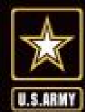


COVID-19 & Dentistry

COL David Olson, DDS
U.S. Army Dental Corps

2 Sept 2020

DISCLAIMER

- The views & opinions expressed in this presentation are those of the speaker (Presenter) and do not necessarily reflect the official policy or position of any agency of the U.S. government. Assumptions made during this presentation are not reflective of the position of any U.S. government agency.

Transmission:

- Spread primarily through respiratory droplets when an infected person coughs, sneezes, or talks.
- Anatomic Region where viral exposure is highest
- **Airborne transmission** from person-to-person over long distances is unlikely.
- Although spread of SARS-CoV-2 is believed to be primarily via respiratory droplets, **the contribution of small respirable particles to close proximity transmission is currently uncertain**
- The virus has been shown to persist in aerosols for hours, and on some surfaces for days under laboratory conditions.
- COVID-19 may be spread by people who are not showing symptoms.

EARLY RESPONSE

- At the onset of the COVID-19 pandemic, CDC, ADA and others recommended that dentistry **delay non-emergency care** to mitigate the spread of COVID-19
- Great concern for **Aerosol Generating Procedures (AGPs)**
- As the pandemic developed, increased concern about risks to patients by **delaying healthcare services**
- Balance the need to provide necessary services while minimizing risk to patients and dental healthcare personnel (DHCP)
- Prioritize services that, if deferred, are most likely to result in patient harm
- Postpone non-essential care (e.g. routine hygiene)

PROBLEMS

- Facilities –
  - Aerosol Containment and Removal
  - Access to AIIR for Emergency Dental

- PPE- Gown/ respirator shortages
  - Extended use
  - Limited reuse
  - Decontamination

- Testing
  - Reliability
  - Availability

- Asymptomatic Carriers/Spreaders

- Screening Interpretation
  - If the patient has a fever strongly associated with a dental diagnosis (e.g., pulpal and periapical dental pain and intraoral swelling is present), but no other symptoms consistent with COVID-19, care can be provided with appropriate protocols.

Army Dental Guide to COVID-19 Continuing Operations

Multilayered Protections

Social Distancing- Staff and Patients

Prescreen / Screen / Post Screen

Delay care for Symptomatic Patients

Face Covering

Scheduling Volume

Cocooning

Rubber Dam

4-handed Dentistry (Hygiene)

