1  OSHA & INFECTION CONTROL UPDATE
   3 Hours  CE
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2  LOOK BACK – LAST YEAR DID YOU……
   • Have accidents or exposures?
   • Start using any new technology?
   • Have any staff changes?
   • Move or remodel the office?
   • Update your safety policies?

3  TOP 5 SAFETY GOALS
   • Have a plan

4  TOP 5 SAFETY GOALS
   • Have a plan
      • Written Safety Program
      • OSHA Manual, Bloodborne Pathogen Standard
      • OSHA = prohibited from regulating patient protection protocol
      • Go to CDC, OSHA, State Board, ADA, OSAP

5  UPDATE & EDIT YOUR IC PLAN
   • Injury & Illness Prevention Program
      • OSHA manual
   • Location? Training?
   • Instructions for Use & SDS
   • Standard Operating Procedures (SOP’s) = written step-by-step plans
   • Must be specific & accurate
      • Surface disinfection
      • Hand hygiene
      • Instrument processing
      • Dental waterlines

6  2016 CDC RECOMMENDATIONS
   http://www.cdc.gov/OralHealth/infectioncontrol/guidelines/index.htm
   Checklists!
   To be used along with 2003 Infection Control Recommendations

7  2016 CDC SUMMARY UPDATES:
   TOPICS PUBLISHED BY CDC SINCE 2003:
• IC program administrative measures,
• Education & training,
• Respiratory hygiene and cough etiquette,
• Updated safe injection practices
• Administrative measures for instrument processing.

8 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person

9 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
  • Must be a leader
  • Qualified, trained, empowered
• Get certified
  • DANB.org, osap.org
  • https://www.osap.org/page/RoleofICPC? – OSAP initiative

10 □ DO YOU HAVE AN OFFICE SAFETY MANAGER?

ARE THEY QUALIFIED?
WILL THEY BE A LEADER AND A MANAGER?
ARE THEY EMPOWERED?

11 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy

12 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy
• Recognize & Understand Risks

13 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy
  • Recognize & Understand Risks
• Keep everyone safe

14 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy
  • Recognize & Understand Risks
• Keep everyone safe
  • Implement Standard Precautions

15 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy
  • Recognize & Understand Risks
• Keep everyone safe
  • Implement Standard Precautions
• Plan B

16 □ TOP 5 SAFETY GOALS
• Have a plan
  • Written Safety Program
• Assign a person
  • Safety Manager
• Identify the enemy
  • Recognize & Understand Risks
• Keep everyone safe
  • Implement Standard Precautions
• Plan B
  • Plan for exceptions and accidents
THE RULES
- CDC Recommendations
  - Based on research
  - Set standards, not “laws”
- OSHA: Occupational Safety & Health Administration
  - Based on CDC recs
  - Worker safety
  - Rules are laws
- State Board laws
  - Include CDC & OSHA & ADA standards
- Civil & Health Dept.... Laws
- Competition, marketing, reputation

GENERAL SAFETY / PREPAREDNESS

UN’S GLOBALLY HARMONIZED SYSTEM - HAZARD WARNING
OSHA CHEMICAL CLASSIFICATIONS
- MSDS = SDS, now 16 sections, in specific format
  - Health risks
  - Chemical risks

UN’S GLOBALLY HARMONIZED SYSTEM HAZARD WARNING PICTOGRAMS
- New labels (secondary containers) must have:
  - Name of product
  - Single word (warning or danger)
  - Statement of hazard

MANUFACTURER’S LABEL

PREVIOUS SECONDARY LABELING AND SIGNS

WHAT’S WRONG HERE?

PICTOGRAM + SINGLE WORD WARNING

WE’VE COME A LONG WAY.....
CHAIN OF INFECTION

BREAKING THE CHAIN

INFECTION TRANSMISSION ROUTES

• Percutaneous exposure
  • Open tissue, lesions, injury, dental care (pt.)
• Mucosal, ocular tissue exposure
  • Absorption
  • Injury (fragile)
• Direct skin contact with source
• Indirect skin contact with contaminated item, surface
  • Instruments, counters, waste, lab case
• Ingestion
• Inhalation – aerosols, droplets

IC 101

• Isolate & separate
• Clean before disinfect/sterilize
• How do microbes die?
  • Heat (how hot? How cold?)
  • Chemicals (Which ones? What concentrations? How toxic?)
  • Is resistance likely?
• Are your systems working?
  • How do you know?

