Blood, spit & fears: A Painless Osha Update

(Basic Outline)

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The infection control program in a dental office should include:

- Written exposure control plan
- Training and Hepatitis B vaccinations
- Policies and procedures about stick injuries and post-exposure followup
- The use of exposure and work practice controls
- Written policies about work restrictions
- Documentation of OSHA program

Everyone must understand principles of asepsis, sterilization, disinfection and sanitation.

Standard precautions in an office must be used when doing all of the following:

- All body fluids are treated as potentially infectious
- Use of personal protective equipment
- Use of engineering and work practice controls
- Procedures that expose you to Bloodborne Pathogens:
- Pouring up models in the lab
- Processing instruments
- Working on patients
- Cleaning operatories and Emptying trash cans

Work Practice and Engineering controls

- Evaluate procedures to ensure they are as safe as possible (one handed needle recapping, implements to remove scalpel blades, etc.)
- Annually Evaluate/Use new technology if you feel it is safer than existing technology
- Use sharps containers placed as close as possible to the point of use
- Sharps Containers
    - Don’t reach into a sharps container
    - Don’t allow them to overfill
    - Recap container tightly when full and dispose of them properly
- Vaccination
    - Childhood diseases
    - measles, mumps, rubella, pertussis, chicken pox, diphtheria plus tetanus
    - Influenza
    - Hepatitis B
    - Covid-19
    - Flu

Personal protective equipment in a dental office includes:

- Gloves
- Jacket or gown
- Mask
- Respirator
- Eye protection/face shield (Face shields protect better than glasses or loupes)
    - Change PPE
    - Change masks between patients (or if it becomes wet)
    - Change jackets at the end of workshift, or if it is visibly soiled
    - Wash eye protection between patients (or disinfect if visibly soiled)
    - Change gloves between patients or if they are torn/cut/punctured

Degree/type of exposure determines determines the type of PPE that should be worn.

Epidemiology of bloodborne and airborne pathogens in dentistry:

HIV/AIDS:

- Transmission
    - Blood products before blood testing was available
    - Mother to child
    - Sexual contact (including oral sex)
    - Sharing IV drug needles
    - Not from aerosol
    - Stick injuries in health care workers
- In dentistry, most sticks are not the type to require a prophylactic drug cocktail
    - If a cocktail is necessary, it should be given within 24 hours (ideally), no later than 72 hours
    - HIV has been in our blood supply since 1976 and there still has **never been a dental health care worker infected from the workplace.**
- Epidemiology
- Treatment

Hepatitis B

- Transmission:
    - Blood transfusion or organ transplant
    - Mother to child
    - Sexual contact
    - Sharing IV drug needles
    - Occupational stick injuries
    - Contact with dried, infectious blood
- Epidemiology
- Treatment
- Hepatitis B vaccination (efficacy/safety/administration/risks):
    - After the vaccination series is completed, get a titer test to make sure you're protected from HBV
    - Once you're protected, no further testing and booster shots are necessary

Hepatitis C (HCV):

- Between 3.2 and 5 million Americans are infected
- Average amount of time from infection to diagnosis is 20 years
- #1 reason for being on the liver transplant list
    - Baby boomers
    - Not dental healthcare workers
- Hepatitis C is transmitted through:

    - Sharing IV drug needles
    - Transfusions and organ transplants before 1992
    - Mother to child
    - Tattoos and piercings
    - household contact
- Epidemiology
- Treatment

Sharps/Stick Injuries (types/level of exposure/risk transmission)

- Sticks most commonly occur while bagging/processing instruments.
- Procedures and policies to be followed in implementing 10A NCAC 41A .0202(4) and .0203(b)(4) when a health care provider or a patient has an exposure to blood or other body fluids of another person in a manner that poses a significant risk of transmission of HIV or hepatitis B. (See details at: https://epi.dph.ncdhhs.gov/cd/lhds/manuals/cd/conference/legal_2012/Moore_NCACExcerpts.pdf)
    - Report to OSHA officer
    - Identify source patient
- Testing
- Counseling
- Followup
- Testing
- PEP

