1 ☐ **INFECTION CONTROL IN THE TIME OF COVID**

2 ☐ **SARS-COV-2 HAS CHANGED DENTAL SAFETY STANDARDS**
- Consider everyone infectious for ALL types of diseases, including aerosol-transmitted diseases
- Plan for safer buildings, more air management
- Upgrade traditional PPE
- Exposure response
- Apply today's lessons to your healthy future!

3 ☐ **EVOLVING RULES, RECOMMENDATIONS:**
RISK BALANCED WITH URGENCY
- Interim recommendations – increase safety precautions over Standard Precautions
  - But provide crisis compromises – preserve PPE, alternative PPE, supplies, practices
- Local infection activity, pathogen risk influence urgency
- Recommendations change & evolve
- Laws take time
-

4 ☐ **HIERARCHY OF   RULES**
- OSHA: Occupational Safety & Health Administration laws
  - Based on CDC recs
- State Board laws
  - Include CDC & OSHA & ADA standards
- Civil & Health Dept…. laws
- FDA, EPA laws
- Instructions for use
- CDC Recommendations
  - Based on research
  - Set standards, not "laws"
- Consensus standards, Expert statements, ADA, OSAP, NIOSH, CDA
- Competition, marketing, reputation

5 ☐ **MUST POST IN OFFICE:**

Appendix 3
Dental Board of California
Infection Control Regulations

California Code of Regulations Title 16 Section §1005
Minimum Standards for Infection Control

All DHCP must comply & follow OSHA laws
(b) (1-3)

6 ☐ **OSHA, CDC, ADA, CDA, OSAP**
COVID-19 RECOMMENDATIONS
- www.osha.gov/covid-19

- https://www.osha.gov/SLTC/covid-19/dentistry.html
- https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html
- https://pages.ada.org/return-to-work-toolkit-american-dental-association?utm_campaign=covid-19-Return-to-Work-Toolkit&utm_source=cpsorg-alert-bar&utm_medium=cpsalertbar-virus&utm_content=covid-19-interim-return-to-work https://www.cda.org/Home/News-and-Events/COVID-19-coronavirus-Updates
- https://cdn.ymaws.com/www.osap.org/resource/resmgr/dentaquest/INC-1353_Best_Practices_for_.pdf

7 UPDATE & EDIT YOUR IC PLAN

- Injury & Illness Prevention Program
  - OSHA manual (CDA)
  - Standard Operating Procedures (SOP's) = written step-by-step plans
- Instructions for Use, SDS & logs
- Calibration & training
- New: Create Respiratory Protection Program! (referring employer)

8 UPDATE & EDIT YOUR IC PLAN

- Add addendum to Injury & Illness Prevention Program
  - Written COVID-19 prevention plan (Title 8 Section 3205)
  - CDA.org
- ATD screening & plan (Cal. OSHA Title 8 Ch. 4, Section 5199. Aerosol Transmitted Diseases)
- CDC updates & IC recommendations

9 OSHA REG'S

Bloodborne Pathogen standard
(29 CFR 1910.1030)
(BBP does not address respiratory secretions)
 Personal Protective Equipment
(29 CFR 1910.132)
Respiratory Protection standards
(29 CFR 1910.134)
the Aerosol Transmissible Diseases (ATD) standard
(CCR Title 8, Section 5199)

10 REQUIRED DOCUMENTS & POLICIES
DO YOU KNOW WHERE THESE ARE?

- OSHA BBP manual
  - Injury & Illness Policy (IIP)
- Equipment instruction manuals, directions
- Safety Data Sheets – chemical products
- Logs & Standard Operating Procedures –
  - Demonstrate compliance & set policy
- Respiratory Protection Program
- Addendum to IIP – COVID-19 & ATD's
- The California Workplace Guide to Aerosol Transmissible Diseases
- Cal OSHA ATD Referring Employer Written Procedures (references CDC)

11 **OSHA EMPLOYEE RISK CATEGORIES**

Occupational exposure is defined in 8 CCR 5199 as exposure from work activity or working conditions that is reasonably anticipated to create an elevated risk of contracting any disease caused by aerosol transmissible pathogens (ATPs) or aerosol transmissible pathogens-laboratory (ATPs-L) if protective measures are not in place. In this context, "elevated" means higher than what is considered ordinary for employees having direct contact with the general public outside of the facilities, service categories, and operations listed in subsection (a)(1) of this standard.

