Infection and Hazard Control Program Manual

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The University at Buffalo School of Dental Medicine reserves the right to make changes in programs, policy and regulations as circumstances dictate, subsequent to publication of this manual.
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PURPOSE
This manual presents guidelines and recommendations for infection control and safety in the
SDM. This information supplements the University at Buffalo, Facilities Department, Office of
Environment Health & Safety (EH&S 829-3301), Bio-safety Exposure Control Plan and Chemical
Hygiene Plan.

INFECTION & HAZARD CONTROL COMMITTEE
The Infection & Hazard Control Committee is composed of representatives from departments, disciplines and clinical areas in the SDM. Each representative is responsible for monitoring compliance with standards for his/her respective area. Duties of the committee include:

* Review guidelines
* Develop new guidelines
* Provide training
* Monitor compliance
* Make recommendations

PROFESSIONAL RESPONSIBILTY (Moral & Ethical):
School of Dental Medicine Honor System

At the time of acceptance to, and registration in, the SDM, each student signifies in writing that s/he has read the Student Code of Ethics and that s/he agrees to abide by the School Honor System, as well as the Student Conduct Rules, University Standards and Administrative Regulations, during his or her affiliation with the School. This Code of Ethics reads as follows:

I, upon entering into the dental profession, accept and honor the concept of unquestionable ethical and moral practice of my art, both in my own activities and those of my professional colleagues. I will not defame myself or the profession through academic cheating or by allowing such misconduct by my professional peers. Misconduct may include violation of school and departmental regulations and procedures which will reflect on the profession or my peers. Such misconduct includes indirect violation through devious activities to circumvent academic/professional regulations or procedures.

By accepting admission to the SDM, I acknowledge the ethical expectations of the dental profession, and accept the concept of the School's honor system and agree to abide by its principles.

Although the School's honor system is commonly associated with classroom activities, the Honor System provides a framework for all professional activities. This ethical and moral mandate for practice, combined with the knowledge that the NYSED has declared "failure to comply with recommend infection control practices is misconduct" reinforces the need to adhere to appropriate standards of practice on an ongoing basis.

SCOPE

All individuals involved with patient care activities in clinics; laboratories and rotation sites associated with the SDM are required to comply with infection and hazard control standards.

CONCEPTS AND DEFINITIONS

Administrative Controls - provide education, training, and standard operating procedures. Assign responsibility: An individual knowledgeable in infection control guidelines and recommendations should manage the exposure control and prevention program. Incorporate training, education, and standard operating procedures for
preventing occupational exposure to blood and other potentially infectious fluids in: dental education curricula, job orientation, periodic training.

**Aerosols** - airborne debris, smaller than five microns in diameter, that remain suspended in air, and can be aspirated into bronchioles. Aerosols are generated by turbine hand-pieces, air/water syringes and cavitrons. Aerosols may contain blood, but infection transmission risk is considered low.

**Airborne transmission**: a means of spreading infection in which droplet nuclei are inhaled by the susceptible host.

**Alcohol-based hand rub**: an alcohol-containing preparation designed to reduce the number of viable microorganisms on the hands. Because these products do not remove soil, application must be preceded by a soap and water wash when used on soiled hands.

**Antibody to HBsAg (anti-HBs)**: an indicator of past infection with, or immunity to, the hepatitis B virus.

**Bacterial count**: refers to an estimate of the number of bacteria per unit sample, expressed as colony-forming units (CFUs) per square centimeter (cm²) per milliliter (ml).

**Barrier material**: material that prevents the penetration of microorganisms, particulates, and fluids.

**Bioburden**: the microbial or organic debris on a surface or object prior to decontamination.

**Biofilm**: microbial communities of cells attached to a substrate or to each other. The cells are embedded in a matrix of extracellular polymeric substances (glycocalyx), and exhibit increased resistance to dislodgement and the effects of antimicrobial agents.

**Cleaning**: the removal of soil and organic debris, using the physical action of scrubbing with a detergent and water or an energy-based process (e.g., ultrasonic cleaners) with appropriate chemical agents.

**Clinical Areas** - clinics, designated adjacent support areas and laboratories where protective measures must be employed.

**Colonial formation unit (CFU)**: the original cells that multiply to form a colony.

**Dental Health Care Worker (DHCW)** – all personnel involved with patient care and related activities.

**DHCW Task Classification**:

- **Category 1** – tasks involve exposure to blood, saliva or body fluids and tissues. Category 1 tasks require the use of Standard Precautions.
- **Category 2** – tasks involve no exposure to blood, saliva or body fluids and tissues.

**Dental Saliva** - fluid and/or debris from the oral cavity; OSHA defines dental saliva as potentially infectious.
Disease Transmission - although the true risks are extremely low if proper strategies are utilized, both vertical and horizontal disease transmission is possible as a consequence of a dental interaction. Any individual may either act as a source of infection, or be infected, and transmit that infection to others in the dental office or other contacts including family, friends, etc. outside the dental interaction.

Droplet nuclei- small pathogen-containing particles of respiratory secretions expelled into the air by coughing, which are reduced by evaporation to small dry particles that can remain airborne for long periods; one possible mechanism for transmission of infection from one individual to another.

Engineering Controls - equipment, instruments or devices that remove or isolate a hazard; if an engineering control exists for a task, it should be used. Examples include:

- rubber dam
- needle cover holder
- needle recappers
- ultrasonic cleaners
- sharps containers
- washer/decontaminators
- alternative barriers for latex sensitive patients
- plastic barriers
- transport bag
- operatory layouts that remove or isolate percutaneous hazards
- devices to minimize handling during clean-up

Exposure Gown - protective garment with high neck and long sleeves worn for protection during procedures when occupational exposure is reasonably anticipated.

Event-related packaging- a storage practice that recognizes that a package and its contents should remain sterile until some event causes the item(s) to become contaminated

Germicidal Levels - may be classified into four levels. Specific infection control activities require different spectra of activity (see revised CDC/Spaulding Classification and Operatory Surface Treatment Asepsis Recommendations).

- Low - effective against some fungi, most medium sized viruses & vegetative bacteria
- Intermediate - effective against TB, viruses, fungi and vegetative bacteria
- High - effective against all pathogenic organisms except high numbers of spores
- Sterilization - effective against all pathogenic organisms including spores

Health-care-associated infection - any infection associated with a medical or surgical intervention. The term healthcare associated replaces nosocomial, which is limited to adverse infectious outcomes occurring in hospitals

Independent water reservoir - container used to hold water or other solutions and supply it to hand-pieces and air/water syringes attached to a dental unit. The independent reservoir is isolate from the public water system.
**Latex Reactions** - there are basically three reactions of concern in the dental environment. The most common problem is an irritation associated with glove use. Although this reaction may mimic an allergy, it is due to improper hand care. The second category is a Type IV, or contact dermatitis. The least common, but most serious is the Type I, or a delayed hypersensitivity, that may lead to an anaphylactic type reaction. It is important to distinguish between the type of reaction a patient, or DHCW, experiences to provide the proper treatment and avoid future problems.

