

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
 - Written Safety Program
 - OSHA Manual, Bloodborne Pathogen Standard
 - OSHA = prohibited from regulating patient protection protocol
 - Go to CDC, OSHA, State Board, ADA, OSAP
 -

4 **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

5 **2016 CDC RECOMMENDATIONS**

<http://www.cdc.gov/OralHealth/infectioncontrol/guidelines/index.htm>

Checklists!

To be used along with 2003 Infection Control Recommendations

6 **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.

7 **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
 -

8 **TOP 5 SAFETY GOALS**

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- Assign a person
 - Safety Manager
- Identify the enemy
 - Recognize & Understand Risks

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- Keep everyone safe
 - Implement Standard Precautions

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- Plan B
 - Plan for exceptions and accidents

11 **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

12 **UN'S GLOBALLY HARMONIZED SYSTEM - HAZARD WARNING OSHA CHEMICAL CLASSIFICATIONS**

- MSDS = SDS, now 16 sections, in specific format
 - Health risks
 - Chemical risks

13 **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
-

14 **PICTOGRAM + SINGLE WORD WARNING**

15 **CHAIN OF INFECTION**

16 **BREAKING THE CHAIN**

17 **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

18 **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?
 -

19 **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

Written protocol shall be developed, maintained, and periodically updated for proper instrument processing, operatory cleanliness, and management of injuries.

20 **STANDARD PRECAUTIONS**

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

21 **BLOODBORNE DISEASES
SYMPTOMATIC OR ASYMPTOMATIC**

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

22 **RISK OF INFECTION AFTER NEEDLESTICK**

- 1 Source
HBV

HCV

HIV

2 Risk

6.0-30.0%

1.8%

0.3%

23 **MOST LIKELY DENTAL EXPOSURES**

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

24 **HBV BOOSTERS & TREATMENT**

Boosters?

- Vaccine gives immunologic memory \geq 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

25 **HEPATITIS C (HCV)**

- Most common chronic bloodborne infection in U.S.
- 2.7 – 3.9 million Americans have chronic HCV
 - 4 X more than either HBV or HIV
 - In 2016: 15K HBV cases, 149K HCV cases
 -
- Most chronic HCV carriers are baby boomers
 - Born 1946 – 1964
 - ~75% = unaware of infection

26 **HEPATITIS C (HCV)**

- 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
- Highest death rate: aged 55 – 64 years & Native Americans
- No vaccine (CDC.gov April 2018)

HCV-related oral ulcerative lesions →

27 **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

28 **WHY SHOULD YOU GET TESTED FOR HEPATITIS C (HCV) ?**

- Antiviral drugs:
 - Eliminate virus or lower viral load
 - May reduce complications & progression
- Some types of HCV can be cured

29 **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

30 **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.

31 **SAFE RE-CAPPING**

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

32 **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

33 **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
 -
 -

34 **WHAT'S YOUR WEAKEST LINK?**

35 **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)

36 **1 MINUTE FIRST WASH OF THE DAY**

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

37 **HOW LONG SHOULD YOU LATHER WHILE WASHING REPEATEDLY DURING DAY?**

- A. 1 minute
- B. 15 seconds
- C. 20 seconds
- D. 30 seconds

38 **MOST RECOMMENDED:
COMBINED PROTOCOL**

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

39 **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.

40 **IF YOU DON'T USE ALCOHOL SANITIZER**

- 1 Plain soap – routine handwashing
- 2 Antimicrobial soap periodically

41 **COMMON MISTAKES
(THAT HARBOR ORGANISMS &
MAY DAMAGE GLOVES)**

- False nails, Nail polish & applications
- Un-manicured nails
- Jewelry
- Petroleum-based products
- Bar soap

42 **HAND ASEPSIS: DID YOU KNOW...**

- Inflamed, irritated skin retains more bacteria, (handwashing = less effective)

43 **COMPROMISED SKIN**

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

44 **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.

45 **TATTOO, PIERCING RISKS**

- Unhealed tattoo, piercing = portal of transmission / exposure
- Patient and employee awareness / protection
- Written protocol

46

Broken skin management:

- Protect skin openings
- Finger cots, double glove
- Change dressings often.
- Illegal to treat patients with infection or weeping dermatitis

47 **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

48 **WEAR MASK UNDER FACE SHIELD FOR LAB WORK & PATIENT CARE**

49 **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

50 **GLOVES**

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

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

51 **HOW LONG DO GLOVES LAST?**

- 2
- No exact data
 - Change per patient & when compromised
 - No longer than 1 hour

52 **RESPECT GLOVE LIMITS!
WHAT DESTROYS GLOVES?**

- Soap
- Water
- Oils – all types
 - Petroleum, lanolin, mineral, palm & coconut oils
 - Emollients in products
 - Make-up
- Sweat, dental materials
- Stretching, donning, removing
- Use!!!-

CDC MMWR 2003

53 **2016 FDA BAN ON POWDERED GLOVES**

- Rule applies to:
 - 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

54 **DONNING & REMOVAL
TECHNIQUE & SEQUENCE
DON IMMEDIATELY B4 USE
REMOVE IMMEDIATELY AFTER**55

- When do you do hand hygiene?