STANDARD PRECAUTIONS

MINIMUM STANDARDS FOR ALL PATIENTS

• Hand hygiene
• PPE
• Respiratory hygiene/cough etiquette
• Sharps safety
• Safe injections
• Instrument, device sterilization
• Environmental asepsis cleaning, disinfection, barriers
Witten protocol shall be developed, maintained, and periodically updated for proper instrument processing, operatory cleanliness, and management of injuries.

STANDARD PRECAUTIONS

• Proven effective for controlling
  • Bloodborne diseases
  • Contact diseases
  • Droplet diseases
• Not effective for airborne diseases

THEY’RE NOT ALL BAD....
BUT SOME ARE

BLOODBORNE DISEASES
EXAMPLES: HIV, HEPATITIS

BLOODBORNE DISEASES

• Acute:
  • Antibodies / drugs may resolve
• Chronic:
  • Antibodies = ineffective

Symptomatic | Asymptomatic

RISK OF INFECTION AFTER NEEDLESTICK

1. Source
   HBV .................
   HCV .................
   HIV .................

2. Risk
   6.0-30.0%
   1.8%
   0.3%

MOST LIKELY DENTAL EXPOSURES

• Percutaneous
  • Needles
  • Burs
  • Instruments, files
• Compromised skin
• Mucosal exposure
• HBV = efficiently transmitted directly & indirectly (survives on surfaces – 7 days)

HBV BOOSTERS & TREATMENT

Boosters?
• Vaccine gives immunologic memory ≥ 23 years
  • No boosters formally recommended
• Boosters may be needed sooner for immunocompromised pts & hemodialysis pts.
• Get tested. Know your status!

Treatment:
• If exposed, TX = booster vaccine, maybe HBIG
• Vaccine MUST be offered, even to pre-vaccinated workers. Best within 24 hrs.)
• Antiviral drugs – IMPROVED

STRETCH YOUR NECK: FRONT, BACK, SIDE TO SIDE.

HEPATITIS C (HCV)
• Most common chronic bloodborne infection in U.S.
• 4 X more than either HBV or HIV
• Some people clear infection
• 85% develop chronic HCV
• Can result in chronic liver disease, cirrhosis, liver cancer, death
• Subclinical, asymptomatic 10 – 20 years
• Some types of HCV can be cured
• Most acute cases – IV drug use

BOOMER GENERATION
• Most chronic HCV carriers are baby boomers
  • Born 1946 – 1964
  • ~75% = unaware of infection

DON’T WAIT FOR SYMPTOMS

TODAY’S TESTING REC’S
• Test all high risk groups
• 1 time test for all baby boomers regardless of risk
  • 60% of DDS’s = born 1945 – 1965
• New Rapid (40 min.) antibody tests
  • Venipuncture, finger-stick (less reliable)
  • OraQuick
  • Detect past or present HCV infection
  • Must be followed up with nucleic acid test (NAT) for viral RNA

HIV UPDATE
• 35 years since CDC first identified HIV
• NO cases of patient to dental worker HIV transmission
• No vaccine, but vital antiretroviral meds cut transmission to partners by 96%
• 20% of infected = unaware of status
• Must be tested to get treated!
• Education is key

HIV / AIDS - CURRENT STRATEGIES
• Rapid HIV type 1 + 2 Test: OraQuick:
  • Mouth swab or blood test
  • 99% accurate, 1 min. result
  • For source person testing or gen. Screening
  • Pre-arrange with Occupational Health M. D.
IS YOUR TEAM SAFE?

SAFE INJECTION PRACTICES

SAFE INJECTIONS

SAFE RE-CAPPING
• Only recap needles using:
  • Scoop technique
  • Mechanical devices
designed to
  • hold needle sheath
  • eliminate need for 2 handed capping

SHARPS & WASTE
• Follow OSHA rules
• Dispose of all sharp items in puncture resistant containers
• Dispose of pharmaceutical waste as per EPA
• Dispose of contaminated solid waste as per EPA

OOPS!!!!!

POST EXPOSURE PROPHYLAXIS
• Exposure packet
  • Phone numbers, forms, driving directions, payment arrangements
• Direct MD re: testing, disclosure, include HCV!
• Rapid HIV, HCV testing
• Response windows for maximum effect:
  • HIV - ART – 2 hours
  • HBV – 24 hours
  • HCV – 24 hours
• PEP follow-up: after exposure test 3-6 weeks, 3-6 months, 9 months
• Counseling
  •

ARE YOU SET UP?
• Are you set up?
• Don’t wait!
• Do it before the crisis

WHAT’S WRONG WITH THIS PICTURE?