**Occupational Exposure** - reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or saliva that may result during direct or indirect patient care activities

**Percutaneous injury** - an injury that penetrates the skin (e.g., needlestick, or cut with a sharp object).

**Routes of Transmission** -

1. **Direct Contact** – physical transfer of microbes between an infected person and a susceptible host; one body surface touches another body surface
2. **Indirect Contact** – contamination of an object by a source which is then touched by a susceptible host
3. **Droplet Transmission** – droplets generated by an infected source are propelled through the air by coughing, sneezing or talking and deposited on the eyes or in the mouth of the host. Droplets do not remain suspended in the air.
4. **Airborne Transmission** - occurs when airborne droplet nuclei remain suspended in the air for long periods of time on dust particles containing the infectious agent eventually they are inhaled by a susceptible host and infection occurs
5. **Common Vehicle Transmission** - occurs when common sources such as food, water or medications are contaminated and then are exposed to susceptible hosts. This transmission usually results in an outbreak of infection occurring in more than one patient.

**Standard precautions** – combine the major features of Universal Precautions (UP) and Body Substance Isolation (BSI) and are based on the principle that all blood, body fluids, secretions, excretions except sweat, nonintact skin, and mucous membranes may contain transmissible infectious agents. Standard Precautions include a group of infection prevention practices that apply to all patients, regardless of suspected or confirmed infection status, in any setting in which healthcare is delivered. This strategy minimizes risks associated with exposure to blood borne, airborne, respiratory, direct and indirect contact to pathogens. Standard precautions are used for all patients. At a minimum for blood borne pathogens the following elements are required:

* proper glove use
* proper mask use
* approved eye protection
* sterilization of semi-critical & critical items
* disinfection of noncritical objects
* proper disposal of regulated waste
* proper exposure gown use
application of unit dose concept

Other considerations based on the transmission for a specific disease might include the N-95 respirator body substance isolation; increased use of disposable instruments, deferring treatment during acute phases of disease, etc.

Sources of Infection - may include office personnel, patients or visitors:

* with an acute infection
* in the prodromal stage of an infection
* carriers (known withholding information or unknown)

Transmission-based precautions - practices that apply to patients with documented or suspected infection or colonization.

Uniform - clothing, worn at work, to impart a professional appearance. In general a uniform does not comply with requirements for occupational exposure (see exposure gown).

Unit Dose Concept - only equipment, instruments and supplies required for the specific procedure(s), for the appointed patient, can be in the treatment area. Plan ahead, anticipate needs, be prepared; eliminate retrieval of additional instruments, equipment and supplies (e.g. wedges, bands, expendable supplies, medicaments, impression materials, resin syringe tips, etching tips, cotton rolls, gauze, liners, bases, etc.).

Universal Precautions – See Standard Precautions

Unprofessional Conduct Related to Infection Control - failing to use scientifically accepted infection control/prevention techniques or failing to monitor the performance of those for whom the professional is responsible (Rules of Board of Regents: Section 29.2;13a;1992). All DHCWs have a legal, moral, ethical and professional responsibility to comply with standards.

Universal Sharps Principle (More Than Needle Safety) Never move the sharp or pointed end of instruments / equipment toward body

Work Practice Controls - eliminate or reduce the likelihood of exposure by changing the way a task is performed; in the absence of engineering controls, work practice controls must be emphasized. Examples of work practice controls include:

* unit dose dispensing
* removing masks by ear loops
* isolation of chart and x-rays
* announcing instrument passes
* one-handed scoop technique for needle recapping
* alternative treatment arrangements for latex sensitive patients
* replacing sharps containers before they are allowed to be overfilled
* passing instruments with sharp ends pointing away from all persons
* minimizing uncontrolled movement of sharp instruments under force
* decontaminating and cleaning instruments prior to return to dispensary
* disposing used impression material dispensing tips and etch applicators
* placing mask and eye protection before washing hands and donning gloves
* obtaining retraction cord and wedges with uncontaminated scissors and cotton forceps
* using instruments instead of fingers to retract tissues during suturing and
anesthetic injections

* use of barriers when touching surfaces that can not be disinfected

NEEDLE STICK AND EXPOSURE FOLLOW-UP
Most exposures are preventable. Methods include standard precautions, engineering & work practice controls, and the use of personal protective equipment. Emphasis should be placed on preventing accidental injuries and exposures with work practice and engineering controls, e.g. one-handed use of needle cover holder. However, if an exposure (e.g. needle stick) occurs, immediately:

1) Administer first aid including washing the site thoroughly with soap and water
2) Notify your supervisor
3) Proceed to Student Health with source patient if possible
4) Complete an Incident Report

ACCIDENT / INJURY REPORTING PROCEDURES
Incident Reporting – An "incident" is any untoward occurrence or event that is not consistent with patient care and/or routine operation of the SDM. All incidents must be reported. It is the responsibility of the involved individual to initiate appropriate action, notify the responsible supervisor and complete appropriate documentation. The nature of the incident will dictate whether the SDM’s "Medical Emergency / First Aid / Code-5 Report Form," or the "Accident / Injury / Occupational Exposure / Needle-Stick Report Form" is submitted.

If an employee sustains an on-the-job injury or illness, it is the employee’s responsibility to contact the University’s Workers Compensation Administrator at 645-4379. Additionally, completion of the appropriate SDM incident report form is also required.

Employee Accident / Injury Report Form and additional information regarding workers compensation can be found at:

Follow the procedure based on your employee status.

VACCINATION AND IMMUNIZATION

Public health vaccination and immunization programs have proven to be an effective method to control exposure to the communicable diseases and potential long-term permanent disabilities. Potential adverse reactions and side effects may be associated with any vaccine or innoculum. However when the risk / benefit ratio is considered the advantages of public health programs far outweighs the disadvantages. Vaccination and immunization has proven to be an effective method to halt the spread of communicable diseases by eliminating the reservoir. The risks of exposure to, and consequences of, Hepatitis B infection substantiate the need to assure all DHCWs are immune to Hepatitis B. NYSDOH require-ments for DHCWs include documented
immunity to measles and rubella. Since DHCWs are at risk of exposure to other communicable
diseases, immunologic status relative to vaccine-preventable diseases should be known. These
diseases include:

* Influenza (flu)†††
* Measles* ††
* Mumps*
* Rubella* ††
* Diphtheria
* Tetanus
* Pertussis
* Hepatitis
* Lyme disease
* Hepatitis A
* Meningitis
* Pneumoccus
* Haemophilus influenzae (Hib)
* Varicella (Chickenpox)*
* Polio

††† The New York State Department of Health passed emergency regulation in August 2009 that
health care workers in certain health facilities are mandated to receive the seasonal as well as
Novel H1N1 Influenza vaccines on an annual basis. This was rescinded in late October 2009.
http://www.health.state.ny.us/regulations/emergency/docs/2009-08-
13_health_care_personnel_influenza_vaccination_requirements.pdf

†† The New York State Department of Health requires personnel working in health care be
immune to rubeola and rubella, i.e. measles and German measles. Hepatitis B vaccine is
mandatory for all UB faculty, staff, students, and residents involved in direct patient care or if their
job responsibilities place them at high risk for exposure to blood borne pathogens.

