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LANE COMMUNITY COLLEGE

EXPOSURE CONTROL MANUAL

REVISED AUGUST, 2008
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EXPOSURE CONTROL MANAGER

EXPOSURE CONTROL MANUAL

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Appendix B

LANE COMMUNITY COLLEGE
DENTAL PROGRAMS
EXPOSURE CONTROL PROGRAM

Revised by Sharon Hagan, Exposure Control Manager August 2008

The following Exposure Control Program has been established for the Lane Community College dental program. All phases of the policy are currently in effect.

The objectives of the program are to:

- ♦ Protect students, clients, staff and the environment from biological and chemical hazards
- ♦ Follow OSHA and CDC guidelines that promote health and safety of health care workers
- ♦ Provide knowledge of how to safely practice dental assisting and dental hygiene
- ♦ Augment the student's textbooks with practical "hands on" knowledge of procedures
- ♦ Comply with Lane Community College Chemical Hygiene Plan and Infection Control policies, Oregon Occupational Health and Safety Code (OAR Chapter 437) Division 155-Hazard Communication, and Blood borne Pathogen Standard (29 CFR 1910.1030, dated 12/6/91 and Needlestick Prevention 2001) and Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens (CPL 2-2.44D) issued November 9, 1999.

  Copies of References and Resources may be obtained on line from www.osha.gov and http://www.cdc.gov

The program includes:

1. **Student Information and Training**

   In addition to this manual, students will receive health and safety instruction on infection control procedures, proper use of all materials and equipment, and emergency procedures to follow if accidental exposures and/or contact occur throughout the academic year. That information will be shared in classroom lectures, textbooks and modules and will be presented as close to the start of clinical or laboratory activities.
   # Education in this program involves some products that may contain hazardous chemicals.
   # A master list of chemical and products is available from the Exposure Control Manager.
   # You must know the hazardous chemicals in your workplace.
   # MSDS Sheets are available in the Clinic Instructor Station.
   # All students must know hazards, hazardous chemicals, methods of controlling exposure and personal precautions for handling products that contain hazardous chemicals.
   # All students must know the proper disposal method for all hazardous chemicals and is under the Hazardous Chemical Waste Management Plan.
   # All chemical spills will be reported to the Exposure Control Manager as soon as possible after the occurrence.

   Instructors assume that students will comply and students will be immediately dismissed from class, clinical or laboratory sessions for noncompliance.

Employee Information and Training

Faculty and staff employed by the college to work in the dental facilities will be provided access to a Dental Programs Exposure Control Plan. A video series will be made available to all employees for review and up-date. A quiz will be self administered and signed by staff to document review of current policies as written in the Exposure Control Plan. Sharon Hagan will meet with new staff to provide an opportunity for new staff review the Policy and Procedure manual and to have questions answered. Annually training will be held with faculty and staff on new procedures or policies. The Dental Programs use a system of manuals and binders located in the Dentist area of the clinic in preparing the dental facility to comply with guidelines stated in a Federal and State OSHA Compliance Manual. The Guidelines for Infection Control in Dental Health-Care Settings--2003 published by the Department of Health and Human Services has been reviewed for inclusion of changes in 2006-07 Standard operating procedures. The Exposure Control Coordinator and staff provide annual training for staff, a Hazard Communication Program, Exposure Control Program and Tuberculosis Program and a Certificate of Hazard Assessment.

2. **Updating**

   Revisions to the manual and course materials will be made at least annually. Minor revisions will be made during the year as necessary. Changes after the initial annual publication of the Exposure Control Program will be presented verbally during classes or in writing if new or modified tasks and procedures that affect occupational exposure are implemented..

3. **Container Labeling**: The Dental faculty will verify that all containers received for use will:

   a. be clearly labeled as to contents
   b. note the appropriate hazard warning
   c. list the manufacturer's name and address

   It is the policy of Lane Community College dental program that no container will be released for use until the above data is verified.

   The lead instructor for each clinic will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with generic labels which have identification and hazard warning color coding blocks. The clinic duty person will be assigned the task of labeling fresh products replenished during the clinic period.

4. **Material Safety Data Sheets (MSDS)**

   Copies of MSDS for all hazardous chemicals to which employees and students may be exposed will be stored in a notebook marked "MSDS" in the clinic area. If MSDS are not available or new chemicals in use do not have MSDS, contact the dental clerk. MSDS forms are also available through Internet Resources.

5. Lead instructors are the designated employees responsible for maintaining and overseeing this plan during their clinics and labs.

6. Lead instructors are responsible for maintaining records and assuring security in confidential situations.

Immunization Program

Dental personnel are considered to be at substantial risk for acquiring or transmitting Hepatitis B, influenza, measles, mumps and varicella. All students, faculty and staff are asked to receive vaccinations for these diseases at the entry of the program or employment. Risk of Exposure to Hep B is extremely high and immunization protocol should begin within 10 days of employment. The three Hep B immunizations and titer level test are to be completed by May 15th annually. A copy of the titer is provided to the Exposure Control Manager for record keeping. Those clinicians not achieving a score of 10mIU/ML will be asked to consult with their health care provider and follow their direction. The clinician's personal physician serves as the primary source of counseling and advisement regarding the titer level.

BLOOD BORNE PATHOGEN STANDARD

The federal Occupational Safety and Health Administration (OSHA) estimates that more than 300,000 dental health care workers (DHCW's) are at risk of exposure through skin, mucous membrane, or parenteral contact with disease producing micro-organisms which may be transmitted in human blood and other body fluids during routine client care ("**occupational exposure**"). Two viruses are currently of greatest concern: hepatitis B virus (HBV) and human immunodeficiency virus (HIV) which causes AIDS, however other diseases may be transmitted in a similar fashion.

The Blood borne pathogens standard is OSHA's regulation, in effect since December 6, 1991and revised in 2001, which describes how to determine who is covered and the ways to reduce workplace exposure to Blood borne pathogens in the health care industry. It consists of an **Exposure Control Program** which includes identification of job classifications, tasks where there is exposure to blood and other potentially infectious materials (OPIM), a description of how the standard will be implemented, how it will be communicated to health care workers, hepatitis B vaccination, post-exposure evaluation, follow-up, record keeping and implementation of the methods of compliance such as:

- Engineering and work practice controls
- Personal protective equipment (PPE)
- Housekeeping and waste disposal
- Procedures for evaluating exposure incidents

A copy is stored in the master notebook titled "Lane Community College, Dental Programs, Exposure Control Plan" located in the dental clinic area. A copy of the Center for Disease Control Guidelines for Infection Control in Dental Health-Care Settings, 2003 is also available in the Master Exposure Control Manual. Dental Hygiene students use the Infection Control & Management of Hazardous Materials for the Dental Team text by Chris Miller, PhD and Charles Palanik, MS. PhD which publishes appendix B listing a Resource list in appendix B.

Students use the Dental Staff Health and Safety Training employee workbook published by Interact Training System in Infection Control and Safety and Chairside Procedures I to learn how to be safe in the dental work place. The instructional sessions are augmented with L.C. C. standard operating procedures. Faculties have also developed media to support learning for safe practice development.

"STANDARD PRECAUTIONS"

Instead of isolating potentially infectious materials, "standard precautions" is the term given to describe the primary approach to infection control. **Standard Precautions combine the major features of universal precautions and body substance isolation and integrate and expand those elements into a standard of care designed to protect Health Care Workers and patients from pathogens that may be spread by blood or secretion.** All treatment materials are considered contaminated because it is impossible to determine which clients are infectious for Blood borne pathogens from data recorded by the client on the medical history or from the client's verbal comments. To prevent contact with blood or OPIM, personal protective equipment (PPE) will be worn during all client contact. Saliva in dental procedures is considered potentially infectious.

Standard Precautions include:

- Washing hands before and after every patient contact
- Wearing gloves when touching blood, body fluids, secretions, and contaminated items.
- Wearing a mask and eye protection, or a face shield during procedures likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.
- Handling used patient-care equipment and linen in a manner that prevents the transfer of microorganisms to people or equipment.
- Using care when handling sharps.

EXPOSURE CATEGORIES

During the course of training in clinical and laboratory courses, students will contact blood/and or body fluids. To protect themselves from exposure they will use PPE and adhere to procedures of personal protection taught in their classes and/or described in training modules.

STUDENTS AND CLINICAL STAFF - During client care: personal protective gear as described herein is required.

CLERICAL STAFF (including Work Study students who may have occasional unplanned contact with blood products, help clean up, handle instruments, materials, and lab orders but have little direct client contact) will be aware of potential contamination during tasks they perform and will use protective equipment when indicated.

Staff who have no exposure to blood or body fluids, who never give emergency medical care, whose only "touch" surfaces are pens, pencils, phones, handshaking, and the use of public bathrooms will follow the same procedures.

PERSONAL HABITS AND EATING

Eating, drinking, storing food or drink, smoking, applying cosmetics or lip balm, or handling contact lenses in work areas where there is a reasonable likelihood of exposure to hazardous or infectious materials is prohibited. Contamination of hands and containers may occur which could transmit infection to the student. Dental clinic facilities, dental materials laboratories, dark room, and instrument reprocessing centers are examples of hazardous areas.

Student or faculty and staff shall not store consumables in any area where bloodborne pathogens may contaminate the area.

Students will be excused from clinic if they have open lesions on their hands or a communicable disease which may be passed to clients or fellow students.

Refer to the Table 1 Work restrictions for Health Care Personnel provided at the end of this document.

Standard Operating Procedures

Lane Community College Dental Programs uses standardized protocol for guidance and completion of tasks within the dental facilities. This standardized protocol is Listed by Number and Title (SOP#1) and Referred to as Standardized Operating Procedures.

SOP #1

PERSONAL PROTECTIVE EQUIPMENT ("PPE")

Clothing and equipment worn specifically as protection during potential contact with micro-organisms (blood, saliva, mucous membranes or OPIM) or while handling hazardous materials is considered personal protective equipment. Garments and equipment which isn't worn solely for protection is not considered PPE. The college faculty will insist that the student use the appropriate PPE designated for each task.

The proper use of PPE will prevent potentially infectious or hazardous materials from contacting the student's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment is used. PPE is to be worn only while working in the treatment area (not **to** campus, class, lunch, or off campus at the end of the class day).Leave gown in clinic or lab, transport in plastic bag between rooms if contaminated.

The college will provide, and have readily accessible, appropriate PPE for client treatment and classroom tasks, such as, but not limited to, gloves, masks, aprons, and goggles. Students are responsible for purchasing and maintaining protective eyewear (including side shields), laboratory/clinical blue gowns are provided, and scrub uniforms the student buys, face shields are also purchased, and ventilation resuscitation mouthpieces are available in the clinic at dental units. Faculty, dental hygiene and dental assisting students will use fluid resistant gowns due to the type of splash and splatter anticipated during patient treatment and has ready availability of the gown. Lane site Dental Assisting students have a lab jacket for use at off site clinical rotations as part of the Cooperative Education program.

GLOVES are located in each client care/treatment facility, are worn only in those areas, and are worn for all situations when exposure to blood or body fluids may be anticipated. Gloves are single use items and must not be reused. Hands are washed after glove removal and before re-gloving. All clinicians will have an opportunity to select a glove to fit their personal size and material needs. The Lane dental hygiene and dental assisting facilities use nitrile/synthetic gloves to reduce problems with sensitivity and allergy. Sterile gloves are available in the facility for surgical procedures performed in the clinic. Two types of gloves are required:

For routine clinical procedures nitrile, pvc or polycholorprene examination gloves are used. A fresh pair is used for each client and changed during the appointment when torn, punctured, or

when a great deal of hemorrhage/contamination occurs over an hour's duration. (It is against federal law to rewash gloves to be used for another client's treatment). Gloves are removed when leaving the treatment area and hands are washed immediately upon glove removal.

For unit clean up examination gloves are worn under utility gloves for cleaning and disinfecting the operatory and other areas of the workplace. These heavy duty nitrile gloves are washed with soap, decontaminated and reused. Instrument decontamination while the student is assigned to clinic duty requires the use of utility gloves over latex examination gloves. Utility gloves are located above the sinks in the sterilizing room. The heavy duty nitrile glove is maintained by decontaminating with hand soap, disinfected with BIREX and autoclaved. Utility gloves are reused until punctured or torn.
Birex or available surface disinfectant and utility gloves are stored under sinks in the clinic.

