaccine requires three doses to be given intramuscularly over a six month period. The first dose is followed by a second dose at 1 month, and a third dose six months later. Generally within 2-8 months after the last dose, immunity (seroconversion) should be confirmed, by having an anti-HBs test (antibody to Hep B surface antigen).

At the present time it is the responsibility of an employer to make hepatitis B vaccination available to all employees at no cost. The only exception is if the employee has previously been vaccinated, or has been tested and found to be immune. If the employee is offered the vaccine and declines, but at a later date while still employed decides to accept the HBV vaccine, the employer must provide the vaccine at that time. Should a booster dose be recommended at a future date, this booster must be provided according to standard recommendations for medical practice.

## **Eye Wash/Eye Safety**

All dental clinics and support services have eye wash systems connected to the potable water system. Users must know their locations (all eye wash stations are marked with red and white laminated signs) and how to operate them.

### **Use**

1. Turn on cold water side of faucet (use of hot water may cause scalding or other injury).
2. Pull knob on Eye Station unit forward to activate the eye wash. Water pressure will hold the eye wash in operation, thus leaving the user's hands free.
3. To return to normal faucet operation, push knob back to original position. When the faucet is turned off, the knob will return to original position automatically.

### **Maintenance**

1. Periodic cleaning of the eye wash aerators is advisable to assure proper water flow.
2. Keep plastic float-off covers on outlet heads when the unit is not in use.
3. The Eye Safe unit, like all emergency eye wash and show should be tested at least weekly

## COMPLIANCE AND OUTCOME ASSESSMENTS COMPLIANCE

The success of any comprehensive infection control plan requires the cooperation and compliance of all individuals involved. In order to ensure compliance of infection control guidelines, the following steps will be implemented:

1. All clinical personnel share in the responsibility to ensure compliance with all infection control guidelines by all members of the clinic community - students, residents, staff, and faculty alike.
2. Lead Dental Assistants are responsible for all dental equipment and supply requirements related to infection control within their clinics. The Lead Dental Assistant is required to monitor compliance of infection control standards involving dental assistants and dental assisting students. Any issues associated with maintaining clinic standards must be reported to one of the Dental Clinic Managers.
3. Faculty have primary responsibility for implementing and monitoring all patient and predoctoral as well as postdoctoral student activities related to infection control. It is the responsibility of each clinical preceptor to ensure that all infection control guidelines are being followed during all dental visits. Faculty are expected to evaluate students on their compliance with infection control standards at each visit. Faculty are required to report any problems in infection control compliance to the Office of Dental Clinical Affairs, predoctoral clinic director, postdoctoral residency program directors, and the Dental Clinic Managers.
4. Division chairs are responsible for addressing infection control issues which relate to individual faculty members or predoctoral/postdoctoral students under their supervision.
5. All preclinical and clinical course and program directors are responsible for instructing students on proper infection control procedures related to preclinical or clinical activities.
6. Employees and non-employees are encouraged to report any problems relating to infection control, independent of course or nature, to the Dental Clinic Managers.
7. Employees and non-employees at risk for exposure are required to attend initial and refresher training and are expected to adhere to all UCHC and School of Dental Medicine infection control guidelines.

Dental clinic managers will, on a regular basis, conduct infection control audits in all patient care areas. The infection control audit process will also assess environment of care issues. Any deficiency that is identified during an infection control audit will be reported to the responsible individual for corrective action. Summary data of the infection control audit processes will be reported to the Quality Measurement and Improvement Committee on a regular basis.

Ongoing compliance with infection control standards are also monitored through a specific infection control improvement plan in which any member of the clinic community may indicate to another member that they witnessed either a breach in standard protocol or full compliance with protocol.