*You do not need the measles, mumps, rubella (MMR) vaccine if:
  1. you have had blood tests that show you are immune to measles, mumps and rubella
  2. you are a male born before 1957
  3. you are a female born before 1957 that is sure she is not having more children,
     has already had the rubella vaccine, or has had a positive rubella test.
  4. you already had two doses of the measles, mumps, rubella vaccine or one dose of
     the MMR plus a second dose of the measles vaccine
  5. you had one dose of the MMR and are not at high risk of measles exposure

**You do not need the chickenpox vaccine if you have a reliable history of having chickenpox

TUBERCULOSIS SCREENING
Control efforts for tuberculosis focus on prevention. The primary mode of transmission for
tuberculosis is airborne. During treatment procedures the same airspace is shared by a DHCW
and a patient. Because tuberculosis may be spread easily between a DHCW and a patient,
annual DHCW screening must be performed to reduce the likelihood of spreading the disease.
Analgesics and or antibiotics should be considered for emergent care.
ACTIVE DISEASE STATES

Failure to provide treatment to a patient may constitute discrimination. If concerns exist relative to treatment of a patient, for any reason, it is necessary to review the circumstances on an individual basis. NYSDOH requirements for managing patients with active tuberculosis cannot be met in the average dental office. Treatment of a patient with active tuberculosis requires procedures that exceed the capabilities of Standard Precautions. If a patient's medical history is questionable for active tuberculosis, all treatment must be deferred until conclusive diagnostic information is obtained. Symptoms of tuberculosis may include:

* persistent cough
* productive cough
* hemoptysis
* anorexia
* fever
* night sweats
* weight loss
* fatigue

Referral of patients with active TB may be indicated (tuberculosis is an exception to the Americans with Disabilities Act). Standards of care for patients with blood-borne pathogens are met in school clinics; therefore, a patient with a history of a blood-borne disease can and must be treated in the school's clinics. However the medical condition of the patient must be evaluated. For example, although a patient with severe hepatitis C requiring extractions can be treated utilizing Standard Precautions, the patient may need to be referred for treatment due to potential bleeding problems or other medical management considerations.

A DHCW with a communicable disease must minimize the likelihood of his/her providing care during communicable stages of any infectious disease. The decision of a DHCW to provide care and/or service during a period of potential communicability requires that the DHCW can safely perform expected tasks without the risk of infecting patients and other DHCWs.

MEDICAL HISTORY

A comprehensive medical history must be obtained, and regularly updated, for all patients. Questions relating to past and present infectious diseases and latex sensitivity should be asked. In some situations it may be necessary to obtain a medical consultation prior to treatment. A patient history of latex sensitivity requires treatment modifications. Sample questions may include:

1. Has there been a change in your health? If yes, what?
2. Have you seen your physician recently? If so, for what?
3. Are you taking any medications? If so, what?
4. Have you developed any allergies, or had recent adverse reactions? (e.g. drugs or latex)
5. Have you been recently diagnosed with any disease including: cardiovascular or diabetes?
6. Have you had any problems after recent appointments including bleeding, anesthetic problems, or a rash?

Additional information may include:
* Other significant signs and symptoms?
* Respiratory – cough?
* Gastro-intestinal problems?
* Elevated temperature?
* Recent travel?
* Health of family, friends or neighbors?

### Infectious Disease Management Recommendations

<table>
<thead>
<tr>
<th>Disease/problem</th>
<th>Work restriction</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conjunctivitis</td>
<td>Restrict from patient contact and contact with the patient’s environment</td>
<td>Until discharge ceases</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Restrict from patient contact, contact with the patient's environment, or food handling</td>
<td>Until 7 days after onset of jaundice</td>
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</tbody>
</table>
| Hepatitis B     | a) No restriction*: refer to state regulations. Standard precautions should always be observed  
                    b) Do not perform exposure-prone invasive procedures until counsel from an expert review panel has been sought; panel should review and recommend procedures the worker can perform, taking into account specific procedures as well as skill and technique of worker; standard precautions should always be observed. Refer to state and local regulations or recommendations. | b) Until hepatitis B e antigen is negative |
| Hepatitis C     | No recommendation | |
| Herpes simplex  | a) Restraint from patient contact and contact with the patients environment  
                    b) Evaluate to need to restriction from care of high-risk patients | b) Until lesions heal |
| Streptococcal   | Restrict from patient care, contact with patients environment, or food handling | Until 24 hours after treatment started |
| infection, group A | | |
| Tuberculosis    | a) Exclude from duty**  
                    b) No restriction | a) Until proven noninfectious |
| Zoster          | a) Cover lesions, restrict from care of high-risk patients†  
                    b) Restrict from patient contact | a) Until all lesions dry and crust |

*Appendix 5.20*
localized in immunosuppressed person  
Post exposure (susceptible personnel)  

Restrict from patient contact  
Restrict from patient contact  

b) Until all lesions dry and crust  
From 10th day after 1st exposure through 21st day (28th day if VZIG given) after last exposure or, if varicella occurs, until lesions dry and crust  

Viral respiratory infection, acute febrile  
Consider excluding from the care of high risk patients‡ or contact with their environment during community outbreak of RSV and influenza  
Until acute symptoms resolve  

* Unless epidemiologically linked to transmission of infection  
** The term exclude from duty in this document should be interpreted as exclusion from the health care facility and from health care activities outside the facility.  
† Those susceptible to varicella and who are at increased risk of complications of varicella, such as neonates and immunocompromised persons of any age.  
‡ High-risk patients as defined by the U.S. Public Health Service's Advisory Committee on Immunization Practices (ACIP) for complications of influenza  
From CDC Personnel Health Guideline, 1998. Summary of suggested work restrictions for health care personnel exposed to or infected with infectious diseases of importance 3567 in health care settings, in the absence of state and local regulations (modified from ACIP 3568 recommendations) (Bolyard 1998)

HAND HYGIENE

Since hands constitute a major source of cross contamination, stringent attention to hand hygiene is required to reduce the likelihood of spreading infectious diseases between and among patients and DHCPs. All bracelets, jewelry and rings should be removed prior to washing hands and left off for the duration of the procedure. Any jewelry that interferes with patient care should not be worn in clinic.