Glove Integrity: Gloves have limitations and may develop defects in 30 minutes to three hours. They provide protection against transfer of body fluids but are inadequate protection against penetration by needle stick or "sharps." Many disinfectants in hand washing soaps can cause defects in glove material which diminishes their effectiveness as barriers. If the integrity of the glove is compromised (torn, punctured) it should be changed as soon as possible. Some HCWs and clients are allergic to latex and/or glove powder, the facility has adopted a non-latex environment. **Allergic symptoms** to latex include red blemishes, itching, or weeping palms. If allergy is suspected, contact the instructor. Dental patients/clients may have allergies to latex. All facilities will implement a latex free environment. The emergency kit and oxygen is readily available in the clinic in case of an unexpected allergic reaction.

Gloves are discarded in the chairside contaminated waste bag that contains soiled disposables or put in with routine garbage through counter top disposal holes or trash receptacles. Blood tinged gloves, 2 x2 gauze and other disposables are considered contaminated trash and are placed in the contaminated receptacle in the sterilization room. Red bags @ chairside are used by all clinicians for gauze and gloves. Dental assisting protocols require a paper cup for contaminated gauze and gloves with restorative trays and a red bag with an extraction tray for contaminated waste.

MASKS are required during client care and are located in each treatment area. They will provide protection from inhalation of aerosols while they are dry. If they become damp or are worn in an area of high humidity the mask is changed in 20 minutes or when wet. Masks worn in a dry climate are changed hourly. Masks used in the dental clinic have 95% filtration efficiency. Masks are changed for each client and handled only by the ear loop or periphery. Masks are molded/pinched over the nose, pulled snugly under the chin and secured to prevent inhalation of aerosols. Molded and allergy free masks are also available.

During routine treatment the soft surgical dome type, tie-on, or ear loop design are satisfactory. A mask that conforms to the face shape will give the most protection. The mask is placed on the face before had washing, after washing hands done gloves.

Masks are not touched during treatment, removed as soon as treatment is completed, and disposed of in same manner as gloves. Only the elastic, ear loop, or cloth tie portion of the mask should be

handled during removal. Masks should be removed within 30-min to one hour and replaced with a fresh mask if treatment lasts beyond one hour. Moisture on the mask reduces it effectiveness as a barrier. Masks are not pulled down below the chin and replaced above the nose during or between treatment sessions. The mask is considered either off or on, fully protecting the nose and mouth or taken off the face.

FACE SHIELD

Whenever aerosols or other debris will be generated, a chin length face shield and mask are recommended (i.e. while using the ultrasonic tooth scaling device or air polisher (*Prophy Jet*). Face shields attach to protective lenses or are used with headgear. Remove with gloved hands, wash with soap, disinfect and dry. **FACE SHIELDS** provide additional barrier protection from splatter and inhalation of aerosols. They are worn as an adjunct to protective face masks, never instead of a mask. The open side design provides an entrance for splatter and aerosols to contact the face. Face shields are cleaned with soap and water and dried with a soft towel.

PROTECTIVE EYE WEAR is required at all times when there is reasonable probability of preventable injury or exposure to airborne debris. EYE WEAR consists of glasses with solid side shields, goggles, and face shields. It must fit comfortably and remain securely in position at all times. If EYE WEAR is too loose or too tight the tendency is to adjust the fit with the hands, thereby contaminating the eyeglasses and/or transmitting micro-organisms to subsequent clients. The choice for each task will be designated by the instructor who teaches the particular skill.

EYE WEAR shall be worn during all dental treatment (even while wearing a face shield), while mixing chemicals, while working in the dark room and dental materials laboratory, during instrument recirculation procedures, while assisting a fellow student, and while performing routine housekeeping tasks. Ultraviolet lenses or a shield is required during the curing of some restorative materials and pit and fissure sealants.

EYE WEAR can be satisfactorily cleaned with soap and water between clients. It does not require disinfection. If touched during treatment (usually to adjust the comfort or fit) it will become contaminated and become a possible infectious transfer source to the student or client. Disinfection is always an appropriate option and wearing gloves during the handling of glasses used in aerosol laden atmosphere is appropriate.

UNIFORMS/CLINIC ATTIRE - The goal of special clinic attire is to protect the operator's skin from contact with hazardous chemicals and agents which may cause Blood borne diseases and to protect street clothes if they are worn under the protective garment. Attire can be disposable or reusable and will be changed immediately when soiled or at the end of the day. Cotton or cotton/polyester clothing is satisfactory. To provide maximum protection to all exposed skin, clinic/lab smocks tie in the back and are high necked with cuffed sleeves and full wrap around the clinicians' lap when seated. The lab gown worn during client care must be changed when soiled and not worn outside the treatment area. Dental students, faculty and clinicians use a 100% polyester laboratory jacket/gown to additionally protect the clinician due to the extensive use of ultrasonics during debris removal, dental procedures and fluids contamination during laboratory activities.

Lab jackets are never worn into the restroom. Remove jacket, place on jacket hook in dentist area and replace after visiting restroom. **Clothing worn under a smock (uniform or street) must cover the students' full torso front and back**. The student must be able to bend, squat, twist and move allowing for continuous full coverage of skin both front and back of the body. No personal body art should be visible while appropriately dressed for laboratory or clinical treatment. Sox worn with slacks must cover bare skin when seated in clinical treatment areas.

Plastic aprons may be worn over lab coats while on "clinic duty" in the sterilizing room when cleaning sterilizers, developers or other equipment.

LAUNDRY - The uniform lab gown is removed at the end of the clinical session. The gown is removed by untying neck and back waste tie and let the gown fall forward from your body. Turn inside out as you remove the gown. Roll and place in laundry disposal bag. Gown may be worn for multiple patients but should be replaced when visibly soiled, at the end of clinic sessions for the day or high level of sterilization is a concern. It must be placed into the laundry with minimal handling and without contacting one's skin using universal precautions for the handling of the contaminated laundry.
Normal laundering with household detergents and drying in an automatic dryer will sanitize clothing worn under the gown. Extra laboratory gown/coats are available since unplanned exposure to excessive spatter will require immediate changing of the soiled garment. Lab coats are available in the clinic/facility storage area. Faculty gowns are available in the clinical facility.

Disposable gowns may be used by some students at clinical sites and by some staff at clinical sites. These jackets are worn once and disposed after a clinical session.

HEAD AND FOOT COVERINGS - Head coverings are required to contain unruly hair which cannot be secured or during treatment where the possibility of extreme contamination exists. Foot coverings are not required.

SOP #2

HAND WASHING and GLOVING

Hand wash stations: Hand wash stations, germicidal soaps, and disposable towels are located in every client care and laboratory facility. Hand disinfectant for use on clean hands is available throughout the clinic/radiology facility. Electric eye units or not touch waters spigots are available in the dental clinic and radiology areas. Hand operated units are used in the dental laboratory. The dental lab and distance clinical and lab sites may have electric eye units or foot operated sinks.

Special Consideration: Short fingernails with smooth edges help maintain integrity of the glove. No artificial nails, extenders or polish or hand or jewelry is allowed on clinicians or assistants to clinicians.

When to wash:

♦ In the morning prior to beginning the day's treatment
♦ Before and after eating
♦ At the end of the day
♦ **After using bathroom**
♦ If gloves become punctured or torn
♦ After removing gloves or other PPE
♦ Between clients before changing into fresh gloves
♦ Anytime contact is made with potentially contaminated surface by a bare handed touching of an inanimate object contaminated with blood, saliva, or respiratory secretions (germicidal soap is available for washing when a known contamination has occurred

How to wash:

♦ To prevent skin lacerations, avoid hard scrubbing with brush.
♦ Use 2 - 15 second warm water washes to remove transient bacteria
♦ Do 15 second/quick lathering (with liquid bland soap) as a routine between clients.
♦ Use several <u>cool</u> rinses to close pores and to wash away debris, bacteria, and skin cells
♦ Dry with disposable toweling.
< Examine nails for debris, remove with orange wood stick or brush and rewash.

Antimicrobial Hand Wash: use to minimize transient microorganisms on the hands and to reduce the number of resident bacteria by means of their bactericidal chemical activity. Use on clean hands that have touched surfaces that have not been in the patient's mouth and have visible soil on them.

Technique for gloving: (all other protective PPE gear is applied first, gloves are the last PPE applied prior to patient care, do not touch contaminated surfaces or items before going into the patient's mouth.)

♦ **Remove all jewelry.** (Refer to "Grooming" statement).
♦ Wash and dry hands thoroughly.
♦ Hold glove by folded portion of cuff to avoid contact with external surface, and insert the opposite hand

- ♦ Place the fingers of the gloved hand into the folded area of the second glove and pull on.
- ♦ Pull the folded portion of the first glove up using the now gloved opposite hand.
- ♦ After use, remove gloves, discard, and wash hands.
- ♦ If gloves are penetrated or become damaged during use, they should be removed, hands washed, and fresh gloves put on.

After washing and gloving:

- ♦ minimize "touch" surfaces. Touch ONLY the inside of client's mouth or sterile and disinfected items or surfaces adequately covered with barriers.
- ♦ Petroleum products break down glove materials, consider the integrity of the glove when selecting a hand cream.

SOP #3

MINIMIZING AEROSOLS AND DROPLETS

Aerosols will be controlled or reduced by using procedures to contain aerosol contamination.

Note: Aerosols are invisible particles formed by the passage of air over a liquid. They are dangerous because they may contain micro-organisms, float freely in air, and are so small they are not trapped by the body's anatomic barriers, instead pass directly to the lung or eye. **Droplets and splatter** (greater than 50 microns in diameter) are heavier thereby increasing their transmission potential. Mists are up to 50 microns in size. The high speed handpiece generates droplets and contaminates less than 5 microns in diameter. The highest concentration of contaminates is 2 feet from the patient, where the dental worker is typically positioned. 95% of dental aerosols are less than 5 microns in size. Research is currently being conducted by NIOSH (National Institute of Occupational Safety and Health) and the CDC (Center for Disease Control) on Aerosol Production and disease transmission. High velocity evacuation methods should minimize dissemination of droplets, spatter and aerosols. **Modified High volume tips** are available and recommended for use with ultrasonic cleaning procedures.

Equipment that creates aerosols:

- Air/H_2O spray
- High speed handpiece
- Ultrasonic scaler (*Cavitron, Sonic Scaler, La Machine*)
- Ultrasonic instrument cleaner
- Air/water syringe
- High volume suction: stream of particles bypass the opening of tip
- Air polisher (*Prophy Jet*)
- Oral irrigation device
- Model trimmer
- Pumice wheel

The following methods must be employed during treatment to provide protection for the operator:

- Rubber dam isolation
- Fluid resistant masks
- Eye protection: glasses, goggles, face shields
- High volume evacuation/suction using large bore HVE
- Rinsing with as heavy a volume of water as procedure allows
- Pre-procedural rinsing with an antimicrobial mouth rinse

SOP #4

PREPARING FOR CLIENT CARE

PREPARING FOR SET-UP - Assess the dental unit area, clinic counters and carts and remove or relocate any materials not necessary for patient care. If items are at risk for contamination either remove from the area, store for retrieval as necessary or unit dose items.

SETUP
^Prepare disinfectants per manufacturer direction
^Flush air and water lines for 3 minutes.
^Pre-clean and disinfect surfaces
^Apply barriers with clean hands
^Review proposed treatment plan and unit dose tray setup items and set up additional over gloves or forceps to retrieve supplies.
^Place a biohazard waste bag within arms reach of the dental unit work space for blood soaked gauze.

PRECLEANING - A basic principle of infection control is to start with clean surfaces. Disinfection and sterilization procedures will only be effective on clean surfaces.

"Precleaning" means to remove debris and blood or body fluids, and soil from instruments and environmental surfaces (counter tops, cabinets, etc.) with soap and water, or ultrasonic cleaning (for instruments).

TRAY SET UPS - All materials required for client care prior to beginning an appointment are prepared on a tray. Procedure oriented tray set ups will help the student remain "at task," eliminating the need to leave the chair, thereby minimizing the possible transfer of client fluids to other areas or surfaces in the clinic.