WHAT’S WRONG HERE?

WHAT’S YOUR WEAKEST LINK?

ARMS CLASPED BEHIND BACK

EVEN WHEN WE WASH.......

HAND HYGIENE

• Hand hygiene is the single most important factor in transmission of disease
• 88% of dis. Trans. Is by hand contact
• ‘Resident’ skin flora is permanent (IN skin)
• ‘Transient’ flora is temporary (ON skin)

1 MINUTE FIRST WASH OF THE DAY

• Start with clean hands
• Subsequent hand hygiene will be more effective

HOW LONG SHOULD YOU LATHER WHILE WASHING REPEATEDLY DURING DAY?
A. 1 minute
B. 15 seconds
C. 20 seconds
D. 30 seconds

HOW LONG SHOULD YOU LATHER WHILE WASHING REPEATEDLY DURING DAY?
A. 1 minute
B. 15 seconds
C. 20 seconds
D. 30 seconds

MOST RECOMMENDED:
COMBINED PROTOCOL

1 Plain soap – routine handwashing
3 Antimicrobial / alcohol hand rub on unsoiled hands

HOW LONG SHOULD THE ALCOHOL SANITIZER STAY WET ON YOUR HANDS?
2 5 seconds
8 seconds
15 seconds
20 seconds

74 □ **HOW LONG SHOULD THE ALCOHOL SANITIZER STAY WET ON YOUR HANDS?**
   5 seconds
   8 seconds
   15 seconds
   20 seconds

75 □ **IS WATERLESS HAND-RUB EFFECTIVE?**
   • Should have ethanol, not isopropyl alcohol
     • Less drying to skin
     • More effective vs. Viruses
   • Must have enough emollients for heavy clinical use
   • FDA cleared for medical use
     • “Safe and effective”
   • Contact time: 15 sec.

76 □ **IF YOU DON’T USE ALCOHOL SANITIZER**
   1 Plain soap – routine handwashing
   2 Antimicrobial soap periodically

77 □ **COMMON MISTAKES (THAT HARBOR ORGANISMS & MAY DAMAGE GLOVES)**
   • False nails, Nail polish & applications
   • Un-manicured nails
   • Jewelry
   • Petroleum-based products
   • Bar soap

78 □ **COMPROMISED SKIN**
   • Non-intact skin may allow pathogens, irritants, allergens to enter
   • May NOT treat pts. or handle pt. care items until dermatitis resolves

79 □ **HAND HYGIENE**
   • Required B4 & after glove use
   • Why do we wash / sanitize every glove change?
     • Gloves fail
     • Organisms grow under gloves, doubling every 12 min.

80 □ **TATTOO, PIERCING RISKS**
   • Unhealed tattoo, piercing = portal of transmission / exposure
   • Patient and employee awareness / protection
   • Written protocol
Broken skin management:
• Protect skin openings
• Finger cots, double glove
• Change dressings often.
• Illegal to treat patients with infection or weeping dermatitis

WHAT'S YOUR WEAKEST LINK?

PPE: EYE PROTECTION

IS THIS OK?

LOOK OUT!

THE PATIENT HAD HERPES LABIALIS

DENTAL ASSISTANT, CLEANED OP WITHOUT WEARING GLOVES,

HERPES WILL RECUR

SHE RUBBED HER EYE
• Ocular herpes is usually unilateral
• May migrate up nerve from oral infection.
• Recurs, leading to blindness
• 90% of U.S. adults carry herpes
• Neonates contract type 2 at birth

OCULAR HERPES

WEAR MASK UNDER FACE SHIELD FOR LAB WORK & PATIENT CARE

WHAT DO YOU NEED TO KNOW ABOUT EYEWASH STATIONS?
• Location: within 15’ or 10 seconds
• No hot water (tepid!)
• Must deliver ≥ 1.5 L/minute for 15 minutes, single-action & hands-free
• How to activate
• Eyewashes are flushed weekly
• When to use and when NOT to use eyewash stations

WHAT'S YOUR WEAKEST LINK?
97 □ EXERCISE YOUR EYE MUSCLES!