• "Our employees in the following job categories have occupational exposure to ATDs":

1. Clinic employees
2. Janitors
3. Administrators
4. Lab tech's

12 **INFECTIOUS DISEASES**

• Bloodborne diseases are critical but......

• 80% of common infections (colds, flu, diarrhea) – spread by contact, air, water, food, fomites

• Stay informed:

• ADA.org, CDC.gov, OSAP.org, AGD.org, https://www.ctdol.state.ct.us/contactinfo/DOL-Divisions/CONN-OSHA.htm

13 **OSHA: DENTISTRY = "VERY HIGH RISK" CATEGORY**

• Enclosed spaces, >15 min. during and after tx
• Proximity (<6')
• Aerosols & droplets: (handpieces, ultrasonic scalers & air-water syringes)
• Asymptomatic carriers
• Lack of dental indoor air quality management & guidelines
• Unknown ventilation effectiveness

https://www.osha.gov/SLTC/covid-19/dentistry.html
https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html

•

14 **CHAIN OF INFECTION**

15

16 **STANDARD PRECAUTIONS**

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

17 ☐ **STANDARD PRECAUTIONS**
MINIMUM STANDARDS FOR ALL PATIENTS

Review & optimize:
- Hand hygiene
- PPE
- Respiratory hygiene / cough etiquette
- Sharps safety
- Safe injections
- Instrument, device sterilization
- Environmental asepsis cleaning, disinfection, barriers

18 ☐ **COVID-19: DROPLET, CONTACT & AEROSOL TRANSMISSION**
- Coughing, sneezing, laughing project droplets – 3-6+'
- Dentistry creates droplets & aerosols
- Spatter: visible, >50u, gravity – 3-6'
- Aerosols: <50u Small fluid droplets dry in nano-seconds, float with air, remain indefinitely
- Droplet nuclei: desiccation concentrates pathogens such as SARS CoV-2 ~.125 micron

19 ☐ **COVID-19 AEROSOL RISK**
- Absorbed through conjunctivae, mucosal tissue of nose, respiratory tract
- Spread by pre-symptomatic or asymptomatic carriers   (~45%)
- Dose impacts infection & severity
-

20 ☐ **COVID-19 AEROSOL RISK**
- Super-spreader events: inside, talking, singing, shouting.
- Talking, singing: aerosols dominate, NOT droplets
- Talking: exhale aerosols 10X more than breathing
- Shouting, singing: expel > particles than coughing
- Being outdoors is 20X safer than indoors (shown by contact tracing)
- AVOID: prolonged proximity, indoors minus PPE, poor ventilation, talking & shouting, exercising
-

21 ☐ **IC 101**
- Treat everyone as if infectious: (bloodborne, droplet, contact & airborne diseases)
- Isolate & separate
- Clean before disinfect / sterilize
- How do microbes die?
  - Heat (how hot?)
  - Chemicals (Which ones? What concentrations? What contact time? How toxic?)
  - Is resistance likely?
- Are your systems working?
  - How do you know?
  -

22 ☐

23 ☐ **ELIMINATION & SUBSTITUTION**
- Tele-dentistry (<u>inform</u>, assess, pre-screen, treat pts – phone) prior to appt & on arrival
  - Isolate, discharge, refer all symptomatic pts & HCWs
- Discontinue gathering in reception area
  - Wait in cars
  - Chairs 6' apart
  - Remove fomites: magazines, TV remote, pens....
- Avoid aerosolizing procedures
  - Hand instrumentation, low spray, high suction
- Re-assign roles for high risk HCWs to low exposure areas/tasks?

24 ☐ **TELEDENTISTRY: SCREENING, CONSULTATIONS, PRE & POST CARE (LEGAL LIABILITY, TRAINING)**

25 ☐ **ELIMINATION**
INTERIM COVID-19 REC'S
- Prioritize necessary care
- Implement source control:
  - Limit points of entry
  - Limit visitors
  - Separate appts
    - In time & space
  - Physical barriers: screens, windows, curtains