CLEAN GLOVE SUPPLY RETRIEVAL - Many products are provided in "unit dose" form in an amount sufficient for one appointment. **Clean gloves** are used to retrieve additional items from drawers, storage containers and cupboards if needed during the client care appointment. **Clean gloves only are used for supply retrieval in the general supply area of the sterilization room clean counter**. Sterile forceps are used to retrieve items at chairside from dental assisting tubs or drawers. Clean glove means the retrieving gloved hand has not touched the lid of the storage container (left had removes lid, right clean gloved hand retrieves content of general supply containers) Forceps are sterilized at the end of clinical sessions and are usually found in the tray set-up for chairside procedures. Placing the forceps aside in a non-contaminated zone for assisting procedures will maintain the forceps as a clean instrument for retrieval of needed supplies. Container lids, cabinet handles and drawer facings are disinfected at the end of all clinical sessions.

SURFACE DECONTAMINATION/DISINFECTION -
Touch and transfer surfaces are usually touched and contaminated during dental procedures. Touch surfaces should be kept to a minimum. If a surface may be touched it should be cleaned

and disinfected, or covered with a barrier that is impervious to liquid. Barriers must be single use and replaced between patients. When a surface becomes visibly contaminated it must be disinfected between barrier replacements. If a surface is not visibly contaminated then the surface may be cleaned and disinfected at the end of the day. Birex used by the L.C.C. Dental Clinic has a detergent in the cleaner and when spray wipe spray or soak wipe soak is used the surface is considered cleaned and disinfected if allowed to dry over 10 minutes after the chemical is applied or the time noted on the disinfectant product.
NOTE: While there is no documented evidence of the HIV (virus) being transmitted on environmental surfaces, HB has been transmitted in this manner.

Heavy duty, puncture-resistant utility gloves provide adequate protection and are worn during heavy cleaning that occurs after barriers are removed and contaminated surfaces are disinfected. Examination gloves may be worn during disinfection procedures such as replacing an air water tip that has become contaminated during a procedure.

Disinfection is a two step process involving initial cleaning and removal of surface debris prior to application of disinfectant. The procedure is referred to as **spray-wipe spray and/or soak/wipe/soak**. After the cleaning step, the area is flooded or wiped with an EPA registered, tuberculocidal disinfectant (phenolic, iodophor, or chlorine compound). At L.C.C. the product in use is *Birex.* The surface is allowed to remain wet for the length of time specified by manufacturer. (10 minutes for *Birex*). Paper toweling or 4x4 is used to clean the surface with the disinfectant.

BARRIER COVERINGS - Surfaces which are difficult or impossible to disinfect (control buttons, switches, hoses, etc.) will be covered with plastic wrap, aluminum foil, or other material impervious to water. Clean examination gloves are put on before fresh covers are placed between each client. The use of barriers is less time consuming than disinfecting surfaces between clients. Disinfecting electrical switches may damage or cause a short in the switch.

Soiled barriers after client treatment may be removed with soiled gloves used during treatment and discarded with barriers from the treatment. Practice the removal of barriers to reduce the bioburden on surfaces during the barrier removal procedure. The best practice is to disinfect with Birex all touch surfaces after each patient treatment session due to the difficulty in removing a barrier without contamination of the surface below the barrier.

Surfaces covers are described, demonstrated and used routinely in all clinical courses and radiologic labs. Any area which may need a clean surface for student work or patient treatment can be covered with the variety of barriers available in the facilities.

Specialized barriers are available for pit and fissure sealant lights. All equipment and surfaces are disinfected at the end of daily use. Barriers may be used as a time saver between clients and disinfection omitted only if the barrier remains intact during treatment and can be removed with out contaminating the surface it is protecting.

The air water syringe (disposable tips are disposed) and evacuation hoses for the saliva ejector should always be disinfected between clients.

SOP #5

RECIRCULATION OF INSTRUMENTS

During instrument decontamination and cleaning in preparation for sterilization, heavy duty **utility gloves are required along with protective EYE WEAR, face mask and appropriate barrier attire.** No type of glove provides complete protection against injury from sharps, therefore, extra care is required when handling sharps. When multiple people use the same heavy utility gloves, latex or vinyl gloves are worn under the nitrile glove. The L.C. C. clinic has multiple users of all heavy duty gloves, the clinician will wear clinical treatment gloves under the utility gloves.

INSTRUMENT TRANSPORT - Instruments are transported carefully on the tray used for treatment to the sterilization area. Instruments are placed in cassette holders to secure instruments for transportation at the dental unit and transported on the tray for added safety. **Instruments and tray contents must be covered with the patient bib or a plastic covering for transport to recirculation area**.

WASTE DISPOSAL - Remove all barriers and dispose of waste in general disposal waste with the exception of blood soaked/tinged gauze, gloves or barriers. Contaminated waste is placed in the red or brown bag or a disposable cup at the unit and deposited in the red contaminated waste receptacle to the left of the sterilization reprocessing counter. When the Red Biohazard hard sided, foot operated receptacle becomes full, the clinician or instructor calls campus services for pick-up. The 3/4 full Sharps container is closed with the attached lid and left inside the Biohazard receptacle cupboard in the recirculation room. Campus Services is then called for pick-up. Patient barriers are tied in the headrest bag during the unit clean up procedure. The bag over the mini-control tray is used to cover and transport the contaminated tray by folding the clean undersurface over the tray.

HOLDING SOLUTION – Instrument cassettes and reusable contaminated sharps will be removed from the treatment tray immediately and placed in instrument cassettes where applicable and then in a holding solution until they can be cleaned. This solution prevents the debris from drying and makes the cleaning process prior to sterilization more efficient. Holding solution is only used if instruments are not processed immediately or heavy debris removal would be enhanced by soaking. Instrument baskets/cassettes are removed from the holding solution with forceps and heavy gloves. Holding solution is changed when it becomes cloudy and disposed of in the sink.

HAND SCRUBBING of dental instruments is seldom a method of debris removal in the programs' Dental Clinics. Instruments with blood and heavy bioburden may first be rinsed in running water and then placed in the ultrasonic unit. Soaking in holding solution will also reduce and breakdown the bioburden to be removed in the ultrasonic cleaner. Impression trays may require soaking to remove alginate or other materials. Hand scrubbing instruments is done with a long handled brush and not with a sharp instrument. If hand scrubbing should occur, then scrub underwater with a brush and low in the sink to reduce aerosolization of bioburden. Instruments are carefully examined after ultrasonic processing for residual debris; hand scrubbing may need to

be done in exceptional cases to remove debris. Baked on debris found on sterile instruments must be soaked, reprocessed in the ultrasoic and hand scrubbed if debris is not removed. Visible debris on an instrument renders it unusable and contaminated even if it has been through the sterilization process.

ULTRASONIC CLEANING is the safest and most thorough method of cleaning.

< Use ultrasonic solution 2/3rds full, prepared as described and degas for 10 minutes prior to placing instruments in the bath.

< Place sharp instrument set ups in the bath in closed containers when available. Radiographic sets are placed in open baskets.

< Do not overload the container, be sure all instruments are covered, keep the lid on while operating and operate the ultrasonic unit for 10-15 minutes.

< Remove instruments when the unit is off using appropriate PPE's, forceps or basket handles are safest for instrument removal.

< Items are not added during the cycle.

< Instruments are removed, rinsed under running water, and "rough dried" on a large terry towel. Eliminate as much handling of sharp instruments as possible since injury can occur easily with sharps in the reprocessing center.

< The ultrasonic solution is changed daily or more frequently if overtly contaminated. The solution is always handled as infectious.

< **Clean and disinfect the unit at the end of the day.** Contaminated solution is washed down the sink with running water to dilute contaminates or disposed of by opening the automatic drain. The sink is disinfected after disposal of contaminated solutions.

PACKAGING FOR STERILIZATION

Place instrument baskets/cassettes that have been processed in the ultrasonic and rinsed on clean toweling to the left of the sink. Allow instruments to air dry, if necessary towel dry carefully with several layers of terry cloth toweling between heavy duty gloved hands and the instruments. With loose non-cassette items organize instruments into procedure oriented groups, by student color coding. Instruments are packed in autoclave bags or other semi-permeable material provided for this purpose. Identify/label packs with name, group or faculty member when ready for sterilization. Packs are placed in tubs located to the right of sterilizers. To assure movement of steam around instruments Loosely package instruments to ensure universal sterilization of contents. Instrument set-ups for dental hygiene students are kept in cassettes and used from the cassette on the instrument trays.

Use process indicator tape with wrapped cassettes or indicator bags. Use process integrators inside every package next to instruments to determine if medium penetrates packaging. Some bags will have the internal integrator on the package. Inspect instruments for cleanliness prior to packaging. Know how well the ultrasonic cleaner works, the processing time in the ultrasonic cleaner and use holding solutions to break down debris prior to ultrasonic agitation to reduce risk of instruments with debris being baked on in the autoclave.

Seal packaging completely, folding seals and taping to assure sterility will be maintained.

Decontaminate puncture resistant gloves by washing with soap, rinsing and spraying the outside with Birex disinfectant.

Cassettes are the method for handling instruments in the clinical facility. Hygiene instruments are not processed by the handful in sterilization bags. Evaluation instruments are packaged with a mirror, explorer and probe, radiology mirrors are packaged separately.
Rubber dam set-ups are packaged together in one bag.

PROSTHETIC APPLIANCE MANAGEMENT

Beakers are used with zip lock baggy and stain and calculus removal solution for prosthetic appliance cleaning. Use product manufacturer directions for preparation of solutions. Place solution in zip lock baggy, appliance in the baggy, place zipped baggy inside clean disinfected beaker and then process in covered prosthetic ultrasonic unit for 5-10 minutes. Open baggy, change gloves, remove prosthesis, place on clean tray and rinse with water at the sink. Rinse prosthesis with clean gloved hands and return item to the clients' clinician in a clean baggy with mouthwash/water mixture to keep the prosthesis moist. Stains and calculus may be removed with hand instruments or the ultrasonic. Follow aseptic procedures during debris removal.

ULTRASONIC UNIT TESTING

Use a piece of aluminum foil that is 4 x 6 inches and submerge in the unit for a 20 second cycle. Remove and examine the aluminum for holes when held up to a light source. The hole should be uniform is size and spacing. If holes are not uniform or absent the unit should be repaired or replaced.

SOP #6

STERILIZATION

Procedure

All instruments and all steam sterilization items are processed in between clients. Use the bagged instrument cycles unless special direction has been given for a non-bagged cycle from a faculty member. The faculty member will provide direct supervision for the use of non-bagged cycles. Specific direction for use of the steam autoclaves will be provided through the clinical instruction courses. Instruments are to have completed the drying cycle (20minutes) before removal from the MD11 and the STATIM Sterilizers. Maintenance and cleaning will be directed by faculty. **Clinic Sterilizers are maintained as follows:** Week 1 of the month, Sterilizer 1 is cleaned by the clinic duty person assigned. Each unit is cleaned the week number of its' corresponding unit number. There are four sterilizers in the clinic and 1 sterilizer in the laboratory. The laboratory sterilizer is cleaned under the direction of dental laboratory instructors during Fall and Winter and Spring terms.

Unwrapped instruments that have been sterilized are to be used immediately. Thorough drying and cleaning of instruments must be done before placing in all sterilizers, mechanical monitors and chemical indicators are used in every load and items are transported aseptically to the point of use. Weekly biological monitoring is completed on each sterilizer used that week. Instruments processed in the unwrapped cycle are placed on a tray for immediate use and bagged with a clean sterilization bag as needed. Un-bagged immediate use sterilization using a flash cycle is reserved for equipment used during restorative procedures such as a specialized handpiece..

The **sterilizer venting fan** is used during operation of the steam autoclaves in the clinic. Turn on the vent switch prior to starting a sterilization cycle in any clinic sterilizer.

Sterilization Monitoring

The facility uses mechanical, chemical and biological monitoring. Each product is used according to manufacturer directions.

Mechanical: Time, temperature and pressure checked with every load by operator

Chemical:

1. Inside each package, if not visible from the outside also use exterior chemical indicator (piece of chemical indicator tape)
2. Multi-parameter which measures time, temp and presence of steam tuck in center of each load
3. Note failure of indicator by sterilizer # on record, notify clinic instructor and determine cause for failure. Reprocess instruments

Biological:

Use weekly, use test and control in every sterilizer and incubate in heat block for 24-48 hours, document in binder biological record.

Positive test requires: 1. removal of sterilizer from service; 2. Retest sterilizer using biological, mechanical and chemical indicators after correcting identified problem. 3. If repeat spore test is negative and chemical and mechanical are within normal limits put sterilizer back in use. 4. Do not use sterilizer if negative during repeat test until repaired by outside specialist and retested as in 2. 5. Recall all instruments from sterilizers with negative results and re-sterilize.