The skin of DHCPs hands harbor resident and transient microorganisms. Most resident microorganisms found in the superficial layers of the skin are not highly virulent, but may be responsible for some skin infections. DHCP contact with infected patients is a source of transient microorganisms on DHCP's hands. Transient microorganisms pose the greatest risk of cross-infection. Adequate hand-washing will remove or inhibit both transient and resident organisms. In October 2002, the Centers for Disease Control and Prevention (CDC) released its’ Guidelines for Hand Hygiene in Health Care Settings® based on recommendations of its Healthcare Infection Control Practices Advisory Committee and the Infectious Diseases Society of America, Hand Hygiene Task Force among others. The guidelines summarize recent studies that demonstrate the potential role of alcohol-based hand rubs for use in an infection control program. The studies conclude that alcohol based hand rubs are more effective than traditional hand-washing with soap and water in reducing the bacterial count. The complete guidelines may be read online at http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf
The SDM has adopted these guidelines and a summary follows:
Use soap and water:

* beginning and end of the work day
* before and after using gloves
* before eating, after grooming
* after using toilet
* when hands or gloves are visibly soiled or contaminated with blood or bodily fluids

Soap and water procedure:

* wet hands with water then add soap
* use friction to generate lather
* rub vigorously for at least 15 seconds, covering all hand surfaces
* rinse hands with water
* dry thoroughly

Use an alcohol-based hand rub:

* if hands are not visibly soiled
* before treating patients (before glove placement)
* after treating patients (after removing gloves)
* before leaving operatory
* after touching with bare hands any contaminated surface or equipment

Alcohol-based hand rub procedure:

* apply auto-dispensed amount of alcohol rub to palm of one hand – rub hands together
* keep rubbing hands together until they feel dry – this should take 10 – 15 seconds
* Make sure the alcohol rub is completely dry before putting
on gloves or before using Bunsen Burner.

Alcohol-based hand rub: an alcohol-containing preparation designed to reduce the number of viable microorganisms on the hands. Because these products do not remove soil, use must be preceded by a soap and water wash at the beginning of the day or when hands are visibly soiled.

ALCOHOL BASED HANDRUBS PREFERRED BECAUSE:

* Reduce bacterial counts more effectively than soaps
* Can be as accessible as sinks
* Require less time to use
* Cause less skin irritation and dryness

PERSONAL PROTECTIVE EQUIPMENT

Routine use of barrier devices including eyewear, gloves, gowns and masks, is required to eliminate or reduce exposure to blood and saliva between patients and DHCWs

Eyewear - protective eyewear (glasses with side shields, goggles, or face shield) must be worn by all DHCWs having contact with any aerosol spray, spatter or particulate matter (including nonpatient activities). Protective eyewear should be cleaned and disinfected between patients. Protective eyewear should be used by patients when risk of debris entering a patient’s eye is evident.

Gloves - DHCWs having patient contact must wear disposable gloves whenever there is direct or indirect contact with blood, saliva, or mucous membranes. The regimen is:

* use appropriate hand hygiene procedure
* don gloves for specific use, either operatory setup or patient care or operatory clean up and disinfection

Gloves must not be washed or reused. Gloves must be removed, disposed, and hands washed thoroughly before leaving the clinical area. Gloved hands are not to be used for nonpatient activities (e.g. answering telephone, opening drawers, retrieving supplies, keyboard use, handling records, and pens & pencils, etc.). Gloved hands must not be used to adjust glasses or face mask. Utility gloves should be worn while decontaminating, cleaning and preparing instruments for reprocessing. If a patient is allergic to latex, alternative barrier materials must be used.
**Gown** - exposure gowns must be worn by all DHCWs in clinical areas during occupational exposure. Exposure gowns, gloves and masks must not be worn outside designated clinical areas (e.g. in transit, lecture halls, administrative offices, cashier's line and areas where food is consumed):

* a clean gown must be worn each day
* gowns tie in the back and should not be worn like a coat
* the gown must be changed when visibly soiled
* a gown may be worn only in designated clinical areas
* soiled gowns must be removed and disposed

**Masks** - disposable masks must be worn by all DHCWs who have contact with any aerosol, spray or spatter that may be generated from a patient or contaminated materials. Masks become contaminated very quickly. Masks, like gloves, should be used for only one patient contact. When properly applied, a mask covers both the mouth and nose. A contaminated face mask worn around the neck or on the forehead between patients does nothing more than spread contamination to anything that touches the mask. Masks like gloves are single use. Mask use should be restricted to designated clinical and laboratory areas. If fogging of glasses or face shield is a problem - be sure upper edge of mask is adapted to nose and face contours.

**IMMERSION DISINFECTION (HIGH LEVEL)**
Semicritical equipment, instruments, and supplies must be decontaminated, cleaned and processed in an approved manner. Heat sensitive semicritical items must be disinfected utilizing a hospital grade, regulatory registered high level disinfectant. If an item is to be stored, it must be packaged to maintain an aseptic state. (N.b., Instruments, equipment and supplies that cannot withstand heat must be processed utilizing high level disinfection.)

**INSTRUMENT STERILIZATION**
Critical and semicritical reusable equipment must be decontaminated, cleaned, packaged and sterilized in conformance routine standards of practice. See the Recommended Instrument Sterilization Methods chart and the Revised CDC/Spaulding Classification table for specific equipment and operatory recommendations

**STERILIZER MONITORING**
Sterilization equipment must be monitored to assure compliance with standards for safe patient care. Monitors must include:

1. Process-every instrument cassette or pack must incorporate a process monitor.
2. Biologic-all sterilization equipment must have a weekly biological test.

The proper biologic monitor must be used for each sterilization method. Autoclave and chemical vapor sterilization equipment requires Bacillus stearothermophilus spore tests, whereas dry heat units require Bacillus subtilis spore tests. All non-central sterilization equipment must be monitored. All records of biological monitoring must be retained and be available for review. Biologic monitoring is also included as an indicator in the SDM’s formal Quality Assurance Program.
SURFACE DISINFECTION
During patient care, operatory surfaces and equipment become contaminated with saliva, blood, aerosols and spatter. Since pathogens can survive on these surfaces it is necessary to decontaminate, clean and disinfect surfaces to interrupt cross contamination. It is advisable to wear protective gloves when using chemicals. See the Revised CDC/Spaulding Classification table for specific operatory surface treatment recommendations. The proper level of disinfection must be selected for each use or procedure. The levels of disinfection are:

- low- does not kill bacterial spores or Mycobacterium tuberculosis
- intermediate- kills Mycobacterium tuberculosis
- high- kills Mycobacterium tuberculosis and some spores

Surface disinfection is accomplished with the "Spray-Wipe-Spray" method. The first step is spray or wipe (if using CaviWipes™) and wipe with a paper towel to clean the surface. The second step is spray again, let stand 5 minutes before drying with a paper towel, or allowing air dry to disinfect.

Squire Hall Disinfection: Why CaviCide® / CaviWipes™?
CaviCide® is one of a new generation of products designed to comply with CDC recommendations and OSHA requirements for use in the dental environment. It is a synergized quaternary ammonium chloride-based product that contains isopropyl alcohol. CaviCide® is:

1. ready-to-use
2. intermediate-level disinfectant effective against TB, HBV, viruses (hydrophilic & lipophilic), bacteria (including MRSA and VRE) and fungi.
3. safe for all areas of Squire Hall
4. used as directed*, it decontaminates, cleans and disinfects surfaces and semicritical items
5. similar to other recommended products including Lysol® Spray Disinfectant.

All chemicals including disinfectants should be used as directed to minimize unnecessary exposure and premature aging of instruments, equipment, supplies, etc. The next page of this newsletter reviews the current approach to surface disinfection for touch and transfer surfaces that may become contaminated during a dental procedure.