26 ☐

27 ☐ **SCREEN PATIENTS**
- Screen for fever & symptoms prior to entry into facility (pulse oximeter -blood oxygen!)
- Do NOT treat symptomatic patients!
- Goals = reduce transmission by:
  - Early detection before or @ check-in
  - Prompt isolation
  - Defer elective TX?
  - Refer emergency / acute cases
    - For dental emergencies
    - For medical care
  - Implement appropriate precautions
- Prepare: possible COVID-19 (+) patient
  - Follow OSHA policy & training for screening & isolation

28 ☐ **COVID-19 SCREENING**
- Gradual onset like a cold   (Flu = sudden,)
- 1st: Fever, chills, shaking (88%)
- 2nd: Dry cough (68%), productive cough (33%)
- 3rd: GI distress, nausea, diarrhea
- 4th: Muscle pain, headache
- Loss of smell "anosmia" (79%), taste (27%) – strong single diagnostic

- Sore throat, conjunctivitis, tinnitus
- Fatigue (38%)
- Runny nose (like common cold)
- Respiratory distress: lungs fill up
- Cardiac symptoms, blood clots
- Neurological disorders – may endure
-
-
-

29 DENTAL WORKER COVID-19 SCREENING

- Reduce # of HCW's & exclude/ protect more susceptible workers
- HCW's self-assess temp. daily even if asymptomatic (100.0°F) Symptomatic workers must be evaluated promptly
- If ill, mask & dismiss
- No work until MD clears or $\geq$24 hours fever- free, improved symptoms

30 OTHER AIRBORNE DISEASES

Primarily aerosol – transmitted:
- Measles
- Varicella (including disseminated zoster)
- Tuberculosis

Aerosol & droplet transmitted:
- Flu, SARS, Pertussis, mumps, meningitis
- Do NOT treat without special precautions
-

31 TUBERCULOSIS POLICY

- MDR TB = worldwide risk
- Develop TB program appropriate to risk
- Screen patients:
  - History of TB?
  - Look for active cases of TB
- Dental workers: Tuberculin skin (TST) or blood (IGRA) test when hired & per risk

32 SCREEN FOR ALL ATD'S
TB, FLU & OTHER ATD'S

1 • TB
  - Fever, cough….
- Flu

- Fever?
  - Body aches?
  - Runny nose?
  - Sore throat?
  - Headache?
  - Nausea?
  - Vomiting or diarrhea?
-
Fever = 100.0ºF

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

33 **MAKE SURE YOU ARE PROTECTED!**

1 • HBV
- HAV
- Influenza
- Measles
- Mumps
- Rubella
- Varicella-Zoster
- Polio
-
- www.CDC.gov: new adult vaccine recs
- OSHA policies:
  - New hires & employees
-
2 • Tetanus, diphtheria
- Pertussis
- Pneumonia
- Meningitis
- HPV

34

35 **IF KNOWN / SUSPECTED
COVID-19 (+) PT ENTERS OFFICE:**

- Do not treat: refer to location with airborne isolation precautions required for emergency dental care
  - (-) pressure room, 6-12 air exchanges / hour, full respiratory safety program (N-95 masks)
- Mask patient

- Release to home if not acutely ill, instruct to contact MD
- If acutely ill, refer to hospital
- Report 3 or more (+) cases occurring within 14 days
-
-

36 **DEFINITION OF AN EXPOSURE**
- "Prolonged Exposure" / high risk event = inside building;
- No mask / respirator
- No eyewear if pt is not masked
- Not wearing ALL PPE for aerosol procedures
  - (respirators, eyewear etc)
- Close contact: $\leq$ 6' for cumulative 15 min. Unless resp. PPE
  - "public mask use" is not reliable, is not "PPE"
- Direct contact with secretions, excretions of COVID+
- Highest risk: nose, eyes, mouth
- Rules = flexible re: community transmission levels
- Work restrictions (quarantine) – apply until test results known
-

37 **RISK ASSESSMENT:**
EVALUATING POSSIBLE EXPOSURES
- "Infectious period" = 2 days prior to symptoms – until "termination of Transmission-Based Precautions":
- Determined by testing or symptoms & risk analysis
  - At least:
    - 10 days since 1st symptoms (mild cases)
    - 20 days since 1st symptoms (severe cases)
    - 3 days since end of symptoms and resolution of fever (no anti-fever meds)
  - 2 (-) tests, 24 hrs apart
- Workers must report exposure to employer
- If fully vaccinated do NOT need to quarantine (CDC)
- Patients should be alerted if possible exposure occurred
  -
-

