COVID-19: New Standards to Protect EMS

The journey back to the things we love...
Objectives:

• Review the history and epidemiology of COVID-19.
• Examine the most recent changes in patient care and treatment for individuals with suspected COVID-19 infection.
• Discuss the use of MDI inhalers to reduce transmission risk and avoid intubation.
• Review protocols
• Review resources available to EMS.
What is COVID-19?

- A viral respiratory illness. There is no current vaccine to protect against it and things like antibiotics will not treat the virus.
- Coronavirus isn’t new, it was discovered in animals about two decades ago. Humans get other strains of coronavirus often, but COVID-19 is a new strain that our immune system has never faced before.
- The outbreak:
  - Death rate is at about 6.9% (166,794 deaths out of 2,432,092 cases worldwide as of 4/16/2020)
  - US death rate is at about 5.3% (40,702 deaths out of 761,991 cases as of 4/16/2020)
  - Nebraska death rate is at about 1.9% (28 deaths out of 1,474 cases as of 4/20/2020)
  - Nebraska Map of Cases
    - [https://nebraska.maps.arcgis.com/apps/opsdashboard/index.html#/4213f719a45647bc873ffbf58783ffeef3](https://nebraska.maps.arcgis.com/apps/opsdashboard/index.html#/4213f719a45647bc873ffbf58783ffeef3)
  - World and US Map of Cases
    - [https://coronavirus.jhu.edu/map.html](https://coronavirus.jhu.edu/map.html)
Protecting Yourself

• **Time / Number:** Keep your duration and number of responders with the patient to a minimum.

• **Distance:** Attempt to maintain a 6 ft distance from the patient.

• **Shielding:** Early proper PPE is a MUST!

[http://dhhs.ne.gov/OEHS%20Program%20Documents/EMS%20Guidelines%20for%20PPE.pdf](http://dhhs.ne.gov/OEHS%20Program%20Documents/EMS%20Guidelines%20for%20PPE.pdf)
Who are we concerned about?

• CDC Guidelines:
  • Fever greater than 100.4°F
  • Cough (productive or non-productive)
  • Flu-like symptoms
  • Anyone in direct contact with a confirmed COVID-19 patient
WE COME FIRST!!

- Take your temperature often
- Any fever, cough, upper respiratory illness signs or symptoms
  - Report up your chain of command and DON’T respond to calls or report to work
- If at any point during a shift you start to show these signs and symptoms, ensure you have a surgical mask on and report it up your chain of command
EMS Guidelines for Personal Protective Equipment (PPE)
Use in Response to COVID-19 Calls for Service

See the Figure below for recommended PPE to be worn by EMS personnel that will be in contact with a suspected or confirmed COVID-19 patient.

Remember
- PPE must be donned correctly before entering the patient area.
- PPE must remain in place and be worn correctly for the duration of work in potentially contaminated areas. PPE should not be adjusted (e.g., rolling gown, adjusting respirator/surgical mask) during patient care.
- PPE must be removed slowly and deliberately in a sequence that prevents self-contamination. A step-by-step process should be developed and used during training and patient care.

Mask: N95® or surgical mask
Used to protect you from breathing in COVID-19 containing droplets

Eye Protection: Goggles or Face Shield
that fully covers front and sides of face
Prescription eyeglasses are NOT considered adequate eye protection
Used to protect eyes from COVID-19 containing droplets

Isolation Gown: One that fully covers from neck to knees and arms to wrist
Used to protect clothes and skin surface from COVID-19 containing droplets

Gloves: Disposable Nitrile
Used to protect skin surface from COVID-19 containing droplets

Click here for the link to this guide

COVID-19 is spread from someone’s breath, cough, direct contact or touching an infected surface. If the virus gets into a mucous membrane, located in your eyes, nose and mouth, infection may occur. All PPE equipment shown is essential to keep you safe.

EMS should limit personnel exposure to possible COVID-19 patients by limiting the number of providers that respond or have direct contact with the patient.
High Consequence Pathogen Protocol

Dispatch Center Screening Tool

COVID-19 Guideline

Enter Screening Tool

Do not rely solely on dispatch personnel to identify a potential exposure patient.

E1131 may be confirmed by time and caller information.

Obtain a travel history, symptom history, and a review of any signs and symptoms.

Maintain 4 ft minimum distance from patients while interviewing until mask can be placed.

EMT Intermediate Care

Transport patients with known or suspected pathogen with or without symptoms.

Transfer transferred areas within past 14 days.

Fever, cough, shortness of breath, headache, conjunctivitis, vomiting, diarrhea

Exit to Appropriate Patient Care Guidelines

Aer transportation guidelines: (PPE: Personal Protective Equipment)

Notify Hospital

Notify Hospital

Precautions

Contact, Droplet, and Airborne Precautions

None

PPE: None

Personal Protective Equipment

Notify Hospital

If there is a known shortage of respirators and...
High Consequence Pathogen Protocol Continued

**EMS Personnel**
- Requires Documentation

**EMS Equipment/Transport Unit**
- Requires Decontamination

**Wear Hands:**
- Thoroughly after transferring patient care and/or cleaning ambulance

**Safety clean vehicles used for transport:**
- Follow standard operating procedures for the containment and disposal of regulated medical waste.
- Follow standard operating procedures for containing and reprocessing used linen.

