

INFECTION CONTROL FOR THE DENTAL TEAM

BUFFALO-NIAGARA DENTAL MEETING

Wed., October 14 3-6 PM Rm 101-D
Thurs., October 15 8:30-11:30 Rm 101-A

10/13/15
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NEW

Dec. 1st, 2013
Training Requirement
Revised
Hazard Communication Standard

ADA NEWS 10/16/2013
10/13/15

<https://www.osha.gov/dsg/hazcom>

HazCom GHS Training Video - New GHS Standard. Big Selection
www.mastery.com *
English & Spanish \$19.95 - \$24.95
View this ad's deal - valid as of yesterday

Hazard Communication - OSHA
<https://www.osha.gov/dsg/hazcom/> *
Highlights: New **Hazard Communication** Wallet Card [PDF* 5.7 MB], New December 1, 2013 Training Requirements Fact Sheet [PDF*, 289 KB], New OSHA Brief ...
You've visited this page many times. Last visit: 9/24/13

HAZCOM Program
An effective HAZCOM program depends on the credibility of ...

Hazard Communication
Modification of the Hazard Communication Standard (HCS ...

HCS/HazCom 2012 Final Rule
Hazard Communication.

Quick Cards
Hazard Communication Standard QuickCards. Safety Data Sheets ...

Fact Sheet
Hazard Communication Standard Final Rule - Fact Sheet.

Safety Data Sheets
Safety Data Sheets. SDS QuickCard [PDF* 171 KB ...

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The OSHA HAZCOM standard from 1994 was updated and passed in 2012, and some things will be changing over the next three years! (2013-2016)

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What's New ?

- **Based on Global Harmonization System (GHS)**
- **HazCom 2012 is:**
 - **More uniform**
 - **Specification Oriented**
 - **More global (based mainly on 4 systems, including US, UN)**
 - **A system that can be adopted by any country**
 - "Building Block" approach - all or part
 - **Sixty-seven countries have adopted all or part of the GHS.**
- **Many companies already implementing**

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Labels

- Labels must include:
 - Symbols (Pictograms)
 - Signal words "Danger" or "Warning" – emphasize hazards, level of severity
 - Hazard Statements – standard phrases

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Labeling

Secondary containers used within a facility

AKA..... "Transfer Containers" –

- Can contain all information on a shipped container label
- Must contain, at a minimum:
 - Product name
 - Pictures, symbols or words to convey contents and hazards
 - Enough info to find out more information

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Attention! Attention!
MSDS (Material Safety Data Sheets)
Are soon going to be:

SDS (Safety Data Sheets)



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Sec. 1: Identification
Sec. 2: Hazard identification
Sec. 3: Composition/information on ingredients
Sec. 4: First aid measures
Sec. 5: Fire-fighting measures;
Sec. 6: Accidental release measures;
Sec. 7: Handling and storage;
Sec. 8: Exposure control/personal protection
Sec. 9: Physical and chemical properties
Sec. 10: Stability and reactivity
Sec. 11: Toxicological information
Sec. 12*: Ecological information
Sec. 13*: Disposal considerations
Sec. 14*: Transport information
Sec. 15*: Regulatory information
Sec. 16: Other information, including date of preparation or most recent revision.

**SDS
'Sections'**

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Deadlines

- December 1, 2013
 - Employers must complete training on new label elements and SDS formats
- June 1, 2015
 - Manufacturers must ship only HazCom 2012 compliant SDS and labels
- December 1, 2015
 - Distributors/importers must ship products with only HazCom 2012 compliant labels, SDS

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Deadlines

June 1, 2016*
**All HAZCOM programs
must be updated**

*Only current office requirement is **'TRAINING'**
by 12.1.2013

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SDM Example: Hydrofluoric Acid*

- Porcelain Etch
- Ultradent/Premier products (at least) in SDM
- *Training coming*
- Includes use of "First Aid" (Calcium Gluconate)----available at dispensaries *soon*.

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Back to Infection Control

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ADA NEWS APRIL 15, 2013

FOCUS ON OKLAHOMA ORAL SURGEON
PUTS SPOTLIGHT ON
INFECTION CONTROL
IN DENTISTRY

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WHY DID OK D.O.H. COME LOOKING?

"INDEX PATIENT" w + HIV and Hep C
Tests

Had No Known Risk Factors
(See N. Mexico case later)

Eventually only Hep C confirmed*

*Sept 2013 confirmed as pt-to-pt
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WHAT IS ALLEGED?

IC ISSUES

- 2 separate sets of instruments with separate "cleaning method" (Known Infectious Disease v. Not Known)
- Suspected "Rust" on Instruments (for "Disease" Patients)
- No Autoclave Spore Test in 6 Years (Manufacturer rec "monthly"/CDC rec "weekly")
- Instruments Improperly Stored (WRAP/OPEN/TRAY/BIB)

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WHAT IS ALLEGED?

IC ISSUES

- Multi-Dose Drug Vials/Multiple Patients (Re-insert same needle whenever necessary)
- NO Infection Control Policies/Procedures
- No Post-Exposure Plan (NEEDLESTICKS, ETC. BUT THE POLICY WAS TO SOAK THE INJURY IN BLEACH)
- Regarding Sterilization & Drugs: "They Take Care of That, I Don't" (DR. STATES REFERRING TO DAs)

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CONSEQUENCES FOR THE ACCUSED DENTIST

- **3.28.13: 30 Day License Suspension**
(plus anesthesia permit as well as federal and state drug permits)
- **4.12.13: Dentist Waives Hearing, License Revocation Hearing 8.16.13**
- **ULTIMATE SANCTIONS: No Action to License Revocation.**

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7,000+ Patients Offered Testing

- **4,018 tested as of June 6, 2013** (Hep B, C & HIV)
- **73 Hep C+**
- **5 Hep B+**
- **At Least 3 HIV+**
- **Where Patients Exposed is Uncertain**
(Nucleic Acid Sequencing May Reveal: C=RNA, B=DNA)

*updated numbers compared to handout

One Confirmed Hep C Transmission Case CDC Sept 19, 2013

OTHER RECENT CASES

- Rhode Island
- Pennsylvania
- D.C.
- Maine ('Whistleblower')*

*see 'press release' 12/5/2013!