38 **MANAGING EMPLOYEE EXPOSURES TO COVID-19**
- CDA flowchart to handle work exposures:
- Patient reports symptoms after appt.
- Employee reports symptoms or exposure

39 **ATD PRECAUTIONS: IDENTIFY LOCATIONS FOR REFERRAL WITH:**
- Airborne infection isolation room (AIIR)
- Room with sealed closures
- Negative-pressure air handling system
- 6-12 air changes/hour
- Full respiratory protection program

-

40 ☐ **ENGINEERING CONTROLS**
- Devices designed to increase safety
- Organize facility space into infection control zones
  - Keep similar activities together – same PPE
  - Prevent cross-contamination
  - Similar HVAC requirements
  - Separate rooms, barriers, training
    - Clinic zone
    - Employee zone
    - Business zone
    - Public zone

41 ☐ **WHAT ACH RATE IS RECOMMENDED FOR DENTAL OFFICES?**

42 ☐ **ENGINEERING CONTROLS**
Room air management
- Best = Isolation room (negative air pressure, 6-12 air changes/hour). If not possible:
- Optimize building HVAC fresh air changes & cycles, filtration & antimicrobial air treatment
  - Building maintenance (ducts, filters)
  - Separate HEPA air cleaners

43 ☐ **ROOM AIR CONTROL: PHYSICAL MODIFICATIONS?**
- Space dividers, walls, distancing patients > 6′

-
-

44 ☐ **ULTRAVIOLET GERMICIDAL IRRADIATION (UVGI)**
- Upper room UVGI used in medical isolation rooms
- Insufficient data - dental
- Must vacate room at higher doses
- Efficacy requires specific dosage, airflow, time
- UVGI not recommended inside HEPA filtration units – air flow – too fast
-

45 ☐ **INTERIM COVID-19 DENTAL RECOMMENDATIONS ROOM AIR CONTROL**
- Optimize direct suction, evacuation protocol
- Single operatories, spaced apart
- Vacate room after procedure? – air exchange
  - 15 min. (previous CDC)
- Open windows?

46 ☐ **AIR FOGGING?**
- EPA cleared disinfectant

- Used on airplanes since COVID-19
- Electrostatic particles improve penetration & surface binding
- Oxidizers, hydrogen peroxide, hypochlorous acid
- Caution: corrosion & damage to eyes, lungs

47 ☐

48 ☐ **PRE-PROCEDURAL RINSES – LIMITED, TRANSITORY:**
- Repeat rinses
  - 1-1.5% hydrogen peroxide
  - 0.2% povidone
  - Dilute bleach (corrosive)
- SARS CoV-2 = sensitive to oxidizing products
- Chlorhexidine (CHX)?

49 ☐ **ADMINISTRATIVE CONTROLS**
- Rules to maintain elimination & substitution strategies
- Respiratory hygiene / cough etiquette, hand hygiene
- Manage visitors, limit points of entry
- Scheduling: isolate & separate patients in time & space
- Universal source control – face coverings for all
- New employee roles: Infection control coordinator, "floater", screeners, escorts
- Add respiratory protection program
  - ADA, OSHA

50 ☐ **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

51 ☐ **INFECTION CONTROL COORDINATOR**
- Assign a person
  - Safety Manager
  - Must be a leader
  - Qualified, trained, empowered
  - Any of us might qualify!
- Get certified
  - DANB.org, osap.org
  - https://www.osap.org/page/RoleofICPC? – OSAP initiative
  -

52 ☐ **OPERATORY ASEPSIS**

2 CHOICES:

COVER IT OR DISINFECT IT

53 ☐ **USE FDA CLEARED MEDICAL GRADE BARRIERS**

(TESTED FOR VIRAL & BACTERIAL PENETRATION)

54 ☐ **ENVIRONMENTAL ASEPSIS**
(UNSEEN DROPLETS)
- EPA intermediate level disinfectant - operatories
- Extend frequent disinfection protocol - all touch / transfer surfaces
- EPA list of SARS CoV-2 disinfectants
- Wait for droplets to settle?
    - (15 min.?)
- Weekly deep cleaning – remove chemicals, dry biofilms
-

55 ☐ **CHEMICAL CLEANING & DISINFECTION**
FOLLOW LABEL DIRECTIONS
- Clean (surfactant) before disinfecting
    - High alcohol fixes proteins to surfaces
- Proteins neutralize disinfectants
- Wear Utility gloves