CONTAINING CONTAMINATION
All possible engineering, work practice and administrative controls should be utilized to contain contamination. When strategies are employed to contain contamination within an area, it is easier to clean, disinfect and prepare for the next patient.
OPERATORY SURFACE CLASSIFICATION
An effective operatory asepsis protocol requires surface classification. Surfaces can be classified and managed in three categories: A) Touch Surfaces B) Transfer Surfaces C) Housekeeping, Splash, Splatter & / or Aerosol Surfaces

A) Touch Surfaces:
Surfaces that are touched and could become contaminated during dental procedures.

Examples include:
* dental light handles
* dental unit handle and controls
* headrest adjustment mechanisms
* dental chair switches
* operatory and/or clinic computers

Touch surfaces should be kept to a minimum. If a surface will, or might be touched, it should be cleaned and disinfected, or covered with a barrier that is impervious to liquid. Barriers are single-use and are replaced between patients. Contaminated barriers must be properly discarded. If a covered touch surface is compromised and becomes visibly contaminated, it should be cleaned and disinfected with a low or intermediate-level disinfectant before applying the barriers for the next patient. Touch surfaces that have been covered with barriers should be cleaned and disinfected at the end of each clinical day. Before the first patient of the next clinical day, new barriers should be installed.

B) Transfer Surfaces:
Surfaces that are not touched, but which are usually contacted by contaminated instruments. Examples include instrument trays and dental unit hand-piece holders. Asepsis for transfer surfaces is the same as for touch surfaces.
C) Housekeeping, Splash, Splatter & Aerosol Surfaces: Surfaces in the operatory other than touch or transfer surfaces. Splash and spatter surfaces need not be disinfected, but should be cleaned daily, or more often if possible.

**INSTRUMENT WRAPS AND/OR PACKAGING**

All instruments, equipment and supplies that will be used for critical and semi-critical procedures must be sterilized. Any multiple use instruments, equipment or supplies that are stored between uses, must be wrapped or packaged. Proper attention to packaging:

* allows sterility to reach all surfaces during the sterilization cycle
* maintains sterility during handling, storage and distribution
* enables aseptic instrument removal

**DENTAL LABORATORY PRACTICE (LABORATORY PROCEDURES ARE SEMI-CRITICAL)**

Equipment, Instruments, Supplies & Patient Related Items-transferred to the dental laboratory must be sterilized or disinfected. Items being transferred must be placed in a Transport Bag.

Equipment, supplies and patient related items used during the dental laboratory phases of patient care may be unavoidably exposed to pathogenic organisms through contact with saliva. Dried saliva presents a risk for cross-contamination from patient-to-patient or to DHCW. Standard Precautions must be employed during laboratory procedures. Laboratory procedures should be completed in the dental laboratory not a clinic operatory.

Impressions - must be thoroughly rinsed to remove saliva, blood and debris. Impressions must be disinfected prior to initiation of any procedure.

Models must be disinfected after contact with a prosthesis or appliance that has been in a patient's mouth.

If patient items or appliances have never been in contact with saliva they may be handled as non-contaminated. Unless equipment, instruments and supplies are used exclusively for non-contaminated patient items Standard Precautions must be employed.

**RADIOLOGY PROCEDURES**

( RADIOLOGY PROCEDURES ARE SEMI-CRITICAL )

Digital radiology procedures are located on the school's intranet site at: [http://intranet.sdm.buffalo.edu/clinic/](http://intranet.sdm.buffalo.edu/clinic/)

Documents include the Radiology Manual and Radiology Infection Control Manual. Clinic personnel are directed to those documents and are expected to understand and follow the guidelines.
Infection control practices for the Point of Care (PoC) computers and monitor is simple – the computer equipment should be handled with clean hands only / no gloves. (see PoC Procedures in another section of this manual)

Conventional radiography (film – developing & processing) may still be used in the radiology rotation for educational / teaching purposes only. The following steps must be used during those radiological procedures.

* place barriers on x-ray machine control panel and door handle
* wear gloves while positioning and exposing films
* place exposed films in a transport cup
* remove barriers and disinfect surfaces in the x-ray room

If using an x-ray processor with a daylight loader care is required to avoid contamination of the sleeves, external and internal components.

* place the cup containing exposed film packets inside the daylight loader
* wearing clean powder free gloves, insert hands through the sleeves of the daylight loader
* carefully open all film packets allowing films to drop into a clean cup or surface (do not touch films with gloved hands)
* once all the films packets have been opened remove gloves
* process films with bare hands discard empty film wrappers, gloves and transport cup

Radiology PSP processing at Scanner Stations:

* Prior to processing, place Infection Control Barrier over mouse and keyboard at scanner station.
* Appropriate hand hygiene and re-glove
* KEEP GLOVES ON WHILE PROCESSING
* After processing all PSP sensors – discard headrest covers with gloves
* Appropriate hand hygiene and re-glove
* Disinfect keyboard, mouse, laminated template and counter with CaviWipes™
* Discard gloves and use appropriate hand hygiene
* Retrieve PSP sensors from scanner with clean hands

STRATEGIES TO DECREASE PERCUTANEOUS OCCUPATIONAL EXPOSURES

When working with a dental sharp, appropriate engineering controls and/or work practices must be utilized to reduce the opportunity for an accidental percutaneous exposure.

Dental sharps include:

- anesthetic needles
- matrix bands
- reamers
- curettes
- scalers
- explorers
• scalp blades
• burs
• files
• suture needles
• laboratory equipment
• items capable of scraping or penetrating mucosa and skin

The following examples illustrate the application of controls and practices. Each provider must develop a style that embraces appropriate controls and practices when using dental sharps.

Anesthetic Needle

1. Engineering Controls
   * needle recapping device
   * sharps disposal container

2. Work Practices
   * using one-handed technique and needle cover holder
   * needle movement away from operator's body
   * when possible use a retractor, or instrument, to reflect tissue during needle placement and anesthetic administration
   * one handed recapping technique
   * one-handed needle disposal technique
   * Needle disposal: after unscrewing syringe from needle (capped needle still in the Needle Cover Holder), using one hand - hold the unit upside down over a sharps container; squeeze unit to drop needle into the regulated waste sharps container.

Dental Burs

1. Engineering Controls
   * cleaned, packaged and sterilized
   * aseptic storage

2. Work Practice Controls
   * hand-piece w/bur placed in holder facing away from operator and patient
   * after procedure contaminated bur immediately removed from hand-piece

Double Ended Instruments (curettes, explorers, scalers, etc.)

1. Engineering Controls
   * instruments cleaned, sterilized
   * instruments in cassette or sterilizer packaging

2. Work Practice Controls
   * visualize instrument during handling (not blindly)
   * clean contaminated instruments as soon as possible
In the absence of an engineering control for a specific item or procedure, emphasis on safe work practices is required.

RECOMMENDED INSTRUMENT PROCESSES

The SDM follows the CDC’s recommended guidelines for the sterilization of dental instruments. CDC. Guidelines for Infection Control in Dental Health-Care Settings, 2003. MMWR, December 19, 2003:52(RR-17).