98 □ FOCUS NEAR & FAR (BLINK)

99 □ PPE: GLOVES

100 □

101 □ GLOVES

• How do they fit?
• Are you allergic or sensitive?
  • Latex?
  • Accelerators?
    • Thiuram
    • Carbamate

• Do you trust your gloves?
• 4% may leak
  • Buy quality

102 □ HOW LONG DO GLOVES LAST?

103 □ HOW LONG DO GLOVES LAST?

2 □ No exact data

• Change per patient & when compromised
• No longer than 1 hour

104 □ RESPECT GLOVE LIMITS

105 □ RESPECT GLOVE LIMITS!

106 □ 2016 FDA BAN ON POWDERED GLOVES

• Rule applies to:

CDC MMWR 2003
• All glove types
• Exam & surgical gloves
• Absorbable powder for lubricating surgical gloves
• Powder risks:
  • Increased aerosolized allergens (with latex gloves)
  • Severe airway inflammation
  • Surgical & wound inflammation & post-surgical adhesions

DONNING & REMOVAL
TECHNIQUE & SEQUENCE
DON IMMEDIATELY B4 USE
REMOVE IMMEDIATELY AFTER

• When do you do hand hygiene?

CHOICES WITHIN REACH
WHAT’S YOUR WEAKEST LINK?

BACK, HIP STRETCH

ATD TRANSMISSION
• Inhalation of suspended particles
  • Small fluid droplets dry in nano-seconds, float
  • Particles remain indefinitely

AEROSOL-TRANSMITTED-DISEASES (ATD)
• Require special building design & PPE for safety
• ATD patients must be screened and referred

AIRBORNE DISEASES
• Measles, mumps
• Varicella (including disseminated zoster) Tuberculosis, Flu, SARS, Pertussis

SCREENING FOR ACTIVE CASES
LOOK FOR SYMPTOMS
• Goals = reduce transmission by:
  • Early detection @ check-in
  • Prompt isolation
  • Implement respiratory hygiene / cough etiquette
• Defer elective TX
• Refer emergency / acute cases
  • For dental emergencies
  • For medical care
• Implement appropriate precautions
  • Cal OSHA Title 8, Ch 4
  • Section 5199 Aerosol Transmissible Diseases.
  • California-only regulation.

ANNUAL FLU

INFLUENZA SIGNS & SYMPTOMS
• Fever & chills – sudden onset (102 – 106 degrees)
• Cough (loose, then dry)
• Breathing difficulty
• Sore throat
• Intense body aches, skin sensitivity
• Headache, sinus / nasal pain
• Diarrhea, vomiting

MEASLES – STILL KILLING KIDS
• Leading cause of death in children (worldwide)
• 10-12 day incubation
• High fever (1 wk), runny nose, cough, white spots in mouth: precede rash
  • KOPLIK SPOTS

WHOOPING COUGH ADULT
PERTUSSIS: VIOLENT “PAROXYSMS”
• Uncontrollable “100 day cough”
• Breaks ribs, causes vomiting, urination....
• Etiology: bacterium Bordetella pertussis
• Strips cilia, mucus stagnates, airways = raw, sensitive to touch, air, water...
• Confused with cold, symptoms build
  • light fever
  •
• Vaccinate! Note: TDaP given every 10 years
• Pertussis part found to fade before 10 yrs

MAKE SURE YOU ARE PROTECTED!
• HBV
  • Influenza
• Measles
• Mumps
• Rubella
• Varicella-Zoster
• Pertussis
• www.CDC.gov: new adult vaccine recs
• OSHA policies:
  • New hires & employees
• Tetanus
• Polio
• Pneumonia
• Meningitis
• HPV

129 BREAK!

130 TUBERCULOSIS POLICY
• MDR TB = worldwide risk
• Develop TB program appropriate to risk
• Tuberculin skin test (TST) when hired & per risk
• Ask all pts:
  • History of TB?
  • Symptoms of TB?

131 2017: CAMBODIA TB EPIDEMIC

132 ACTIVE TB

133 SCREEN FOR ACTIVE TB:
• Productive cough (> 3 weeks)
  • Bloody sputum
• Night sweats
• Fatigue
• Malaise
• Fever
• Unexplained weight loss
• If yes: medical referral, (reportable)

134 MYCOBACTERIUM TUBERCULOSIS
• Mtb infection is NOT synonymous with ACTIVE TB!
• Positive skin test does NOT mean ACTIVE TB!