56 ☐ **MICROBIAL RESISTANCE TO KILLING**
- Prions
- Bacterial endospores
- Fungal spores
- Mycobacteria - *Mycobacteruim 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, SARS CoV-2*   (CDC), §1005 (b) (14)

57 ☐ **CLEAN & DISINFECT – 2 STEPS!**

CLEANING	**DISINFECTION**	
Spray	Wipe	Spray

58 ☐ **CLEAN BEFORE DISINFECTING**

59 ☐ **"SINGLE-STEP CLEANER-DISINFECTANT"**

60 ☐ **LEAVE FOR STATED TIME**

61 ☐ **BLOODBORNE DISEASES**
(BLOOD & FLUIDS = INFECTIOUS)

EXAMPLES: HIV, HEPATITIS

62 ☐

 MOST LIKELY DENTAL EXPOSURES
- Percutaneous
  - Needles
  - Burs
  - Instruments, files
- Compromised skin
- Mucosal exposure
- HBV = efficiently transmitted directly & indirectly (survives on surfaces – 7 days)
- Other pathogens (ex: HCV) can remain infectious on surfaces – 1 month

63 ☐ **SAFE RE-CAPPING**
- Only recap needles using:

  - Scoop technique

  - Mechanical devices
    designed to
  - hold needle sheath
  - eliminate need for 2 handed capping
-
§1005 (b) (9)

64 ☐ **SHARPS & WASTE**
- Follow OSHA rules
- Dispose of <u>all sharp items</u> in puncture resistant containers
- Dispose of pharmaceutical waste as per EPA
- Dispose of contaminated solid waste as per EPA

65 ☐ **POST EXPOSURE PROPHYLAXIS**
- Know your immune status: HBV booster needed???
- 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
  -

•

66 ☐ **INTERIM COVID-19 DENTAL RECOMMENDATIONS: DENTAL WATERLINES**

- After non-use:
- Contact DUWL product &/or dental unit manufacturer
- Drain waterlines
- Assemble products & supplies
- Prior to use:
- Test &/or shock
- Bypass waterlines for surgery or if lines are not prepared (bulb syringe, etc)

67 ☐ **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

68 ☐ **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)

69 ☐ **SIMPLE FLUSHING OF WATERLINES**

- Flushing is important: flushing removes planktonic contaminants

- BUT: flushing alone is NOT a reliable way to control DUWL biofilms.
-

70 ☐ **WATERLINE TREATMENT OPTIONS**

- Chemical "Shock" - removes biofilm
  - Sterilex, (bleach not approved)
  - 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

71 ☐ **HOW DO YOU KNOW YOUR WATERLINES ARE SAFE?**

- Loma Linda University Waterline Testing
- ProEdge Waterline Testing

- Test quarterly, rotating lines (empiric evidence, not regulated)
- New test method: flow cytometry; more sensitive than R2A, faster results

72 ☐ **QUICKPASS™ IN-OFFICE WATER TEST**
- Specific to DENTAL water
- 48-72 Hour Incubation
- Neutralization formula within the paddle
- Colonies easier to see & count

73 ☐ **TREAT, SHOCK, AND TEST ALL WATERLINES**

74 ☐ **INSTRUMENT PROCESSING:**
HIGHEST LEVEL OF ASEPSIS

75 ☐ **SAFEST TRANSPORT:**
CASSETTES, TUBS, TRAYS WITH LIDS

76 ☐ **PRE-CLEANING & HOLDING/SOAKING:**
AVOID SCRUBBING LATER

77 ☐ **ENZYME PREVENTS DEBRIS ADHERENCE**

78 ☐ **ULTRASONIC CLEANING:**
ALLOW BUBBLES TO WORK

79 ☐ **USE BASKET OR TONGS**

80 ☐ **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)
- Waste water safely disposed; reduces aerosols
-

81 ☐ **CHECK ULTRASONICS OR WASHERS WITH WASH-CHECKS**

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

83 ☐ **STERILIZER MONITORING**
- Indicators: per package
  - Heat
- Type 5 indicators: per load or pack
  - Time, temperature, pressure
- Biological Monitors: weekly
  - Non - pathogenic spores
  - Keep written reports
    §1005 (b) (17)