Biological monitoring of the sterilizer is done weekly or by dental program students assigned to clinical courses. Lead clinical instructors will assign responsibility for this task to clinical groups. Process indicator tape is used on the outside of wrap, all bags have process indicator ink, process indicator strips are available for use inside packs and tucked within the loads and biological vials are available for inside the steam sterilizers. Each load will have process indicators and heat sensitive indicators for monitoring between packs within the sterilizer. Multi-parameter indicators to test for time, temp and presence of steam will be used with one per load and tucked deep in the load. Read the integrator and multi-parameter strip and document on facility monitoring form above biological integrators. Biologicals are completed on all 4 clinic units each week and noted in the biological tracking notebook by clinic duty students and on the posted Biological Tracking form.

Equipment failure and load failure is reported by all students to the clinical instructor as soon as possible. All faulty operation of the steam autoclaves is discussed with faculty assigned to clinical courses. The directions for checking the sterilizers are available on the clinic bulletin board. Service is on an as need basis and records are on file.

INSTRUMENT STORAGE - Each student is assigned a "cubby" (dental hygiene) or a cubby container (assisting) with their name affixed in which packs are stored after sterilization. Disinfect cubby shelf prior to placing instruments in storage areas. Second year dental hygiene students use a covered plastic container which contains only sterile instrument bags. Maintain this container as clean through frequent disinfection and careful handling of packages which have been processed to avoid creating breaks in sterile packs. Open packs/cassettes should be re-bagged and re-sterilized to assure all instruments stored are sterile and ready for usage.

All sterilized instruments are stored packaged. Storage areas are kept closed to minimize exposure to airborne contamination. Instruments have a 30 day storage life as recommended by dental literature. Outdated unused instruments and any damaged packages should be repackaged and re-sterilized. Instruments are not to be taken home by students. All sharpening, sorting or preparation of instruments is to be done in the clinic, radiology viewing area and/or laboratory facilities with appropriate PPE's, surface barriers and good lighting and magnification as needed.

HANDPIECE CARE – All motorized hand pieces are autoclaved between clients. Dental hygiene students purchase an autoclavable lube less handpiece. Dental Assisting students use a lubed handpiece and maintain the handpiece using an air station unit. Dental assisting students rent a handpiece. Instructions are included on care and maintenance either by instructors or with the purchased handpiece. Students who rent hand pieces are expected to follow the same care and maintenance procedures as if they owned the handpiece.

All **highspeed hand pieces**, nose cones, contra angles, slow speed motors, motor-to angle adaptors must be heat sterilized between patients. The cleaning, sterilization and maintenance procedures described by the manufacturer must be meticulously followed. After patient treatment flush the air handpieces for sterilization and process in the sterilizer according to sterilizer and manufacturer directions. If lubrication is needed either before or after sterilization follow manufacturers directions. A separate container of lubricant is kept on the clean side of the sterilization room to maintain the chain of asepsis along with clean bags for flash sterilized items. The sterilizers may be run with a bagged or non-bagged instrument cycle. The bagged cycle is preferred. Non-bagged items are to be used immediately or placed in a sterilization bag and noted as sterilized on the bag and ready for immediate use.

Disposable prophy angles are used in dental clinics. Autoclavable burs, polishing stones and points, and contra angles are used for restorative procedures. These items are maintained according to manufacturer direction and autoclaved. Bur brushes for cleaning burs and bur baskets are available for processing small items in the ultrasonic bath. Protocols for endodontic files are established by the restorative teams. All items used in the patients' mouth that are used to cut hard or soft tissue are sterile. Some items in use are disposable and some items are sterilizable such as disposable burs and autoclavable finishing stones used for amalgam polishing.

Operative Dental Instruments

Extraction instruments, restorative tray set-ups, endodontic tray-set-ups, temporary restoration and minor dental adjustment instrument tray setups are used in the clinic. For minor patient care needs in hygiene or assisting procedures obtain the tray set-up supplies from the dental storage cabinet with instructor permission and place on trays as directed by dental faculty when needed for clinical procedures. Reprocess and sterilize instruments in packaging marked for return to dentist set-ups. All procedures for sharps disposal and instrument handling are the same when processing operative instruments. Repackage instruments and follow through on the return of instruments to the appropriate operative tub.

SOP #7

SHARPS AND NEEDLE MANAGEMENT

An injury from a sharp is the most efficient means of transmitting Blood borne disease in the dental setting and poses the greatest danger of all dental procedures.

WHAT IS A SHARP?

- Disposable syringe, injection needles, and anesthetic cartridges
- Scalpel blades and lancets
- Orthodontic wire
- Glass tubing and cartridges
- Glass slides and cover slips

HOW DOES AN INJURY WITH A SHARP OCCUR?

- Sharpening instruments during treatment at the chair
- Wiping debris from instruments on a hand held gauze square
- Using 2 hands to recap a needle

HOW CAN I PREVENT AN INJURY? (*70% of needle stick injuries are preventable*)

Recapping of the syringe is done in the Lane Community College dental clinic at chair side to prevent transporting an open needle across the clinical floor on a contaminated patient treatment tray.

- While separating the needle from the syringe, grip at junction of cap and needle hub; do not place hand over the end of the needle cap. Use needle removing devise on sharps container whenever possible to eliminate removal by hand.
- **Exposed** (uncovered) needles should not be left on tray where they can cause injury during treatment or when transporting contaminated instruments to the sterilization area. Needles are recapped at the dental unit immediately after use using the one hand technique or a recapping devise due to the size and congestion encountered in the Dental Clinic.
- Use only very sharp instruments during client care. Dull instruments require excessive fulcrum pressure and increased danger of slipping.
- Never sharpen **contaminated** instruments (at chair side or after client care).
- Discard sharps in red "sharps containers" which are located in each treatment facility as soon as possible after use. The sharps container is maintained in an upright position and not overfilled.
- Needles must not be bent, broken or removed from disposable syringes **after use**, or otherwise manipulated by hand. Needle cutters can splatter blood.
- Never reach inside a sharps container or push a sharp into an already overfilled sharps container. When the sharps container is **3/4ths full,** cap with attached lid and secure with duct tape. Call Campus Services for Pick-up, Number posted at Instructor Desk next to phone.

TO RECAP SAFELY DURING TREATMENT when additional anesthetic may be required during the procedure:

Maintain needle in "sterile" field by using:

- "One handed scoop method:" laying cap on tray and guiding needle into it using one hand only
- Holding cap with forceps or pliers
- Securing cap in a "shield" or other "re-sheathing" device (commercially available protective barriers)

SOP#8

HOUSEKEEPING

CAMPUS SERVICES personnel clean the bases of units, clinic, and sterilizing room floors daily. Hard surface floors are mopped and disinfected with a "restroom type" solution. Carpets are cleaned using an extraction method at the end of each quarter.

STUDENTS AND FACULTY ARE RESPONSIBLE FOR:

- Cleaning and sanitizing counter tops, drawer pulls and facings, dental units, supply containers, sinks and mirrors. **All counter tops are disinfected at the end of all clinical sessions** and whenever they become contaminated during clinical sessions. Barriers can be sued on counter-top surfaces and computers.
- Returning all materials and supplies to designated storage areas at the end of each day
- Some duties are part of the "clinic duty" person's responsibility; others are required of each student who is assigned to a unit for the day. Specific guidelines are presented in course materials, teams of students are often used to fully implement protocols.
- Knowing where to locate and how to operate emergency equipment
- Cleaning and sanitizing waste receptacles with soap and water and Birex or other facility surface disinfectant.
- Placing potentially infectious materials in the contaminated waste container. Call for transportation of the filled contaminated waste receptacles. Containers and red bags are marked with Biohazard labels. Infectious waste is transported by the college to a main area on the campus until sufficient waste is collected and then transported in accordance with national and local laws. The laundry receptacle uses a red contaminated waste bag and is handled with gloved hands.
- Potentially contaminated glassware is picked up using mechanical means (such as dustpan and brush, tongs, forceps, etc.).
- Biohazard Waste containers are labeled “Biohazards Material is covered with a hard surface. Waste containers are not overfilled, maintained upright, and routinely emptied. Re-cycled paper is placed in the cardboard or “other round paper” container in the building recycle center daily.
- Dental Units are disinfected and then washed with soap and water at the end of the day. And not sprayed with disinfectant. New barriers may be placed but the barrier over the head rest area should not be placed until just before use of the chair. This process will maintain the integrity of the vinyl chair surface.
- **Birex is prepared weekly**. All containers are **Disposed on Friday pm and Filled on Monday am** of each week of the term. Special care should be taken to assure all containers in the clinical facility; radiology area and dental lab are emptied and filled on schedule.
- Blood Spills or OPIM are cleaned with Birex.
- Discharge of air and water for 20-30 seconds between patients from any devise that enters the patient’s mouth (handpieces, ultrasonic scalers, prohy jets, and air/water syringe)

- Radiology Protocol is listed in the Control and Use of Ionizing Radiation Manual.
- Use a **pre-procedural mouth rinse prior to dental procedures** to reduce levels of bacteria on all patients. Protection is enhanced when a pre-procedural mouth rinse is used with spatter, aerosols or direct contact occurs. Every patient should have a pre-procedural mouth rinse as a routine habit to protect the clinician and those in the workplace.
- Extracted teeth are placed in regulated/contaminated medical waste. If used in the facility for instruction the tooth must be sterilized and not contain amalgam.

SOP #9

WASTE DISPOSAL

OSHA's regulations deal with waste disposal inside the facility, not after it leaves the facility. Sharps (needles, scalpels, etc.) and articles saturated and dripping with blood are regulated waste in Oregon in all medical facilities and require special handling.

SHARPS - Contaminated "one time use" sharps are considered "infectious waste" and specific disposal regulations are required. At L.C.C., these materials are placed in red sharps containers which are located in the clinic, laboratory and sterilization room. College personnel pick up and dispose of the containers on an "on call" basis. The container is used upright and routinely replaced when 3/4ths full. The container is closed when moved.

BLOOD SOAKED/SATURATED ARTICLES are placed into red *Biohazard* waste container are located in the sterilizing room. Red bagged waste receives special handling by college personnel. At chair side the blood soaked debris is placed in a brown bag taped to the dental unit or a small red bag, roll up the bag and dispose in red Biohazard container to the left of the non-sterile counter in the sterilization room.

"DAILY USE" CHEMICALS - All chemicals which have been mixed for the day's use in the dental clinic may be discarded down sink drain. Wash the chemicals with running water while disposing. Dilution of contaminated chemicals is required when placing chemicals in the general sewer for disposal.

ROUTINE GARBAGE (generated from client treatment, i.e., gloves, bibs, tray covers, etc.) is placed in the plastic bag that covers the chair, tied shut, and placed in standard clinic garbage containers which are lined with heavy plastic bags and are located throughout the clinic. Disposable items covered with a substantial of blood will be placed in a separate small bag which may be taped to the mobile cart and disposed of in the plastic chair covering bag.

Garbage is picked up by personnel daily during the middle and end of the day and disposed of according to current guidelines and state regulations. If receptacles become full call campus services or instructors to change full bags. Over full trash receptacles are unsafe for clinicians and should be kept free of debris that requires forcing trash into the receptacle.

SOP #10

Records Management

Charts are maintained as clean. The dental clerk organizes and straightens dental client charts minimally. The student is responsible for the tidiness and completeness of the dental chart. A patient/client chart is obtained from the dental reception office with clean, glove free hands.

During Client Care:
The chart is placed under the plastic cover for the dental chart. As information is reviewed in the chart and notes are made they are made with a clean pen and away from the treatment area. Gloved hands that have been contaminated during client care are not used to write in the chart or to handle documents such as radiographs.

Radiographs:
During client care radiographs are placed under the plastic covering on the radiograph view box on the delivery system. Radiographs are placed in the chart with a clean gloved hand or a clean hand. Residual radiographic chemicals may remain on the radiographs. If radiographs are handled with bare hands, wash hands after touching the films and mount. Digital radiography requires a plastic covered keyboard and mouse at chairside. Care in handling the Scanex processing unit, scannex sensors or direct digital sensors is demonstrated and practiced in radiology laboratory instruction.

Charting Methods:
The following methods of charting to eliminate contamination of dental chart forms may be used in the L.C.C. dental clinic.

1. Clinician **uses an assistant** for all notations on forms. Final written descriptions and chart notations are made on the dental cart away from the treatment area.