**Wear appropriate PPE when:**
- Removing soiled linen from the vehicle. Avoid shaking the linen.
- Clean and disinfect the vehicle in accordance with agency standard operating procedures.
- Personnel performing the cleaning should wear a disposable gown and gloves (a respiratory should not be needed) during the clean-up process. The PPE should be discarded after use.
- All surfaces that may come in contact with the patient or materials contaminated during patient care (e.g., stretcher rails, control panels, floor, walls, work surface) should be thoroughly cleaned and disinfected using an EPA-registered disinfectant appropriate for SARS, MERS-CoV, or coronavirus in healthcare settings in accordance with manufacturer’s recommendations.

**Maintain Records:**
- Of all prehospital providers who were in the room with the patient at the scene and who were in ambulance during transport (self-monitoring for symptoms for 14 days is recommended, even if wearing appropriate PPE).
- This does not mean the providers can no longer work.
- If all prehospital providers names (students, observers, supervisors, first response, etc.) are listed in the Patient Care Report then this is a sufficient record.

**Pearls**

- **Transport**
  - Limit transport of the patient only (No family or others unless absolutely necessary, have family ride in cab and apply PPE)
  - Occupants in cab of vehicle all should wear N95 mask (or higher) or PAPR
  - Limit number of providers in vehicle required to provide patient care in order to limit exposures
  - Ensure use of all PPE for crew and passengers when aerosol generating procedures utilized

- **Negative pressure in care compartment**
  - Door or window available to separate driver and care compartment:
    - Close door/window between driver and care compartment and operate near exhaust fan on full/high.
    - No door/window available to separate driver and care compartment:
      - Open outside air vent in driver’s compartment and set near exhaust fan to full/high.
      - Set ventilation system to non-recirculating to bring in maximum outside air.
      - Use recirculating HEPA ventilation system, if equipped.

- **Airborne precautions:**
  - Standard PPE with fit-tested N95 mask or PAPR respirator and utilization of a disposable gown, single pair of gloves, and face shield/goggles.
  - Level appropriate for COVID-19, Aspergillosis, Tuberculosis, Measles (rubella), Chickenpox (varicella-zoster), smallpox, influenza, Rhinovirus, Norovirus, and Rotavirus.
  - Contact precautions:
    - Standard PPE with utilization of a gown, change of gloves after every patient contact, and strict hand washing precautions.
    - This level is utilized with GI complaints, blood or body fluids, C-diff, scabies, wound and skin infections, MRSA, Giardia, CMV, and undiagnosed rashes.
  - Droplet precautions:
    - Standard PPE plus a standard surgical mask for providers who accompany patients in the treatment compartment and a surgical mask or N95 C2 mask for the patient.
    - This level is utilized when influenza, meningitis, Mumps, Streptococcal pharyngitis, Pertussis, Adenovirus, Rhinovirus, SARS, and undiagnosed rashes.
  - All-hazards precautions:
    - Standard PPE plus airborne precautions plus contact precautions.
    - This level is utilized during the initial phases of an outbreak when the etiology of the infection is unknown or when the causative agent is found to be highly contagious (e.g. SARS, MERS-CoV, COVID-19).
  - **COVID-19 (Novel Coronavirus)**
    - For most current criteria to guide evaluations of patients under investigation:
Non-Transport Protocol

EMS Checklist: Safe to leave at home?

The patient is stable enough to receive care at home.

The patient meets all inclusion criteria in the protocol.

Appropriate caregivers are available at home.

Recommended: There is a separate bedroom where the patient can recover without sharing immediate space with others.

Resources for access to food, phone, and other necessities are available.

The patient and other household members have access to appropriate, recommended personal protective equipment (at a minimum, gloves and facemask) and are capable of adhering to precautions recommended as part of home care or isolation (e.g., respiratory hygiene and cough etiquette, hand hygiene).


PEARLS:

• Recommended Exam: Mental status, skin, HEENT, heart, lungs, and neurological.

• Externs of age are more prone to heat emergencies (the very young or elderly).

• Common signs and symptoms of COVID-19: Fever, cough, sore throat, body aches, fatigue, shortness of breath/difficulty in "catching my breath". Rhinorrhea (runny/stuffy nose) is uncommon for COVID-19, but may be present or usually found with other viral or bacterial upper respiratory infections.

• Non-transport requirement. The patient is fully alert and oriented to his or her normal baseline and not intoxicated, to your knowledge.

• There are no obvious indications that this patient is experiencing an exacerbation of a chronic illness, such as COPD, CHF, asthma, etc.

• If the patient's temperature remains greater than 100.4°F and no medications have been used within the last 6 hours, transport should be highly encouraged.

• The patient must be able to contact 911 if needed again: functional phone, an adult who will be with the patient for most of the time, a lifeAlert type system, or other appropriate means of communication.