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RHODE ISLAND CASE

Office Closed March 22, 2013 by DOH

- No Written (IC) Program
- No HBV Vaccine Records
- No BBP Training Records
- No Post Exposure Protocols in Place
- Overfilled Sharps Containers
- No 'Red Bags'
- No Utility Gloves (Instr. Cleaning)
- Inadequate Eye Protection ('own glasses')
- Metal Alginate Trays "Hanging on Wall"
- Inadequate Sterilization Monitoring & Record Keeping
- Manufacturers Inst. For sterilizer not available
- Packages overstuffed
- No EPA-Registered disinfecting products available
- Suction Devices Visibly Soiled
- Switches and Light handles not Barrier-Protected*

PA. CASE

- License suspended 4/29/13
- Did not properly clean, disinfect, sterilize devices
- DOH rec Hep-B,-C, HIV testing for pts.
- Advised staff to lie (sterilization practices)
- 2 Counts DUI Dec 2012/Failed to Report on dental license Renewal 1/2013
- No previous legal/professional issues

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PA Case

Reinstated but

- Hire IC Consultant
- Monthly Inspections by DOH for 1 year and every other month for 4 more years!
- Monitoring by a fellow dentist

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DC CASE (a 'dental center') - July 16, 2013

- 26 "Serious Violations"
- No Exposure Control Plan(BBP)
- No Training
- Lack of Proper Eye Protection (for 'sanitizing chemicals')
- Failure to offer hep B Vaccine within 10 days
- \$61,600 Penalties proposed

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MAINE 2.7.2013

- \$72,00 Fine
- 2 Hygienists: failed to resolve IC lapses "in-house".
- 1 filed OSHA complaint
- 1 fired/Placed other on Probation
- Other requirements imposed
- "Whistleblower" Provisions of OSHA Act and 21 other statutes cited

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The screenshot shows the OSHA website's navigation bar with links for Home, Workers, Regulations, Enforcement, Data & Statistics, Training, Publications, Newsroom, and Small Business. Below the navigation bar is a large banner for "THE WHISTLEBLOWER PROTECTION PROGRAMS" featuring a hand holding a pen icon. Underneath the banner is a secondary navigation bar with icons and labels for Home, File a Complaint, Fact Sheets & Statistics, News & Updates, Statutes, Regulations & Directives, and Contacts & Links. The date 10/13/15 is visible in the bottom left corner.

POTENTIAL CONSEQUENCES FOR US

- Increased Questions From Patients
- Potential for Increased Vigilance/ Inspections by OSHA, State Boards and State Health Departments
- Hopefully: Increased Awareness/Action by us to "Do the Right Things"

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How Should We React to Patients' Concerns and Questions?

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Infection Control Program Goals

- Provide a safe working environment
 - Reduce health care-associated infections
 - Reduce occupational exposures

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ADA Sept 2009-POSTER

Basic Principles of Infection Control

Always Use Standard Precautions

1. Immunize against vaccine-preventable diseases
2. Perform effective hand hygiene
3. Use Personal Protective Equipment
4. Heat sterilize all reusable patient care items used intraorally
5. Use Respiratory Hygiene/Cough Etiquette
6. Prevent cross contamination with environmental asepsis and aseptic technique
7. Prevent sharps injuries by using engineering controls and safe work practices



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HOW
ARE
WE DOING....

IN DENTAL INFECTION
CONTROL ???

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COMPLIANCE AIDS

■ **OSAP**

■ **ADA**

■ Organization for Safety, Asepsis, and Prevention

■ Adacatalog.org

■ www.osap.org

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OSAP

Organization for Safety and Prevention

OSAP Fact Sheet

The Concept:

Founded in 1984 and formally incorporated as a non-profit organization in 1986, OSAP is dentistry's resource for infection control and occupational safety and health. The organization is comprised of dental practitioners, schools, consultants and industry representatives who share an interest in this important field.

OSAP's Mission:

OSAP is dedicated to promoting infection control and related health and safety policies and practices supported by science and research. OSAP supports this commitment to healthcare workers and the public through quality education and information dissemination.

OSAP's Purposes and Commitments:

- ◆ Provide educational forums for dental healthcare professionals and the dental industry;
- ◆ Provide and monitor practical guidelines in infection control and safety;
- ◆ Interface with regulatory agencies and other organizations; and
- ◆ Promote quality research relating to infection control and safety issues.

For more information on OSAP, the OSAP Foundation, and available products and services, visit

www.osap.org

Organization for Safety & Asepsis Procedures
P.O. Box 6297 ♦ Annapolis, MD 21401
1-800-298-OSAP (6727) ♦ 410-571-0003 ♦ FAX 0028
Email: office@osap.org



*

OSAP's 5 QUESTIONS



SEARCH

Enter search criteria...

What should a patient look for in a dental office for assurance that the dentist and staff are taking proper precautions to prevent cross-infection? OSAP has prepared a list of five questions that patients should ask their dental care providers about infection control practices. The answers we've provided are drawn from current dental infection control recommendations from the Centers for Disease Control and Prevention (CDC), the American Dental Association (ADA), and OSAP.