2. The clinician unable to use an assistant may chart on a **duplicate dental form** and move directly from the mouth to the dental form on a plastic covered clip board. The notations are transferred to a clean dental form with clean gloves, using a clean surface. The contaminated form is disposed of after information is transferred.

3. A **gloved hand** which moves between the mouth and a plastic bag (over glove) to the dental record. The pen is used outside the bag. Carefully watch for contamination of the record. **The dental record should temporarily have the dental chart form removed for this procedure and replaced in the dental record when data collection has been completed.**

4. The patient records numbers and notations for periodontal assessment procedures.

SOP #11

Latex Allergy

Special Considerations

As health care providers the clinician should be familiar with the different types of latex hyper sensitivities, immediate and delayed, and the risks they pose to them and their patients. A latex free glove is used for all patient treatment.

The latex allergy patient will be provided:
1. An environment with latex ALARA(as low as reasonably achievable)
2. No direct contact with latex
3. Minimal chance of airborne contact with latex
4. Clinicians and instructors with synthetic examination gloves
5. Non-latex substitutes for patient care (prophy angle, dams)
6. Latex free instruments, masks, gloves,

Procedures for Latex Free Dental Treatment:

1. Known latex allergy clients will be seen in the **dental lab or clinic** (close to the entrance of the building).
2. A clinic using latex would pre-clean and wipe down with wet cloths all latex removed from the area. Surface cleaning will be the clinician's responsibility prior to treatment.
3. Clinicians planning care for a latex allergy client will need to carefully work with their clinical instructor.
4. The personnel setting up the room should wear non-latex gloves.
5. Instrument trays are handled only with non-latex gloves.
6. Anyone...other students, instructors and dentists should not have worn latex gloves that day and enter the room. Early morning appointment is best for the patient and the facility. If not the 1st patient, a clean gown will be used with the patient.
7. The same cleaning procedure for a radiographic room will be implemented. Early morning (1st patient of the day) prior to other students entering the facility and after all cleaning procedures have been implemented. Restrict entry of other students and faculty while radiographs are being taken.
8. Inform the patient of procedures to be used and confirm the patients comfort level with the plans, provide attentive care and emotional and physical support during treatment. Patients with previous latex allergy problems may have anxiety due to the range of severity of symptoms during previous procedures.

SOP #12

Dental Unit Water Lines

ADEC 2000 Dental Units Self Contained Water Systems installed on the ADEC 2000 dental unit model will be decontaminated as recommended by the manufacturer. AT this time the clinic is using an iodine system which uses a straw like filter in the self contained water reservoir. The Straw is changed after 32 liters of water has been used. Separate water reservoir systems when used with regular chemical treatment protocol demonstrate safety and efficacy in clinical settings. Faculties are responsible for annual use of water testing kits to clarify/document water quality annually.

Dental units will use tap water in the dental unit reservoir bottle at Lane and Distilled water at distance site clinics. The Lane local water supply has been accepted as a clean source of water for the dental facility. The use of tap water is accepted in Oregon as a safe water supply for dental procedures not requiring sterile water. Sterile water used to irrigate extraction sites will be used in a Leuer Lock Syringe by the extracting dentist when needed.

Water in a separate reservoir will be maintained at room temperature to provide adequate patient comfort. No chemical rinse (Peridex, or over the counter mouthwash) will be added to the dental unit reservoir. Germicides and cleaners used for the control of microbial contamination will be bio-compatible and meet all federal regulatory requirements.
Anti-retraction valves are part of the ADEC 2000 dental unit model. Distance site dental units will use ADEC and other dental unit models. Site specific unit care will be adopted to meet dental unit guidelines in the facility.

Discharge water from the waterline for 20-30 seconds between patients. Flush highspeed handpiece 20-30 seconds after use on each patient. Use an enclosed container to reduce aerosols during discharge procedures. For cutting of the bone during surgical procedures sterile water is used.

HAZARDS AND SAFETY INSTRUCTION

GENERAL PRECAUTIONS

A substance is hazardous if it can catch fire, will react or explode when mixed with other substances, is corrosive, or is toxic. To prevent a potential toxic reaction one must prevent body exposure from inhalation, absorption, or ingestion. The Lane Community College dental programs have a responsibility to determine the hazards associated with all chemicals present and that hazard information and protective mechanisms will be relayed to all students, faculty and staff. Sharon Hagan should be contacted in regard to questions about chemicals, hazards and protective measures.

1. Read labels and ONLY USE PRODUCTS AS DIRECTED BY MANUFACTURER.
2. Store chemicals in their original containers as much as possible, away from client treatment materials, and in areas which will prevent spilling.
3. Keep containers tightly closed.

4. Use personal protective equipment as indicated (gloves, masks and eye protection).
5. Wash hands immediately after removing gloves which have been worn while handling chemicals. Some chemicals penetrate glove material.
6. Work in areas that have good ventilation.
7. Avoid mixing chemicals.
8. Wash skin immediately if chemicals contact skin.
9. Wash hands thoroughly before eating.
10. DO NOT EAT, STORE FOOD, DRINK, SMOKE, APPLY MAKE UP, OR HANDLE CONTACT LENSES in treatment rooms or laboratories.
11. Keep chemicals away from open flame.
12. Know where the fire extinguisher and exits are located in each classroom and the clinical facility.

DENTAL CLINIC

WORK PRACTICE CONTROLS
Reduce the risk of injury by changing the manner in which the procedure is performed.
Examples:
* Recap anesthetic needles with one handed scoop method, cotton pliers to hold cap or other engineering control provided for recapping.
* Minimize uncontrolled movements of sharp instruments under force, such as scalers.
*Use instruments instead of fingers to retract tissues during suturing and anesthetic injections
* Pass instruments with sharp end pointed away
* Announce passes
* Maintain appropriate care during the passing of instruments
* Minimize handling during clean up...cassettes, ultrasonic cleaning
* Use utility gloves during clean up
* Use mechanical devises to debride sharps. Two handed hand scrubbing poses a risk to percutaneous injury.

EXPOSURE TO BLOOD AND BODY FLUIDS - During the course of routine client treatment, the client's blood and saliva may contact the operator's skin or mucous membranes. Strict adherence to the following infection control procedures will provide protection:

- ♦ Wearing appropriate protective gear
  - ♦ EYE WEAR
  - ♦ Chin length face shield (when appropriate)
  - ♦ Mask
  - ♦ Uniform/lab coat, buttoned
- ♦ Using high volume suction
- ♦ Rubber dam isolation
- ♦ Positioning the client properly
- ♦ Sterilization and disinfection procedures
- ♦ Minimizing "touch" surfaces during treatment
- ♦ Proper hand washing

EYE SPLASHES/INJURY
"DO NOT TOUCH EYES"

- ♦ Go to eyewash fountain immediately.(practice eyewash station usage blindfolded) Eye wash station should be within 10 seconds walking distance. Eyewash stations are located in Clinic sterilization area, dental laboratory and radiology developing room.
- ♦ Use **soft flow of water**.
- ♦ Hold eyelid open; roll eyeball.
- ♦ Wash for 15 minutes.
- ♦ Seek medical attention.

SHARPS INJURIES/PUNCTURES

PREVENTION

- Only sharpen instruments when they are sterile (never during treatment)
- Wiping debris from instruments on 2x2s or cotton rolls which are taped to the bracket table during treatment (not on a hand-held item)

PROCEDURE IF EXPOSED

- See*" NEEDLE STICK INJURY/BLOOD AND BODY FLUID EXPOSURES"*

CHEMICALS

ACID ETCH SOLUTIONS/GELS can cause acid burns to skin and eyes

- Avoid contact with skin, oral mucosa, and dentin
- Wear gloves, masks and sealant light-protective eye WEAR
- Seek medical attention if relief is not obtained
- First aid: rinse with copious amounts of running water
- Clean up spills with acid clean up kit

DISINFECTANTS (used for holding solution and surface decontamination)

- Are mild skin irritants; use universal precautions
- Follow mixing instructions on label
- While pouring, keep container below eye level
- Do not heat or ingest
- Disposal: ordinary sink drain

ORAL IRRIGANTS

- Prosol or Peridex use universal precautions, rinse eye or mucous membranes with eyewash station.
- Stannous Fluoride 1.28% concentrated

PERIODONTAL DRESSINGS

- Use universal precautions
- Avoid skin or mucous membrane contact with material; if contact occurs, wash with soap and water
- Contact physician if relief is not obtained

EQUIPMENT

AIR POLISHER (*Prophy Jet*)

- Wear face shield, protective EYE WEAR, and fluid resistant mask
- Use high-volume suction during operation of unit
- Autoclave tip and handle
- Apply *Birex* to handpiece, cording and unit when turned off and store in plastic bag

HANDPIECE

- Use universal precautions during operation
- Use with rubber dam when cutting hard tissue or restorative materials
- Carefully place handpiece with attached burs upside down, away from operator's hand reaching across the "over-the-client delivery system"
- If puncture wound occurs during use, wash with iodine for ten minutes; refer to "sharps/injuries/punctures"
- During operation, use high-volume suction for alloy polishing or coronal polishing to remove mercury vapor, amalgam residue, and polishing products' debris

ORAL IRRIGATING DEVICE

- Use universal precautions during operation
- Recap needle and dispose of sharps properly, leuer lock syringes are available for use

ULTRASONIC SCALER

- Use gloves, fluid resistant mask, protective EYE WEAR (glasses and face shield)
- Use high speed evacuation with specialized suction tips
- Store tips with tip positioned down and away from operator. Injury can occur in reaching over the ultrasonic scaler tip while mounted in "over-the-tray" delivery system

ULTRAVIOLET SEALANT CURING LIGHTS

- Use gloves, light protective glasses or light protective gold shield and mask
- Place a shield over light surfaces during application of sealant material
- Do not look directly into curing light source

PROCEDURES

AMALGAM PLACEMENT for FILLINGS

- Use universal precautions
- Use high volume evacuation to diminish skin, mucous membrane, and inhalation exposure to amalgam residue.

- Follow amalgam use and disposal regulations for the facility.
- Dispose of burs/stones in sharps container when no-longer being used. Burs used for amalgam preparation of the tooth are disposed of after each use.

AMALGAM POLISHING

- Use universal precautions
- Use high volume evacuation to diminish skin, mucous membrane, and inhalation exposure to amalgam residue.
- Sterilize burs/stones in bagged set-ups when being re-used. Scrub burs only when being re-used and follow hand scrub protocol using bur brush or tea basket and no hand scrub. Dispose of burs/stones in sharps container when no-longer being used.

PROSTHETIC APPLIANCE CLEANING

- Wear gloves, glasses, and mask
- Use ultrasonic cleaning to remove as much debris as possible prior to hand removal
- Carefully contain debris while cleaning
- Sterilize all hand instruments after use
- Dispose of chemical cleaning agents
- Use a sealed baggy to contain cleaning fluids in ultrasonic placed in a beaker or special ultrasonic unit only for prosthetic appliances. Take special care to not contaminate the appliance with ultrasonic fluids or contaminated gloves

RUBBER DAM APPLICATION

- Use gloves, glasses, and mask for application and removal of dam
- Ligate clamps with dental floss prior to "try in" or use
- Use a finger behind the scissor tips when removing the dam (snipping inter-septal material) to protect client from tissue trauma
- Check dam material for all rubber pieces making sure no piece has been left in the sulcus which could cause a periodontal problem

ALGINATE IMPRESSIONS and STUDY MODELS

- Sterile, autoclaved impression trays or disposable manufacturer packaged trays are used.
- Clean plastic cover barrier surface is used for tray/material set up.
- Disinfected bowl and spatula are used for mixing alginate, do not contaminate with saliva or dirty gloves during impression procedures
- Alginate is placed in the bowl and brought to the mixing area wearing gloves, glasses gown and mask. Dirty gloves are not used to remove the lid from the alginate container or to scoop alginate or to retrieve water.
- Bowl and spatula are washed with soap and water, disinfected for 10 minutes and stored in a clean cupboard.
- **Impressions are rinsed with water and a light soap and water mixture to remove and break down bioburden. The impression is disinfected for 10 minutes with Birex in a baggy. Disinfectant is washed off after 10 minutes and is then ready to be processed for stone or plaster pour up. When the impression is removed from the model, the model is disinfected prior to handling for 10 minutes with Birex. The student may handle the disinfected model with ungloved hands. Models in the process of grinding/preparation can not be used on the grinding wheels until disinfection protocols are followed.**
- Contaminated models are disinfected prior to handling. Adequate disinfection of the impression and model allows the laboratory to remain a "clean" laboratory processing only clean models or materials
- Disposable trays are disposed in the dental laboratory trash receptacle. Trays are only handled with gloved hands. Removal of impressions from a model requires gloved hands. The metal trays are scrubbed with a brush, under water and carefully checked for alginate debris. Bag and sterilize following facility protocol by pairs and size. Store sterile trays in bins by size.