Respiratory transmission:

- Screening patients and employees
- Source control
- Cleaning and disinfection
- Use proper PPE
    - **Standard Precautions**-low community transmission/screened (masks/gowns or jackets/eye protection)
    - **Transmission Based Precautions**-Higher community transmission (consider respirator/gowns or jackets/close fitting eye protection/faceshields), reduce aerosol generating procedures
    - Aerosol generating procedures-PPE, 4 handed dentistry, high evacuation suction, dental dams, external suction units
- Engineering controls/improve indoor air quality/reduce aerosol
    - HVAC-increase air flow, HEPA filters
    - Windows
    - External suction
    - Spacing people and chairs
    - Air purifiers
- Determine procedures to respond to COVID-19 exposures
        - Testing
        - Quarantine
        - Source control while in office
        - Return to work guidelines

Tuberculosis

- Most dental offices are low risk
- No annual testing requirement (at the time of initial employment, post-exposure)
- Must provide individual risk assessments to determine who needs to be tested more frequently

- Cannot safely treat patients with Active TB in a dental office
- Suspected patients must be sent to physician for diagnosis and treatment
    - Cannot be seen in dental office until they are cleared
- Notify health department so patient can be tracked
- TB Symptoms
    - Persistent, productive cough (Often bloody sputum)
    - malaise
    - Low grade fever and chills
    - Unexplained weight loss
    - Chest pain
    - Night sweats

Other diseases

- Creutzfeldt-Jakob (CJD) disease
- Herpes
- Hpv
- Resistant bacteria

Hand Hygiene

- Keep fingernails short, natural and well filed.
- Wash hands with soap and water for 20 seconds
- For surgical procedures, use antibacterial soap
- Hand sanitizers are great between washings
- Simple rings are allowable in non-surgical settings
- Reduce dermatitis by using low/no powder gloves

Sterilization and disinfection

- When processing instruments, wear thick gloves to prevent sticks (exam gloves do not give adequate protection from sticks.
- Transport all instruments in a closed tray or a cassette
- Anything that goes in the mouth is sterilized, disinfected or thrown away
- Instruments should be transported on a closed tray or cassette
- Sterilization area should be clearly divided between clean and dirty areas
- Instruments must be cleaned before they're sterilized
    - Ultrasonic
    - Hand scrubbing
- All instruments should be wrapped or bagged
- All sterilizers must be tested weekly with spore tests
- All water used for patients must be drinking water quality
- Environmental infection control

Clean clinical contact and housekeeping surfaces correctly

- Clinical contact surfaces
- Barriers (If barriers are used, and the surface underneath is not contaminated, you don't have to clean the surface, you just replace the barrier).
- Disinfectants
- Housekeeping surfaces
- No carpeting in operatories and sterilization areas

Waste

- Contain waste
- Dispose of waste properly (inside the office- OSHA; outside the office - North Carolina Department of Environmental Quality, Division of Waste Management - Solid Waste Section) https://www.deq.nc.gov/about/divisions/waste-management/solid-waste-section/special-wastes-and-alternative-handling/medical-waste

Waterlines

- Any water that goes into the patients' mouths should be drinking water quality
- Waterlines must be tested/treated according to manufacturer's guidelines on a regular basis

General info

- Wear gloves when handling contaminated film
- Single use vials can be used on only one patient
- Pre-procedural mouth rinse
- Biopsy specimens must be contained and transported safely

Latex allergies

- More common in health care workers, including dental health care workers, than in the general population
- Occur more frequently when powdered gloves are used; incidence has decreased since gloves are not powdered.

Vaccination suggestions for dental health care workers

- Childhood disease immunizations
- HBV - required
- Flu
- Covid-19 (including boosters as recommended)