

Update on CDC Dental & Health Facilities Infection Control Recommendations

(A REVIEW OF THREE RECENT CDC GUIDELINES)

Application for CME credit has been filed with the American Academy of Family Physicians. Determination of credit is pending The AAFP is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor Continuing Medical Education.

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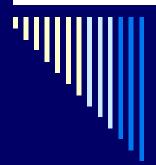
Acknowledgements

- Much of this material comes directly from the following resources:
 - MMWR, Recommendations and Reports, December 19, 2003, Vol. 52, No. RR-17, Guidelines for Infection Control in Dental Health-Care Settings – 2003, Department of Health and Human Services, Centers for Disease Control and Prevention
 - JADA, Vol. 135, January 2004, pp. 33-47, Guidelines for infection control in dental health-care settings-2003; W. Kohn DDS; J. Harte DDS, MS; D. Malvitz, PhD; A. Collins, RN, MPH; J. Cleveland, DDS, MPH; K. Eklund, RDH, MHP



Acknowledgements

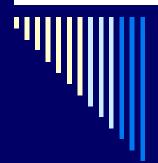
- MMWR: Guidelines for Environmental Infection Control in Health Care Facilities Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC), June 6, 2003
- MMWR: Guidelines for Hand Hygiene in Health Care Settings: Recommendations of the Healthcare Infection Control Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force, October 25, 2002



Guidelines for Infection Control in Dental Health-Care Settings -2003

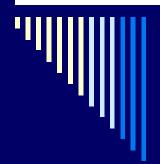
- 2003 CDC Guidelines: First Major update since 1993
 - History: First set of CDC
 Recommendations in 1986
 - "Dental practitioners are virtually the only health care providers who routinely place an ungloved hand in to a body cavity."

-position paper from American Association of Public Health Dentistry



Impact of HBV vaccine on DHCP

- □ Since 1987, no transmission of HBV from dentist to patient reported, due to HBV vaccine and routine glove use.
- HBV seroprevalence among DDS/DMD fell from ~14% in 1983 to ~9% today



HIV Disease and Infection Control

- 1988, dentist with HIV but no reported risk factors.
- □ Early 1990's, Dr. Acer and six transmissions of HIV to patients
- None since! (at least no cases of Occupationally Acquired HIV among DHCP.)



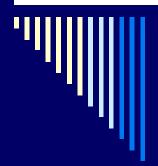
1991: U.S. Occupational Safety and Health Administration (OSHA)

- Released the Bloodborne Pathogen Standard
 - Mandates certain practices for all dental offices
 - Egs. Employer must offer new employee:
 - IC training
 - HBV vaccine series
 - Gloves; Protective Eyewear; Gowns



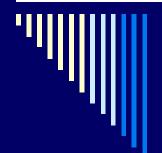
1993 CDC Recommended Infection Control Standards for Dentistry

- □ CDC published its 1993 Recommended Infection Control Standards for Dentistry after OSHA published their items in 1991.
- Recommendations focused on preventing transmission of disease from bloodborne pathogens
- Based primarily on health care precedent; theoretical rationale; expert opinion.



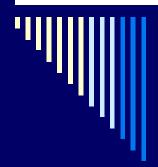
Differences between CDC and OSHA

- OSHA is a regulatory agency
- CDC can only make recommendations; they cannot mandate certain practices.
- Many agencies/organizations follow CDC recommendations and self-adopt.
- Growing body of evidence support IC practices in dentistry.



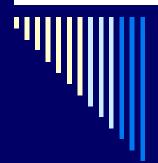
2003 CDC Recommendations for Dental Health Care Personnel (DHCP)

- Major guidelines updated
- New guidelines for:
 - Hand Hygiene
 - Environmental Infection Control
 - Tuberculosis
 - Disinfection and Sterilization
 - Post Exposure Prophylaxis
 - Prevention of Surgical Site Infections



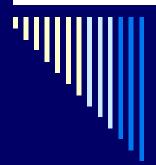
Major Updates and Additions

- Application of Standard Precautions rather than Universal Precautions
- Work restrictions for DHCP infected with, or occupationally exposed to, infectious diseases.
- Management of occupational exposures to bloodborne pathogens, including postexposure prophylaxis for work exposures to HBV, HCV, and HIV



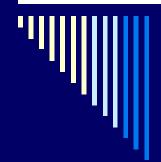
Major Updates and Additions cont.