Nitrous Oxide Analgesia

Exposure of dental personnel to nitrous oxide most often occurs during its administration to the patient if protective measures are not used. Some effects that have been associated with exposure to high levels of nitrous oxide include spontaneous abortion and reduced fertility. Other effects that have been noted include neurological, hematological, immunological, liver and kidney, and certain types of malignancies. Protective measures will be widely implemented in the L.C.C. Dental Clinics.

Measures to Reduce Exposure are:

- Check and maintain the delivery system.
- Employ scavenging system to reduce the amount of waste gas that is released into the air. The system is vented to the outdoors.
- Make sure the scavenging mask fits the patient.
- The System will be monitored periodically to determine exposure levels. Commercially available equipment will be used to estimate exposure to personnel.
- Good room ventilation will be monitored, the supply and exhaust vents are separated to prevent the intake of contaminated air.

Equipment

- Dental Hygiene students will be trained in the safe use and monitoring of nitrous oxide analgesia by clinical instructors. Protocol for setting up, administering, maintaining and storage will be provided to all dental hygiene students during the Analgesia/Anesthesia course offered in the curriculum.
- A disposable nose piece will be used
- Hosing will be rinsed and sterilized, the unit and suction hose (scavenging system) will be disinfected and the unit will be covered with a barrier during administration procedures. A large sterilization bag is available for the nose piece attachment and hosing.
- Equipment will be checked regularly for leaks by dental hygiene faculty involved in N20 instruction. Avoid sparks and flames, avoid contact with grease and lubricants and maintain adequate ventilation. Use a scavenging system as provided and demonstrated by instructors. All cylinders of N2O and Oxygen (full or empty) are stored in a locked cabinet with a binding chain so that the possibility of a cylinder falling over is eliminated.

Handling and Use of Compressed Gas Cylinders

- Only dental faculty will be permitted to handle cylinders, cylinder supports/carts, and cylinder valve protection caps.
- Portable liquid oxygen and Nitrous Oxide cylinders are stored in a locked storage area and within a locked storage room.
- All N2O carts are transported on proper cylinder carts, constructed for the intended purpose, self supporting and with the appropriate chains or stays to retain cylinders in place.

- Cylinders may not be dropped, rolled, dragged, or picked up by the valve top.
- Very cold cylinders must be handled with care to avoid injury.
- Contents of cylinders are identified by reading the labels prior to use. Labels must not be defaced, altered, or removed. Cylinders must be tagged to reflect their capacity: FULL, In USE, EMPTY.

Procedure:

- Make certain that apparatus and cylinder valves connections and cylinder wrenches are free of foreign material.
- Faculty will turn cylinder valve away from students and personnel when changing or adjusting valves. Before connecting the apparatus to cylinder valve, momentarily open valve to eliminate dust.
- Make connections to cylinder valve. Tighten connection nut securely with an appropriate wrench.
- Release the low-pressure adjustment screw completely. Slowly turn on the low pressure adjustment screw.
- All faculty, students and staff in the facility must be given direct instruction in maintenance, storage and procedures for shutting down units prior to using the equipment and gasses.
- Patient paperwork protocol must be followed as required by the state of Oregon for any patient receiving N20 in any clinical facility.
- Clinician certificates must be posted on the clinic wall for administration of N20 within the facility.

STERILIZING RECIRCULATION AREA

ATTIRE:

- Utility gloves over disposable gloves for hazardous tasks (handling contaminated materials, instruments or surfaces)
- Disposable gloves for non hazardous tasks
- Disposable plastic apron over lab coat
- Protective EYE WEAR

CHEMICALS

DISINFECTANTS (refer to "Dental Clinic, Chemicals")

ULTRASONIC CLEANING DETERGENT

- Use universal precautions.
- Use in well ventilated space.
- A biodegradable cleaning solution designed for use in an ultrasonic cleaning device is used
- Refrain from allowing contact with skin or eyes; if eye or mucous membrane contact is made, flush with water immediately for 5 minutes
- Disposal: ordinary sink drain

EQUIPMENT

AUTOCLAVE

- Use protective gear
- Use dirty gloves to place instrument packages in the autoclave and clean "mitts" to handle hot trays
- Open door with face turned away from door
- Use fan to vent vapor as door is opened

ULTRASONIC CLEANING UNIT

- Use heavy utility gloves during instrument handling with forceps to handle baskets/cassettes
- Replace the lid prior to beginning agitation
- Keep lid on during entire agitation cycle

DENTAL MATERIALS LABORATORY

CHEMICALS

ACID ETCH SOLUTIONS/GELS (See "Dental Clinic, Chemicals")

ALGINATE and Gypsum Products

- Alginate based materials can damage lungs if inhaled
- Irritation of the eyes, respiratory system. Silicosis, cancer form exposure over time
- Use universal precautions when mixing material, taking impressions, pouring and trimming models
- Work in a well ventilated area. Avoid scattering alginate or gypsum dust into the air. Allow can of alginate to settle well after "fluffing/tumbling" prior to opening can, or stir under exhaust fan instead of still room air

  Silicone, rubber base reversible and irreversible hydro colloid impressions are brushed with a camel hair brush, and an antimicrobial detergent to remove bioburden. Soak the impression with Birex. Loosely wrap in a plastic bag to prevent evaporation for ten minutes. Rinse after 10 minutes, handle in an aseptic manner and transfer to the production area of the lab. Gluteraldehyde is not used as an immersion disinfectant for silicone impressions.

AMALGAM

- Use pre-capsulated amalgam to reduce the need to handle mercury and universal precautions at all times when working around amalgam due to potential hazards of mercury vaporization
- Refrain from touching amalgam
- Use water stream and high volume evacuation when removing or finishing amalgam restorations
- An emergency mercury spill kit is available in the dental laboratory. Recycle mercury amalgam with state sponsored dental waste recycle programs published in each ODA Newsletter. Encapsulated amalgam shall be used. Empty encapsulated amalgam may be disposed of in the garbage since it has been determined to be non hazardous. Use program Amalgam Waste Policy for handling and disposal of all amalgam in each clinical facility.
- Work in well ventilated areas
- Store amalgam scrap in a tightly sealed container. A container with photographic fixer labeled as amalgam waste is used at L.C.C. Submerge mercury/amalgam scrap in used x-ray fixer. Disposal of the scrap is done by calling campus services to remove the waste for disposal. Disposal will follow Oregon State Guidelines for Disposal of Hazardous Waste.

BASES, CEMENTS, LINERS, VARNISHES

- Use universal precautions

- Work in well ventilated area
- Refrain from having skin contact with products
- If materials are splashed in eye, use eyewash fountain immediately
- See physician if relief is not immediate

DISINFECTANTS (See "Dental Clinic, Chemicals")

RADIOGRAPHIC FIXER
Radiographic developer is considered a hazardous waste because of the high silver content. The dental facilities use a disposal collection system on radiograph developers. Chemicals are stored until picked up by the re-claimer service.

RADIOGRAPHIC DEVELOPER
Developer solution is not mixed with fixer solutions. Dump down the sewer with approximately 30 gallons of water per gallon of developer. If developer and fixer are mixed they become hazardous. Since the developer and fixer are not mixed at L.C.C. if a professional company is unable to change the chemicals the radiology lead instructor or other faculty members would direct the changing, filling and disposal of chemicals.

LEAD FOIL AND LEAD SHIELDS

Lead waste is recycled through a scrap metal re-claimer. Do not throw lead foil into the garbage, store in a lead container near the developers in the radiology developing room. The lead storage container shall be labeled hazardous waste and the date the container was starting to be filled.

The **chemiclave** sterilizer (chemical sterilizer using formaldehyde solutions) is not used in the L.C.C. facility. Sterilizing solutions are able to be disposed of in the sewer system with copious water dilution when disposed of in facility sink.

MERCURY SPILL

- Mercury is stored in unbreakable, tightly sealed containers
- Mercury spills are cleaned up as follows:
  - Small spills may be picked up with *Scotch tape* or x-ray packet lead foil
  - Larger spills are covered with *Resisorb*, located
  - Spills are placed in tightly sealed container
  - Mercury vaporizes; household vacuum cleaners are not used to gather a spill
  - Confine the use of mercury to contained-lipped trays
- Use tightly closed or pre-measured capsules during amalgamation
- Avoid heating mercury and amalgam
- **Do not touch mercury with bare hands.** Cleanse hands thoroughly after using amalgam products.

- ♦ Use water spray and high speed suction when grinding amalgam
- ♦ amalgam capsules are stored after use along with amalgam scrap in a plastic bottle labeled biohazard and covered with fixer. The storage bottle for Amalgam scrap and capsule debris is located in the amalgam shelf on the west wall of the dental laboratory. The cupboard is usually locked and amalgam is used under faculty direct supervision only.

METHYL METHACRYLATE

- ♦ Use universal precautions and plastic lab apron
- ♦ Work in well ventilated area, turn on wall switch venting system
- ♦ To avoid possible allergic reaction, avoid direct skin contact
- ♦ Use *Vaseline* as a lubricant when forming tray

RELINE MATERIALS

- ♦ Wear gloves, glasses, masks, carefully use sharp instruments for shaping and fitting the reline materials
- ♦ Use in well-ventilated area
- ♦ Follow manufacturer's directions
- ♦ Use denture safety as described in "Procedures: cleaning prosthetic appliance"
- ♦ Sterilize or dispose of all contaminated equipment
- ♦ The material is safe as a liner but if irritation should occur, have client contact office immediately

TEMPORARY RESTORATIVE MATERIALS

- ♦ Use universal precautions
- ♦ If material contacts mucous membrane or eye, wash with water
- ♦ Contact physician if relief does not occur

EQUIPMENT

AMALGAMATOR

- ♦ Use universal precautions
- ♦ Secure lid over arms of capsule holder
- ♦ Do not stand directly over equipment
- ♦ If amalgam or mercury spill occurs during use of capsules clean up as described under mercury spill

AUTOCLAVE (see "Sterilizing laboratory, equipment")

BUNSEN BURNER

- ♦ Use in designated area only with PPE paying special attention to control of hair or pony tails
- ♦ Refrain from leaning forward over flame while working

"BUZZ" TRIMMER/GRINDER

- ♦ Use universal precautions, disinfect impressions, and disinfect models prior to using grinder
- ♦ Use grinder shield in "down" position to shield body and face from debris
- ♦ Carefully hold model with fingers pointing toward ones' self to avoid catching in the rotating wheel

HANDPIECE (BELT DRIVEN AND ROTARY)

- ♦ Use universal precautions
- ♦ Tie hair back to prevent hair from becoming caught in moving belt
- ♦ Refrain from touching belt during use. The moving belt can cause skin burns

PUMICE WHEEL

- ♦ Use universal precautions
- ♦ Work behind shield
- ♦ Mix pumice with disinfectant
- ♦ Dispose of pumice as routine garbage after each procedure

VACU-FORM UNIT

< Use Universal Precautions
< Refrain from touching hot stint/mouth guard material until cooled
< Cut/trim stint/mouth guard with scissors pointed away from your fingers or face

LIGHT CURE CUSTOM TRAY UNIT

- Operate with cover in place to protect eyes from light source
- Use Universal precautions,
- Disinfect any items that become contaminated during preparation for use in the

light cure unit. Disinfect the light cure unit if it becomes contaminated.

- Use chemicals and materials as described by manufacturer.

RADIOLOGY LABORATORY

SKIN EXPOSURE TO BLOOD AND BODY FLUIDS (See Dental clinic: "Exposure to blood and body fluids")

CHEMICALS

- Use universal precautions (gloves, mask, EYE WEAR) while handling. When changing chemicals or cleaning equipment wear heavy rubber gloves.
- ♦ Work in well ventilated area. Turn on fan above automatic processor.
- ♦ Avoid skin contact. If skin contact occurs, wash off chemicals with copious amounts of soap and water.
- Store chemicals in tightly covered containers.