The following is taken from that guidance:

In dental health care settings, all instrument cleaning, disinfecting, and sterilizing should occur in a designated central processing area in order to more easily control quality and ensure safety. The instrument processing area should be physically divided into sections for 1) receiving, cleaning, and decontamination; 2) preparation and packaging; 3) sterilization; and 4) storage. This division is designed to contain contaminated items in an area designed specifically for cleaning, thus preventing contamination of the clean areas where packaging, sterilization, and storage of sterile items occurs. Reusable contaminated instruments and devices are received, sorted, and cleaned in the cleaning area. The packaging area is for inspecting, assembling, and packaging clean instruments in preparation for final processing. The sterilization and storage areas contain the sterilizers and related supplies, as well as incubators for analyzing spore tests, and can contain enclosed storage for sterile items and disposable (single-use) items. When it is not possible to have physical separation of these areas, clearly labeling each area (e.g., from contaminated to sterile) might be satisfactory if the personnel who process the instruments are trained in work practices to prevent contamination of clean areas.

Cleaning instruments prior to sterilization:

Cleaning should precede all disinfection and sterilization processes. Cleaning involves the removal of debris (organic or inorganic) from an instrument or device. If visible debris is not removed, it will interfere with microbial inactivation and can compromise the disinfection or sterilization process.

PPE’s for disinfection & sterilization processes:

Instruments should be handled as though contaminated until processed through the sterilization cycle (unless the instrument has been processed with a thermal washer/disinfector that has a high-level disinfection cycle). To avoid injury from sharp instruments, personnel should wear puncture-resistant, heavy-duty utility gloves when handling or manually cleaning contaminated instruments and devices. Because splashing is likely to occur, they should also wear a facemask, eye protection or face shield, and gown or jacket. Employees should not reach into trays or containers holding sharp instruments that cannot be seen. To reduce their risk of injury, they should instead remove instruments using forceps or empty them onto a towel.

BIOPSY SPECIMENS & EXTRACTED TEETH
Biopsy specimens and extracted teeth are potentially infectious because they contain blood. Standard Precautions must be employed whenever biopsy specimens or extracted teeth are handled. Extracted teeth used in the education of DHCWs must be considered infectious and are classified as clinical specimens. All persons who collect, transport, or manipulate extracted teeth must use Standard Precautions. Extracted teeth should be immersed in a fresh solution of chemical germicide (dilute household bleach, or buffered formalin) suitable for fixation. Extracted teeth containing amalgam restorations must be managed utilizing mercury hygiene practices including collection and storage for amalgam recycling.

REGULATED WASTE

OSHA defines regulated waste as liquid or semi liquid blood or saliva; contaminated items that would release blood or saliva as liquid or semi liquid if compressed; and items that are caked with dried blood or saliva and capable of releasing these materials during handling and sharps capable of causing injury during handling. Regulated waste must be placed in a closable, leak-proof, color-coded or labeled container and kept separate from other waste. Designated personnel will remove regulated waste to a holding area.

The current interpretation is blood soaked expendable supplies and injury causing sharps should be considered and managed as Regulated Medical Waste. Other waste from a dental procedure should be considered normal refuse. Therefore only blood soaked expendables and sharps need to be considered and treated as regulated. The following operatory waste, e.g. disposable towels, gowns, unsaturated blood stained disposables, gauze, cotton, etc. are not considered to be regulated medical waste, provided that the patient is not on any isolation precautions to protect others from highly communicable disease:

Body fluids are regulated; however fluids may be disposed of in a sanitary sewer system followed by a copious flush. Used suture & anesthetic needles, scalpel blades, disposable sharp instruments, broken instruments, used burs, files, reamers, broaches, used anesthetic cartridges and other items that could scrape or puncture skin must be disposed of in puncture-resistant sharps container. All sharps containers must be managed as regulated waste and disposed of in a color coded puncture resistant container.

CONTAINING CONTAMINATION

All possible engineering, work practice and administrative controls should be utilized to contain contamination. When strategies are employed to contain contamination within an area, it is easier to clean, disinfect and prepare for the next patient.

Also See:

* Recommended Instrument Sterilization Methods
* Providing an Aseptic Environment
* Engineering controls and,
  * Work practice controls must be employed to limit the spread of contamination

The most heavily contaminated area of an operatory is in the vicinity of the operative site, i.e. the area within thirty-six inches of the patient's mouth. Limiting the spread of contamination and droplets is facilitated by strategies including: using high velocity evacuation proper patient position use of rubber dam avoiding contact with unprepared surfaces and objects application of the unit dose concept transporting contaminated items in closed container or bag.
OPERATORY PROCEDURES

Pre-treatment Procedures:
- remove unnecessary equipment, materials and supplies from the operatory if required, use appropriate hand hygiene, don clean gloves, disinfect and/or apply barriers flush water lines set up instruments, materials, supplies, equipment and medicaments remove gloves and wash hands

Treatment Procedures
- seat patient, take care of any discussion, place bib, barriers, glasses, etc. review and update medical history; wash hands, don gloves, complete procedure avoid touching untreated surfaces e.g. drawers, cabinets, switches, control knobs, etc.

What if you did not get everything you need, or didn't plan ahead?
- use over glove or other barrier have somebody else retrieve item un-glove, wash hands, retrieve item, wash hands, re-glove for procedure

Post Treatment Procedures
- Immediately after patient discharge, the operatory, instruments, equipment, supplies and patient care items must be decontaminated, cleaned and terminally disinfected or sterilized.
- remove procedure gloves, use appropriate hand hygiene, and don gloves collect contaminated instruments, clean and place instruments in cassette for transportation, flush water lines dispose of contaminated waste clean and disinfect equipment and surfaces remove gown and mask and transport instruments for reprocessing

PoC (POINT-OF-CARE) PROCEDURES

Point-of-Care infection control compliance for computers is achieved in SDM dental operatories through the use of work practice controls, (i.e. clean hands / no gloves).

Keyboard Use (PoC) Procedures:
- remove gloves (if applicable) and follow appropriate hand hygiene procedures before using keyboard.
- insert SmartCard and locate digital radiographs for patient appointment
- follow appropriate hand hygiene procedures before re-gloving
- end of clinic session, wipe keyboard with CaviWipes™

When any computer surface is visibly contaminated, disinfection is performed utilizing CaviWipes™. For general cleaning to remove dust, fingerprints, etc., a designated computer cleaning wipe is used.

WATERLINE RECOMMENDATIONS

According to CDC's Division of Healthcare Quality Promotion and the Healthcare Infection Control Practices Advisory Committee (HICPAC), the water lines that feed many dental units deliver water during general, non-surgical procedures. Municipal tap water is usually the source
for these lines. The School is in the process of installing self-contained water systems on all
dental units. These systems, isolated from the municipal water supply will allow for both
intermittent and continuous chemical treatment of the lines. After the initial shock treatment, the
ADEC ICX system will be used on a daily basis. Through utilization of this protocol, the dental
units deliver treatment water of acceptable microbiologic quality, achieving a target of < or = 500
CFU/ml. To monitor water quality and comply with the CDC recommendations for delivery of
dental treatment water that has 500CFU or less per ml, ten dental units will be randomly selected
quarterly for testing. Tests results revealing unacceptable water quality will require additional
shock treatments and subsequent water quality testing.