135

136 HAVE YOU BEEN VACCINATED AGAINST TB?:
Instead of skin test:
• TB blood tests (interferon-gamma release assays or IGRA), unlike the TB skin test are not affected by prior BCG vaccination
• Symptom tests
• ATD screening form
• Chest X-ray?

• NEXT: ATD screening form:

137 □ TB, FLU & OTHER ATD’S
ASK: DO YOU HAVE....

1. • TB
   • Fever, cough....
   • Flu
     • Fever?
     • Body aches?
     • Runny nose?
     • Sore throat?
     • Headache?
     • Nausea?
     • Vomiting or diarrhea?

   If yes, re-appoint, refer

2. • Pertussis, measles, mumps, rubella, chicken pox, meningitis
   • Fever, respiratory symptoms +
   • Severe coughing spasms
   • Painful, swollen glands
   • Skin rash, blisters
   • Stiff neck, mental changes

138 □ CHRONIC RESPIRATORY DISEASES (NOT ATD’S, NO FEVER)
• Asthma
• Allergies
• Chronic upper airway cough syndrome “postnasal drip”
• Gastroesophageal reflux disease (GERD)
• Chronic obstructive pulmonary disease (COPD)
• Emphysema
• Bronchitis
• Dry cough from ACE inhibitors

139 □ DENTAL WORKER HEALTH
• Symptomatic workers must be evaluated promptly
• No work until:
  • MD rules out ATD or
  • Worker is on therapy & is noninfectious
RESPIRATORY HYGIENE / COUGH ETIQUETTE

COVER YOUR COUGH SUPPLIES

RESPIRATORY HYGIENE, COUGH ETIQUETTE POST SIGNS

• Cover your cough (lists symptoms patients should report to staff)
• Cover your cough instructions and fliers in several languages
  http://www.cdc.gov/flu/protect/covercough.htm

WHAT'S YOUR WEAKTEST LINK?

STRETCH BACK OF NECK

• Turn head away from tight side
• Look down, feel stretch
• Hold chair on tight side
• Pull head forward with other hand
• Repeat, looking up

PPE: SURGICAL MASKS

• Masks are bi-directional barriers
• You & patients depend on them for:
  • Coverage (mouth & nose)
  • Filtration (particles, germs)
  • Fluid protection

MASKS “SINGLE-USE, DISPOSABLE” CHANGE BETWEEN PATIENTS OR SOONER §1005 (B) (4)

IDENTIFY THE MASK YOU USE

• ASTM level 1
• ASTM level 2
• ASTM level 3
• Don’t know
ASTM LEVELS

KNOW MASK LIMITS
- Mask degrades from;
  - Perspiration
  - Talking
  - Sneezing
  - Length of time mask is worn
  - Dust, spray
- Shield may lengthen use-life
- Position mask to "stand out" from face
- 20 min - 1 hour!

MASK FIT

LASER RESPIRATORY PROTECTION
- N95 / N100 respirators
- Or: full face shield & level 3 mask
- Facial fit = vital
- Fluid resistance
- Suction / filtration placed 1” from site
- Eye protection

CLINIC ATTIRE
- Protective attire
- Comply with Cal/OSHA regs
  - §1005 (b) (5)

WHAT’S YOUR WEAKEST LINK?

STRETCH CHEST AND SHOULDERS
- Place hands behind hips
- Inhale slowly, bringing elbows back
- Exhale slowly, bring elbows forward, bend head forward
- Stretch shoulders across your chest

OPERATORY ASEPSIS

DENTAL AEROSOLS – VISIBLE?

REMOVE CLUTTER
SIMPLIFY SURFACES

Environmental disinfection = cardinal feature in dentistry

LOAD TRAYS OUTSIDE OPERATORY

WHAT IS YOUR PROTOCOL FOR RETRIEVING ITEMS DURING PROCEDURES?

BARRIERS PREVENT CONTAMINATION OF HARD-TO-CLEAN SURFACES

DISINFECT WHEN CHANGE BARRIERS?

