Respiratory Protection in Dentistry

Presented by Nebraska ICAP

ICAP

Infection Control Assessment and Promotion Program

Housekeeping

- Guidance presented during this presentation is accurate as of 1.15.2021
- Guidance is changing on a regular basis and should be reviewed if this presentation is viewed at a later date
- Disclosures: No presenters have any conflicts at the time of presentation

Questions and Answer Session

- Use the QA box in the webinar platform to type a question. Questions will be read aloud by the moderator at the end of the presentation
- If your question is not answered during the webinar, please either e-mail it to NE ICAP or call during our office hours to speak with one of our IPs

Slides and a recording will be made available on the ICAP website:

https://icap.nebraskamed.com/coronavirus/

https://icap.nebraskamed.com/covid-19-webinars/

Panelists today are:

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What is Nebraska ICAP?

ICAP

Infection Control Assessment and Promotion Program

Nebraska ICAP

Nebraska Infection Control Assessment and Promotion Program

- A joint effort of UNMC, Nebraska Medicine and NE DHHS, supported by the Nebraska DHHS HAI program
- Established in 2015
- Assess infection prevention and control programs in various healthcare facilities in the State of Nebraska
- Identify facility specific infection control gaps and make evidence-based recommendations for improvement
- Analyze collective gaps and design mitigation strategies for improvement throughout the state
- Recent activities include the Long Term Care Support and Outreach during the COVID-19 pandemic

Dental Support Services

General Infection Prevention and Control Office Hours

Call with questions regarding general Infection Prevention and Control

- PPE
- Hand Hygiene
- Sharps Safety
- Waterline Maintenance
- Environmental Cleaning
- Hazardous Waste Management
- Sterilization and Disinfection
- Respiratory Hygiene / Cough Etiquette

COVID-19 Infection Prevention and Control Facility Review

Call to schedule a time with an Infection Preventionist for a virtual infection control facility review and interview with your team. Initial review is 60-90 minutes with a 30 minute follow-up.

Due to COVID-19, this review will be completed through a phone or Zoom interview until further notice.

COVID-19 Response

Call with specific questions regarding COVID-19 response in the dental setting

- COVID-19 safety for Staff and Patients
- Testing
- Contact tracing
- Isolation and Discontinuation of Isolation Guidelines

COVID-19 Infection Prevention and Control

Call with questions regarding COVID-19 specific Infection Prevention and Control

- PPE
- Hand Hygiene
- Respiratory Protection
- Respiratory Hygiene / Cough Etiquette

Dental Infection Control Specialist:
Sarah Stream, MPH, CDA, RDA, EFDA
sstream@nebraskamed.com

Nebraska Medicine

Nebraska ICAP Dental Support and Services

Infection Preventionists can be reached at **(402)552-2881**
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nebraskaicap@nebraskamed.com

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Respiratory Protection: Why do we need it?

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Transmission Based Precautions

Standard Precautions (Universal Precautions): Treat everyone as if they are infectious

1. Hand hygiene
2. PPE selection
3. Patient placement
4. Sterilization and disinfection of patient care equipment, instruments and environmental surfaces
5. Safe injection practices

Contact Precautions: Precautions for patients with known or expected infections that represent an increased risk for contact transmission (ex: C.Diff, norovirus, rotavirus)

1. Patient Placement
2. Limit movement of patient
3. Use disposable or dedicated patient care items and equipment
4. Increased cleaning and disinfection schedules for patient care areas

Centers for Disease Control and Prevention. (2020). Standard Precautions. Retrieved from https://www.cdc.gov/infectioncontrol/basics/standard-precautions.html

Centers for Disease Control and Prevention. (2020). Transmission Based Precautions. Retrieved from https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html#anchor_1564057963

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Transmission Based Precautions

Droplet Precautions: Precautions for patients known or suspected to be infected with pathogens that are transmitted by respiratory droplets generated when coughing, sneezing or talking (ex: COVID-19, Influenza, Pertussis, Mumps)

1. Source Control
2. Patient Placement
3. Appropriate PPE use: Don surgical masks before entering the patient room
4. Limit transport and movement of patient

Airborne precautions: Precautions for patients known or suspected to be infected with pathogens transmitted by an airborne route (ex: COVID-19, Tuberculosis, Measles)

1. Source Control
2. Patient Placement
3. Restrict healthcare personnel in treatment areas
4. Appropriate PPE use: Fit tested, NIOSH approved N95 respirator
5. Limit transport and movement of patient
6. Immunize susceptible persons with vaccine preventable infections

Centers for Disease Control and Prevention. (2020). Transmission Based Precautions. Retrieved from https://www.cdc.gov/infectioncontrol/basics/transmission-based-precautions.html#anchor_1564057963

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What’s up with COVID-19?