- Selection and use of devices with features designed to prevent sharps injury
- Contact dermatitis and latex hypersensitivity
- Hand hygiene
- Special Considerations: Devices attached to air lines and water lines; preprocedural mouthrinses; oral surgical procedures; handling of biopsy specimens and extracted teeth; laser/electrosurgery plumes; Mycobacterium tuberculosis; Creutzfeldt-Jakob disease and other prion diseases



2003 CDC Dental Infection Control (IC) Recommendations

- General Recommendations
 - Develop a written health program for DHCP
 - Establish referral arrangements to assure prompt provision of preventive services, medical services, and post-exposure management follow-up.



Education and Training

- At initiation of employment
- When new tasks or procedures affect occupational exposure of employee
- Review of IC training at least annually
 - Refresher on Occupational Exposure to potentially infectious agents
 - Relevant infection control procedures and protocols
 - Provide material and content in language and level appropriate to DHCP educational background.



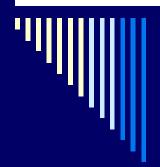
Immunization Programs

- Develop a written comprehensive policy on immunizing DHCP
- □ Refer DHCP to a prearranged qualified health care professional or to their own health care professional for all appropriate immunizations based on medical history and risk of exposure.



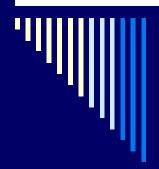
Exposure Prevention and Postexposure Management

- Develop a comprehensive postexposure management and medical follow-up program.
 - Prompt reporting, evaluation, counseling, treatment and medical follow-up
 - Establish mechanisms of referral for medical evaluation and follow-up
 - Conduct a baseline tuberculin skin test (TST), preferably using a two-step test



Medical Conditions, Work-Related Illness and Work Restrictions

- Develop comprehensive written policies on work restrictions and exclusion, with statement of authority defining who can implement such policy.
- Develop policies for work restrictions and exclusion encouraging DHCP staff to seek care and to report illness, conditions, treatments rendering them more susceptible to opportunistic infection or exposures.
- Develop policies and procedures for management of DHCP with suspected or known occupational contact dermatitis and latex allergy.



Maintenance of Records, Data Management, and Confidentiality

- Establish and maintain confidential medical records for all DHCP.
- Ensure that the practice complies with all applicable federal, state and local laws regarding medical recordkeeping and confidentiality.



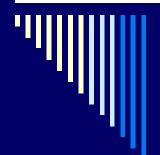
Preventing Transmission of Bloodborne Pathogens

- HBV Vaccination
 - Offer the HBV vaccination series to all DHCP with potential occupational exposure to blood or other potentially infectious material.
 - Always follow USPHS/CDC Recommendations for HBV vaccination, serologic testing, follow-up and booster dosing.



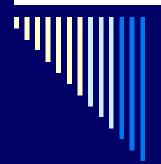
HBV Vaccination continued

- Test DHCP for anti-HBs 1-2 months after completion of the 3-dose vaccination series.
- DHCP should complete a second 3-dose vaccine series or be evaluated to determine if HBsAg positive if no antibody response occurs to the primary vaccine series.
- □ Retest for anti-HBs at the completion of the second vaccine series. If no response to the second 3-dose series, nonresponders should be tested for HBSAg.
- Counsel nonresponders to vaccination who are HBsAgnegative regarding their susceptibility to HBV infection and precautions to take.
- Provide employees appropriate education regarding the risks of HBV transmission and the availability of the vaccine. Employees who decline the vaccination should sign a declination form to be kept on file with the employer.