• COVID-19 is considered as a droplet precaution viral disease. However, droplets may be aerosolized by coughing, sneezing, or nebulized medication use (home nebulizer) and remain in the air for several hours. Use an N95 mask on yourself when making patient contact. If the patient is transported, apply a surgical mask to the patient to protect others. Do NOT use an N95 mask on these patients.
So what if the patient needs transport?

Be cautious of aerosolization during patient care. For patients with a suspected respiratory viral infection:

• NO nebulized medications, NO CPAP for these patients.
• Instead, use albuterol MDIs (Metered Dose Inhaler) to decrease risk of aerosolization.
• Watch this video to build a closed MDI system for your protection.
• Talk to your PMD to find the best method to protect yourself while still treating your patients
• The goal is to prevent intubation.
### Risk Classification

- Use this table to determine risk of exposure

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Epidemiologic Risk Classification for Asymptomatic Healthcare Personnel Following Exposure to Patients with COVID-19 or their Secretions/Excretions in a Healthcare Setting, and their Associated Monitoring and Work Restriction Recommendations

- **HCP**: healthcare personnel; **PPE**: personal protective equipment

### Risk Classification Table

<table>
<thead>
<tr>
<th>Epidemiologic Risk Factors</th>
<th>Exposure Category</th>
<th>Recommended Monitoring for COVID-19 (until 14 days after last potential exposure)</th>
<th>Work Restrictions for Asymptomatic HCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged close contact with a COVID-19 patient who was not wearing a face mask (i.e., source control)</td>
<td>HCP PPE None</td>
<td>Medium</td>
<td>Active</td>
</tr>
<tr>
<td>HCP PPE: Not wearing a face mask or respirator</td>
<td>Low</td>
<td>Self with delegated supervision</td>
<td>None</td>
</tr>
<tr>
<td>HCP PPE: Not wearing eye protection</td>
<td>Low</td>
<td>Self with delegated supervision</td>
<td>None</td>
</tr>
<tr>
<td>HCP PPE: Not wearing gown or gloves</td>
<td>Low</td>
<td>Self with delegated supervision</td>
<td>None</td>
</tr>
<tr>
<td>HCP PPE: Wearing all recommended PPE (except wearing a face mask instead of a respirator)</td>
<td>Low</td>
<td>Self with delegated supervision</td>
<td>None</td>
</tr>
</tbody>
</table>

- The risk category for these rows would be elevated for one level of HCP (not covering body contacts) with the patient (e.g., rolling the patient).
- The risk category for these rows would be elevated for one level of HCP performing or exposed to a procedure likely to generate high concentrations of respiratory secretions or aerosols (e.g., cardiopulmonary resuscitation, intubation, suctioning, bronchoscopy, endotracheal therapy, sputum induction). For example, HCP who were wearing a gown, gloves, eye protection and a face mask (instead of a respirator) during an aerosol generating procedure would be considered to have a lower risk exposure, compared to those who are following all PPE recommendations.
Remember

• Not every patient has COVID-19.

• This education and these changes in practice only apply to patients with suspected COVID-19.

• For your other patients, follow your protocols.
First Responder Accommodation

• There is a request form for first responders and healthcare workers who have potentially been exposed and need to stay somewhere other than their home. This is to get them a hotel room during self isolation. [https://cip-dhhs.ne.gov/redcap/surveys/?s=K97PH77LYL](https://cip-dhhs.ne.gov/redcap/surveys/?s=K97PH77LYL)

• For questions, there is also a Frequently Asked Questions document. [http://dhhs.ne.gov/Documents/COVID-19-FirstRespondersAccomodationRequest-FAQ.pdf](http://dhhs.ne.gov/Documents/COVID-19-FirstRespondersAccomodationRequest-FAQ.pdf)
Requesting PPE

• PPE is in high demand during this time. DHHS is working on getting supplies out to local Health Departments.
  • To find your local health department, use this link http://dhhs.ne.gov/Pages/Local-Health-Departments.aspx

• To request PPE, go to this link: https://form.jotform.com/NebraskaDHHS/PPERequestForm
Priority Testing

• First responders have priority testing through the Nebraska Public Health Lab for a clinical or rule-out diagnosis of COVID-19. In order to expedite this we are asking for your help:
  • Please UPDATE your EMS Service Roster in eNARSIS Elite immediately. We are asking for this because these rosters include licensed and non-licensed staff from your service.
  • EMS Services who use third party vendors to import into eNARSIS should ensure their staffing list is also updated in eNARSIS as required by regulation. If you have questions on this contact DHHS.eNARSIShelp@Nebraska.gov
eNARSIS Changes

• Changes to eNARSIS include:
  • Filling out PPE worn by each person on a run.
  • Changes to questions and addition of questions to collect on all patients to help determine if we should suspect a patient of COVID-19 or not.
All Resources

• For up-to-date information go to our website: http://dhhs.ne.gov/EMS
• For CDC guidance for EMS go to: https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html
Contact your EMS Specialist
We will make it through this time together. We will return to doing the things we love and going to the places we enjoy! Stay safe!