1. Do you heat sterilize all your instruments, including handpieces, ('drills') between patients?
2. How do you know your sterilizer is working properly?
3. Do you change your gloves for every patient?
4. Do you disinfect the surfaces in the operatory between patients?
5. If you are unclear on, or uncomfortable with, the precautions your dental practice takes to protect you during treatment, talk to your dentist, or dental team member, about your concerns and ask to see the office's instrument processing area.

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ADA COMPLIANCE AIDS



www.adacatalog.org

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OBJECTIVES



- Satisfy 6 CORE ELEMENTS of NYS Infection Control Training
- Understand OSHA Standards & Requirements
- Understand CDC Recommendations
- How to Comply with Requirements in as Practical Way as Possible
- Provide a Safe Working & Treatment Environment

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It is our responsibility to adhere to scientifically accepted principles and practices of infection control and to monitor the performance of those for whom we (the professional) are responsible

NY CORE #1

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We must understand modes & mechanisms of transmission of pathogenic organisms in the healthcare setting and implement strategies for prevention and control

NY CORE #2

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We must utilize engineering and work practice controls to reduce the opportunity for patient and healthcare worker contact with potentially infectious material or bloodborne pathogens

NY CORE #3

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We must be able to select & use barriers and/or personal protective equipment for preventing patient & healthcare worker contact with potentially infectious material

NY CORE #4

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We need to create and maintain a safe environment for patient care through application of infection control principles and practices for cleaning, disinfection and sterilization

NY CORE #5

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We must discuss prevention & management of infectious or communicable diseases in healthcare workers

NY CORE #6

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Infection control training is mandated every four (4) years for dentists and dental hygienists licensed in New York State.

OSHA STANDARDS

- Bloodborne Pathogens, 1991
- Hazard Communication Standard
- Others

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DISTINCTION

State law adds patient protections where OSHA regulations center on employee protections

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OSHA Poster 3165

- [WWW.OSHA.GOV/PUBLICATIONS/POSTER](http://www.osha.gov/publications/poster)
- Or just "Google" 'OSHA Poster' and you'll see a link to 3165 poster
- Replaces older versions as 2203 which DO NOT need to be replaced

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Infection Control Checklist as required by OSHA BB Pathogens Standard

- Exposure Control Plan and Other Written Documents
- Training of the Office Staff
- Hepatitis B Vaccination
- Postexposure Medical Evaluation & Follow-Up
- General Methods and Aseptic Techniques

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OSHA Checklist Continued (BB Pathogens)

- Protective Barriers
- Management of Regulated Waste
- Decontamination
- Instrument Processing
- Laboratory Asepsis
- Radiographic Asepsis
- Record Keeping

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Components of OSHA HazCom Standard

- Hazard Determination
- Written Hazard Communication Program
- Inventory & List Hazardous Chemicals
- Labels & Other Forms of Warning
- MSDS
- Employee Information & Trainin

- New Rules Roll Out between 12.1.13 and 6.1.15 (Pictograms)

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Guidelines for Infection Control in Dental Health-Care Settings 2003

CDC. *MMWR* 2003;52(No. RR-17)
[http://www.cdc.gov/oralhealth/
infectioncontrol/guidelines/index.htm](http://www.cdc.gov/oralhealth/infectioncontrol/guidelines/index.htm)

SUMMARY

CDC 2003 Recommendations

- Personnel Health Elements
- Prevention of Transmission of BB Pathogens
- Prevention of Exposures to Blood & Other Potentially Infectious Material
- Hand Hygiene
- PPE
- Contact Dermatitis & Latex Hypersensitivity

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CDC Recommendations Cont' d

- Sterilization & Disinfection of Patient Care Items
- Environmental Infection Control
- Dental Unit Waterlines (DUWL), Biofilms, and Water Quality
- Boil-Water Notices
- Dental Handpieces & Other Devices Attached to Air & Water Lines

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CDC Recommendations Cont' d

- Dental Radiology
- Aseptic Technique for Parenteral Medications
- Single-Use (Disposable) Devices
- Oral Surgical Procedures
- Handling of Extracted Teeth
- Dental Lab
- TB
- Program Evaluation

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Background

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Why Is Infection Control Important in Dentistry?

- Both patients and dental health care personnel (DHCP) can be exposed to pathogens
- Contact with blood, oral and respiratory secretions, and contaminated equipment occurs
- Proper procedures can prevent transmission of infections among patients and DHCP

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Modes of Transmission

- Direct contact with blood or body fluids
- Indirect contact with a contaminated instrument or surface
- Contact of mucosa of the eyes, nose, or mouth with droplets or spatter
- Inhalation of airborne microorganisms

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PATHOGENS

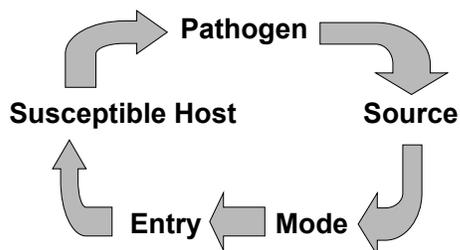
Pathogens are microorganisms that can cause disease in human

EXAMPLES:

- Virus: Hepatitis, HSV, HIV, Influenza
- Bacteria: Anthrax, Staph, Strep, ANUG, TB, Lyme Disease
- Fungi: Candidiasis, Ringworm

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Chain of Infection



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PORTALS OF EXIT

- Coughing
- Sneezing
- Oral Draining Lesion
- Draining Skin Lesion

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MODES OF TRANSMISSION

- Air
- Bloodborne
- Ingestion
- Direct Contact
- Indirect Contact

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Standard Precautions

- Apply to all patients
- Integrate and expand Universal Precautions to include organisms spread by blood and also
 - Body fluids, secretions, and excretions except sweat, whether or not they contain blood
 - Non-intact (broken) skin
 - Mucous membranes

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Elements of Standard Precautions

- Handwashing
- Use of gloves, masks, eye protection, and gowns
- Patient care equipment
- Environmental surfaces
- Injury prevention

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Personnel Health Elements of an Infection Control Program

- Education and training
- Immunizations
- Exposure prevention and postexposure management
- Medical condition management and work-related illnesses and restrictions
- Health record maintenance

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IMMUNIZATIONS

For Example:

- NY Public Health Law requires health workers with patient contact to be immunized for Measles and German Measles (Rubella)
- Additionally, annual Mantoux Tuberculin Skin Test is required for private office HCW (q6-months for health care facilities)

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TB

- Dental HC Provider with (+)TB Mantoux Test requires a Chest x-ray
- If (+), MD consult required for possible drug therapy
- If(-), repeat chest x-rays not needed

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Bloodborne Pathogens

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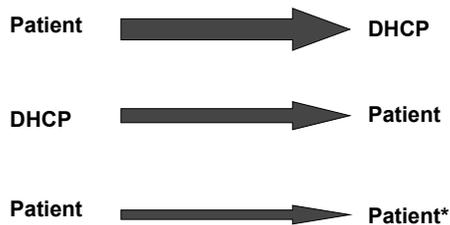
Preventing Transmission of Bloodborne Pathogens

Bloodborne viruses such as hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV)

- Are transmissible in health care settings
- Can produce chronic infection
- Are often carried by persons unaware of their infection

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Potential Routes of Transmission of Bloodborne Pathogens



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Factors Influencing Occupational Risk of Bloodborne Virus Infection

- Frequency of infection among patients
- Risk of transmission after a blood exposure (i.e., type of virus)
- Type and frequency of blood contact

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Average Risk of Bloodborne Virus Transmission after Needlestick

Source	Risk
HBV	
HBsAg ⁺ and HBeAg ⁺	22.0%-31.0% clinical hepatitis; 37%-62% serological evidence of HBV infection
HBsAg ⁺ and HBeAg ⁻	1.0%-6.0% clinical hepatitis; 23%-37% serological evidence of HBV infection
HCV	1.8% (0%-7% range)
HIV	0.3% (0.2%-0.5% range)

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PATIENT-TO-PATIENT Hepatitis-B Transmission 2002

- **Journal of Infectious Diseases**
- 2007;195:1311-1314
(21 March, 2007)
- 2 multiple-Exo Pts. Treated 161 min. apart

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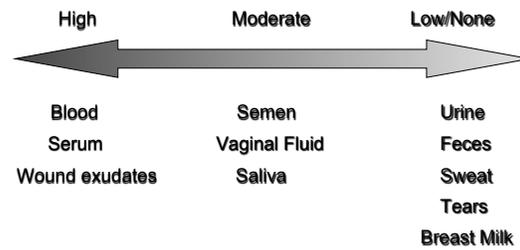
2009

W.V.
Dept.
Public
Health

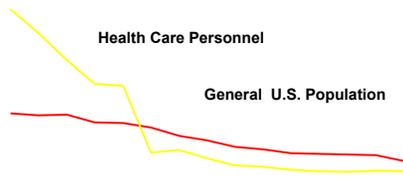
JADA OCTOBER 2013

Transmission of HBV to 3 patients and 2
volunteers in a portable dental clinic
setting
(None had been vaccinated)

Concentration of HBV in Body Fluids

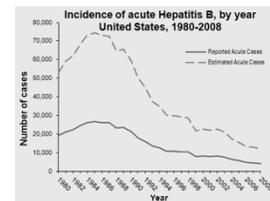


Estimated Incidence of HBV Infections Among HCP and General Population, United States, 1985-1999



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Hepatitis B Incidence



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CDC

Hepatitis B Vaccine

- ◆ Vaccinate all DHCP who are at risk of exposure to blood (must offer within 10 days of initial assignment at no cost)
- ◆ Provide access to qualified health care professionals for administration and follow-up testing
- ◆ Test for anti-HBs 1 to 2 months after 3rd dose

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DECLINATION

Employees refusing Hepatitis B vaccination must sign a declination form

Employee must still be provided vaccination at no cost if decide in future that they want it after declination

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HEP B VACCINE Declination Form

OSHA Bloodborne Pathogens Standard (29CFR 1910.1030) Hepatitis B Vaccine Declination

I understand that due to my occupational exposure to blood and other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee signature _____ Date _____
 Witness signature _____ Date _____

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Transmission of HBV from Infected DHCP to Patients

- Nine clusters of transmission from dentists and oral surgeons to patients, 1970–1987
- Eight dentists tested for HBeAg were positive
- Lack of documented transmissions since 1987 may reflect increased use of gloves and vaccine
- One case of patient-to-patient transmission, 2003 and recent report of 2009 W.V. case(5)

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Occupational Risk of HCV Transmission among HCP

- Inefficiently transmitted by occupational exposures
 - Three reports of transmission from blood splash to the eye
 - Report of simultaneous transmission of HIV and HCV after non-intact skin exposure
- 1st Dental Transmission 2013

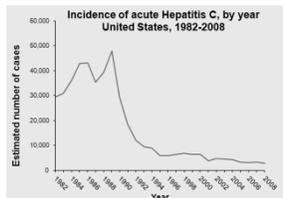
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HCV Infection in Dental Health Care Settings

- Prevalence of HCV infection among dentists similar to that of general population (~ 1%-2%)
- No reports of HCV transmission from infected DHCP to patients or from patient to patient
- Risk of HCV transmission appears very low (2%)

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Incidence of Hepatitis C



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CDC

Transmission of HIV from Infected Dentists to Patients

- Only one documented case of HIV transmission from an infected dentist to patients
- No transmissions documented in the investigation of 63 HIV-infected HCP (including 33 dentists or dental students)

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Health Care Workers with Documented and Possible Occupationally Acquired HIV/AIDS

Healthcare Personnel with Documented and Possible Occupationally Acquired HIV Infection, by Occupation, 1981-2010

Occupation	Documented	Possible
Nurse	24	36
Laboratory worker, clinical	16	17
Physician, nonsurgical	6	13
Laboratory technician, nonclinical	3	-
Housekeeper/maintenance worker	2	14
Technician, surgical	2	2
Embalmer/morgue technician	1	2
Health aide/attendant	1	15
Respiratory therapist	1	2
Technician, dialysis	1	3
Dental worker, including dentist	-	6
Emergency medical technician/paramedic	-	12
Physician, surgical	-	6
Other technician/therapist	-	9
Other healthcare occupation	-	6
Total	57	143

This graph is from the article by Do AH et al. Occupationally acquired HIV infection: national case surveillance data during 20 years of the HIV epidemic in the U.S. *Infect Control Hosp Epidemiol* 2003;24:86-96.

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Risk Factors for HIV Transmission after Percutaneous Exposure to HIV-Infected Blood CDC Case-Control Study

- Deep injury
- Visible blood on device
- Needle placed in artery or vein
- Terminal illness in source patient

Source: Cardo, et al., *N England J Medicine* 1997;337:1485-90.

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Characteristics of Percutaneous Injuries Among DHCP

- Reported frequency among general dentists has declined
- Caused by burs, syringe needles, other sharps
- Occur outside the patient's mouth
- Involve small amounts of blood
- Among oral surgeons, occur more frequently during fracture reductions and procedures involving wire

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Exposure Prevention Strategies

- Engineering controls
- Work practice controls
- Administrative controls

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Engineering Controls

- Isolate or remove the hazard
- Examples:
 - Sharps container
 - Medical devices with injury protection features (e.g., self-sheathing needles)

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Work Practice Controls

- ◆ Change the manner of performing tasks
- ◆ Examples include:
 - Using instruments instead of fingers to retract or palpate tissue
 - One-handed needle recapping

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Administrative Controls

- Policies, procedures, and enforcement measures
- Placement in the hierarchy varies by the problem being addressed
 - Placed before engineering controls for airborne precautions (e.g., TB)

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OSHA BB PATHOGENS STANDARD Compliance Steps

- Review the Standard
- Prepare Written Exposure Control Plan
- Train Employees
- Maintain Records
- Provide Employees for Compliance:
 - Hep B Vaccination
 - PPE & Engineering Controls
 - Establish Work Practices & Decontamination Procedures
 - Post Exposure Plan
 - Provide Biohazard Communication

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EXPOSURE CONTROL PLAN

- OSHA requires exposure determination by employee position (High v. Low Risk)
- The Plan is available to employees and OSHA
- Plan includes documented annual (and new employee) training

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WRITTEN EXPOSURE CONTROL PLAN

1. Exposure Determination/Who is Covered
2. Schedule of Implementation (How/When)
 - Communication of Hazards to Employees
 - Hep B Vaccination
 - Post Exposure Evaluation & Follow Up
 - Record Keeping
 - Methods of Compliance (Engineering, Work Practice Controls, PPE, Housekeeping)

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EXP CONTROL PLAN (cont' d)

3. Evaluation of Exposure Incidents
4. Prevention of Sharps Injuries
 - Describe how newer devices that may reduce exposure will be ID'd and considered for use
 - Describe methods to evaluate the devices & results of the evaluations
 - Describe justification as to why/why not a device is selected for use
 - Describe how those directly involved in patient care are involved in this ID, evaluation & selection process

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Post-exposure Management

- Wound management
- Exposure reporting
- Assessment of infection risk
 - Type and severity of exposure
 - Bloodborne status of source person
 - Susceptibility of exposed person

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PEP

ADA also advertised "New Guidelines" Sept 2013(Simplified)

N National HIV/AIDS
Clinicians' Consultation Center HOME HIV CLINICAL RESOURCES CONSULTATION LIBRARY TRAINING & TA ABOUT NCCC CONTACT US

PEPline Quick Guide for Occupational Exposures

Updated: August 06, 2013

These PEPline recommendations are a Quick Guide to assist in urgent decision-making for occupational exposures to HIV and hepatitis B and C.

Consultation can be obtained from Occupational Health or Employee Services, local experts, or the PEPline.

The PEPline (888-448-4911) is available daily from 9 am - 2 am EST (6 am - 11 pm PST).

For a comprehensive description of HIV post-exposure management, please see the Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis.

- Warmline
☎ 800-933-3413
- PEPline
☎ 888-448-4911
- Perinatal HIV Hotline
☎ 888-448-8765

Quick Links
HIV Toolkits & Resources

■ **NY STATE PEP line ('google')**

1-888-448-4911

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Hand Hygiene

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Why Is Hand Hygiene Important?

- Hands are the most common mode of pathogen transmission
- Reduce spread of antimicrobial resistance
- Prevent health care-associated infections

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Hands Need to be Cleaned When:

- Visibly dirty
- After touching contaminated objects with bare hands
- Before and after patient treatment (before glove placement and after glove removal)

10/13/15

Hand Hygiene Definitions

- Handwashing
 - Washing hands with plain soap and water
- Antiseptic handwash
 - Washing hands with water and soap or other detergents containing an antiseptic agent
- Alcohol-based handrub
 - Rubbing hands with an alcohol-containing preparation
- Surgical antisepsis
 - Handwashing with an antiseptic soap or an alcohol-based handrub before operations by surgical personnel

10/13/15

Efficacy of Hand Hygiene Preparations in Reduction of Bacteria

Good Better Best

Plain Soap Antimicrobial soap Alcohol-based handrub

Source: <http://www.cdc.gov/handhygie/materials.htm>

10/13/15

Alcohol-based Preparations

<p style="text-align: center;"><u>Benefits</u></p> <ul style="list-style-type: none"> ■ Rapid and effective antimicrobial action ■ Improved skin condition ■ More accessible than sinks 	<p style="text-align: center;"><u>Limitations</u></p> <ul style="list-style-type: none"> ■ Cannot be used if hands are visibly soiled ■ Store away from high temperatures or flames ■ Hand softeners and glove powders may "build-up"
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Special Hand Hygiene Considerations

- Use hand lotions to prevent skin dryness
- Consider compatibility of hand care products with gloves (e.g., mineral oils and petroleum bases may cause early glove failure)
- Keep fingernails short
- Avoid artificial nails
- Avoid hand jewelry that may tear gloves

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Partners In Development




10/13/15

Chairside Computer Access






10/13/15
UB/SDM: (Imminent) add CAMERA Use

Personal Protective Equipment

10/13/15

PERSONAL PROTECTIVE EQUIPMENT

- A major component of Standard Precautions
- Protects the skin and mucous membranes from exposure to infectious materials in spray or spatter
- Should be removed when leaving treatment areas
- 10/13/15
- No cost to employee

Masks, Protective Eyewear, Face Shields

- Wear a surgical mask and either eye protection with solid side shields or a face shield to protect mucous membranes of the eyes, nose, and mouth
- Change masks between patients
- Clean reusable face protection between patients; if visibly soiled, clean and disinfect
- 10/13/15

Protective Clothing

- Wear gowns, lab coats, or uniforms that cover skin and personal clothing likely to become soiled with blood, saliva, or infectious material
- Change if visibly soiled
- Remove all barriers before leaving the work area
- 10/13/15

Gloves

- Minimize the risk of health care personnel acquiring infections from patients
- Prevent microbial flora from being transmitted from health care personnel to patients
- Reduce contamination of the hands of health care personnel by microbial flora that can be transmitted from one patient to another
- Are not a substitute for handwashing!
- 10/13/15

Recommendations for Gloving

- Wear gloves when contact with blood, saliva, and mucous membranes is possible
- Remove gloves after patient care
- Wear a new pair of gloves for each patient
- 10/13/15

Latex Hypersensitivity and Contact Dermatitis

Latex Allergy

- Type I hypersensitivity to natural rubber latex proteins
- Reactions may include nose, eye, and skin reactions
- More serious reactions may include respiratory distress—rarely shock or death

10/13/15

Contact Dermatitis

- Irritant contact dermatitis
 - Not an allergy
 - Dry, itchy, irritated areas
- Allergic contact dermatitis
 - Type IV delayed hypersensitivity
 - May result from allergy to chemicals used in glove manufacturing

10/13/15

General Recommendations Contact Dermatitis and Latex Allergy

- Educate DHCP about reactions associated with frequent hand hygiene and glove use
- Get a medical diagnosis
- Screen patients for latex allergy
- Ensure a latex-safe environment
- Have latex-free kits available (dental and emergency)

10/13/15

JADA April 2005 Curtis Hamann, MD, et al

OCCUPATIONAL
ALLERGIES IN
DENTISTRY
pp.500-510

10/13/15

Sterilization and Disinfection of Patient Care Items



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Critical Instruments

- Penetrate mucous membranes or contact bone, the bloodstream, or other normally sterile tissues (of the mouth)
- Heat sterilize between uses or use sterile single-use, disposable devices
- Examples include surgical instruments, scalpel blades, periodontal scalers, and surgical dental burs

10/13/15

Semi-critical Instruments

- Contact mucous membranes but do not penetrate soft tissue
- Heat sterilize or high-level disinfect
- Examples: Dental mouth mirrors, amalgam condensers, and dental handpieces

10/13/15

Noncritical Instruments and Devices

- Contact intact skin
- Clean and disinfect using a low to intermediate level disinfectant
- Examples: X-ray heads, facebows, pulse oximeter, blood pressure cuff

10/13/15

Instrument Processing Area

- Use a designated processing area to control quality and ensure safety
- Divide processing area into work areas
 - Receiving, cleaning, and decontamination
 - Preparation and packaging
 - Sterilization
 - Storage

10/13/15

Automated Cleaning

- Ultrasonic cleaner
- Instrument washer
- Washer-disinfector

10/13/15

Manual Cleaning

- Soak until ready to clean
- Wear heavy-duty utility gloves, mask, eyewear, and protective clothing

10/13/15

Preparation and Packaging

- Critical and semi-critical items that will be stored should be wrapped or placed in containers before heat sterilization
- Hinged instruments opened and unlocked
- Place a chemical indicator inside the pack
- Wear heavy-duty, puncture-resistant utility gloves

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Heat-Based Sterilization

- Steam under pressure (autoclaving)
 - Gravity displacement
 - Pre-vacuum
- Dry heat
- Unsaturated chemical vapor

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Liquid Chemical Sterilant/ Disinfectants



- Only for heat-sensitive critical and semi-critical devices
- Powerful, toxic chemicals raise safety concerns
- Heat tolerant or disposable alternatives are available

10/13/15

Sterilization Monitoring Types of Indicators

- Mechanical
 - Measure time, temperature, pressure
- Chemical
 - Change in color when physical parameter is reached
- Biological (spore tests)
 - Use biological spores to assess the sterilization process directly

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Storage of Sterile and Clean Items and Supplies

- Use date- or event-related shelf-life practices
- Examine wrapped items carefully prior to use
- When packaging of sterile items is damaged, re-clean, re-wrap, and re-sterilize
- Store clean items in dry, closed, or covered containment

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Environmental Infection Control

Environmental Surfaces

- May become contaminated
- Not directly involved in infectious disease transmission
- Do not require as stringent decontamination procedures

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Categories of Environmental Surfaces

- Clinical contact surfaces
 - High potential for direct contamination from spray or spatter or by contact with DHCP's gloved hand
- Housekeeping surfaces
 - Do not come into contact with patients or devices
 - Limited risk of disease transmission

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Clinical Contact Surfaces



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Housekeeping Surfaces



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Intermediate Level Disinfectants



QUAT+ALCOHOL



PHENOL

10/13/15

General Cleaning Recommendations

- Use barrier precautions (e.g., heavy-duty utility gloves, masks, protective eyewear) when cleaning and disinfecting environmental surfaces
- Physical removal of microorganisms by cleaning is as important as the disinfection process
- Follow manufacturer's instructions for proper use of EPA-registered hospital disinfectants
- Do not use sterilant/high-level disinfectants on environmental surfaces

10/13/15

Cleaning Clinical Contact Surfaces

- Risk of transmitting infections greater than for housekeeping surfaces
 - Surface barriers can be used and changed between patients
- OR**
- Clean then disinfect using an EPA-registered low- (HIV/HSV claim) to intermediate-level (tuberculocidal claim) hospital disinfectant

10/13/15

Cleaning Housekeeping Surfaces

- Routinely clean with soap and water or an EPA-registered detergent/hospital disinfectant routinely
- Clean mops and cloths and allow to dry thoroughly before re-using
- Prepare fresh cleaning and disinfecting solutions daily and per manufacturer recommendations

10/13/15

FOOD & DRINK

Eating, Drinking, Application of Make-up & Handling of Contact Lenses is Prohibited in areas where there is a reasonable likelihood of Occupational Exposure

- Direct from OSHA BB Pathogens Standard
- Cited violation on clinic inspections

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Medical Waste

- **Medical Waste:** Not considered infectious, thus can be discarded in regular trash
- **Regulated Medical Waste:** Poses a potential risk of infection during handling and disposal

10/13/15

REGULATED WASTE

- Liquid or Semi-Liquid Blood or OPIM
- Contaminated Items that would Release Blood or OPIM if Compressed
- Items Caked with Dried Blood/OPIM
- Contaminated Sharps
- Extracted Teeth/Tissues

10/13/15

Regulated Medical Waste Management

- Properly labeled containment to prevent injuries and leakage
- Medical wastes are "treated" in accordance with state and local EPA regulations
- Processes for regulated waste include autoclaving and incineration

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Dental Unit Waterlines, Biofilm, and Water Quality

10/13/15

ADA Advice

Dental Waterline Management



- Follow CDC water quality recommendations and state and local regulations.
- Use water that meets EPA regulatory standards for drinking water (i.e., < 500 CFU/mL heterotrophic water bacteria) for routine dental treatment output water.
- Use sterile fluids and sterile delivery devices (e.g., sterile bulb syringe) for surgical procedures.
- Implement a program to maintain the recommended quality of dental water.
- Test water quality to confirm effectiveness of water management programs.
- Contact the dental unit manufacturer for recommendations on maintaining water quality during dental treatment



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Dental Unit Waterlines and Biofilm

- Microbial biofilms form in small bore tubing of dental units
- Biofilms serve as a microbial reservoir
- Primary source of microorganisms is municipal water supply

10/13/15

Dental Unit Water Quality

- CDC: Using water of uncertain quality is inconsistent with infection control principles (See NYS CORE ELEMENT #1)
- Colony counts in water from untreated systems can exceed 1,000,000 CFU/mL
CFU=colony forming unit
- Untreated dental units cannot reliably produce water that meets drinking water standards

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Dental Water Quality

For routine dental treatment, meet regulatory standards for drinking water.*

* <500 CFU/mL of heterotrophic water bacteria

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Available DUWL Technology

- Independent reservoirs
- Chemical treatment
- Filtration
- Combinations
- Sterile water delivery systems

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- Disconnect from municipal water
- Air pressure drives water from bottle

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Monitoring Options

- Water testing laboratory
- In-office testing with self-contained kits
- Follow recommendations provided by the manufacturer of the dental unit or waterline treatment product for monitoring water quality

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DENTAL UNIT WATERLINES JADA, Jan. '04 p.46

ALSO: ADA.org
'Dental Unit Water Quality'
•Products
•Testing services

10/13/15

UB/SDM BACTERIAL WATER CULTURES 12/2009

- 1A1 12,000*
- 1B1 198,000
- 1C1 180,000
- 1D1 70,000
- 1E1 170,000

- AVG: 126,000*

*CFUs (Colony Forming Units)

Drinking Water < 500 CFUs

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UB: Self Contained Water with Continuous Treatment

- ICX Tablets (Adec)*
 - Sodium Percarbonate
 - N-Alkyl dimethyl benzyl ammonium chloride
 - N-Alkyl dimethyl ethylbenzyl ammonium chloride
 - Silver Nitrate

*Sterilex Ultra (Sterilex Corp.)
'SHOCK' recommended if water quality inadequate at start

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STERILEX ULTRA

- Liquid or Powder
- Contents:
 - Hydrogen Peroxide
 - N-Alkyl dimethyl benzyl ammonium chloride
 - N-Alkyl dimethyl ethylbenzyl ammonium chloride

10/13/15

3 TEST PROTOCOLS*

- I. Daily Treatment Chemical
Only(ICX)-'CONTROLS'
- II. 1-Day Shock Treatment plus Daily Treatment
- III. 3-Day Shock Treatment plus Daily Treatment