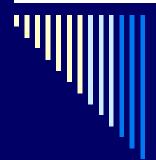
Preventing Exposures to Blood and Other Potentially Infectious Material (OPIM)

- General Recommendations
 - Use Standard Precautions for all patient encounters
 - Establish engineering controls and work practices to prevent injuries from sharp items that are contaminated with patient blood and saliva (potentially infective)
 - Implement a written, comprehensive program designed to minimize and manage DHCP exposures to blood and body fluids.



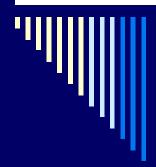
Engineering and work-practice controls

- At least annually, identify, evaluate, and consider devices with engineered safety features as they become available.
- □ Place sharps in appropriate puncture-resistant containers located as close as feasible to the area where used.
- Do NOT recap needles using both hands. Do not bend or break needles before disposal.
- Use either a one-handed scoop technique or a mechanical device designed for holding the needle cap when recapping needles.



Hand Hygiene

- General considerations
 - When hands are visibly dirty or contaminated with blood or other potentially infectious material, use either a nonantimicrobial or antimicrobial soap with water.
 - When hands are not visibly soiled, use of an alcohol-based handrub is also acceptable. Follow the manufacturer's instructions.



Indications for Hand Hygiene

- When hands are visibly soiled
- After barehanded touching of inanimate objects likely to be contaminated by blood, saliva, or respiratory secretions
- Before or after treating each patient
- Before donning gloves
- Immediately after removing gloves



Hand Hygiene for Oral Surgical Procedures

- Perform surgical hand antisepsis before donning sterile surgeon's gloves.
- □ Follow the manufacturer's instructions by using either an antimicrobial soap and water or soap and water followed by drying hands and application of an alcohol-based surgical handscrub product with persistent activity.



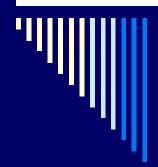
Hand Hygiene Product Protocols

- Store liquid hand care products in either disposable closed containers or closed containers that can be washed or dried before refilling.
- Do NOT add soap or lotion to (i.e. top off) a partially empty container in order to avoid promoting the growth of resistant bacteria.



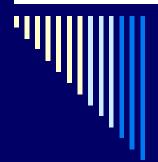
Special Considerations for Hand Hygiene and Glove Usage

- Use glove compatible (without petroleum) hand lotions to prevent skin dryness associated with handwashing.
- Keep fingernails short with smooth, filed edges to allow thorough cleaning and prevent glove tears.
- Use of artificial nails is usually not recommended.
- Do not wear hand or nail jewelry if it compromises the integrity of the glove.



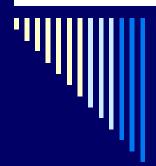
Fingernail Controversy

- Many opinions and policies, as per individual Center
- "Do not wear artificial fingernails or extenders when having direct contact with patients at high risk (e.g., those in intensive-care units or operating rooms)"
- "Keep natural nail tips less than ¼ inch long"



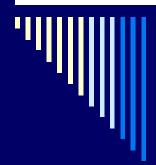
Personal Protective Equipment (PPE)

- Masks, Protective Eyewear, Face Shields
 - Wear a surgical mask and eye protection with solid side shields or a faceshield.
 - Change masks between patients, or during patient treatment if the mask becomes wet.
 - Clean with soap and water or, if visibly soiled, clean and disinfect reusable facial protective equipment between patients.



Protective Clothing

- Wear protective clothing such as a reusable or disposable gown, laboratory coat or uniform that covers personal clothing and skin likely to be soiled with blood, saliva or OPIM.
- Change protective clothing if visibly soiled.
- Remove barrier protection before departing work area.