84 ☐ **2 STERILIZATION LOGS**
  - 1: Log of each cycle for each sterilizer
    - Type 5 Indicator strip results
      - Sterilizer
      - Date
      - Indicator pass/fail
      - Initial
    - Machine print-out
      -
  - 2: Biological test results

85 ☐ **PPE:**
ALTERING SEQUENCES
DROPLET, CONTACT & AIRBORNE PRECAUTIONS
  - Glove when entering room
  - Remove gloves when leaving room
  - Immediate hand hyg.
    - Antimicrobial or alcohol agent
  - No bare-handed contact w/ pt., items

86 ☐ **ALTERING SEQUENCES**
DROPLET, CONTACT & AIRBORNE PRECAUTIONS
  - Gown before entering room, remove immediately when leaving room
  - Disinfect &/or barrier re-used non-critical re-usable equip.
    - BP cuff
    - X-Ray shields
    - Thermometers
  - Disposables

87 ☐ **ALTERING SEQUENCES**
DROPLET, CONTACT & AIRBORNE PRECAUTIONS

  - Private room, close door for airborne pathogens
  - Maintain $\geq$ 6 ft. Between pts.
  - Optimize air handling
  - Mask to enter room, & $\leq$ 6 ft. of pt.
  - Move pt out of room only if essential, mask on pt.

88 ☐ **MUST WEAR MASKS AT WORK**
  - Masks while in office appropriate to exposure
    - May be cloth......
    - Patients & receptionists
  - Respirators for aerosols
  - Respirators or masks & face shield for non-aerosol pt. Care

89   **RESPIRATORS (VS. MASKS)**
- <u>Only respirators</u> protect against airborne chemicals, fumes, vapors, infectious pathogens
- N-95 masks filter $\geq$ 95% particles
- Look for label on outside
- Effectiveness = highly dependent on fit & use

90

RESPIRATORY PROTECTION PROGRAM
- Fit-tested respirators
  - N-95, N-100, elastomeric Half-Mask and Full Facepiece
  - Powered Air-Purifying Respirators (PAPR)
  - R & P-95 to 100 respirators
- Initial fit test required (qualitative)
- Health screening questionnaire (determine safety for user)
- Training
- All within context of IAQ mitigations

91   **CONSIDER ALTERNATIVE (EVEN NON-NIOSH) RESPIRATORS**
- Acceptable (OSHA):
  - N/R/P95, N/R/P99, or N/R/P100 filtering facepiece respirator
  - Air-purifying elastomeric (e.g., half-face or full-face) respirator with appropriate filters or cartridges;
  - Powered air purifying respirator (PAPR) with high-efficiency particulate arrestance (HEPA) filter;
  - Supplied air respirator (SAR).

  CDC/ NIOSH guidance for optimizing respirator supplies at: www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy
  https://www.fda.gov/media/136663/download

92   **KN95 RESPIRATORS**
- KN95 = Chinese designation of filtration (N95 = U.S.)
- Same filtration
- KN95 – earloops, slightly more seal leakage

93   **RESPIRATORS & MASKS WITH EXHALATION VALVES**
- Do not provide source control
- Breath can contaminate surgical site
- Cover with surgical mask if used

94   **USER SEAL CHECK – EACH TIME**

95   **PPE TO TREAT ASYMPTOMATIC PATIENTS**
- If respirators are NOT AVAILABLE:
- FDA cleared surgical mask + full-face shield = minimal acceptable PPE
  - Prioritize ASTM level 3 + face shields
  - Remove & discard mask after exiting operatory
  - Change mask sooner if compromised
- If not available DO NOT PERFORM DENTAL CARE

• Refer pt.

96 **BE A SURGICAL MASKS EXPERT**

97 **SURGICAL MASKS: KEY FACTORS**
- Coverage (mouth & nose)
- ASTM level:
  - Filtration (particles, germs)
  - Fluid protection
- Fit
- Use-life
- Face shields!
-

98 **MASK FIT**

99 **KNOW MASK LIMITS**
- Level 3 filters most bacteria - No viral claims
- Mask degrades from;
  - Perspiration
  - Talking
  - Sneezing
  - Length of time mask is worn
  - Dust, spray
- Shield may lengthen use-life
- 20 min - 1 hour! (normal conditions)
-