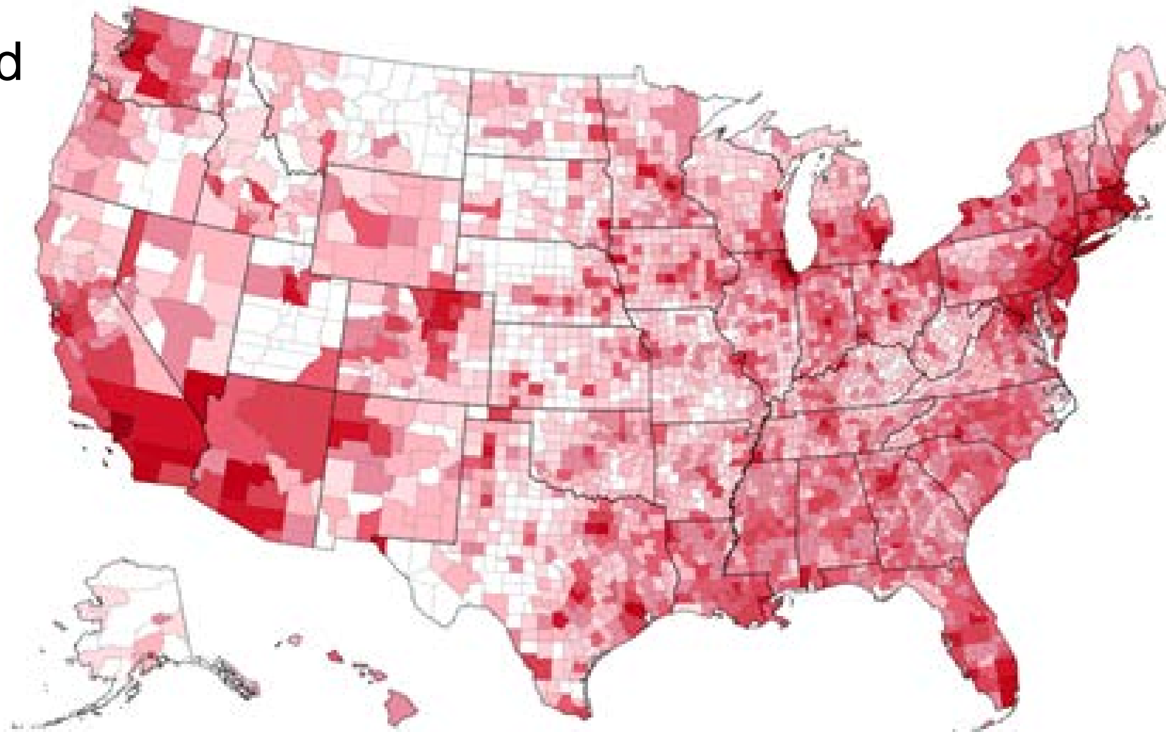
HVE- Line Maintenance

AGP vs Non AGP clinics

A/B/C Teams

Community Transmission

- Be aware of the degree of community transmission where you are
- Regularly consult with public health to monitor local trends
- Regardless of community spread - Actively screen ALL patients
- Providing Assistance to Medical Community When Dental Services Curtailed



Perform Local Risk Assessment

- Level of Community Transmission
  - Consult regularly with Public Health for area specific information
  - HPCON Levels
- PPE levels
  - On hand
  - Anticipated restock time
- Mission Priority
  - Why are we taking risk?
- Current CDC and Other Guidance

Facility Considerations

- Cough etiquette, Respiratory Hygiene - Signs, ABHR, Trash cans
- Install physical barriers (glass or plastic windows) at reception areas, aka “sneeze shields”
- Manage flows/scheduling for social distancing of patients/staff
- Remove magazines/brochures and other frequently touched objects
- Minimize number of persons in the waiting rooms
  - Wait in car or outside area (may not be feasible w/ weather)
  - Patients without cars
  - AIIRs- A/C tent outside (small clinics may need)
- Set up operatories so that only instruments/supplies necessary

Ventilation

- Ventilation systems
  - Systems that provide air flow from clean to contaminated "should be installed"
  - Receptionist Area
  - Consult FM about possible increased filtration w/o minimal deviation from designed air flows
  - Increase outdoor air exhanges
  - Limit "demand controlled" ventilation
    - Run continuously up to 2 hours post occupancy
  - Run bathroom exhaust fans continuously during occupancy

- Portable HEPA Air Filtration units for AGP
  - Place at patient's feet
  - Prefer to draw to floor

EDAIIR

Reality Check…

- Aerosols do spread so the goal (with the facility cards we've been dealt) is to do our best to make sure the patients are healthy (so we don't produce infectious "COVID aerosols").
- Testing is available in some places but not available at most places. It will be some time before testing will be robust enough to help dentistry.
- We are never going to get to zero risk and it will be a LONG time before facility modifications can be done.

Other Mitigations-Layers

- When AGP required
  - 4 handed dentistry
  - HVE
  - RDI- Rubber Dam Isolation (seal with Opaldam or similar)
  - Safer than testing?
- Cocooning or ROM
- Preprocedural Mouth Rinses (PPMR)
- Oral Health Prior to a Pandemic

Questions

Community Transmission Levels

*No to minimal** community transmission: HPCON A

- evidence of isolated cases or limited community transmission
- case investigations underway
- no evidence of exposure in large communal setting
- Strict adherence to standard + contact + droplet precautions
- Prioritize DRC 3 care

†**Minimal to moderate** community transmission: HPCON B

- sustained transmission
- high likelihood of exposure within communal settings
- potential for rapid increase in cases
- Add Airborne precautions (N95)
- Stop Routine Hygiene

‡**Substantial** community transmission: HPCON C

- large scale community transmission, including communal settings (e.g., schools, workplaces)
- Add Airborne precautions (N95)

AGPs

- Use Individual patient rooms (where possible) → AGPs

- Open floor plans take steps to limit spread of pathogens
  - 6 feet space between chairs (every other chair)
  - Physical barriers between patient chairs (floor to ceiling)
    - Promotes proper airflow (aerosol control)
  - Minimal number of people in area

- *To allow time for droplets to suffciently fall from the air after a dental procedure, DHCP should wait at least 15 minutes after the completion of dental treatment and departure of the patient to begin the room cleaning and disinfection process

ACH for an AIIR-Suspected COVID

Table B.1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency *

ACH § ¶	Time (mins.) required for removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6+	46	69
8	35	52
10+	28	41
12+	23	35
15+	18	28
20	14	21
50	6	8

HAND HYGIENE

- Ensure DHCP practice strict adherence to hand hygiene
- Before and after all patient contact, contact with potentially infectious material, and before putting on and after removing personal protective equipment (PPE), including gloves.
- Hand hygiene after removing PPE is particularly important to remove any pathogens that might have been transferred to bare hands during the removal process.
- Use ABHR with 60-95% alcohol or wash hands with soap and water
- If hands are visibly soiled, use soap and water before ABHR
- Ensure hand hygiene supplies are readily available