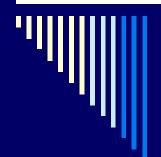
Gloves

- Wear gloves when a potential exists for contacting blood, saliva, OPIM or mucous membranes.
- Wear a new pair of gloves for each patient, remove them promptly after use, and wash hands immediately to avoid transfer of microorganisms to other patients or environment.
- □ Remove torn, cut, or punctured gloves as soon as feasible and wash hands before regloving.



Gloves continued.

- □ Do not wash, disinfect, sterilize or reuse surgeon's or patient examination gloves.
- Ensure appropriate gloves in correct sizes are readily accessible.
- Use appropriate puncture and chemicalresistant utility gloves when cleaning instruments and performing housekeeping tasks involving contact with blood or OPIM.



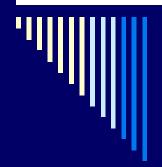
Sterile Surgeon's Gloves and Double Gloving During Oral Surgical Procedures

- Wear sterile surgeon's gloves when performing oral surgical procedures.
- No recommendation is offered regarding the effectiveness of wearing two pairs of gloves to prevent disease transmission during oral surgical procedures.



Contact Dermatitis and Latex Sensitivity

- Educate DHCP regarding the signs, symptoms and diagnoses of skin reactions associated with frequent hand hygiene and glove use.
- Screen all patients for latex allergy.
- Ensure a latex-safe environment for patients and DHCP with latex allergy.
- □ Have emergency treatment kits with latex-free products available at all times.



Sterilization and Disinfection of Patient-Care Items

- Use only FDA-cleared medical devices
- Clean and heat sterilize critical dental instruments before each use.
- Clean and heat sterilize semicritical items before each use.
- Allow packages to dry in the sterilizer before handling.

<u>Critical</u>: penetrates soft tissue, contacts bone, enters into or contacts the bloodstream or other normally sterile tissue.

<u>Semicritical</u>: Contacts mucous membranes or nonintact skin; will not penetrate soft tissue.

Noncritical: Contacts intact skin.



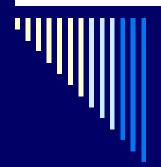
Sterilization and Disinfection of Patient-Care Items continued

- □ Reprocess heat-sensitive critical and semicritical instruments by using FDA-cleared sterilant/high-level disinfectants or an FDAcleared low-temp. sterilization method (e.g. ethylene oxide).
- □ Single-use disposable instruments instruments are acceptable alternatives provided they are used only once and disposed of correctly.
- Do not use liquid chemical sterilants/high-level disinfectants for environmental surface disinfection or as holding solutions.



Instrument Processing Area

- Designate a central processing area.
 - Divide the instrument processing area, physically or, at a minimum, spatially, into distinct area for:
 - □ Receiving, cleaning, and decontamination
 - Preparation and packaging
 - Sterilization
 - Storage
- Do not store instruments in an area where contaminated instruments are held or cleaned.



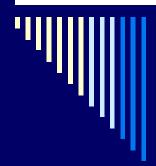
Receiving, Cleaning and Decontaminating Work Area

- Minimize handling of loose contaminated instruments during transport to the instrument processing area.
- □ Use work-practice controls (e.g., carry instruments in a covered container)
- □ Clean all visible blood and other contamination from dental instruments and devices before sterilization or disinfection procedures.



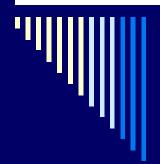
Receiving, Cleaning and Decontaminating Work Area cont.

- Use automated cleaning equipment (e.g. ultrasonic cleaner or washer-disinfector) to remove debris to improve cleaning effectiveness and decrease worker exposure to blood.
- Wear puncture and chemicalresistant/heavy duty utility gloves for instrument cleaning and decontamination procedures.
- Wear appropriate PPE when splashing and spraying is anticipated during cleaning.



Preparation and Packaging

- Use an internal chemical indicator in each package. If an internal indicator cannot be seen from outside the package also use an external indicator.
- Use a container system or wrapping compatible with the type of sterilization process used and that has received FDA clearance.
- Inspect all instruments for cleanliness before sterilization.