- There is still a lot we don't know = Better safe than sorry!
- COVID-19 is thought to be primarily droplet transmission but may also be transmitted via aerosol routes, there is still emerging science on transmission routes of SARS-CoV2
- There may be people that remain asymptomatic through the entire disease process of COVID-19
- Symptomatic people can actively shed virus during an asymptomatic stage early in the disease process

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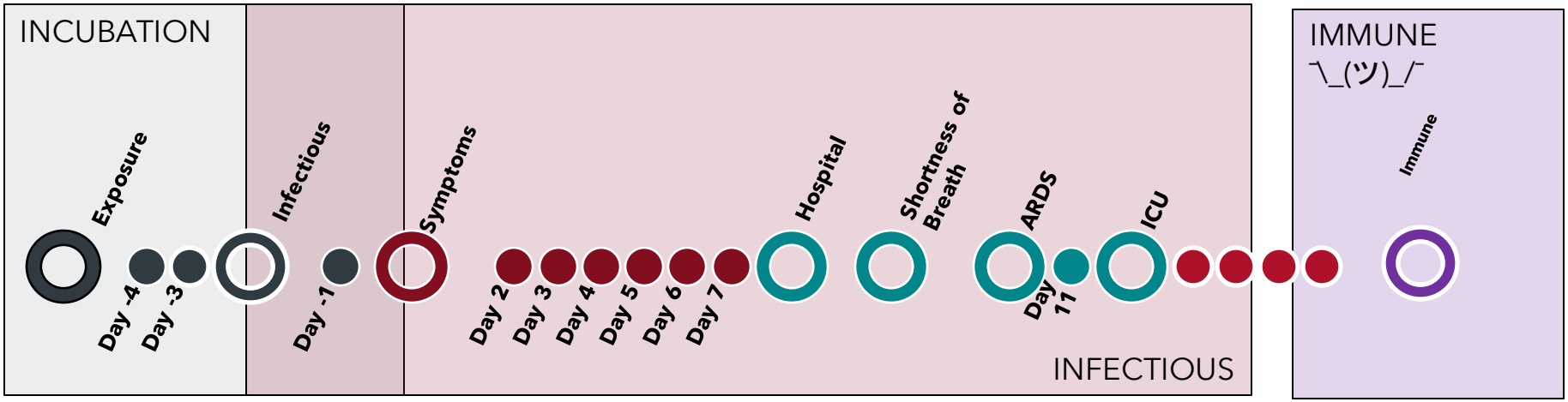
Understanding the Disease: Incubation, Infection, Immunity



INCUBATION PERIOD:

- May extend up to 14 days or longer (although longer than 14 days is extremely rare)
  (Why we quarantine for 14 days)
- Average is 5-6 days (Median 4 -5 days per CDC)
  (Why we wait at least 5 days to test)

INFECTIOUS PERIOD:

- Starts 24-48 hours prior to symptoms
- Infectivity duration is likely 10-14 days
  (Why we isolate for 10 days but may isolate for longer duration as per clinical scenario)
- Symptoms can last for weeks and months but are not a typically a sign of infection after 10-14 days

IMMUNE PERIOD:

- Unclear on what "amount" confers immunity
- Unclear on duration

https://www.youtube.com/watch?v=wdmqUh8a5A0

Adapted from The Lancet

OSHA Guidelines

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OSHA Guidelines

- Any business that requires employees to wear a respirator must follow OSHA guidance for respiratory protection

    1. Employers must conduct a hazard assessment
    2. Employers must develop a written Respiratory Protection Plan (RRP)
    3. Employees must have a medical evaluation, an initial fit test and be properly trained in respirator use
    4. Employers must provide annual training on the use and limitations of respirators and provide annual fit testing
    5. Employers must maintain records of respirator training, medical clearance and fit testing
    6. Maintain and evaluate the RRP on a regular basis (yearly)

https://www.osha.gov/enforcement/directives/cpl-02-02-054

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Hazard Assessment

Hazard assessment must:

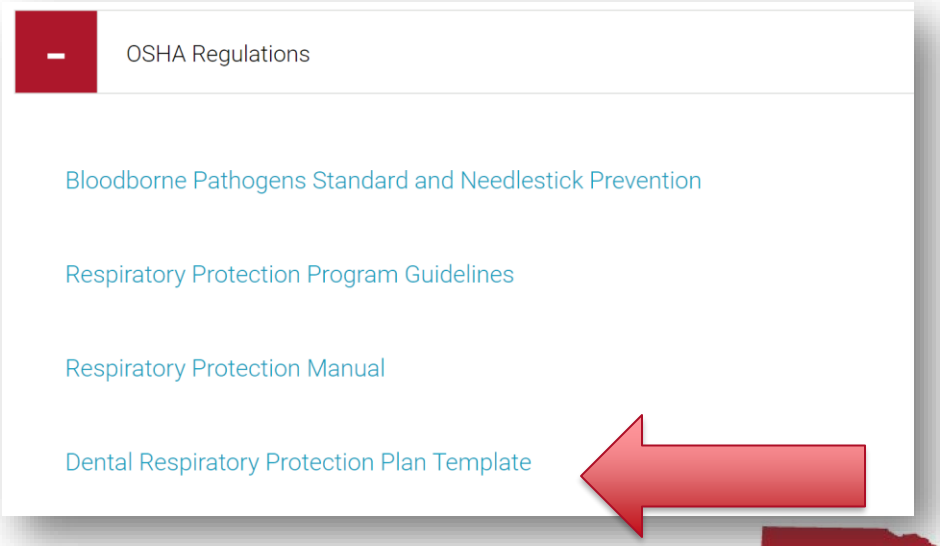
1. Identify potential hazards
2. Determine potential exposure risk levels for all tasks performed

Task or Location	Potential Exposure	Respiratory Protection	Employees Included
Performing aerosol-generating procedures on patients suspected or confirmed with a disease requiring Airborne Precautions or present when such procedures are performed [see HICPAC 2007 or other public health guidance for lists of diseases], including: **{List other clinical procedures that may aerosolize infectious agents} [Name them for your facility either here or in your infection control plan.]**	Infectious Aerosol	N95 Respirator	**[List employees by job title]**

Initial Set-up

1. Develop written RRP
    1. Should be kept with your OSHA BBP documents
2. Identify staff that should follow RRP protocols
3. Medical evaluation
4. Initial Fit test
5. Employee Training
    1. When and where to use respirators based on your hazard assessment
    2. User Seal Check

Resources on Nebraska ICAP Website at:
www.icap.Nebraska.com/dental-facilities/



KN95 EUA Information

The use of KN95 respirators under the FDA EUA requires a written RRP, hazard assessment and fit testing of employees

FDA EUA Letter of Authorization

Having concluded that the criteria for issuance of this authorization under Section 564(c) of the Act are met with respect to the respirator models listed in Appendix A of this letter, I am authorizing the emergency use of the respirators listed in Appendix A, as described in the Scope of Authorization (Section II) and pursuant to the Conditions of Authorization (Section IV) of this letter for use in healthcare settings by HCP when used in accordance with CDC recommendations to prevent HCP exposure to pathogenic biological airborne particulates during FFR shortages resulting from the COVID-19 pandemic.

CDC COVID-19 Guidance for Dental Settings

- During aerosol generating procedures DHCP should use an N95 respirator or a respirator that offers an equivalent or higher level of protection such as other disposable filtering facepiece respirators, powered air-purifying respirators (PAPRs), or elastomeric respirators.
  - Respirators should be used in the context of a comprehensive respiratory protection program, which includes medical evaluations, fit testing and training in accordance with the Occupational Safety and Health Administration's (OSHA) Respiratory Protection standard (29 CFR 1910.134).

https://www.fda.gov/media/136664/download
https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html

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Respirator Extended Use and Limited Reuse

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What is an AGP?

- Aerosol Generating Procedure (AGP): any procedure that may generate particles of a respirable size
- Generally speaking, any procedure that uses a handpiece, A/W syringe, ultrasonic scaler, air polisher or air abrasion is considered an AGP

- Things to consider:
  - •Use appropriate PPE for prevention of aerosol transmission (respirators)
  - •Limit use of instruments that generate aerosols (hand scaling vs. Ultrasonic scalers)
  - •When using A/W syringe, use only water, not air and water mixed (spray)
- Use HVE during procedures
  - •Use rubber dam isolation
  - •Consider the use of a pre-procedure rinse (there are studies underway on effectiveness but there are no current specific recommendations)
  - •Create a facility specific policy on what you consider to be an AGP

Study Description Go to

Brief Summary:

In this pilot trial, 150 confirmed COVID-19 individuals will be randomly assigned to 1 of 5 groups: distilled water, CloSYS (Rowpar Pharmaceutical Inc., USA), Oral-B Mouth Sore (Oral-B, USA), Crest Pro-Health Multi-Protection (Crest, USA), or Listerine (Johnson and Johnson, USA).

Study participants will be asked to rinse/gargle with 10ml (2 teaspoons) of the assigned solutions 4 times per day, for 30 seconds, for 4 weeks.

Condition or disease	Intervention/treatment	Phase
COVID-19	Drug: Oral-B Mouth Sore mouthwash	Phase 2
SARS-CoV 2	Drug: Crest Pro-Health Multi-Protection mouthwash	
Severe Acute Respiratory Syndrome Coronavirus 2	Drug: CloSYS mouthwash	
Virus Disease	Drug: Distilled water	
Coronavirus Infections	Drug: Listerine Mouthwash Product	
Pharyngeal Diseases		

Current study by University of California, San Francisco on pre-procedure mouth rinse effectiveness

https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html

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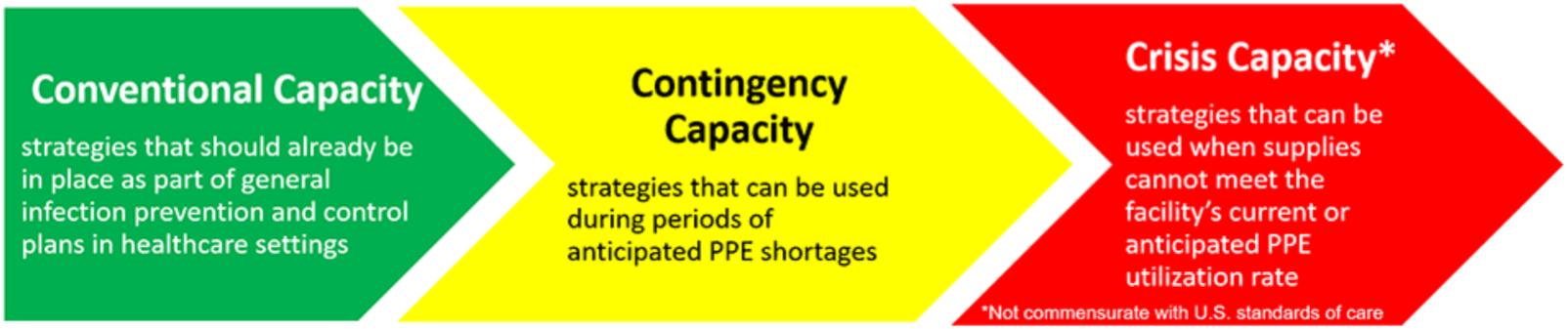
PPE Strategies

- Consider these options and **implement them sequentially**
- Understand their current PPE inventory, supply chain, and utilization rate
- Train healthcare personnel on PPE use and have them demonstrate competency with donning and doffing any PPE ensemble that is used to perform job responsibilities
- As PPE availability returns to normal, promptly resume standard practices



- Consider using the CDC Burn Rate Calculator to estimate your PPE supply and needs
- Examples of PPE strategies for each of these capacities specific to the type of PPE can be found on the CDC website

https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/strategies-optimize-ppe-shortages.html

Extended Use

- Wearing the same respirator for an extended period for multiple patient encounters
- Favored over reuse because it reduces the number of times the respirator is touched or handled
- Things to consider:
  - Discard respirators after an aerosol generating procedure
  - Discard respirators when they become visibly contaminated, moist or damaged
  - Use a cleanable face shield over an N95 to reduce surface contamination and extend the life of the respirator
  - Do not touch respirator between patient encounters (it's considered dirty)
  - Perform hand hygiene before and after touching or adjusting respirators
  - Discard any respirator that is visibly soiled, damaged or becomes loose or hard to breathe through

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html

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Limited Reuse

- Reusing the same N95 respirator for multiple time periods (shifts or days)
- Things to Consider:
  - Discard N95 respirators following use during aerosol generating procedures
  - Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients
  - Discard N95 respirators following close contact with any patient co-infected with an infectious disease requiring contact precautions
  - Consider use of a cleanable face shield over an N95 respirator and/or other steps (e.g., masking patients, use of engineering controls),to reduce surface contamination of the respirator
  - Store respirators appropriately (next slide)
  - Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary to maintain fit)
  - Avoid touching the inside of the respirator. If inadvertent contact is made with the inside of the respirator, discard the respirator and perform hand hygiene
  - Use a pair of clean (non-sterile) gloves when donning a used N95 respirator and performing a user seal check. Discard gloves after the N95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html

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Proper Respirator Storage

- Label each respirator with employee name, date of first use and tally number of uses
- Store respirators in a labeled, breathable container, away from everything else (paper bag)
- Respirators should not be used more than 5 times (1 time is donning, wearing for a period of time and then doffing)
- Respirators should 'rest' in the breathable container for at least 5 days
- Clean gloves should be worn when donning and performing a seal check with a previously used respirator, once donned, doff gloves and perform hand hygiene
- Clean gloves should be worn to doff a respirator; during doffing, the inside of the respirator should not be touched
- Do not store anything else inside the bag with the respirator (i.e. face shield)

https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html

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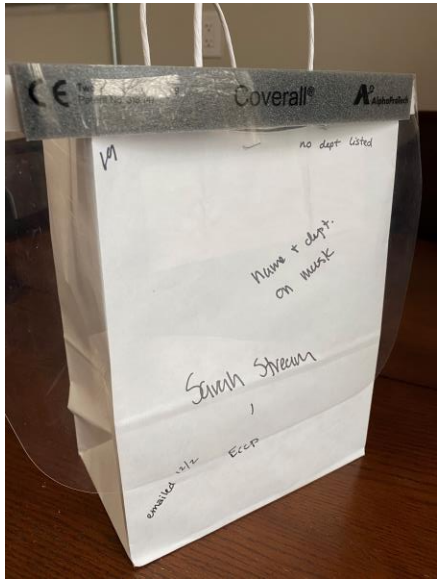
Proper Respirator Storage

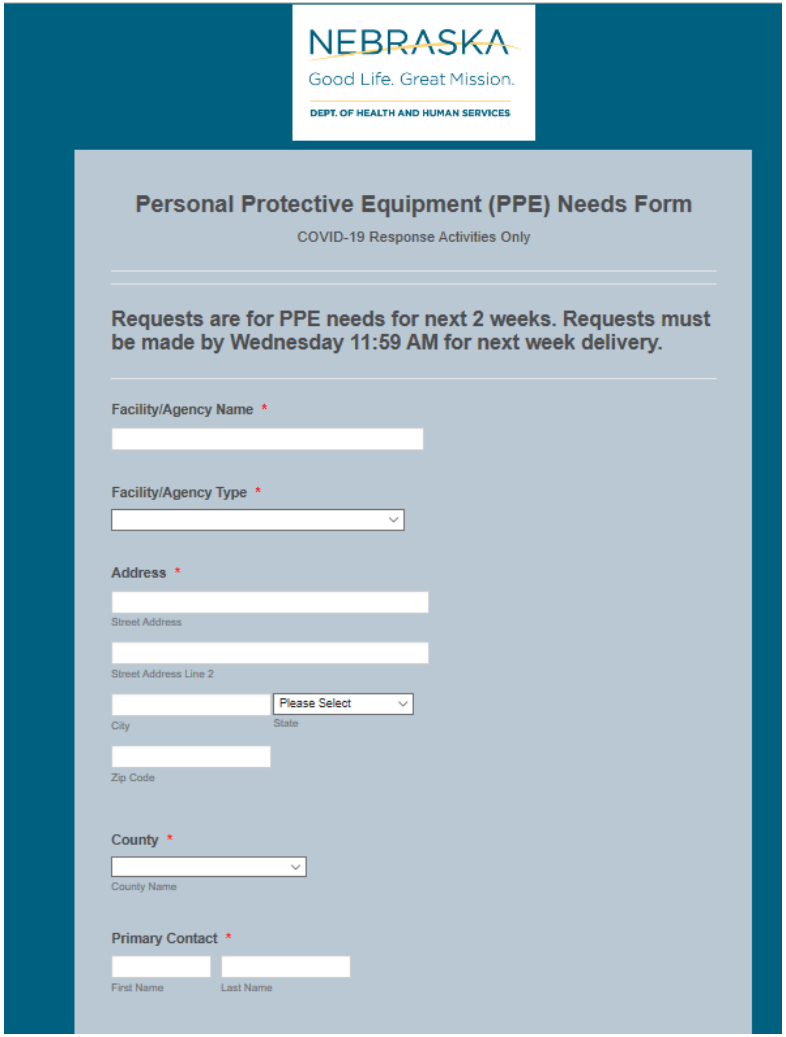


Respirator Disinfection

- There are UV Respirator Disinfection sites around Nebraska (https://icap.nebraskamed.com/wp-content/uploads/sites/2/2021/01/UV-Light-box-locations-in-Nebraska-1.5.21.pdf)
    - Call the site directly to determine disinfection availability, processes and if your respirators are validated for disinfection

- Things to consider:
    - You should not disinfect KN95 respirators, these are single use only
    - Check your manufacturer's recommendations on disinfecting N95 respirators (some are not recommended to be disinfected)
    - Disinfection effectiveness of respirators can also be found at https://www.cdc.gov/niosh/npptl/respirators/testing/DeconResults.html

PPE Requests from NE DHHS


NEBRASKA
Good Life. Great Mission.
DEPT. OF HEALTH AND HUMAN SERVICES

Personal Protective Equipment (PPE) Needs Form

COVID-19 Response Activities Only

Requests are for PPE needs for next 2 weeks. Requests must be made by Wednesday 11:59 AM for next week delivery.

Facility/Agency Name *

Facility/Agency Type *

Address *

Street Address

Street Address Line 2

City

Please Select

State

Zip Code

County *

County Name

Primary Contact *

First Name

Last Name

Use this link to request support with PPE:

- PPE Request from NE DHHS https://form.jotform.com/NebraskaDHHS/PPERequestForm [form.jotform.com]
  - This form goes to both the local health department and NE DHHS
  - Requests are for PPE needs for next 2 weeks.
  - Requests must be made by Wednesday 11:59 AM for next week delivery.
  - Local Health Departments are responsible for approving requests, work with them directly for urgent needs

PPE Supply News!

- On Jan. 13, 2021 it was announced that many PPE allocations for dental suppliers have been lifted
- Manufacturers should begin to allow for normal PPE distribution to offices
- This is for all types of PPE

Respiratory Protection Resources

Respirator Decontamination Assessment by type:
https://www.cdc.gov/niosh/npptl/respirators/testing/DeconResults.html

User Seal Check Demonstration: https://www.youtube.com/watch?v=pGXiUyAoEd8

Training and protocols for preservation of N95 respirators:
https://www.nebraskamed.com/for-providers/covid19/personal-protective-equipment-ppe

Healthcare Respiratory Protection Resources:
https://www.cdc.gov/niosh/npptl/hospresptoolkit/training.html

OSHA Respiratory Protection Program Guidelines:
https://www.osha.gov/enforcement/directives/cpl-02-02-054

OSHA Respiratory Protection Program Manual:
https://www.osha.gov/Publications/osha3079.pdf

ICAP Adapted Written Respiratory Protection Plan Template:
https://icap.nebraskamed.com/wp-content/uploads/sites/2/2020/09/Respiratory-Protection-Plan.docx

Announcements

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Infection Control Assessment and Promotion Program

COVID-19 Vaccine Clinics

- Dental professionals are included in Phase 1a Tier III in Nebraska
- Many counties are already offering vaccine clinics
- Contact your Local Health Department for more information

http://dhhs.ne.gov/Documents/COVID-19-Vaccine-Phase-1A-Allocation-Recommendations.pdf

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General IC Resource

CDC DentalCheck Mobile App

Current COVID-19 Interim Guidance

Find the most up-to-date information about infection prevention and control practices on CDC's COVID-19 page, including CDC's Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response. These pages include information for the public and healthcare professionals, frequently asked questions and answers, and other helpful links.

Dental health care personnel can use the mobile application, CDC DentalCheck, to periodically assess practices in their facility and ensure they are meeting the minimum expectations for safe care.

Key Features

- Check Yes/No to acknowledge adherence to office policies or observed practices.
- Review basic infection prevention principles and link to full recommendations and source documents for dental health care settings.
- Export or save results and notes for records management.

https://www.cdc.gov/oralhealth/infectioncontrol/dentalcheck.html

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Infection Prevention and Control Office Hours

Monday – Friday

8:00 AM – 10:00 AM Central Time

2:00 PM -4:00 PM Central Time

Call 402-552-2881

Email NebraskaICAP@nebraskamed.com

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Tele-ICAR Assessments

- ICAR: Infection Control Assessment and Response Survey
- Ne ICAP is conducting COVID-19 targeted Tele-ICAR Surveys
- Outpatient Clinics (Dentistry, Dialysis, Emergency Care, etc.), Long Term Care Facilities and Acute Care Clinics (Hospitals) are participating
- This is a preventative survey to assess your COVID-19 policies, procedures and processes
- Ne ICAP will provide you with a summary of your results and recommendations based on local, state and federal guidance
- Contact Sarah Stream at sstream@nebraskamed.com or call our main ICAP phone number to schedule yours today!

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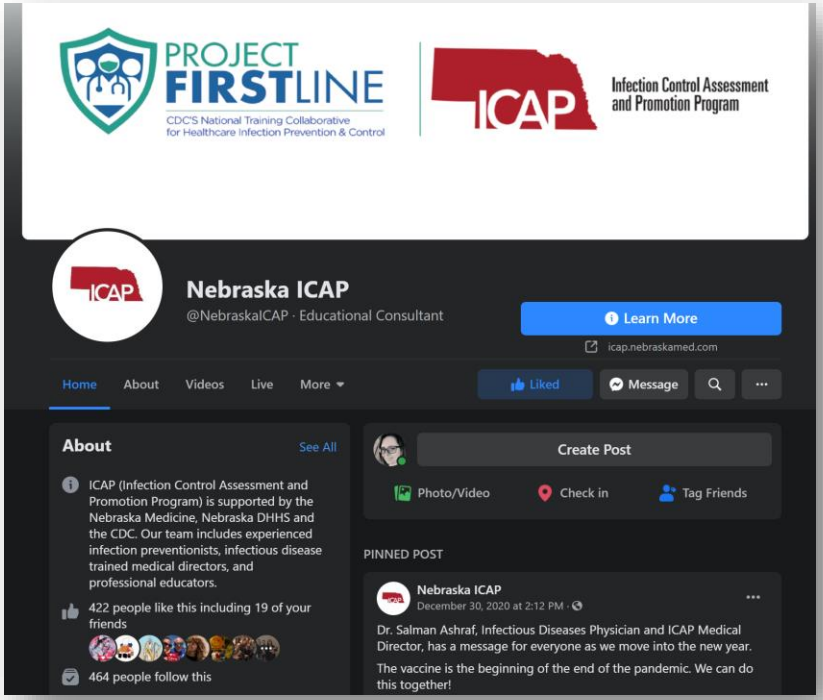
Project Firstline and Facebook



- CDC Initiative to provide basic infection control education to all healthcare providers
- Ne ICAP will be posting IC updates, courses and references for all types of providers
- Stay up to date on education, training opportunities and infection control content by following our Facebook page including webinar registration in the events section
- Search for @NebraskaICAP on Facebook and follow us!

Next Dental Webinar!

- Dental webinars will be hosted on the Third Friday of every month at 12:00 CST
- Topics will be based on needs that are observed in the dental community, we would love to hear from you!
- If you have topic suggestions, submit them to Sarah Stream at sstream@nebraskamed.com
- Next Webinar: Friday, February 19, 12:00 pm CST
  - Register through the Facebook Event page or at: https://icap.nebraskamed.com/covid-19-resources-dental-facilities/

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Questions and Answer Session

Use the QA box in the webinar platform to type a question. Questions will be read aloud by the moderator, in the order they are received

A transcript of the discussion will be made available on the ICAP website

Panelists:

- Dr. Richard Hankins, MD
- Sarah Stream, MPH, CDA
- Kate Tyner, RN, BSN, CIC
- Dan German
- Supported by Margaret Deacy
- Slides Developed by Sarah Stream, MPH, CDA

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