PREVENTION

- Handle radiographs with gloved hands. Chemicals can be carried on radiographic films to hands and irritants can then be transferred to face, eyes and arms. The health hazards related to photographic chemicals are contact dermatitis, irritation of the eyes, nose, throat and respiratory system.

LABELING and SIGNAGE

Training in the interpretation of warning labels on potentially hazardous or infectious materials is part of OSHA's hazardous communication regulation. The purpose of labeling is to provide an instant "easy to understand" method of identifying the potential hazard and direct the worker to the appropriate MSDS sheet. **Material safety data sheets (MSDS') provide the data to create a suitable label. The label includes the following: PPE required, routes of entry, emergency action and product number, if numerical system is used for Chemical Inventories and MSDS's**

Labels are required on containers of biological and chemical hazards. A **biological** hazard is usually waste products which are contaminated by blood or body fluids. A **chemical** hazard is a manufactured product which under improper and/or careless use could be toxic or cause bodily injury. Many products are adequately labeled by the manufacturer. Those which are inadequately labeled by the manufacturer will be identified with a universal coding system or the equivalent.

Hazard labels will appear on:

1. Products transferred into another/"secondary" container
2. Products not regulated by the FDA
3. Products with inadequate manufacturer's labeling

Hazard labels will not appear on the following products:

1. Those that are transferred into a secondary container and designated for immediate use by the same person, used up or discarded before the end of the day
2. Office supplies
3. Household products used in quantities similar to household use
4. Measuring devices
5. Equipment for which instructions for proper usage are posted in the work area

Labeling and signage will be observed:

1. ***BIOHAZARD*** **LABEL**: See label used within your facility
   The symbol is the universal code for waste that
   is contaminated with body fluids (blood or saliva).

2. "Sticker" type labels may be selected from manufactuers. See text books for examples of labels.

MSDS SHEETS

Copies of all hazardous chemicals to which students and faculty may be exposed will be kept in the dental clinic MSDS Manual. A list of hazardous chemicals will be kept in front of the MSDS Manual. MSDS will be available for all students and faculty to review during each work/lab/clinical session. If MSDS' are not available or new chemicals in use do not have an MSDS immediately contact Sharon Hagan Extension 5616 or the lead dental hygiene instructor at distance clinical sites. .
MSDS sheets are provided by the manufacturer for all products that contain hazardous chemicals and household products used in a manner other than normal consumer use. The sheet describes the MOST toxic usage of product. An MSDS sheet is not required for consumer products in limited use, or used in "typical" fashion (example: dish washing soap). The MSDS notebook for products used at L.C.C. is white with red lettering and is located at the instructor's desk in the clinic. Products are listed alphabetically.

Many manufacturers use the prescribed standard format developed by the United States Department of Labor, while others develop their own format which makes interpretation difficult. An example of each format follows. For those manufacturers that use a standard form, the important information is organized into sections as follows:

Section I:
Manufactures' information (address, phone number, etc.)
Trade name and chemical name of product

Section II:
Hazardous ingredients

Section III:
Physical and chemical characteristics (boiling point, appearance and odor, etc.)

Section IV:
Flammability/fire and explosion hazard data

Section V:
Reactivity data (stability, compatibility, etc.)

Section VI:
Health hazard data (route of entry, carcinogenicity, signs of over-exposure)

Section VII:
Precautions for safe handling, use, storage, disposal

Section VII

EMERGENCY PROTOCOL

NEEDLE STICK/SHARPS INJURY
BLOOD AND BODY FLUID EXPOSURES

Stop Working Immediately and Inform the Supervising Instructor

1. Includes all needlestick, puncture wounds, cuts, and scrapes with contaminated instruments and all non-intact skin and mucous membrane exposure to blood and saliva.

2. Immediately apply **First Aid**
   - ♦ Wash area well to remove blood/body fluids using antimicrobial soap and water.
   - ♦ Dispose of soiled gloves. Remove soiled clothing immediately. Have the clinic assistant remove the contaminated instrument tray form the dental chair and processing the dental instruments through the reprocessing procedures.(Sterilization room)
3. Immediately Notify the Employer/lead faculty member for the course.
4. Source individual is identified and asked to consent for blood testing for HBV, HCV and HIV as soon as possible. (Results revealed to student or employee and are confidential)
5. Student is responsible for testing for HBV, HIV and HCV and carrier's health insurance for this purpose as informed during program orientation sessions.
6. Seek immediate medical attention with a qualified health care provider at an Emergency room facility.
   - State and local laws will be followed for blood testing, medical privacy, and privacy notification to source of test results and counseling and evaluation for source patients.
   - The student who sustains the needle stick injury **must** consent for testing. (Give permission). A declination form is available to sign but only after very careful consideration.
   - The student will have blood drawn and may have up to 90 days to choose to have the blood tested for HIV, HBV, and HCV. The student or employee may decline testing but must have the blood drawn and preserved for 90 days in case the wish to consent later.
7. Employee and students are informed of their own and the course clients test results by the health care provider and informed of any condition that requires further testing.
8. A written report is sent to the Exposure Control Manager at LCC for dental programs (Sharon Hagan). The report contains verification employee was tested, counseled, and informed of results, and recommends any further evaluation or treatment needed.
9. An exposure incident report is completed and filed in the student or employee record.

II. **Document the exposure (Forms provided in hard copy to students and faculty)**
   - ♦ Record incident

Document in the exposure report:
   - ♦ Date and time of exposure

- Details of procedure being performed, where and how the exposure occurred, whether a sharp device was involved, type and brand of device, how and when during its handling the injury occurred
- Details of the exposure, including severity, type and amount of fluid or material. Percutaneous injury, severity measured by depth of wound, gauge of needle, whether fluid was injected; for mucous membrane the volume of material, duration of contact and the condition of the skin(chapped, abraded, or intact)
- Details regarding source material was it a known HIV client or other bloodborne pathogens, source was infected with HIV, stages of the disease, history of antiretroviral therapy and viral load.
- Details involving the exposed person (Hep B vaccination, vaccine response status) Details involving counseling, post-exposure management, and follow-up Each exposure should be evaluated individually for its potential to transmit HBV, HCV and HIV based on the following:
    - Type and amount of substance
    - Type of exposure
    - Infection status of the source
    - The susceptibility of the exposed person

III. **The procedure for medical evaluation will follow the current L.C.C. and USPHS recommendations. See attached forms and paperwork. These forms are available in the locked medication/prescription drawer in the dental clinic.**

- The student must cover the cost of testing and personal health insurance is required for all program students. The patient is covered by the college for testing and follow-up. The Clinical Coordinator or Instructor will assist with forms completion at the time of the incident. The student and patient if involved should seek medical care from their own physician.
- Take accident form to the facility doing the medical follow-up and testing.
- Request that injured person's (IP) blood drawn for testing be stored for 90 days. (Note: IP has the right to refuse blood testing for HIV and HB. Blood will be stored for 90 days in case IP decides to be tested for HIV).
- Provide the following information to medical HC provider (physician):
    - IP's tasks and duties related to exposure incident
    - Copy of Blood borne Standard
    - Documentation of circumstances and route of exposure
    - Results of source client's blood testing if and when available
    - All medical records relevant to treatment
    - An IP's initial and follow-up counseling is provided by the emergency room physician or their personal physician. This is a confidential medical evaluation and consultation. Counsel about what happened and how to prevent spread of further potential infection. The licensed health care professional will evaluate any reported illness to determine if symptoms may be related to HIV or Hep B Virus infection.
    - Request a written opinion from HC provider within 15 days.
    - Findings unrelated to exposure incident will remain confidential and will not be included in written report.

- ♦ Written report must contain:
  - ♦ Recommendation for HBV vaccine if series hasn't been initiated
  - ♦ That the IP has been informed of the results and any other medical conditions that may result from the exposure

IV. **Notify the source person and request blood testing for HIV and HBV. The source client has the right to refuse testing.**

- ♦ If source client refuses to be tested, the IP receives counseling from their personal physician if they are willing to go to their physician.
- ♦ If source client agrees to be tested:
- ♦ The college pays for testing under liability coverage for the dental patient involved in the injury. The patient seeks care from their health care provider and the billing is sent in care of Sharon Hagan, Coordinator Dental Hygiene Program. The bill will then be forwarded to the FH &C administrative clerks for payment by the college liability coverage.

♦ Source client is asked:

- ♦ if results of testing can be released to IP.
- ♦ If source client refuses to release results they have this right.

♦ If source client agrees to release results they must sign a release stating that results can be shared with IP.

♦ IP isn't required to inform the L.C. C. program of their own, or source client's test results.

- ♦ If the source client **refuses to have blood test or tests positive for HIV** or HBsAg: (under certain circumstances clients can be compelled to consent to testing per Oregon statute and administrative rule. Contact the Oregon Health Division [731-4024 or 731-4029] for further information on statutes and rules).
- ♦ HIV: The IP is advised to be alert to any febrile illness that may occur 12 weeks after exposure and seek medical evaluation 6 weeks, 12 weeks, and 6 months after exposure. Post-exposure chemoprophylaxis (PEP) following occupational exposure to HIV is recommended for highest risk of HIV transmissions such as: deep injury; injury with a visibly contaminated blood y instrument; injury from a devise placed in a vein or artery; and exposure to an individual who died of AIDS within 60 days of exposure.
- ♦ If IP has not received HB vaccine: a recommendation by the physician may be to give 1 dose of HBIG and begin HB vaccine immediately as advised by physician.
- ♦ If IP has completed HB vaccine series and has current antibody level above 10 SRU: no treatment necessary
- ♦ If IP has completed HB vaccine series but doesn't know antibody level: the physician may test for antibodies. If inadequate (below 10 SRU), the physician may give 1 booster dose HB vaccine. If adequate (above 10 SRU), no treatment is needed.
- ♦ If IP is undergoing HB vaccine series, test for antibodies:
  - ♦ Adequate level (above 10 SRU): complete vaccine series
  - ♦ Inadequate level (below 10 SRU): give HBIG; complete vaccine series.
- ♦ If IP is a non-responder (no antibodies were produced after vaccination): The physician may give 2 doses of HBIG (one month apart) or 1 dose of HBIG plus 1 dose of HB vaccine. Consider repeating booster dose of HB vaccine in one month.

- **If the source client agrees to blood testing for HIV and HBV and tests negative for HIV and HBV:**
    - HIV: IP is advised to be alert to any febrile illness that may occur 12 weeks after exposure and seek medical evaluation 12 weeks after exposure. Further testing may be recommended at 6 weeks, 12 weeks, and 6 months post exposure.
    - HBV: no further treatment required

An exposure Code Chart is attached to this document for review and an HIV status Code is also attached for review by the clinician working in the LCC Dental Facility. The CDC recommendations for management of persons exposed to blood are also attached.

V. **Retain records** for 30 years. Some diseases have long latency periods and symptoms may not show until many years post exposure. The student may decline medical treatment when medically indicated without adverse action being taken.

Counseling and advising are provided to the student through their personal physician or Student Health Center. Counseling and evaluation of reported illnesses shall be provided regardless of the student's election to have baseline HBV, HCV and HIV serological testing.

Note: Dental Students are expected to complete the 3 injections series of Hep B vaccine and have a titer level completed by May 15th of the first year of the program. Students may need to complete further re-immunization with boosters to achieve immunity. Non responders will be tested for HBsAG by their personal physician. Counseling may need to be provided for those unable to seroconvert. HB immunization may be declined but it highly unlikely the student would want to take this risk in the treatment of patients in a high risk profession.

CHEMICAL SPILLS

The procedure to follow in case of a spill is described on the MSDS sheet that describes the product. As materials are presented during classes, safe handling instructions will be presented.

A basic plan is as follows:

1. Send a fellow student for closest faculty or staff person.
2. Prevent contamination of oneself or others.
3. Use gloves and safety equipment to clean up small spills.
4. If personal contamination is suspected, follow the recommendations on the MSDS sheet. Students exposed to toxic materials or are injured will be seen by campus student health department or sent to an emergency room at a local hospital.

EYE SPLASHES/INJURY

DO NOT TOUCH EYES

Go to eyewash fountain immediately (Sterilizer room or dental Lab eye wash station)

Reaching the station within 10 seconds determines where the eyewash fountain should be located.

Use **soft flow of water**; Hold eyelid open; roll eyeball

Wash for 15 minutes with clean water under pressure. If an acid has been the chemical a base such as baking soda can be used to change the chemical acidity immediately.

Seek medical attention on or off campus.