2-Week Treatment Period (15 Days)

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RESULTS

ICX-Only

3 Units * Avg 19,333 cfu
(Range 12,000-29,000)

3-Day Shock

4 Units 0 cfu

1-Day Shock

3 Units 0 cfu

*1 of 3 was a 170,000 CFU 'pretest' unit

10/13/15

SDM:Summer of 2010

- Installation of 400+ Independent Reservoir Bottles
- 'Shock' X 1-Day
- Continuous Treatment (ICX)
- Follow-up Testing
- "Shock" Schedule

Summer 2015
De-Ionized Water in Bottles

10/13/15

Sterile Irrigating Solutions

- Use sterile saline or sterile water as a coolant/irrigator when performing surgical procedures
- Use devices designed for the delivery of sterile irrigating fluids

10/13/15

Special Considerations

- Dental handpieces and other devices attached to air and waterlines
- Dental radiology
- Aseptic technique for parenteral medications
- Single-use (disposable) Devices
- Preprocedural mouth rinses
- Oral surgical procedures
- Handling biopsy specimens
- Handling extracted teeth
- Laser/electrosurgery plumes or surgical smoke
- Dental laboratory
- *Mycobacterium tuberculosis*
- Creutzfeldt-Jacob Disease (CJD) and other prion-related diseases

10/13/15

Dental Handpieces and Other Devices Attached to Air and Waterlines

- Clean and heat sterilize intraoral devices that can be removed from air and waterlines
- Follow manufacturer's instructions for cleaning, lubrication, and sterilization
- Do not use liquid germicides or ethylene oxide

10/13/15

Components of Devices Permanently Attached to Air and Waterlines

- Do not enter patient's mouth but may become contaminated
- Use barriers and change between uses
- Clean and intermediate-level disinfect the surface of devices if visibly contaminated

10/13/15

Saliva Ejectors

- Previously suctioned fluids might be retracted into the patient's mouth when a seal is created
- Do not advise patients to close their lips tightly around the tip of the saliva ejector

10/13/15

Dental Radiology

- Wear gloves and other appropriate personal protective equipment as necessary
- Heat sterilize heat-tolerant radiographic accessories
- Transport and handle exposed radiographs so that they will not become contaminated
- Avoid contamination of developing equipment
- "DUAL" Recommendation for Digital Sensors (44% failure if barriers alone)

10/13/15

RADIOLOGY

- Exposed films dried with gauze or paper towel before transport to processing area
- Equipment protected with surface barriers and changed for each patient
- Surfaces unable to be wrapped are cleaned and disinfected after each patient

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Parenteral Medications

- Definition: Medications that are injected into the body
- Cases of disease transmission have been reported
- Handle safely to prevent transmission of infections

10/13/15

Precautions for Parenteral Medications

- IV tubings, bags, connections, needles, and syringes are single-use, disposable
- Single dose vials
 - Do not administer to multiple patients even if the needle on the syringe is changed
 - Do not combine leftover contents for later use

10/13/15

Single-Use (Disposable) Devices

- Intended for use on one patient during a single procedure
- Usually not heat-tolerant
- Cannot be reliably cleaned
- Examples: Syringe needles, prophylaxis cups, and plastic orthodontic brackets

10/13/15

Oral Surgical Procedures

- Present a risk for microorganisms to enter the body
- Involve the incision, excision, or reflection of tissue that exposes normally sterile areas of the oral cavity

- Examples:

- Biopsy
- Perio surgery
- Implant surgery
- Apical surgery
- Surgical extractions



10/13/15

Precautions for Surgical Procedures

Surgical Scrub

Sterile Irrigating Solutions

Sterile Surgeon's Gloves

10/13/15

CDC Guidelines for IC in Dental Healthcare Settings-2003 (p29)

- Sterile solutions (sterile saline or sterile water) should be used as coolant/irrigation in the performance of oral surgical procedures..... conventional dental units cannot reliably deliver sterile water even when equipped with independent water reservoirs

10/13/15

Handling Biopsy Specimens

- Place biopsy in sturdy, leakproof container
- Avoid contaminating the outside of the container
- Label with a biohazard symbol



10/13/15

Extracted Teeth

- Considered regulated medical waste
 - Do not incinerate extracted teeth containing amalgam
 - Clean and disinfect before sending to lab for shade comparison
- Can be given back to patient



10/13/15

Dental Laboratory

- Dental prostheses, appliances, and items used in their making are potential sources of contamination
- Handle in a manner that protects patients and DHCP from exposure to microorganisms



10/13/15

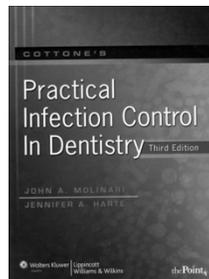
Program Evaluation

“Systematic way to improve (infection control) procedures so they are useful, feasible, ethical, and accurate”

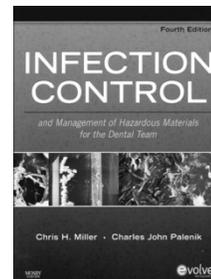
- **Develop standard operating procedures**
- **Evaluate infection control practices**
- **Document adverse outcomes**
- **Document work-related illnesses**
- **Monitor health care-associated infections**

10/13/15

RESOURCES



10/13/15



RESOURCES

- www.cdc.gov
- www.apic.org
- www.osha.gov
- www.fda.gov
- www.dec.state.ny.us
- www.biofilmsonline.com

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RESOURCES

- www.ada.org
- www.adacatalog.org
- www.aami.org
- www.nysdental.org

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ULTIMATE GOAL of DENTAL INFECTION CONTROL

**“.....strengthen an already admirable record of safe dental practice”
-CDC 2003**

10/13/15