USE FDA CLEARED MEDICAL GRADE BARRIERS (TESTED FOR VIRAL & BACTERIAL PENETRATION)

MICROBIAL RESISTANCE TO KILLING

- Prions
- Bacterial endospores
- Fungal spores
- Mycobacteria - *Mycobacterium tuberculosis*
- Nonlipid or small viruses (Non enveloped) - *Polio virus, enteroviruses*
- Fungi - *Trichophyton spp.*
- Vegetative bacteria - *Pseudomonas aeruginosa, Staphylococcus aureus*
- Lipid (enveloped) or medium-sized viruses - *Herpes simplex virus, hepatitis A, B & C virus, HIV, Ebola* (CDC)

FOLLOW LABEL DIRECTIONS

- Clean before disinfecting
- Proteins neutralize disinfectants
- Wear Utility gloves

CLEAN & DISINFECT – 2 STEPS!

<table>
<thead>
<tr>
<th>CLEANING</th>
<th>DISINFECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray</td>
<td>Wipe</td>
</tr>
<tr>
<td></td>
<td>Spray</td>
</tr>
</tbody>
</table>

CLEAN BEFORE DISINFECTING

LEAVE FOR STATED TIME

ARE YOU CLEANING BEFORE DISINFECTING???

- It depends on technique
- And product selection

WHICH PRODUCTS CLEAN?

EFFECTS OF ALCOHOL CONCENTRATION

* WHAT IS THE ACTIVE INGREDIENT?
* TB KILL TIME?
WHICH PRODUCTS CLEAN?

ONE OFFICE.... MANY PRODUCTS

DENTAL LAB ASEPSIS

- Splash shields
- Fresh pumice
- Sterilized / new rag-wheels for EACH pt.
- Sterilize / discard equipment used on contaminated dental devices
- Clean & disinfect lab cases with intermediate-level disinfectant & rinse B4 placement in pt.

WHAT’S YOUR WEAKEST LINK?

STRETCH BACK & NECK

WATER IN TUBES

DENTAL WATER QUALITY

DUWL – RELATED DEATH (2011) LANCET

- 82-yr old Italian Woman
- Legionnaires’ dis (L. pneumophila)
- Proven from dentist’s waterlines
- No other exposures

2015 MYCOBACTERIUM ABSCESSUS INFECTIONS - GEORGIA

- 9 pediatric infections confirmed after pulpotomies
  - 11 more probable cases
- Single location
- All pts were immunocompetent
- No deaths; hospitalizations, IV antibiotics, surgeries
- Dept. of Health notified Atlanta Dentists:
  - Follow DUWL disinfection protocol
  - Meet DUWL potable & surgical standards
  - Monitor DUWL
  - Promptly report suspected outbreaks

2016 MYCOBACTERIUM ABSCESSUS INFECTIONS – ANAHEIM, CALIFORNIA

- >72 pediatric infections confirmed after pulpotomies, children hospitalized
  - Children developed cellulitis
  - Symptoms: persistent fever, swelling – does not respond to TX.
  - Symptoms start 15 – 85 days after TX.
  - TX = long term hospitalization, IV antibiotics
  - >500 patients notified
• *M. abscessus* = waterborne
• Facility closed, ongoing issue: many other legal claims

195 □ N. A. MORALES POST-PULPOTOMY *MYCOBACTERIUM ABSCESSUS*

196 □ N. A. MORALES, AFTER 1 MO. HOSPITALIZATION

197 □ 2016 *MYCOBACTERIUM ABSCESSUS*
INFECTIONS - CALIFORNIA

Professional Standards:
• Pulpotomies must include pulp area “sterilization”
• And/or surgical standards
• All DUWL must meet potable standards
• Implies need to validate
  • [www.ochealthinfo.com/dentaloutbreak](http://www.ochealthinfo.com/dentaloutbreak)
• Cal passed specific laws (pulpotomies)

198 □ 2 STANDARDS FOR WATER SAFETY

• Sterile - for surgery, (cutting bone, normally sterile tissue)
  • 0 CFU/mL of heterotrophic water bacteria
  • CDC special update, OSAP, Dental Board law
• Potable - for non- surgical procedures -
  • 500 CFU/mL of heterotrophic water bacteria (meets EPA safe drinking water standards)
  • CDC, OSAP, EPA, Dental Board

199 □ HOW TO MEET

2 WATER STANDARDS

• Surgical Standard: USP sterile water & sterile delivery system
  • Bulb or other syringe
  • Peristaltic pump, sterile lines
  • Aqua-Sept

• http://www.cdc.gov/oralhealth/infectioncontrol/questions/oral-surgical-procedures.html

200 □ HOW TO MEET

2 WATER STANDARDS

• Non-surgical dentistry: Potable (500 CFU/mL)
  • Chemical treatment
    • Reservoirs
    • Cartridges

201 □ FOR POTABLE WATER

YOUR OFFICE SHOULD:

A. Flush lines in AM for 2 min./line (handpieces off)
B. Flush lines between patients for 20 sec.
C. Add antimicrobial product to patient treatment water
D. Shock periodically – remove attached biofilm
E. Follow Manufacturer’s directions for use (dental unit & DUW product)
F. Monitor water (test)

202 □ SIMPLE FLUSHING OF WATERLINES
* Flushing is important: flushing removes planktonic contaminants
BUT: flushing alone is NOT a reliable way to control DUWL biofilms.