Fire Emergency Plan

The Dental Programs have a published Emergency Procedures Policy in Section IX of the Policy and Procedures Manual. The following information is supplemental and related to emergency procedures for dental facilities.

Lane Community College has a fire alarm system that sounds when a fire has been found in the Health Professions Building. Each college clinical site will have a fire alarm system which must be followed by all students and staff working in the facility. Fire Alarms can are located in each clinical site. Faculty and staff should be available when students are in the building to set the alarm, if not, the student should set the alarm in a fire emergency. Faculty and staff will expect all individuals in the buildings to egress from the building by the closest possible exit. All exits are clearly marked with lighted exit signs above doors. Everyone must evacuate the building when the fire alarm is sounded. Faculty and staff will be responsible for managing the safe exit of all individuals from the building.

If patients, students or staff are physically impaired and need help, dial 5555 for assistance for Lane campus security. Security and Emergency phone numbers are available at each phone in the clinical sites. Faculty, staff and students working with physically disabled patients should plan for the closest route of evacuation.

Fire Drill Compliance
Unannounced fire alarms throughout the year may occur and all patients must comply with fire alarm evacuations. All patients, faculty, and staff must exit the building during a fire alarm drill.

All exit routes from the clinic and laboratory must be free of obstructions. Dental carts in the clinic must not block the North or west door exit. Move chairs, stools, and carts out of isle ways quickly to maximize evacuation from clinic and laboratory areas. Clinicians are responsible for confining hoses and electrical cording around dental units so that they do not become a tripping hazard.

A fire extinguisher is available in the dental clinic. Faculty will provide a tour on the first day of the use of the clinical facility to familiarize students and staff with emergency equipment.

The electrical supply box for the clinic facilities should only be opened by faculty and staff unless not readily available. Electrical fires are noted by a smell or haze created by burning wires or ballasts. Faculty, staff and students are responsible for their safety and that of the clinic and reception room patients/clients.

Fire extinguishers are available in the dental clinic and the dental laboratory. Training will be provided to faculty and staff in the use of this equipment on a voluntary basis.
Open flames may be used in the dental laboratory and instructors will provide instruction on the proper use of open flames that must be monitored and controlled. Blankets are also located in the laboratory or clinic area to control a fire on an individual.

Instructors with groups of students will be responsible for the accounting of all students in their class outside the building during an emergency evacuation of the building. Students, faculty and staff will be responsible for acting immediately to exit the building. Only personal belongings with each person can be taken at the time of the emergency. Building personnel (program coordinators, administrators, campus security), will sweep the building to assure compliance with evacuation procedures. Students, faculty and staff will meet in the parking lot. Dental Students should cluster together to allow building monitors to assure all program students are accounted for who may have been in the building at the time of an alarm.

Fire Prevention Plan
Faculty will train students in the safe use of open flames, storage and disposal of chemicals, operation of equipment, and signs of chemical, fire or electrical emergencies.

Earthquake or a Disaster such as flooding, bomb threat, or terrorist incident will be notified by phone to personnel on site or through an alarm system. Cooperation of those involved will be essential. Keeping a cool demeanor and responsible attitude will assist the faculty in providing a safe environment in which to implement plans. All evacuation of the building requires occupants move to a parking lot as far from the building as possible. Evacuation and compressor units, electrical panels and other equipment will be monitored by faculty or staff in the building. With an earthquake or tornado assemble in an internal hallway for safety. Wait for direction from there. Evacuation routes are posted in the facilities at the exits from each room.

EMERGENCY PHONE NUMBER

LCCcollege prefers the following emergency numbers be called for medical and non-medical emergencies.

Medical 6666
Non-medical 5555

Each clinical site willhave emergency numbers at the clinic telephone for students and staff to use in each facility.

The following numbers should also be called if the instructor, staff dentist or student under instructor direction has made a clear assessment of the situation during clinical dental care and feels immediate assistance must be obtained.

Off campus Emergency for the fire engine or ambulance **9-911 at most sites. Lead faculty will direct students to the location of phones for emergency use.**
Facilities Floor Plan/EGRESS is posted in the clinic near the telephone and will be made available to students and staff.

Tuberculosis

Definition: TB (Mycobacterium tuberculosis) is a chronic, communicable disease. Its etiologic agent, Mtb, is carried through the air as small airborne particles less than 5 micron units in size. " Droplet nuclei" are produced by a person with untreated TB during breathing, coughing, sneezing, speaking or forced exhalation. Breathing the air contaminated by a person with infectious TB the tubercle bacilli enter the alveoli. The tuberculin spreads throughout the lymphatic system and distant organs and tissue. The Tuberculin skin test is used to identify people who have been exposed. A significant skin test reaction can be detected in 2 to 10 weeks of infection.

Diagnosis: Pulmonary TB should be suspected in people with a productive, prolonged cough (more than three weeks in duration), fever chills, easy fatigability, loss of appetite, weight loss, and hemoptysis. People in whom TB is suspected should be referred for an appropriate examination, which should include a history, physical examination, Mantoux tuberculin skin test, chest radiograph, and appropriate bacteriologic and/or histologic examination. Follow up sputum examination is necessary for determining length of therapy and for documenting the patient response to therapy and thus becomes non infectious.

Treatment: The preferred regimen lasts six months and includes two months of daily isoniazid, rifampin, and pyrazinamide, followed by 4 months of daily or twice weekly isoniazid and rifampin. The regimen may be supplemented with ethambutol or streptomycin when isoniazid resistance is suspected. HIV infected patients with TB are treated daily with three or four drugs during the first two months of therapy. Treatment lasts a minimum of 9 month and continues for six months beyond documented culture conversion. Drug resistance has complicated the treatment of TB. Poor compliance is the greatest cause for treatment failure and is associated with drug resistance. It is increasingly common that patients with active Tb take their medications under the supervision of a health care professional.

Any suspected case of tuberculosis that is in the office should be isolated and have them wear a mask. Elective dental care will be deferred until a physician confirms that the patient is not infectious or the active case is no longer infectious and the patient has completed the pharmaceutical regime necessary. I a student or staff member is exposed a baseline TB test will be completed. Any staff member with symptoms of TB either symptoms or diagnosed will be monitored.
Signs and symptoms of active TB: Losing weight; Fever, night sweats; Chest pain or coughing

Target Populations to Screen:

- Patients with HIV Infection
- Close contacts with those who have infectious tuberculosis
- People with medical conditions that increase the risk of tuberculosis
- Foreign born from countries with high prevalence
- Low income populations with high risk minorities
- Alcoholics and intravenous drug users
- Residents of long term care and prison facilities

Medical Conditions that increase risk assessment:

HIV Infection	End Stage Renal Disease
Silicosis	Intestinal bypass
Fibrotic Lesions	Chronic Malabsorption States
Diabetes Mellitus	10 % below ideal body weight
Prolonged Corticosteroid Therapy	Carcinomas of the Oropharynx
Immunosuppressive Disease	Post gastrectomy state

Protection: The major risk for the health care worker is exposure to patients with unsuspected TB. Patients with undiagnosed pulmonary disease and HIV should be suspect. Reduction measures for the clinician are: (1) Early and adequate anti-TB drug therapy; (2) Covering the nose and mouth when coughing, sneezing, or laughing; (3) Adequate ventilation; and (4) Ultraviolet light. The clinician should refer suspect patients immediately and defer treatment until a physician confirms the patient does not have active TB. Emergency treatment should be provided only in a facility that has adequate isolation measure, uses appropriate respirators, negative pressure treatment areas. Newer masks with filtration down to 1 micron are more common as respiratory protection for occupational safety.

Disinfection Procedures: Follow all guidelines contained herein for surface and instrument disinfection or sterilization.

Annual Employee Training: The OSHA officer and/or lead dental hygiene faculty member will provide new information upon availability. Students are to have a test at the beginning of each year in a dental program.

Violence in the Work Place

Dental Programs Statement: The dental programs have always worked toward a safe and healthy workplace for student and faculty. We do not condone violence or inappropriate behavior in the dental facilities. All incidences of behavior outside the accepted standard will be reported to faculty or supervisors immediately. Students and faculty are instructed to protect themselves from potential harm as their first priority if the threat of violence is suspected.

Prevention

Take threats seriously
Follow procedures established by our safety committee and the college
Remain calm and courteous
Be assertive-find a way to solve the problem or ease tension
Show respect for other people
Empathize with a violent individual
Know when to get help
Report violent or threatening situations
Training Preparedness

Indicators/Reasons for Potential Violence

- Individual exhibits a disgruntled attitude regarding perceived injustices in the work place.
- Individual may exhibit temper control difficulties.
- Individual may exhibit psychiatric impairment.
- Individual may be a social loner.
- Individual may exhibit poor self esteem.
- personality conflicts
- marital or family problems
- drug or alcohol abuse
- non-specific
- firing or lay off
- Evidence of psychosis
- evidence of chemical or alcohol dependence
- elevated frustration level
- evidence of a personality disorder

Violence Prevention Plan

The following has been done to improve the safety of the dental programs faculty and students:

1. A facility assessment to assure safety of individuals within the facility.
2. Creating an atmosphere in the facility to concentrate on providing a non-threatening, user friendly environment.
3. Students can prepare themselves for dealing with violent dental clients through curriculum in conflict resolution, sociology and psychology courses, and working with fellow students as a team to prevent problems.
4. An emergency response plan is discussed with students, practiced in dental programs courses and allows students to share their feelings regarding victims and planned response in a violent scenario.

Accident Prevention and
Electrical Exposure Control

The dental programs have a commitment to accident prevention and safe electrical practices. Any additional material or education deemed necessary to insure the safest possible work environment will be provided to the students and faculty.

Safety Committee: A college Safety Committee will take care of safety concerns not taken care of by the program or through usual college channels.

- The prevention of all accidents/incidents must be accepted by all faculty and students.
- Employees, students and patients will be protected g\from unsafe conditions.

All faculty and students will share the responsibility to following safety procedures provided within this document.

a. All share equally in implementing plans by supporting safety concepts and lead by example.
b. Participate in training, being aware of all procedures and requirements
c. Aware of all safety rules.
d. Alert to observe unsafe work practices and to report and correct them immediately
e. Report all accidents to the supervisor, instructor, or safety officer.
f. Report defective equipment to faculty or supervisor.
g. Smoke in "Smoking Permitted" designated areas.
h. Complete accident/Incident Reports and maintain records within the dental clinic.
i. Continually use and monitor ergonomic practices in the workplace.

Medical Services and First Aid will be available in proximity to all faculty and students within clinical and laboratory facilities.

Shocks from Electrical Equipment

Any and all electrical equipment emitting a shocking sensation (tingling, biting, grabbing) to operator or patient must be reported to the faculty or supervisor. Such equipment must be taken out of service, repaired and certified for safe use.

Portable Fire Extinguisher Directions will be provided to students and staff at the clinical site.

RECORD KEEPING

NON CONFIDENTIAL RECORDS

IMMUNIZATION RECORDS: All HCWs should be vaccinated against rubella, influenza, hepatitis B, measles, polio, tetanus, and diphtheria. With the exception of hepatitis B vaccine, dental offices are not required by OSHA to keep these records.

STERILIZER TESTING: Autoclaves are tested using heat resistant spores weekly. Process indicators (color sensitive tape or chemical strips) are used in every load. Records of biological testing is stored in notebooks located in cupboard below autoclaves in sterilizing laboratory.

CONFIDENTIAL

INJURY REPORTS: (OSHA form #200, L.C. dental clinic form, L.C. accident form)

BLOOD AND BODY FLUID EXPOSURES INCIDENTS:
Current US Public Health Service recommendations will be followed and may include the following:

Medical records of evaluation and treatment
Serologic results acquired during evaluation and follow-up
HIV, HBV status of source client, if blood testing was done
Follow-up counseling

HEPATITIS B VACCINE:

Informed refusal/declination form
Informed consent

Employee Accident Injury Reports will be provided as a separate document along with a list of work restrictions in the Infection Control and Safety Courses for the dental assisting and dental hygiene programs.

STUDENT OSHA TRAINING

(retain for 30 years)

The student should read this manual and sign this page. Questions will be answered in class related content within the manual and Standard operating procedures to be followed in the Dental Facilities.

INFECTION CONTROL PROGRAM **DESCRIPTION OF TRAINING**

Date:
Trainer:
Attendance:

HAZARD COMMUNICATION PROGRAM

Date:
Trainer:
Attendance:

Notes: