

Dental Office



Infection Control

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September 12, 2019
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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 (OSAP)

GENERAL PRINCIPLES

PURPOSE

This manual presents guidelines and recommendations to promote compliance with New York State and OSHA infection control expectations and requirements. It is designed to complement lecture material and serve as an ongoing reference.

PERSONNEL REQUIREMENT

The Revised Bloodborne Pathogens Standard, effective April 18, 2001 - 29 CFR 1910.1030, requires participation from all levels of employees in decision-making activities. On an annual basis, all personnel should have the opportunity to provide input to the office program, including consideration of new products and processes.

SCOPE

All personnel involved with direct patient care activities are required to comply with state & federal infection 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 handpieces, 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.

Chain of Infection - model used to understand the infection process. An awareness of this cycle provides the knowledge to use methods of self-protection.



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

Colony-forming 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 | • Ultrasonic cleaners | • Operator layouts that |
| • Needle cover holder | • Sharps containers | remove or isolate |
| • Needle recappers | • Washer/decontaminators | percutaneous hazards |
| • Plastic barriers | • Alternative barriers for | • Devices to minimize |
| • Transport bag | latex sensitive patients | 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 in to four levels. Specific infection control activities require different levels of activity (see revised CDC/Spaulding Classification and Operatory Surface Treatment Asepsis Recommendations).

- **Low Level Disinfection** - effective against some fungi, most medium sized viruses &

- vegetative bacteria
- **Intermediate Level Disinfection** - effective against TB, viruses, fungi and vegetative bacteria
- **High Level Disinfection** - effective against all pathogenic organisms except high numbers of bacterial spores
- **Sterilization** - effective against all pathogenic organisms including bacterial 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 handpieces 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

- Direct contact with infectious lesion or infected saliva or blood
- Indirect transmission via transfer of organisms from a contaminated intermediate object
- Spatter of blood, saliva or secretions directly on to skin or mucosa
- Aerosolization of organisms

Standard precautions: transmission based approach to infection control. This strategy minimizes risks associated with exposure to bloodborne, airborne, respiratory, direct and indirect contact to pathogens. Standard precautions are used for all patients. At a minimum for bloodborne pathogens the following elements are required:

- | | |
|--|---------------------------------------|
| • Proper glove use | • Disinfection of noncritical objects |
| • Proper mask use | • Proper disposal of regulated waste |
| • Approved eye protection | • Proper exposure gown use |
| • Sterilization of semicritical & critical | • 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.

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 ties
- 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 (e.g. computer keyboard if used in clinic or with digital x-ray equipment)

NEEDLE STICK AND EXPOSURE FOLLOW-UP

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, and
- 2) Notify your supervisor

The supervisor must arrange for required evaluation and follow up care. The prudent office will have appropriate arrangements established before they may be required.

A qualified health-care professional should evaluate the injured person. A qualified health-care professional is any health-care provider who can provide counseling and perform all medical evaluations and procedures in accordance with the most current recommendations of the US Public Health Service, including postexposure chemotherapeutic prophylaxis when indicated. In addition, the health-care provider should be familiar with the unique nature of dental injuries so they can provide appropriate guidance on the need for postexposure prophylaxis.

TUBERCULOSIS SCREENING

Control efforts for tuberculosis focus on prevention. The primary mode of transmission for tuberculosis is airborne. During treatment procedures a DHCW and a patient share the same airspace. 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.

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

RISK CATEGORY	RISK CLASSIFICATION	TB TESTING FREQUENCY
Low	People with TB disease unlikely to be seen Fewer than three patients with unrecognized TB treated in past year	Baseline, [†] at hiring; further testing not needed unless exposure occurs
Medium	People with TB disease likely to be seen Three or more patients with unrecognized TB treated in past year	Baseline, [†] then annually
Potential Ongoing Transmission	Evidence of ongoing person-to-person transmission	Baseline, [†] then every eight to 10 weeks until evidence of transmission has ceased

* Source: Jensen and colleagues.^{3(pp.9-11, 134)}
[†] Baseline screening should be conducted by a qualified health care professional using a two-step tuberculin skin test or single blood assay interferon gamma release assay.

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 inoculum. 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 requirements 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.

Please note the CDC also recommends that anyone born from 1945 through 1965, i.e. baby boomers, have a one time hepatitis C test.

VACCINE ▼	INDICATION ►	Pregnancy	Immunocompromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,14}	HIV infection ^{7,13,14} CD4+ T lymphocyte count	Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia ¹³ (including elective splenectomy and persistent complement component deficiencies)	Chronic liver disease	Diabetes, kidney failure, end-stage renal disease, receipt of hemodialysis	Health-care personnel
Influenza ²			1 dose TIV annually		1 dose TIV or LAIV annually		1 dose TIV annually			1 dose TIV or LAIV annually
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}			Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs							
Varicella ^{4,*}			Contraindicated				2 doses			
Human papillomavirus (HPV) Female ^{5,*}			3 doses through age 26 yrs				3 doses through age 26 yrs			
Human papillomavirus (HPV) Male ^{5,*}			3 doses through age 26 yrs				3 doses through age 21 yrs			
Zoster ⁶			Contraindicated				1 dose			
Measles, mumps, rubella (MMR) ^{7,*}			Contraindicated				1 or 2 doses			
Pneumococcal (polysaccharide) ^{8,9}							1 or 2 doses			
Meningococcal ^{10,*}							1 or more doses			
Hepatitis A ^{11,*}							2 doses			
Hepatitis B ^{12,*}							3 doses			

*Covered by the Vaccine Injury Compensation Program

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

Contraindicated

No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2012. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/pubs/acip-list.htm). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

WAITING ROOM AND PATIENT CONSIDERATIONS

Signage: Posters promoting healthy habits and respiratory etiquette may hang in visible areas.



Respiratory hygiene and cough etiquette measures.*

- Use tissues to cover the nose and mouth and to contain respiratory secretions when coughing or sneezing
- Dispose of tissues in no-touch receptacles (such as those with foot-pedal-operated lids or an open, plastic-lined wastebasket)
- When coughing or sneezing, if tissues are not available, cover the mouth and nose with the inner surface of the arm and forearm, to keep pathogenic organisms away from the hands; although *Mycobacterium tuberculosis* cannot be spread by the hands, other respiratory pathogens such as rhinoviruses can
- Practice hand hygiene (such as hand washing with nonantimicrobial soap and water, alcohol-based hand rub or antiseptic hand wash) after having contact with respiratory secretions or contaminated objects and materials; hand hygiene is recommended to prevent transmission of all respiratory illnesses, in general, but will not affect tuberculosis transmission

* Source: Centers for Disease Control and Prevention.¹⁴

Supplies: tissues, foot-operated waste receptacle, alcohol hand rub

Specific Recommendations for Dental Health Care

- Encourage all dental health care personnel to receive seasonal influenza and 2009 H1N1 influenza vaccinations.
- Use patient-reminder calls to identify patients reporting influenza-like illness and reschedule non-urgent visits until 24 hours after the patient is free of fever, without the use of fever-reducing medicine.
- Identify patients with influenza-like illness at check-in; offer a facemask or tissues to symptomatic patients; follow [respiratory hygiene/cough etiquette](http://www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm) (<http://www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm>); and reschedule non-urgent care. Separate ill patients from others whenever possible if evaluating for urgent care.
- Urgent dental treatment can be performed without the use of an airborne infection isolation (AII) room because transmission of 2009 H1N1 influenza is thought not to occur over longer distances through the air, such as from one patient room to another.
- Use a treatment room with a closed door, if available. If not, use one that is farthest from other patients and personnel.
- Wear recommended PPE before entering the treatment room.
 - Dental health care personnel should wear a NIOSH fit-tested, disposable N95 respirator when entering the patient room and when performing dental procedures on patients with suspected or confirmed 2009 H1N1 influenza.
- If N95 respirators and/or fit-testing is not available despite reasonable attempts to obtain, the dental office should transition to a prioritized use mode (i.e., non-fit-tested disposable N95 respirators or surgical facemasks can be considered as a lower level of protection for personnel at lower risk of exposure or lower risk of complication from influenza until fit-tested N95 respirators are available). Detailed information can be found in CDC's Interim Guidance on Infection Control Measures for H1N1 Influenza in Healthcare Settings, Including Protection of Healthcare Personnel (see link below). Additional guidance, including recommendations regarding fit-testing issues, can be found in the related question and answer document regarding respiratory protection (see link on next page).
- As customary, minimize spray and spatter (e.g., use a dental dam and high-volume evacuator).

Source: Prevention of 2009 H1N1 Influenza Transmission In The Dental Setting; CDC, November 23, 2009

CLINICAL PRACTICE

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 diseases including: cardiovascular or diabetes?
6. Have you had any problems after recent appointments including bleeding, anesthetic problems, or a rash?

Additional information may include:

- Significant signs and symptoms?
- Respiratory – cough?
- Gastro-intestinal problems?
- Elevated temperature?
- Recent travel?
- Health of family, friends or neighbors?

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. 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 Universal 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 | • Night sweats | • Fever |
| • Productive cough | • Hemoptysis | • Fatigue |
| • Weight loss | • Anorexia | |

Referral of patients with active TB may be indicated (TB is an exception to the Americans w/ Disabilities Act). Standards of care for patients with bloodborne pathogens must be met in a dental office; therefore, a patient with a history of a bloodborne disease can and must be treated in dental office. 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 Universal 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.

HANDWASHING

Since hands constitute a major source of cross contamination, stringent attention to handwashing is required to reduce the likelihood of spreading infectious diseases between and among patients and DHCWs. All bracelets, jewelry and rings must be removed prior to washing hands and left off for the duration of the procedure.

The skin of DHCWs 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. DHCW contact with infected patients is a source of transient microorganisms on DHCW's hands. Transient microorganisms pose the greatest risk of cross-

infection. Adequate handwashing will remove or inhibit both transient and resident organisms. For routine procedures, washing with plain soap is adequate. Use antimicrobial soap for more invasive procedures, such as surgery. For all handwashing, convenient placement of sinks, towels, and soaps will encourage use by workers. Vigorously rubbing lathered hands together under a stream of water for a minimum of ten seconds is adequate for routine handwashing. Thorough rinsing under a stream of water should follow this. Dry hands well before donning gloves. DHCWs with open sores or weeping dermatitis must refrain from direct patient contact and handling of patient care equipment until the condition is resolved.

When to wash hands:

- Beginning and end of the work day
- Before and after each patient contact
- Before and after using gloves
- Before eating, after grooming
- Before handling instruments, supplies & equipment
- After using toilet
- After wiping nose or touching face
- After touching contaminated surfaces

Handwashing steps:

- Wet hands with water then add soap
- Use friction to generate lather
- Wash hands for a minimum of 20 seconds
- Dry thoroughly

General Principles

- Rubbing removes microorganisms
- Lathering holds microorganisms away from skin
- Rinsing washes microorganisms off skin

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 patients 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:

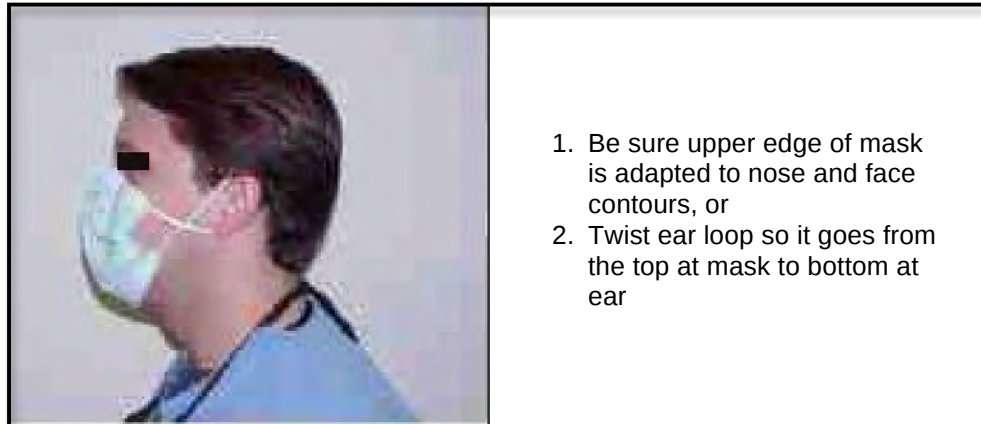
- Wash hands with soap indicated by procedure
- Rinse with cold water and dry thoroughly
- Don gloves for specific use, either operatory setup or patient care or operatory clean up and disinfection

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, handling records & x-rays, 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
- 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:



MOUTH WASH - PREPROCEDURE RINSE

Rinsing with an ADA accepted antimicrobial mouthwash (Listerine or Peridex) might reduce both aerobic and anaerobic contamination in an aerosol up to 93%. Reducing the aerosol bioburden will decrease surface contamination in and around the treatment area. Additionally a pre-procedure mouth will reduce the number of microbes in the patient's mouth. Based on current data, it may be prudent to have a patient rinse prior to dental procedures.

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 chosen for the specific application. 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 and wipe with a paper towel to clean the surface. The second step is spray again, let stand 10 minutes before drying with a paper towel, or allowing to air dry to disinfect.

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

Revised CDC / Spaulding Classification

Category	Description	Examples	Risk	Process
Critical	Items that penetrate oral tissues	Hand instruments, cutting instruments, burs, files, needles, handpieces & scalers	High	Sterilization, or single use disposables
Semi-critical	Items that contact mucosa	Hand instruments, mouth props, plastic prophylaxis angles, rubber dam frames, etc.	Medium	Sterilization; high level disinfection; or disposables
Non critical (intraoral contact)	Items moistened with saliva	Impressions, prostheses, splints, other appliances, etc.	Low	Intermed. level disinfection; repeat before returned to patient
Non-critical Items (no intraoral contact)	Items that may contact unbroken skin	Face bows, nitrous oxide face masks, etc.	Low	Intermediate level disinfection
Operatory Surfaces (patient care)	Items may contact dental personnel	Dental unit surfaces, laboratory equipment, x-ray equipment	Very low	Intermediate level disinfection or barriers
Housekeeping Surfaces	Items rarely contact staff or patients	Dental chair, floors, wall, nonpatient care countertops, etc.	Minimal	If no blood clean, if blood present, also disinfect

INSTRUMENT WRAPS AND/OR PACKAGING

All instruments, equipment and supplies that will be used for critical and semicritical 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 operator.

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 noncontaminated. Unless equipment, instruments and supplies are used exclusively for noncontaminated patient items Standard Precautions must be employed.

RADIOLOGY PROCEDURES (RADIOLOGY PROCEDURES ARE SEMI-CRITICAL)

The following steps must be used during 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
- Digital x-ray equipment - barriers for clinical contact surfaces
- Digital x-ray sensor - clean & disinfect with an intermediate level disinfectant after barrier removal

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

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 | • Burs |
| • Matrix bands | • Files |
| • Reamers | • Suture needles |
| • Curettes | • Laboratory equipment |
| • Scalars | • Items capable of scraping or penetrating mucosa and skin |
| • Explorers | |
| • Scalpel blades | |

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

Engineering Controls

- Needle recapping device
- Sharps disposal container

Work Practices

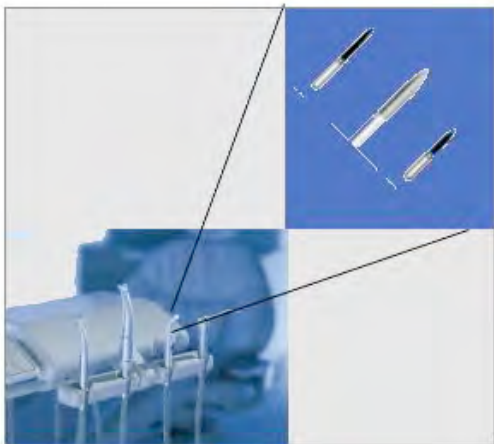
- Using one-handed technique and needle cover holder
- Needle movement away from operator's body
- When possible use a retractor, or instrument, to reflect tissue during needle placement and anesthetic administration
- One handed recapping technique
- One-handed needle disposal technique
- Needle disposal: 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.



“Universal Sharps Principle”



Never move the sharp or pointed end of instruments or equipment toward your body



Dental Burs

Engineering Controls

- Cleaned, packaged, sterilized and aseptic transfer

Work Practice Controls

- Handpiece w/ bur placed in holder facing away from operator and patient; after procedure contaminated bur immediately removed from handpiece

Double-ended Instruments (curettes, explorers, scalers, etc.)

Engineering Controls

- Instruments cleaned, sterilized instruments in cassette or sterilizer packaging

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.

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 semiliquid blood or saliva; contaminated items that would release blood or saliva as liquid or semiliquid 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.

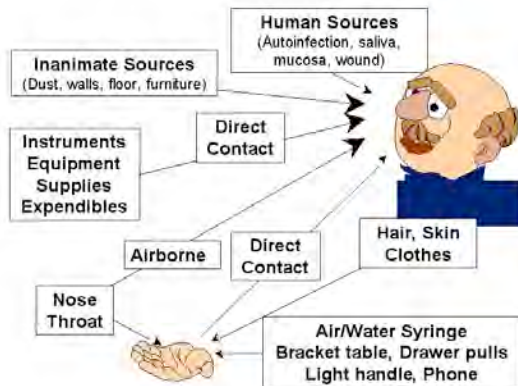
The current interpretation is blood soaked expendable supplies and injury causing sharps should be considered and managed as Regulated Medical Waste. Other waste from a dental procedure should be considered normal refuse. Therefore only blood soaked expendables and sharps need to be considered and treated as regulated. The following operator 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.

Sources of Cross 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

Highest Concentration Of Contamination

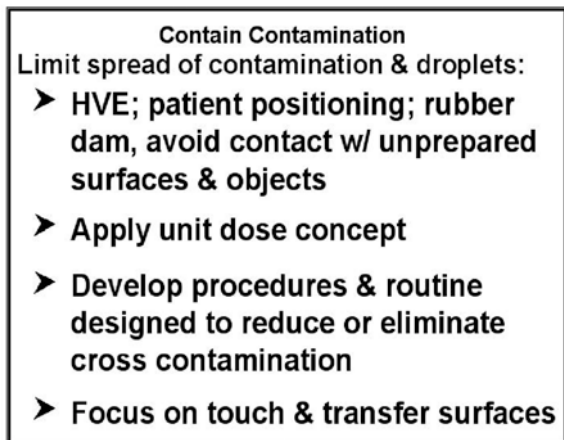


See [Recommended Instrument Sterilization Methods](#) and [Revised CDC/Spaulding Classification Table](#) for specific equipment and operatory recommendations. Engineering controls and work practice controls must be employed to limit the spread of contamination

INSTRUMENT STERILIZATION

Instrument, Material or Item	Steam Autoclave	Dry Heat Oven	Chemical Vapor	Other Methods & Comments
Angle Attachments	**a	**a	**a	
Burs				
Carbon steel *	b	p	p	discard
Steel	a	p	p	discard
Tungsten-carbide	a	p	a	discard
Condensers	p	p	p	
Dapen Dishes	p	a	a	
Endodontic Instruments				
(Broaches, Files, Reamers)	p	p	p	
Stainless steel handles	a	p	p	
Stainless w/ plastic handles	p	p	b	
Fluoride Gel Trays				
Heat-resistant plastic	p	i	b	
Non-heat-resistant plastic	i	i	b	**p-discard
Glass Slabs	p	p	p	
Hand Instruments				
Carbon steel *	b	p	p	
Stainless steel	p	p	p	
High-speed Handpieces	**p	**b	**a	
Contra-angles	p	b	p	
Prophylaxis Angles (Disposable Preferred)	**a	**a	**a	**p-discard
Impression Trays				
Aluminum metal	p	a	p	
Chrome-plated	p	p	p	
Custom acrylic resin	i	i	i	**p-discard
Plastic	i	i	i	p-discard
Instruments in Packs	p	a-sm. packs	p	
Instrument Tray Setups				
Restorative	a-size limit	**a	a-size limit	
Surgical	p	p	p	
Mirrors	b	p	p	
Disposable Needles	i	i	i	**p-discard
Nitrous Oxide				
Nose piece	**p	i	**p	
Hoses	**p	i	**p	
Orthodontic Pliers				
High-quality stainless	p	p	p	
Low-quality stainless	**a	p	p	
With plastic parts	i	i	i	
Pluggers & Condensers	p	p	p	
Polishing Wheels & Disks				
Garnet & cuttle	i	b	b	p-discard
Rag	p	b	a	
Rubber	a	b	b	
Prostheses, Removable	b	b	b	
Rubber Dam Equipment				
Carbon steel clamps	b	p	p	
Metal frames	p	p	p	
Plastic frames	b	b	b	
Punches	b	p	p	
Stainless steel clamps	p	p	p	
Rubber Items				
Prophylaxis cups	b	b	b	**p-discard
Saliva Ejectors (Plastic)	b	b	b	**p-discard
Stones				
Diamond	a	p	p	
Polishing	p	a	p	
Sharpening	p	p	p	
Surgical Instruments				
Stainless steel	p	p	p	
Ultrasonic Scaling Tips	a	i	i	
Water-air Syringe Tips	p	p	p	**p-discard
X-ray Equipment				
Plastic film holders	**p	i	**a	
Collimating devices	b	i	i	

p-Preferred method a-Acceptable method b-Effective, but risk of damage to materials
 i-Ineffective method *Carbon steel (autoclave w/ chemical protection ~2% sodium nitrite)
 **A variety of alloys and materials in these products, confirmation with the equipment manufacturers is recommended, especially for handpieces and their attachments.

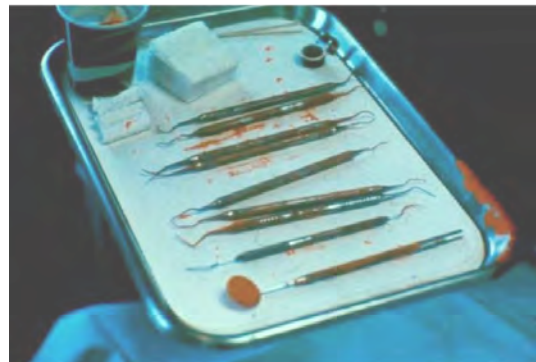


OPERATORY SURFACE CLASSIFICATION

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 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 handpiece holders. Asepsis for transfer surfaces is the same as for touch surfaces.

C) Housekeeping, Splash, and 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.

OPERATORY PROCEDURES

Pre-treatment Procedures

Remove unnecessary equipment, materials and supplies from the operatory if required, turn on view box and position radiographs wash hands and don gloves clean, 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; if patient chart will be required place it in a disinfectable folder, or position chart in a visible inaccessible location complete any remaining operatory preparation adjust chair, operator stool, light, bracket table, etc. place remaining personal protective equipment; 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 unglove, wash hands, retrieve item, wash hands, reglove 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, wash hands, 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 ungown, remove mask and transport instruments for reprocessing

Waterline Recommendations (Minimize Biofilm Formation)

Dental unit waterline contamination concern is related to possible infection with pathogens such as Pseudomonads, Legionellae etc. The infection control should be to achieve < 500 colony forming units (cfu)/mL of heterotrophes (potable water). In general, untreated or unfiltered dental unit water is unlikely to meet drinking water standards. Although flushing is ineffective in the absence of other water treatment methods, flushing all lines for 30 seconds at the beginning and end of each day and flush lines for 30 second after each appointment is still recommended. The use of sterile water is mandatory for all surgical procedures.

Methods that may be employed to improve Dental Unit Water Quality include:

- Independent water reservoir system (allows daily draining and air purging if indicated and allows application of periodic &/or continuous chemical germicides)
- Water purification cartridges/systems
- Sterile water delivery systems
- Filtration
- Combination of Methods

OPERATORY SURFACE TREATMENT RECOMMENDATIONS

(Surface use defines the required asepsis procedure)

Recommended Treatment Procedure	Key
1. Clean & sterilize between patients	1.C &S-b/w
2. Barrier or clean & disinfect between patients	2.B or C&D b/w
3. Clean at end of day	3.C-QHS
4. Clean between patients	4.C-b/w
5. Clean & disinfect between patients	5.C&D-b/w
6. Clean as needed	6.C-PRN

Treatment Category Operatory Surface\	Critical/ Semi critical	Routine Contact	Limited Contact	House Keeping
DENTAL LIGHT				
light shield				6.C-PRN
glass reflector				6.C-PRN
handles		2.B or C&D b/w		
on-off switch				6.C-PRN
UNIT CONTROLS				
unit handles		5.C&D-b/w		
control panel surface		5.C&D-b/w		
control knobs		5.C&D-b/w		
handpiece	1.C &S-b/w			
handpiece tubings		5.C&D-b/w		
handpiece holders			5.C&D-b/w	
instrument tray			5.C&D-b/w	
chair touch controls		2.B or C&D b/w		
air/water syringe		5.C&D-b/w		
syringe tip	1.C &S-b/w			
CUSPIDOR				
bowl inside				3.C-QHS
bowl outer edges				3.C-QHS
cup filler spout				3.C-QHS
cuspidor control buttons				3.C-QHS
drain screen				3.C-QHS
CHAIR				
headrest knob & backing		2.B or C&D b/w		
headrest cushion				2.B or C&D b/w
seat back cushion				6.C-PRN
seat back casting				6.C-PRN
arm rest upholstery				6.C-PRN
seat cushion upholstery				6.C-PRN
foot controls				6.C-PRN
OPERATOR STOOL				
back cushion				6.C-PRN
seat cushion				6.C-PRN
adjustment levers				6.C-PRN

COMPLIANCE

Exposure Control Plan

- Accessible to employees
- Available for an OSHA inspection
- Documentation of annual training



Safety Coordinator:

- Infection Control & HAZCOM
- Maintain Documentation
 - o Exposure Control Plan
 - o MSDS's
- Ensure availability to employees
- Monitor Compliance
- Proper labeling of all containers

CHECK LIST: Does your infection control program address the following areas of practice?

- Handwashing and care of hands
- Sterilization of instruments
- Disinfection and packaging of instruments for sterilization
- Use of protective coverings
- Use of disposables
- Disinfection of surfaces
- Proper handling of sharps
- Use of masks, gowns and protective wear
- Use of gloves during patient treatment
- Use of rubber dams
- Immunization Policies
- Use of gloves for procedures other than treatment
- Disinfection of air/water syringes
- Proper handling and disinfection of impressions
- Care, use and disinfection of ultrasonic scalers
- Operatory cleanup before and after patient treatment
- Cleanup and disinfection of lab counters, trays and other areas
- Care, use and disinfection of X-ray equipment and film
- Sterilization/disposal of burs
- Clinic attire and hair control
- Disinfection of prosthetic devices and orthodontic retainers
- Disinfection of pumice pan, rag wheel and brushes
- Limiting contamination of charts, telephones, clinical cameras, pens, etc.

Establish and maintain medical records for employees. Records to include: (This is done for all employees with potential occupational exposure.)

- HBV vaccination history or refusal to be vaccinated
- Signed declination form for employees declining vaccination
- Personal Health History including name and Social Security number
- Medical records to be maintained for duration of employment plus 30 years.

Post exposure follow up must be provided.

(In case of an exposure, follow up must be provided at no cost to the employee, at a reasonable time and place, and performed by or under the supervision of a licensed physician.)

Globally Harmonized System of Classification (GHS)

GHS (formally RTK) - system of classification and labeling of chemicals. The GHS is a system for standardizing and harmonizing the classification and labeling of chemicals. It is a logical and comprehensive approach to:

- Defining health, physical and environmental hazards of chemicals;
- Creating classification process that use available data on chemicals for comparison with the defined hazard criteria;
- Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).
- Comply with two laws - OSHA's Hazard Communication Standard & NYS Right-to-Know Law
- Where an employee can find information about the hazards of chemicals so that they can protect themselves from the effects of overexposure (Physical hazards Health hazards)
- New look to labels - pictograms on labels.
- More standardized Safety Data Sheets.
- Better "Safety Data Sheet" information.
- Signal Word – e.g. "Danger" or "Warning"

Hazards are communicated by way of: 1)Labels, and 2) Safety Data Sheets

Sample Label

Product Identifier

CODE _____
Product Name _____

Supplier Identification

Company Name _____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

Precautionary Statements

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO₂) fire extinguisher to extinguish.

First Aid

If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing.
Rinse skin with water.

Hazard Pictograms



Signal Word

Danger

Hazard Statement

Highly flammable liquid and vapor.
May cause liver and kidney damage.

Supplemental Information

Directions for use

Fill weight: _____ Lot Number: _____

Gross weight: _____ Fill Date: _____

Expiration Date: _____

Selected Internet Resources	
Dental Infection Control	
ADA Dental Infection Control Issues:	www.ada.org/prof/resources/topics/icontrol/index.asp
Centers for Disease Control and Prevention: Dental Infection Control	www.cdc.gov/OralHealth/infectioncontrol/index.htm
Occupational Safety and Health Administration (OSHA)	www.osha.gov
OSHA Dental Safety and Health Topics	www.osha.gov/SLTC/dentistry/index.html
Organization for Safety and Asepsis Procedures (OSAP)	www.osap.org/
USAF Dental Evaluation and Consultation Service (DECS)	https://decs.nhgl.med.navy.mil
General Infection Control	
Centers for Disease Control and Prevention (CDC)	www.cdc.gov/
Division of Healthcare Quality Promotion	www.cdc.gov/ncidod/dhqp/index.html
Guidelines and Recommendations	www.cdc.gov/ncidod/dhqp/guidelines.html
National Immunization Program	www.cdc.gov/vaccines/
National Institute for Occupational Safety and Health (NIOSH)	www.cdc.gov/niosh/homepage.html
NIOSH: Bloodborne Infectious Diseases	www.cdc.gov/niosh/topics/bbp/
Divisions of HIV/AIDS Prevention	www.cdc.gov/hiv
Tuberculosis Elimination	www.cdc.gov/tb/
Joint Commission for the Accreditation of Healthcare Organizations	www.jcaho.org/
World Health Organization (WHO)	www.who.int/en/
Regulatory	
Environmental Protection Agency	www.epa.gov
Food and Drug Administration	www.fda.gov/
Center for Devices and Radiological Health	www.fda.gov/cdrh/index.html
Other	
HIV Dent	www.hivdent.org
National Institutes of Health (NIH)	www.nih.gov/
NIOSH: Latex Allergies	www.cdc.gov/niosh/topics/latex/
National Library of Medicine (NLM)	www.nlm.nih.gov/
PubMed	www.ncbi.nlm.nih.gov/entrez/query.fcgi



Department of
Environmental
Conservation

Managing Dental Mercury

6 NYCRR Part 374-4
Express Terms

Information on 6 NYCRR
Part 374-4 Regulations

NY Dental Mercury &
Amalgam Recycling Law

Recycling of Mercury By
Dentists FAQ

Guide for Dentists for
Managing Mercury and
Amalgam Wastes

List of Mercury and
Dental Amalgam
Recyclers & Hazardous
Waste Haulers

List of Amalgam
Separator
Manufacturers

Community Household
Hazardous Waste
Programs That Accept
Mercury From Dentists

[Home](#) » [Chemical and Pollution Control](#) » [Mercury](#) » Managing Dental Mercury

Managing Dental Mercury

Effective March 16, 2003, New York State Law requires that all dentists recycle mercury and mercury amalgam waste generated in their practices. The law also requires that dentists use encapsulated mercury and prohibits, in the practice of dentistry, the use or possession of elemental mercury not in capsules. Effective May 12, 2006, dental facilities are required to install amalgam separators that remove waste amalgam from the dental facilities' wastewater.

A list of [amalgam separator manufacturers](#) is available. This is an informational list and is not endorsed by the Department. Specific regulatory requirements are provided under [Subpart 374-4](#) (link leaves DEC). Multiple [questions dental facilities may have](#) concerning the installation of amalgam separators are also addressed.

Elemental Mercury (also referred to as free, bulk, or raw mercury)

New York State Law forbids the use or possession of elemental mercury in the practice of dentistry. Amalgam capsules must be used.

In the event that elemental mercury is present in your dental office:

- Recycle all elemental mercury. Many hazardous waste haulers and dental amalgam recyclers will accept elemental mercury for recycling.
- **Never** rinse elemental mercury down the drain.
- **Never** dispose of elemental mercury in the trash.
- **Never** dispose of elemental mercury in the sharps container or as medical waste.
- If only a small amount of elemental mercury is to be recycled, it may be possible to initiate a reaction with an amalgam alloy to form scrap amalgam, which must then be recycled through your amalgam recycler.

Some solid waste planning units (such as in Erie, Monroe, Otsego, Rockland, Oneida-Herkimer and Cayuga Counties) offer elemental mercury recycling programs, which allow dentists to safely manage their elemental mercury. Some will charge a fee for this service. Call your local solid waste district to inquire about such programs. A [list of New York State recycling coordinators](#).

If you are concerned about the possible uncontained presence of mercury in your dental office due to historical or recent mercury spills, equipment is available for the detection of mercury vapor and mercury spill locations in the workplace environment. This equipment can be rented from rental test equipment companies.

Amalgam Capsules

New York State Law requires that all amalgam capsule waste be recycled.

If your dental practice continues to utilize dental amalgam, New York State Law requires the use of single-use amalgam capsules. This minimizes the chance of accidental mercury spills.

Minimize the generation of amalgam waste. Don't mix a double-use capsule if a single-use capsule will do. Less waste means less amalgam that needs to be recycled.

In the event of a mercury spill, put on disposable nitrile gloves and immediately clean up the spill utilizing a mercury spill kit. Do not use latex gloves as mercury can penetrate latex. Mercury spill kits are available from a number of sources including: companies that specialize in Occupational Safety and Health Administration (OSHA) compliance supplies and equipment; amalgam recyclers; and dental product suppliers. Before purchasing a kit, make sure it comes with complete instructions on how to perform a spill clean up. Train several staff members in proper spill clean up procedures.

Dental Amalgam

- **Never** put scrap amalgam in the sharps container.
- **Never** put scrap amalgam in the red biohazard bag.
- **Never** discard scrap amalgam in the trash.
- **Never** rinse scrap amalgam down the drain.
- **Never** remove excess amalgam from the amalgam well with the high-speed suction vacuum line.

Important Links

[Doing Our Part
Amalgam Poster
\(pdf, 275kb\)](#)

PDF Help

For help with
PDFs on this
page, please call
518-402-8706.

Contact for this Page

NYSDEC
Division of
Materials
Management
Bureau of Waste
Reduction &
Recycling
625 Broadway
Albany, NY 12233-
7253
518-402-8706
[Send us an email](#)

This Page Covers



ELEMENT VII
SEPSIS AWARENESS AND EDUCATION

LEARNING OBJECTIVES

At the conclusion of course work or training on this element, the learner will be able to:

- Describe the scope of the sepsis problem and the NYS Sepsis Improvement Initiative;
- Recognize the signs and symptoms of sepsis to identify and treat at-risk patients, both adult and pediatric, as early as possible;
- Understand the need for rapid evaluation and management in adults and children if sepsis is suspected;
- Identify common sources of sepsis;
- Educate patients and families on methods for preventing infections and illnesses that can lead to sepsis and on identifying the signs and symptoms of severe infections and when to seek care.

DEFINITIONS

Sepsis: the body's extreme response to an infection.

CONTENT OUTLINE

I. Sepsis-scope of the problem

- a. Sepsis is a life-threatening medical emergency that requires early recognition and intervention.
- b. Sepsis prevalence and mortality US, NYS

II. New York State Sepsis Improvement Initiative and Rory Staunton's Law

- a. Purpose
 - i. Early recognition of sepsis is the responsibility of all healthcare providers.
 - 1. Most sepsis cases are community-acquired
 - 2. 7 in 10 patients with sepsis had recently used healthcare services or had chronic conditions requiring frequent medical care.
 - a. Public Health Law § 239-a
 - b. Education Law § 6505-b
- b. Hospital regulations

- i. Rory's Regulations: 10 NYCRR 405.2 and 405.4 were implemented in 2013, and they require hospitals in New York State to adopt evidence-based protocols to ensure early diagnosis and treatment of sepsis.

III. Causes of Sepsis

- a. Development of sepsis following infection
 - i. Any infection can trigger sepsis
 - ii. There are populations at increased risk of developing sepsis
 - 1. Extremes of age, chronic conditions, immune suppressed
 - iii. Sites and sources of infections commonly associated with sepsis include lung, urinary tract, skin, and gut

IV. Early Recognition of Sepsis

- a. Manifestations of sepsis may be subtle and vary by types of infections and populations
- b. Signs and symptoms that may be associated with sepsis in persons with confirmed or suspected infection can include:
 - i. Altered mental state, shortness of breath, fever, clammy or sweaty skin, extreme pain or discomfort, high heart rate
 - ii. Signs and symptoms in children and the elderly
 - iii. Severe forms of sepsis including septic shock

V. Principles of Sepsis Treatment

- a. Prompt diagnosis and treatment are critical for optimal outcomes; there is increased morbidity/mortality with delayed recognition and response
- b. Recommended diagnostic modalities include blood cultures and other testing to identify source and site of infection and organ dysfunction.
- c. Recommended treatment of sepsis includes administration of appropriate intravenous (IV) antimicrobial therapy, with source identification and de-escalation of antibiotics as soon as feasible

VI. Patient Education and Prevention

- a. Preventing infection: hand hygiene, wound care, and vaccination
- b. Risk factors (High-risk patients)
- c. Warning signs and symptoms of sepsis
- d. Seeking immediate care for worsening infection and signs and symptoms of sepsis
- e. Giving relevant history and information to clinicians