56 **ATD TRANSMISSION**

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

57 **AEROSOL-TRANSMITTED-DISEASES (ATD)**

- Require special building design & PPE for safety
- ATD patients must be screened and referred

58 **AIRBORNE DISEASES**

- Measles, mumps
- Varicella (including disseminated zoster) Tuberculosis , Flu, SARS, Pertussis
-

59 **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.

60 **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

61

62 **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

63 **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

64 **MAKE SURE YOU ARE PROTECTED!**

1

- HBV
- Influenza
- Measles
- Mumps
- Rubella
- Varicella-Zoster
- Pertussis
-
- www.CDC.gov: new adult vaccine recs
- OSHA policies:
 - New hires & employees
-

2

- Tetanus
- Polio
- Pneumonia
- Meningitis
- HPV

65 **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?

66 **SCREEN FOR ACTIVE TB:**

- Productive cough (> 3 weeks)
 - Bloody sputum
- Night sweats
- Fatigue
- Malaise
- Fever
- Unexplained weight loss
- If yes: medical referral, (reportable)

67 **MYCOBACTERIUM TUBERCULOSIS**

- Mtb infection is NOT synonymous with ACTIVE TB!
- Positive skin test does NOT mean ACTIVE TB!

68

69 **HAVE YOU BEEN VACCINATED AGAINST TB?:**

Instead of skin test:

- TB blood tests (interferon-gamma release assays or IGRAs), unlike the TB skin test are not affected by prior BCG vaccination
- Symptom tests
- ATD screening form
- Chest X-ray?
-
- NEXT: ATD screening form:

70 **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
- 71 **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
- 72 **DENTAL WORKER HEALTH**
 - Symptomatic workers must be evaluated promptly
 - No work until:
 - MD rules out ATD or
 - Worker is on therapy & is noninfectious
- 73 **COVER YOUR COUGH SUPPLIES**
- 74 **RESPIRATORY HYGIENE, COUGH ETIQUETTE
POST SIGNS**
 - Cover your cough (lists symptoms patients should report to staff)
 - <http://www.cdc.gov/ncidod/dhqp/pdf/Infdis/RespiratoryPoster.pdf>
 - Cover your cough instructions and fliers in several languages
 - <http://www.cdc.gov/flu/protect/covercough.htm>
- 75 **PPE: SURGICAL MASKS**
 - Masks are bi-directional barriers
 - You & patients depend on them for:
 - Coverage (mouth & nose)
 - Filtration (particles, germs)
 - Fluid protection
 -
- 76 **MASKS "SINGLE-USE, DISPOSABLE"
CHANGE BETWEEN PATIENTS OR SOONER**
- 77 **MASK FILTRATION**
- 78 **IDENTIFY THE MASK YOU USE**
 - ASTM level 1
 - ASTM level 2

- ASTM level 3
- Don't know

79 **ASTM LEVELS**80 **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!
-

81 **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
- Post danger sign

82 **CLINIC ATTIRE**

- Protective attire
- Comply with Cal/OSHA regs
-

§1005 (b) (5)

83 **OPERATORY ASEPSIS**84 **DENTAL AEROSOLS – VISIBLE?**85 **REMOVE CLUTTER**86 **SIMPLIFY SURFACES**

Environmental disinfection = cardinal feature in dentistry

87 **LOAD TRAYS OUTSIDE OPERATORY**88 **WHAT IS YOUR PROTOCOL FOR RETRIEVING ITEMS DURING PROCEDURES?**89 **BARRIERS PREVENT CONTAMINATION OF HARD-TO-CLEAN SURFACES**90 **DISINFECT WHEN CHANGE BARRIERS?**91 **USE FDA CLEARED MEDICAL GRADE BARRIERS
(TESTED FOR VIRAL & BACTERIAL PENETRATION)**

92 **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)

93 **FOLLOW LABEL DIRECTIONS**

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

94 **CLEAN & DISINFECT – 2 STEPS!****CLEANING**

Spray

DISINFECTION

Wipe

Spray

95 **CLEAN BEFORE DISINFECTING**96 **LEAVE FOR STATED TIME**97 **ARE YOU CLEANING BEFORE DISINFECTING???**

It depends on technique
And product selection

98 **EFFECTS OF ALCOHOL CONCENTRATION**99 *** WHAT IS THE ACTIVE INGREDIENT?*** **TB KILL TIME?*** **WHICH PRODUCTS CLEAN?**100 **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.