Municipal Boil Water Advisory

If public water is contaminated leading to a “boil water advisory”, use sterile water or self-
contained delivery system (w/o the availability of acceptable water office may need to suspend
patient care).

Providing an Aseptic Environment

Aseptic is a term used in the dental setting to describe a patient treatment area free of significant
numbers of pathogenic microorganisms. This is easier to create when the dental operatory is
considered separately; however, difficulties arise then the patient and health care providers are
considered. The treatment area is an environment in which specific techniques to insure asepsis
must be designed to address (A) the inanimate surfaces; (B) the human element; and (C) the
combined or the Treatment Focus Area.

(A) INANIMATE SURFACES
- includes the surface areas where patient treatment takes place. In most
treatment areas of the dental school it includes all surfaces of each operatory. In
other areas, it can involve the entire room. Since the extent of contamination
within the treatment area is highly variable, it is beneficial to sub-divide the work
based on degree or likelihood of contamination.

HIGH DEGREE
- the likelihood of contamination occurs onto the areas of the Treatment
Focus Area that is an imaginary sphere of 3 feet in diameter with the
patient’s mouth as the point of origin. This includes the instrument tray,
the upper portion of the dental chair and the dental lamp. It may also
include a bracket table if one is used.

MEDIUM DEGREE
- the likelihood of contamination occurs onto the remaining counter
surface and area of the dental unit that is occasionally used for support
items.

LOW DEGREE
- the likelihood of contamination occurs onto the remaining surfaces that
include the areas outside of the Treatment Focus Area.

(B) The Human Element
If surfaces, instruments, etc. have been prepared properly, the only likely
potential sources for infection transmission are the DHcw and the patient.
When significant numbers of virulent pathogens contact a recipient, the
establishment of overt infection is not automatic. During known or planned contacts such as occur during dental treatment, the chain can be easily interrupted by hand hygiene, barriers, control of aerosolization, and so forth. The chain is inadvertently supported, however, when blood contaminated instruments and devices are mishandled and are not properly cleaned and disinfected.

(C) The Treatment Focus Area
The concept of the treatment focus area (TFA) combines the inanimate area with the human element to be recognized as the potential danger zone because of the high degree of microbial contamination that occurs in this area during patient treatment. As mentioned above, it can be described as a sphere of approximately 3 feet in diameter with the origin at the patient’s mouth. The gloved hands of the DHCW moves millions of microorganisms from the patient’s saliva, mucous membranes and/or blood to all surfaces within this area. The DHCW must develop an awareness to never move the contamination outside the area. In addition, aerosolization, splatter, impression taking, air stream and other activities increase the airborne contamination. These dangers can be neutralized or reduced by using PPE, high volume suction (when appropriate), to name a few. But they cannot be totally eliminated precautions must be taken continuously.

Rigid compliance will confine contamination and potential infectious agents to a limited area that can easily be disinfected.

Elemental Mercury & Dental Amalgam Recycling

1. Additional information available from:
   * Division of Solid & Hazardous Materials
   * DEC Information on Mercury

2. Requirements for Recycling Dental Mercury
3. Regulations For Mercury and Amalgam Recycling at Dental Facilities - The NYSDEC has released draft requirements for public review and input.
4. Chapter 506, Laws of 2002 - the New York State Law regarding the use and recycling of elemental mercury and dental amalgam in dental offices
5. Frequently Asked Questions - about New York State’s Dental Mercury Recycling Law
6. A list of mercury and dental amalgam recyclers
8. New York State Department of Environmental Conservation
   http://www.dec.state.ny.us/website/dshm/redrecy/mercbmp.htm

Occupational Risk: Mercury

1. **Storage** (vapor esp. if > 90 degrees)
   * Inhalation (from unsealed containers)

2. **Transfer** (manipulation, trituration mulling & squeezing)
   * Inhalation (unsealed containers, spills & residues)

3. **Skin absorption** (contaminated hands)
   * Ingestion (from hands transferred directly to mouth or
onto food)

4. **Removing Amalgam**
   - Inhalation (mercury vapor freed by heat of drill from particles & dust)

5. Ingestion (dust particles of amalgam impacted in mouth & upper respiratory tract, later swallowed)

6. **Filling (Condensing & Polishing)**
   - Inhalation, Ingestion & Absorption - low risk

**Clean-up - Potential Route of Entry**

- Inhalation - from unsealed containers, manipulation of spills, droplets and dust.
- Ingestion - by transfer from
- Absorption - From handling the metal & contaminated equipment

**Work practice & Engineering Controls (to reduce mercury vapor)**

- Use high volume evacuation/water spray when cutting, removing old or adjusting restorations
- Use rubber dam
- Reassemble capsule contents and halves
- Check for amalgam scrap and clean all instruments and trays before returning to reprocessing center
- Immediately clean spills

**Vapor release**

- removing / polishing restorations
- improper storage (mercury & amalgam scrap)
- exposure of mercury or amalgam to heat
- residual mercury in capsules
- leaking amalgam capsules
- faulty amalgamators

**Regulated Waste - Check MSDS & Local Regulations**

- Disinfectants/cleaners/chemicals - see label
- X ray fixer/silver - reclaim / silver recovery unit
- X ray developer - flush (check for local regulations)
- Lead foil - recycle
- Amalgam scrap - contact / non-contact; alloy (stable)

**SAFETY IN THE WORKPLACE**

[Federal: Hazard Communication; New York State: Right-To-Know]
The Occupational Safety and Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions. Businesses, including dentistry, are required to comply with the Occupational Safety and Health Administration's (OSHA) Blood borne
Pathogen and Hazard Communication Standards. The intent of these standards is to ensure employers and employees know about safety and chemicals in the workplace, and know how to protect themselves from occupational injuries and diseases. Clinical personnel receive annual training on Right-To-Know and Blood borne pathogen standards. Compliance with these training activities is tracked and monitored by the SDM Compliance Officers.

**MATERIAL SAFETY DATA SHEETS (MSDS)**

Material Safety Data Sheets provide information for safe handling, use and storage of chemicals. MSDSs for products used in the SDM are located in the office of the Director of Clinical Operations and at the main switchboard. MSDSs may also be searched at http://siri.org/msds/index.php

**PRODUCT LABELING**

If a product is transferred to a secondary container, the secondary (end-use) container must be labeled. The National Fire Protection Association (NFPA) format is useful for identifying and labeling products. The label for an end-use container must identify the chemical name, as well as health hazard, fire hazard, reactivity and other specific hazards.

The system is characterized by the "diamond shape" that is actually a "square-on-point" shape. It identifies the hazards of a material and the degree of severity of the health, flammability, and instability hazards. Hazard severity is indicated by a numerical rating that ranges from zero (0) indicating a minimal hazard, to four (4) indicating a severe hazard. The hazards are arranged spatially as follows: health at nine o'clock position, flammability at twelve o'clock position, and instability at three o'clock position. In addition to the spatial orientation that can be used to distinguish the hazards, they are also color-coded as follows: blue for health, red for flammability, and yellow for instability.

The six o'clock position on the symbol represents special hazards and has a white background. The special hazards in use are W, which indicates unusual reactivity with water and is a caution about the use of water in either fire fighting or spill control response, and OX, which indicates that the material is an oxidizer.
SPECIAL CONSIDERATIONS

Food & Beverages - NYSDOH rules and regulations prohibit storing and consuming food and beverages in clinical areas. Eating and drinking must be reserved for nonclinical areas. The only exception is for medically compromised faculty / staff who require frequent liquids (e.g. diabetic). In this instance, a closed container is permitted to be stored at the senior dental assistant station in each clinic.
Glutaraldehyde – reports of problems associated with exposure to glutaraldehyde, including tissue toxicity and respiratory problems have prompted a product change. It is recommended that high level immersion disinfection be accomplished with an appropriate phenolic compound in lieu of a glutaraldehyde solution.

Gowns – To be effective the gown should not be worn as a coat; closure is intended to be in the back, not the front. Designated "Clinic Gown" racks are located near clinic exits for gowns that are to be reused. Clinic Gowns racks should be reserved for clinic gowns.

Hair - must be clean and well groomed. Long hair must be tied back to prevent contamination of the operative field, obstructed vision, or a hazard with rotating equipment.

Lead foil - from x-ray film packets is deemed to be a hazardous waste. All lead foil must be collected for reclamation.

Nitrous Oxide - regulations governing N2O use and equipment are similar to those for x-ray equipment, i.e. regular upkeep and monitoring is required. Nitrous oxide should be used with adequate ventilation (air exchange), properly fitted mask and functioning scavenger system. The results of at least one air monitoring test should be available to document compliance with recommended threshold levels for areas in which N2O is used.

Refrigerators - undercounter refrigerators located in clinical areas are for expendable clinic supplies. Food and beverage must not be stored in clinic refrigerators. Refrigerators located in research laboratories used for storing chemicals, reagents, research supplies, etc. should be inventoried on an annual basis to assure the contents of the refrigerator are properly labeled, identified, useable and appropriate for storage under these conditions. If there are any questions or concerns relative to research laboratory refrigerator contents contact the University Facilities Department, Office of Environment, Health and Safety at 829-3301 to review recommendations for removal and disposal. Food and beverage must not be stored in laboratory refrigerators.

X-ray Developer Solutions - used solution may be considered an environmental hazard. Contact the University Facilities Department, Office of Environment, Health and Safety at 829-3301 for current disposal recommendations.

X-ray Fixer Solutions - used solution contains silver, thus it is considered an environmental hazard. Contact University Facilities Department, Office of Environment, Health and Safety at 829-3301 for current disposal recommendations.

## Monitoring Compliance

Protocol for Infection & Hazard Control Inspection (PIHCI)

Rationale - Faculty and Staff members are informed of SDM Infection and Hazard Control Policies (IHCP), and of their prerogatives to monitor compliance with them, through intranet postings, individual e-mail messages, and items in the Clinic Newsletter.
Student compliance with SDM IHCP and professional infection control standards is reinforced by the faculty through daily guidance during patient care sessions and, when necessary, through the use of Salmon Slips, a form designed to document and create a record of violations of IHCP. In addition, students are required to prepare for and pass an annual online Infection and Hazard Control examination in order to maintain their clinical privileges.

Protocol

The following PIHCI has been developed to support and enhance faculty efforts to ensure school wide compliance with IHCP:

1. IHC Inspection Team
   This team, which functions as a subcommittee of the Infection and Hazard Control Committee, is comprised as follows:
   (a) Chair, IHCC
   (b) 1 Member, IHCC
   (c) 1 Student Member, IHCC
   (d) 1 Department Chair
   (e) 1 Clinical Staff Member
   (f) Associate Dean for Clinical Affairs

2. Inspection Tours
   The IHC Inspection Team will conduct 2 inspection tours of the SDM pre-doctoral clinics per year -- 1 announced and 1 announced. Prior to the announced inspection, faculty, students, and staff will receive communications reinforcing SDM IHCP policies from the Office of Clinical Affairs. The IHC Inspection Team, accompanied by the appropriate Postdoctoral Program Director, will also conduct 2 inspections per year of each postdoctoral program clinical area.

3. Inspection Outcomes
   Violations of SDM IHCP observed by the IHC Inspection Team will be reported to faculty, students, and staff through the Office of Clinical Affairs. When warranted, Salmon Slips citing violations will be issued by the faculty or the inspection team. Subsequent to each inspection tour, a summary of findings will be communicated to the faculty, students, and staff through e-mail, the intranet, and the Clinic Newsletter. These outcome reports will focus on patterns of behavior that do not comply with infection control standards or recurring violations.

Fire Action Plan (RACE)

Employees discovering or becoming aware of a fire in Squire Hall should immediately take the following actions:

Rescue
   * Yourself first, if you are able without placing yourself at risk
   * Assist others from the fire area who may need assistance.
   * Do not endanger your well being
   * Notify emergency responders of persons who may require rescue

Announce
To everyone in the fire area of the emergency
* Activate the nearest fire alarm pull station.
* Call campus police - 829-2222

Contain
* The fire and hot toxic smoke by closing the door (do not lock) of the fire room as you leave
Keep smoke from entering the corridors allowing time for everyone to escape.

Escape
* By following the exit signs to the nearest exit
* Proceed outside
* Do not re-enter the building until told to do so

NOTE: If you are in a room other then the fire room when the fire alarm is activated use caution before entering into the corridor to escape.
* First check your door for heat, if it is hot to the touch do not open it
* Use another escape route or simply stay where you are
* Phone campus police - 829-2222 to inform them of your location

If there is no phone, go to the window and alert emergency responders of your location.

Portable Fire Extinguishers: The University provides portable fire extinguishers of various types throughout all University buildings. These quick fire suppression devises are designed to be used in the early stages of fire development by persons trained in their use. If you have not received training in the use of portable fire extinguishers, do not attempt to use them, simply follow the RACE Action Plan and exit the building.

Special note: The use of fire hose lines is restricted to fire fighters who are properly trained and equipped; all fire hose lines have been removed from cabinets in all University buildings. All building occupants should implement the RACE Action Plan

| ALWAYS KEEP FIRE DOORS CLOSED |
| FIRE DRILLS HELP TO ENSURE SAFE EXITING |
| DURING EMERGENCIES LEAVE THE BUILDING |
| DO NOT USE ELEVATOR |

Sources of information for this manual include recommendations from the American Dental Association (ADA), Centers for Disease Control and Prevention (CDC), Environmental Protection Agency (EPA), Food and Drug Administration (FDA), New York State Department of Health (NYSDOH), New York State Department of Environmental Conservation (NYSDEC), New York State Education Department (NYSED), Occupational Safety and Health Administration (OSHA), and the Office Safety & Asepsis Procedures Research Foundation