100

101 **CDC INTERIM COVID-19 RECOMMENDATIONS: POSSIBLE OPTIONS IF NEEDED**
-

Strategies to Optimize the Supply of PPE
-

-

https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/

102 **INTERIM COVID-19 RECOMMENDATIONS: POSSIBLE OPTIONS IF NEEDED**
- Possible measures to conserve PPE supplies during COVID-19 surge to provide a continuum of care
- Crisis - alternate strategies that are not commensurate with contemporary U.S. standards of care. Necessity-based strategies when PPE is scarce or not available.
-
-

103 ☐ **CDC & OSHA CRISIS OPTIONS: RESPIRATORS**
- If NIOSH approved respirators are not available,
- FDA lists approved products from other countries
  - AVOID counterfeit devices
- In China: 10 counterfeit companies / 1 valid
- Most valid imports go to U.S. Stockpile (Defense Production Act)

104 ☐ **RESPIRATOR RE-USE:**
- NIOSH surgical N95 respirators
- OR N95 + face shield
- RE-use interim recs:
- 5 masks per HCW (label)
- 8-12 hour use, limited / no removal
- Store aseptically in breathable bag/box
- Rotate masks, store 5 days
- Written protocol & training

105 ☐ **OUTER BARRIER TO PROTECT N95**

106 ☐ **PUBLIC USE OF FACEMASKS TO PREVENT SARS-COV-2 (CDC, WHO)**
- <u>Main</u> benefit – protect others
  - Reduce dose expelled by those masked
  - Motivating slogan: "My mask protects you. Your mask protects me"
- Self-protection value: masks = physical barrier, prevent touch, spray to mouth & nose.......not eyes!
- Silk & carbon filters
-
-

107 ☐ **PUBLIC USE OF FACEMASKS - THE DOWNSIDES**
- Most face masks worn incorrectly
  - Poor fit, gaps
  - Auto-inoculate by touching outside of mask when remove mask or displace mask (should only touch ties)
  - Masks worn past use-life (moist)
- Create false sense of security: masks do not replace social distancing!
- Panic-driven supply loss, affects medical supply
-

108 ☐ **EYEWEAR**
Eyewear is <u>essential</u> for aerosolizing procedures
Eyewear must have side protection, fit closely
- Remove, reprocess eye/face shields when soiled
- Discard disposable eyewear, face shield after use
- Treat as contaminated (touch precautions)
- Leave pt care area to remove eye/face shields
-

109 **CLINIC ATTIRE**
- Protective attire
- PPE = barrier
- Comply with Cal/OSHA regs
-
    §1005 (b) (5)

110 **PPE TO TREAT NON-COVID-19 PATIENTS**
- Gloves, gown
    - Change gown if soiled. Discard in dedicated container in care area. Launder cloth gowns after each use. Use disposable gowns for only 1 patient.
- N-95 respirator
    - Remove & discard disposable respirator after exiting operatory
-

111

112

113 **SHOES**
- Shoes shown to carry infective SARS CoV-2 virus
- Isolation / separation & disinfection recommended
- Washing: >140°F, soap, water bleach   (UK NHS)
- 70% alcohol & water (CDC)
- Surface disinfectant wipes?
- Do not take work shoes home
- Touch & storage precautions

114 **HAIR COVERING**

Bonnets not required

115 **HAND HYGIENE $\geq$ 20 SECONDS OF LATHERING**

Focus on.....

- Fingernails
- Cuticles
- Webs
- Thickened skin
- Damaged skin
- Thumbs
- Wrists

116 **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"
- Must have > 60% ETOH
- Contact time: 15 sec.

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

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

118 **HOW LONG ARE GLOVES INTACT DURING USE?**

119 **HOW LONG ARE GLOVES INTACT DURING USE?**

2 - No exact data
- Change per patient & when compromised
- No longer than 1 hour
- Do you trust your gloves?
- 4% may leak
  - Buy quality
- Gloves do not replace hand hygiene
-
    §1005 (b) (8)
-

120 **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

121 **SARS-COV-2 HAS CHANGED DENTAL SAFETY STANDARDS**

- Consider everyone infectious for ALL types of diseases, including aerosol-transmitted diseases
- Plan for safer buildings, more air management
- Upgrade traditional PPE
- Exposure response
- Apply today's lessons to your healthy future!

122 **SAFETY CHECKLIST**

1. Written Safety Program

- OSHA manual – personalize & update it, add addendum
- Add respiratory protection program
- Download CDC, OSHA, State Board recs & rules!
- Instructions for use, operation manuals, SDS's, SOP's, logs

2. Address all types of risks

3.

123 **SAFETY CHECKLIST**

- 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
- New employee roles: Infection control coordinator, "floater", screeners, escorts
  -

124 **CHECKLIST - CLINIC**

- Remove clutter – cleanable surfaces
- Distance seating & traffic
- Limit & direct patient flow (time & space)
- Separate infection control areas
  - Reception, business, public spaces, toilets,
  - Employee spaces (new PPE change areas, storage)
  - Clinical: operatories, sterilization, lab
- Isolation barriers: windows, panels, space separation / distance

125 **CHECKLIST - CLINIC**

- Air circulation, treatment
  - Maximize building air HVAC capacity
  - Add-on focused exhaust, air change, filtration, disinfection
- Equipment after shut-down
  - Re-activate clean, disinfect & test equipment
    - Waterlines, sterilizers…, allow time
- Surface asepsis
  - Use EPA / FDA approved disinfectants & barriers
  - Follow directions
  - Clean & disinfect
  - Barriers
-

126 **CHECKLIST - CLINIC**

Dental waterline management (water in)
- Insure sterile water for surgeries

- Insure potable standard for non-surgeries
- Control waterline contamination
- Monitor waterline safety
Maximize high volume suction (water out)
-

127 ☐ **CHECKLIST - CLINIC**
- Instrument sterilization
  - Organize sterilization pathway
  - Instrument cassettes
  - Instrument washer
  - Monitor cleaning
  - Use Type 5 indicators
  - Keep logs
- Sharps safety
  - Handling & waste
  -
  -

128 ☐ **CHECKLIST - EMPLOYEES**
- Vaccines
  - Educate staff (CDC.gov)
- Consider restricting more susceptible workers
- Train, inform, listen, calibrate safety team
- Symptom screening (self & patients)
  - Triage for (+) cases

129 ☐ **CHECKLIST - EMPLOYEES**
- Screen patients & staff for active ATD's
  - Take temp. (100.0°F!)
  - Know symptoms
- Notify patients & staff about ATD policy
- TB policy: test staff
- Respiratory hygiene, cough etiquette
- Isolate, discharge, refer all symptomatic pts & HCWs

130 ☐ **CHECKLIST - EMPLOYEES**
- Hand Hygiene
  - Calibrate staff
    - Technique
    - Hand care rules
  - Supplies & set-up
- PPE – Use correctly & respect their limits
- CDC sequence – donning & removing
- Gowns, dressing area?
- Add bonnets, shoe covers?
- Full face protection – shields with all masks

• Use highest level PPE available with aerosols

•

131 ☐ **CHECKLIST - EMPLOYEES**
- Surgical masks
  - Select appropriate ASTM levels
  - Avoid cross-contamination
  - Change 20 min – 1 hr.
- Respirators
  - Medical clearance
  - Training & fit testing
  - Written program
- Gloves
  - Select for fit, reliability
  - Change 20 min – 1 hr.
- Locate PPE in & outside ops
  -

  -
  -

132 ☐ **CHECKLIST - PATIENTS**
- Inform, communicate with patients
  - Phone, email, letters, posters at entrance & in office
- Tele-dentistry: pre-screen
- Isolation/separation practices,
  - Revise reception, control flow
- Design hours & daily schedule for patient separation
  - Respiratory hygiene / cough etiquette supplies
- Prioritize highest dental needs
- Require masks (source control)
- Pre-rinse & oral flush - antimicrobial
-

133 ☐ **SARS-COV-2 HAS CHANGED DENTAL SAFETY STANDARDS**
- Consider everyone infectious for ALL types of diseases, including aerosol-transmitted diseases
- Plan for safer buildings, more air management
- Upgrade traditional PPE
- Exposure response
- Apply today's lessons to your healthy future!

134 ☐ **RESOURCES**
- Join osap www.osap.org
  - Organization for Safety, Asepsis and Prevention

- CDA Practice Support
- State Dental Board, ADA,
- OSHA (Cal OSHA Consultants)
- Infection Control Coordinator certification:
  - DANB.org, osap.org
  - https://www.osap.org/page/RoleofICPC? – OSAP initiative
-