203 □ WATERLINE TREATMENT OPTIONS
• Chemical “Shock” - removes biofilm
  • Sterilex, bleach
  • Caustic, may injure tissue. Rinse!
• Continuous chemical “maintenance” - prevents biofilm, keeps CFU’s low.
  • DentaPure 1/year (dry bottle at night)
  • BluTab (Silver ions) – ProEdge (keep bottle on)
  • ICX (Silver ions) – Adec
  • Team Vista - HuFriedy

204 □ HOW WELL ARE WE DOING?
DUWL TESTING RESULTS:

205 □ HOW DO YOU KNOW YOUR WATERLINES ARE SAFE?
• Loma Linda University Waterline Testing
• ProEdge Waterline Testing

206 □ USE ASEPTIC TECHNIQUE TO DRAW SAMPLES
• May pool samples from single bottle
• Limit to 3 ports

207 □ QUICKPASS™ IN-OFFICE WATER TEST
• 48-72 Hour Incubation
• Neutralization formula within the paddle
  * ProEdge Dental

208 □ YOU CAN DO IT!

209 □ TREAT, SHOCK, AND TEST ALL WATERLINES

210 □

211 □ STRETCH

212 □ INSTRUMENT PROCESSING:
HIGHEST LEVEL OF ASEPSIS

213 □ INSTRUMENT PROCESSING
“TRAFFIC FLOW”
RESPECT DIRTY CLEAN STERILE AREAS

HOW DO YOU TRANSPORT?

→

SAFE TRANSPORT?

CASSETTES, TUBS, TRAYS WITH LIDS

THIS IS NOT THE FIRST STEP!

PRE-CLEANING / HOLDING:
ENZYME PREVENTS DEBRIS ADHERENCE – AVOID SCRUBBING

ULTRASONIC CLEANING
ALLOW BUBBLES TO WORK

USE BASKET OR TONGS

CASSETTE DESIGN

IS THIS OK?

INSTRUMENT WASHERS & CASSETTES
• Safer – less handling of sharps
• More efficient:
  • Saves ~ 1 hour / 9 pt. Set-ups
  • Space management:
    Less space needed for instrument cleaning, sorting, ultrasonic, drying
• Software sends error messages to dealer & office
• 40 min. Cycle (dry)

COMMON CLEANING ERRORS
1 Ultrasonic
  2 • Insufficient time
    • Detergent concentration
    • Ineffective cavitation
    • Inappropriate temperature
    • Overloading
Washer-Disinfector

- Wrong cycle ("rinse-hold")
  - Inadequate water spray: spray impingement
  - Clogged spray arms
  - Pump/line clog or malfunction
  - Overloading

**ONLY SCRUB IF DEBRIS REMAINS AFTER CLEANING....**

**MONITORS HELP VISUALIZE SOIL REMOVAL**

**NON-TOXIC SYNTHETIC BLOOD/DEBRIS**

**HOLDER ↓**

**CHECK ULTRASONICS OR WASHERS**

**HANDPIECE ISSUES**

- Clean with soap & water, alcohol??
- Lubricate
- Wrap
- Leaked oil compromises paper barrier
  - Durability
  - Sterility

**CDC:**

- Must heat sterilize ALL removable handpieces, even slow speeds
  - *electric handpieces: housing / sleeves = sterilizable, but micromotors may not be!*

**IF YOU DON’T CLEAN IT**

- You can’t disinfect it
- You can’t sterilize it

**DENTAL ADVISOR STUDY**

**J. A. MOLINARI, P. NELSON (DENTAL ADVISOR, 2012)**

- ~10% of used & sterilized metal tips showed microbial contamination
- Visual debris was found

**SINGLE-USE DISPOSABLES**

**WHAT’S WRONG HERE?**

**PAPER UP? OR, PAPER DOWN?**

**WHAT’S WRONG?**
WET WRAPS WICK & TEAR

WHAT'S WRONG?