Sterilization of Unwrapped Instruments

- Clean and dry instruments prior to the unwrapped sterilization cycle.
- Use mechanical and chemical (place an internal chemical indicator among the instruments or items to be sterilized) indicators for each unwrapped sterilization cycle.
- Allow unwrapped instruments to be dry and cool in the sterilizer before they are handled to avoid contamination and thermal injury.
- Do not store critical instruments unwrapped.



Sterilization Monitoring

- Use mechanical, chemical and biological monitors according to the manufacturer's instructions to ensure the effectiveness of the sterilization process.
- Monitor each load with mechanical (e.g. time, temperature, pressure) and chemical indicators.
- □ Place items correctly and loosely into the sterilizer so as to not impede penetration of the sterilant.



Biological Indicators

- Use a biological indicator for every sterilizer load that contains an implantable device.
- □ In the case of a positive spore test:
 - Remove the sterilizer from service.
 - Review sterilization procedures to determine whether operator error could be responsible.
 - Retest the sterilizer by using biological, mechanical and chemical indicators after correcting any identified procedural problems.
 - If the repeat spore test is negative and mechanical and chemical indicators are within normal limits, put the sterilizer back in service.



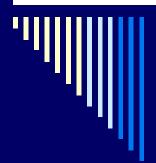
Biological Indicators cont.

- □ If the repeat spore test is positive:
 - Do <u>not</u> use the sterilizer until it has been inspected or repaired or the exact reason for the positive test has been determined.
 - Recall, to the extent possible, and reprocess all items processed since the last negative spore test.
 - Before placing the sterilizer back in service, rechallenge the sterilizer with biological indicator tests in <u>three</u> consecutive <u>empty</u> chamber cycles after the cause of the sterilizer failure has been determined and corrected.



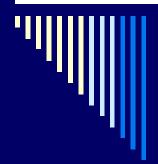
Storage Area for Sterilized Items and Clean Dental Supplies

- Implement practices based on date- or event-related shelf-life for the storage of wrapped, sterilized instruments and devices.
- Even for event-related packaging, at a minimum, place the date of sterilization and, if multiple sterilizers are used in the facility, the sterilizer used, on the outside of the packaging material to facilitate the retrieval of processed items in the event of a sterilization failure.
- Examine wrapped packages of sterilized instruments before opening them to ensure the barrier wrap has not been compromised during storage.
- □ Reclean, repack and resterilize any instrument package that has been compromised.
- Store sterile items and dental supplies in covered or closed cabinets if possible.



Environmental Infection Control

- General Recommendations
- Note that much of MMWR June 6, 2003 is Hospital Based- However:
 - Follow the manufacturer's instructions for correct use of cleaning and EPA-registered hospital disinfecting products.
 - Do not use liquid chemical sterilants/high level disinfectants for disinfection of environmental surfaces.
 - Use PPE, as appropriate, when cleaning and disinfecting environmental surfaces.



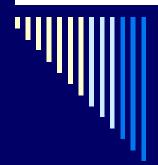
Clinical Contact Surfaces

- Use surface barriers to protect clinical contact surfaces, particularly those that are difficult to clean.
- □ Clean and disinfect clinical contact surfaces that are not barrier-protected, by using an EPA-registered hospital disinfectant with low- to intermediatelevel after each patient. Use an intermediate level disinfectant if visibly contaminated with blood.



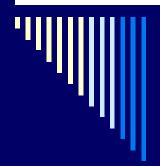
Housekeeping Surfaces

□ Clean housekeeping surfaces (e.g. floors, walls and sinks) with a detergent and water or an EPA-registered hospital disinfectant/detergent on a routine basis, depending on the nature of the surface and type and degree of contamination, and as appropriate, based on the location in the facility, and when visibly soiled.



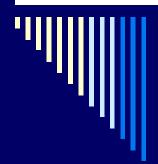
Housekeeping Surfaces cont.

- Clean mops and cloths after use and allow to dry before reuse; or use singleuse, disposable mop-heads or cloths.
- Prepare fresh cleaning or EPAregistered disinfecting solutions daily and as instructed by the manufacturer.
- Clean walls, blinds and window curtains in patient-care areas when they are visibly dusty or soiled.



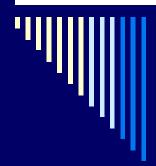
Spills of Blood and Body Substances

□ Clean spills of blood or OPIM and decontaminate surface with an EPAregistered hospital disinfectant, low-level (i.e. HBV and HIV label claims) to intermediate-level (i.e. tuberculosis claim) depending on size of spill and surface porosity.



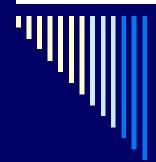
Carpet and Cloth Furnishings

Avoid using carpeting and clothupholstered furnishings in dental operatories, laboratories and instrument processing areas.



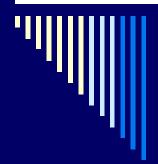
Flowers and Plants

- "Flowers and potted plants need not be restricted from areas for <u>immunocompetent</u> patients"
- "Do not allow fresh or dried flowers, or potted plants, in patient-care areas for <u>immunocompromised</u> patients"



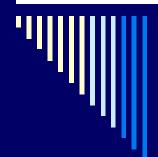
Environmental Sampling

- "Do not conduct random, undirected, microbiologic sampling of air, water and environmental surfaces in health care facilities"
- "Limit microbiologic sampling for quality assurance purposes to:
- 1) biologic monitoring of sterilization processes
- 2) monthly cultures of water and dialysate in hemodialysis units
- 3) short term evaluation of the impact of infection control measures or changes in infection control protocols



Regulated Medical Waste

- General Recommendations
 - Develop a medical waste management program.
 - Disposal of regulated medical waste must follow federal, state, and local regulations.
 - Ensure that DHCP who handle and dispose of potentially infective wastes are trained in appropriate handling and disposal methods and informed of possible health and safety hazards.



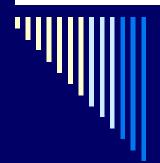
Management of regulated medical waste in dental health-care facilities

- Use a color-coded or labeled container that prevents leakage.
- Place sharp items in an appropriate sharps container.
 - Close container immediately before removal or replacement to prevent spillage.
- Pour blood, suctioned fluids or other liquid waste carefully into a drain connected to a sanitary sewer system, if local sewage discharge requirements are met. Wear appropriate PPE while performing this task.



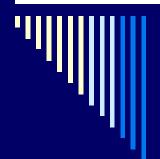
Dental Unit Water Lines, Biofilm and Water Quality

- General Recommendations
 - Use water that meets EPA regulatory standards for drinking water (i.e. less than 500 CFU/mL of heterotrophic water bacteria) for routine dental treatment output water.
 - Consult with the dental unit manufacturer for appropriate methods and equipment to maintain the recommended quality of dental water.



Dental Unit Water Lines, Biofilm and Water Quality cont.

- Follow recommendations for monitoring water quality provided by the manufacturer of the unit or water line treatment product.
- Discharge water and air for a minimum of 20-30 seconds after each patient, from any device connected to the dental water system that enters the patient's mouth.
- Consult with the dental unit manufacturer on the need for periodic maintenance of antiretraction mechanisms.



Special Considerations

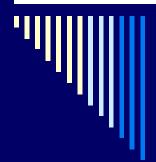
- Dental Handpieces and Other Devices Attached to Air and Water Lines
 - Clean and heat sterilize handpieces and other intraoral instruments that can be removed from the air and water lines of dental units between patients.
 - Follow the manufacturer's instructions for cleaning, lubrication and sterilization of handpieces and other intraoral instruments that can be removed from the air and water lines of dental units.
 - Do not advise patients to close their lips tightly around the tip of the saliva ejector to evacuate oral fluids.



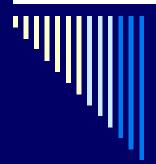
- Dental Radiology
 - Wear gloves when exposing radiographs and handling contaminated film packets.
 - Use other PPE as appropriate if spattering of blood or other body fluids is likely.
 - Use heat-tolerant or disposable intraoral devices whenever possible.
 - Clean and heat sterilize heat-tolerant devices between patients.
 - Transport and handle exposed radiographs in an aseptic manner to prevent contamination of developing equipment.
 - For digital radiography, follow manufacturer's recommendations.



- □ Single Use (Disposable) Devices
 - Use for one patient only and dispose appropriately.
- Preprocedural Mouthrinses
 - No recommendation is offered to prevent clinical infections among DHCP or patients.
 - Although bacterial counts are reduced, no evidence yet on its preventing infection.



- Oral Surgical Procedures
 - Use sterile surgeon's gloves following proper hand hygiene asepsis.
 - Use sterile saline or sterile water as a coolant/irrigator when performing oral surgical procedures.
 - Use devices specifically designed for the delivery of sterile irrigating fluids.



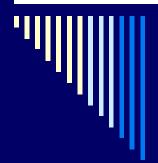
- □ Handling of Biopsy Specimens
 - During transport, place biopsy specimens in a sturdy, leakproof container labeled with the biohazard symbol.
 - If a biopsy specimen container is visibly contaminated, clean and disinfect the outside of the container or place it in an impervious bag labeled with the biohazard label.



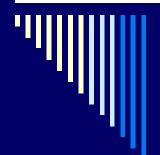
- Handling of Extracted Teeth
 - Dispose of extracted teeth as regulated medical waste unless returned to the patient.
 - Do not dispose of extracted teeth containing amalgam in regulated medical waste intended for incineration.
 - Clean and place extracted teeth in a leakproof container, labeled with a biohazard symbol, and maintain hydration, for transport to educational institutions or a dental laboratory.
 - Heat-sterilize teeth that do not contain amalgam before they are used for educational purposes.



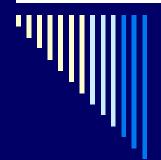
- Dental Laboratory
 - Use PPE when handling items received in the laboratory until they have been decontaminated.
 - Before they are handled in the laboratory, clean, disinfect and rinse all dental prostheses and prosthodontic materials.
 - Consult with manufacturers regarding the stability of specific materials relative to disinfection procedures.
 - Follow manufacturer's instructions for cleaning and sterilizing or disinfecting items that become contaminated but do not normally contact the patient (e.g. rag wheels)



- Laser/Electrosurgery Plumes/Surgical Smoke
 - No recommendation to reduce DHCP exposure.
 - Needs further evaluation.
 - Current Suggestions:
 - Use of Standard Precautions
 - Central room suction units with in-line filters
 - Dedicated mechanical smoke exhaust systems with high efficiency filters.



- Mycobacterium Tuberculosis
 - Evaluate the patient away from other patients and DHCP.
 - When not being evaluated, the patient should wear a surgical mask or be instructed to cover mouth and nose when coughing or sneezing.
 - Defer elective treatment until the patient is noninfectious.
 - Refer patients requiring urgent dental treatment to a previously identified facility with TB engineering controls and a respiratory protection program.



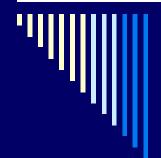
- Creutzfeldt-Jakob Disease and Other Prion Diseases
 - No recommendations offered regarding use of special precautions in addition to standard precautions when treating known CJD or vCJD patients.
 - Potential infectivity of oral tissues in CJD or vCJD is an unresolved issue.
 - Scientific data indicate the risk, if any, of sporadic CJD transmission during dental and oral surgical procedures is low to nil.



Guidelines for Infection Control in Dental Health-Care Settings-2003

■ ANY QUESTIONS?????

☐ THANK YOU!



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