101 **DENTAL WATER QUALITY**102 **DUWL – RELATED DEATH (2011)
LANCET**

- 82-yr old Italian Woman
- Legionnaires' dis (*L. pneumophila*)
- Proven from dentist's waterlines

- No other exposures
-

103 **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

104 **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
-
-

105 **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
- Cal passed specific laws (pulpotomies)

106 **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

107 **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>

108 HOW TO MEET

2 WATER STANDARDS

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

109 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.
- E. Follow Manufacturer's directions for use (dental unit & DUW product)
- F. Monitor water (test)

110 SIMPLE FLUSHING OF WATERLINES

- * Flushing is important: flushing removes planktonic contaminants
- BUT: flushing alone is NOT a reliable way to control DUWL biofilms.
-

111 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

112 HOW DO YOU KNOW YOUR WATERLINES ARE SAFE?

- Loma Linda University Waterline Testing
- ProEdge Waterline Testing

113 USE ASEPTIC TECHNIQUE TO DRAW SAMPLES

- May pool samples from single bottle
 - Limit to 3 ports
- 114 **QUICKPASS™ IN-OFFICE WATER TEST**
- 48-72 Hour Incubation
 - Neutralization formula within the paddle
 - * ProEdge Dental
- 115 **TREAT, SHOCK, AND TEST ALL WATERLINES**
- 116
- 117 **INSTRUMENT PROCESSING:
HIGHEST LEVEL OF ASEPSIS**
- 118 **INSTRUMENT PROCESSING
“TRAFFIC FLOW”**
- 119 **RESPECT DIRTY CLEAN STERILE AREAS**
- 120 **SAFE TRANSPORT?**
- 121 **CASSETTES, TUBS, TRAYS WITH LIDS**
- 122 **THIS IS NOT THE FIRST STEP!**
- 123 **PRE-CLEANING / HOLDING:
ENZYME PREVENTS DEBRIS ADHERENCE – AVOID SCRUBBING**
- 124 **ULTRASONIC CLEANING
ALLOW BUBBLES TO WORK**
- 125 **USE BASKET OR TONGS**
- 126
- 127 **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)
 -
- 128 **COMMON CLEANING ERRORS**
- 1 Ultrasonic
 - 2
 - Insufficient time
 - Detergent concentration
 - Ineffective cavitation
 - Inappropriate temperature
 - Overloading

3 Washer-Disinfector

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

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

130 **MONITORS HELP VISUALIZE SOIL REMOVAL**

NON-TOXIC SYNTHETIC BLOOD/DEBRIS

HOLDER ↓

131 **CHECK ULTRASONICS OR WASHERS**

132 **HANDPIECE ISSUES**

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

133 **CDC:**

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

134 **IF YOU DON'T CLEAN IT**

- You can't disinfect it
- You can't sterilize it

135 **DENTAL ADVISOR STUDY**

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

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

136 **SINGLE-USE DISPOSABLES**

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

138 **WET WRAPS WICK & TEAR**

139 **CASSETTES MUST BE WRAPPED UNLESS USED IMMEDIATELY**

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

141 **IMMEDIATELY!**

142 **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

143 **CHEMICAL INDICATORS**

CLASS 5

CLASS 4

144 **ARE YOU LABELING (DATING) STERILIZATION PACKAGES?**

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

* Sharpee industrial permanent markers withstand 500 degrees

145 **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

146 **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

147 **WHAT'S YOUR WEAKEST LINK?**

148 **MEASURING RISK: DOSIMETERS**

149 **X-RAY DOSIMETERS – FIXED EQUIPMENT**

- Dosimeters not required with mounted units, BUT:
- Must prove each employee has $\leq 10\%$ 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)

150 **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
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Section 30253, California Code of Regulations (CCR), Title 17

151 **TOP (GENERAL) SAFETY GOALS**

- Written Safety Program
- Safety Manager
- Recognize & Understand Risks
- Implement Standard Precautions
- Plan for exceptions and accidents
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152 **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

153 **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

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154 **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.

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155 **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
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156 **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
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157 **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

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158 **TOP 12 SAFETY GOALS**

12. PEP "Plan B"
 - Exposure incident package
 - Records
 - Follow-up
 - Stay alert for extraordinary cases
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159 **WHAT YOU DO OVER & OVER**