CASSETTES MUST BE WRAPPED UNLESS USED IMMEDIATELY

EXCEPT THIS ONE!

HOW FAST DO YOU NEED TO USE A FLASH-STERILIZED INSTRUMENT?

IMMEDIATELY!

STERILIZER MONITORING

• Old: Indicators: per package
  • Heat
• New: Class 5 indicators: per load / package
  • Time, temperature, pressure
• Biological Monitors: weekly
  • Non-pathogenic spores
• Keep logs & written reports

CHEMICAL INDICATORS

CLASS 5

ARE YOU LABELING (DATING) STERILIZATION PACKAGES?

A. Yes
B. No
C. Only surgical packages
D. Only implantable devices

ARE YOU LABELING (DATING) STERILIZATION PACKAGES?

A. Yes
B. No
C. Only surgical packages
D. Only implantable devices
E. * Sharpee industrial permanent markers withstand 500 degrees

WHY LABEL PACKAGES?

A. To re-sterilize after 3 months
B. To identify date of sterilization in case of (+) growth spore test
C. To identify person sterilizing items

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WHERE DO YOU LABEL?
254  2 STERILIZATION LOGS
   • 1: Log of each cycle for each sterilizer
      • Class 5 Indicator strip results
         • Sterilizer
         • Date
         • Indicator pass/fail
         • Initial
         • Machine print-out
   • 2: Biological test results

255  WHAT’S YOUR WEAKEST LINK?

256  MEASURING RISK: DOSIMETERS

257  X-RAY DOSIMETERS – FIXED EQUIPMENT
   • Dosimeters not required with mounted units, BUT:
   • Must prove each employee has ≤ 10% of 5 rems annual exposure.
   • Use dosimeters periodically (1 year on, 2 years off...)
   • Monitor with ANY new equipment
   • Pregnant employees must wear dosimeters - entire pregnancy (as long as employer knows)

258  X-RAY DOSIMETERS – PORTABLE EQUIPMENT
   • MUST wear dosimeters with portable x-ray systems
   • Evaluate dosimeters monthly
   • Records must be available to Dept. of Public Health
   •
   •
   •

   Section 30253, California Code of Regulations (CCR), Title 17

259  TOP (GENERAL) SAFETY GOALS
   • Written Safety Program
   • Safety Manager
   • Recognize & Understand Risks
   • Implement Standard Precautions
   • Plan for exceptions and accidents
   •

260  TOP 12 SAFETY GOALS
1. Written Safety Program
   • OSHA manual – personalize & update it
   • Enforce it
   • IC laws
   • Download CDC recommendations!
   • Instructions for use, operation manuals....
2. Safety Manager
3. Recognize & Understand Risks

261 TOP 12 SAFETY GOALS
4. Hand Hygiene
   • Calibrate staff
   • Technique
   • Hand care rules
   • Supplies & set-up
   • Products
   • Facility
5. Surface asepsis
   • Follow directions
   • Clean & disinfect
   • Barriers

262 TOP 12 SAFETY GOAL
6. PPE – Use correctly & respect their limits
   • Gloves
     • Select for fit, reliability
     • Change 20 min – 1 hr.
   • Masks
     • Select appropriate ASTM levels
     • Avoid cross-contamination
     • Change 20 min – 1 hr.

263 TOP 12 SAFETY GOALS
7. Vaccines
   • Educate staff (CDC.gov)
8. Sharps safety
   • Handling & waste
9. Instrument sterilization
   • Organize sterilization pathway
   • Instrument cassettes
   • Instrument washer
   • Monitor cleaning
   • Use class 5 indicators
   • Keep logs

264 TOP 12 SAFETY GOALS
10. Dental waterline management
   • Insure sterile water for surgeries
   • Insure potable standard for non-surgeries
   • Control waterline contamination
   • Monitor waterline safety

265 TOP 12 SAFETY GOALS
11. Screen patients for active ATD's
    • Take temperatures
    • Know symptoms
    • Notify patients & staff about ATD policy
    • TB policy: test staff
    • Respiratory hygiene, cough etiquette

266 TOP 12 SAFETY GOALS
12. PEP “Plan B”
    • Exposure incident package
    • Records
    • Follow-up
    • Stay alert for extraordinary cases

267 WHAT YOU DO OVER & OVER

268 TEAMWORK!