

Emerging Infectious Diseases

(Respiratory Diseases, SARS, MERS-CoV, COVID-19)

COVID-19 Screening:

<u>Signs and Symptoms:</u>			<u>Additional Screening:</u> (enhances suspicion but not necessary)
<ul style="list-style-type: none"> Fever or chills Cough Shortness of breath or difficulty breathing Fatigue Muscle or body aches Headache 	<ul style="list-style-type: none"> New loss of taste or smell Sore throat Congestion or runny nose Nausea or vomiting Diarrhea 	AND/ OR	<ul style="list-style-type: none"> Patient currently under investigation/isolation for COVID-19 by public health or other health care provider. Close contact¹ with a <u>suspected</u> or <u>lab-confirmed</u> COVID-19 patient.

¹Close Contact: Someone who was within 6 feet of an infected person for a cumulative total of 15 minutes or more over a 24-hour period

Sources: <https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>
<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>

Emergency Medical Dispatch (EMD) Centers:

- Use Emerging Infection Disease (EID) Card (or equivalent) with the following protocols (or equivalent):
 - Breathing Problem, Chest Pain, Headache, Sick Person
- Ask the following questions:
 - Does the patient have any of the following symptoms:
 - Fever ($\geq 100.4^\circ$ F or hot to the touch) or chills
 - Difficulty breathing or shortness of breath
 - Signs/symptoms of COVID-19
 - In the last 14 days before symptom onset, have you come into close contact with a person that is under investigation, is being monitored for, or has had a positive confirmed test for EID (e.g. Coronavirus, COVID-19)?
- If the patient meets above criteria, alert responding providers of potential for patient with possible exposure of Emerging Infectious Disease before arrival.
 - If the patient's condition allows, direct the patient to meet the EMS crew at an appropriate location outside or in a more ventilated area.

EMS Agencies:

- If EMD advises that patient is suspected of having possible Emerging Infectious Disease (EID), EMS should don appropriate PPE before entering the scene.
- If non-transport EMS agencies do not have the appropriate PPE and patient appears stable, they should wait for transport EMS agency with appropriate PPE to arrive.
- If information about potential EID has not been provided by the EMD, EMS should exercise appropriate precautions when responding to any patient with signs or symptoms of a respiratory infection.
 - Initial assessment should begin from a distance of at least 6 feet from the patient, if possible.
 - Patient contact should be minimized to the extent possible until a facemask is on the patient.
 - If an EID is suspected, all appropriate PPE should be used. If EID is not suspected, EMS should follow standard precautions for evaluating the patient.
 - Limit number of providers necessary for care in order to limit potential exposures.

Protocol Continues 

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Recommended Personal Protective Equipment (PPE):

PATIENTS

- Place standard surgical mask on patient.
- If a nasal cannula is in place, a facemask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated.

PROVIDERS

(ALL REQUIRED)

- Respiratory protection - N-95 or higher-level respirator (or ear loop facemask** if a respirator is not available)
 - N-95 respirators or respirators that offer a higher level of protection should be prioritized and used instead of ear loop facemask when performing or present for an aerosol-generating procedure.
- Disposable examination gloves
- Disposable isolation gown
- Eye protection (e.g. goggles or disposable face shield that fully covers the front and sides of the face)

DRIVERS

- While providing direct patient care all PPE as described above should be worn.
- After completing patient care and before entering an isolated driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene to avoid contaminating the compartment.
 - If the transport vehicle does not have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. A respirator should continue to be used during transport.

***When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.*

EMS Transportation Guidelines:

1. EMS should notify the receiving facility about the patient with concern for EID as soon as possible.
2. Keep patient separated from other people as much as possible.
3. Family members and other contacts of patients with possible EID should not ride in the transport vehicle, if possible.
4. Isolate the driver from the patient compartment and keep the pass-through door/window tightly shut.
5. When possible, use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area.
 - a. Vehicle ventilation in both compartments should be on non-recirculated mode.
 - b. If the vehicle has a rear exhaust fan, turn it on full.
6. If the vehicle does not have an isolated driver and patient compartment, open the outside air vents in the driver area and turn the rear exhaust fan on full.

Documentation:

1. Documentation of patient care should be done after EMS clinicians have completed transport, removed their PPE, and performed hand hygiene.
2. EMS documentation should include a list of EMS clinicians and public safety providers involved in the response and level of contact with the patient (e.g. no contact, patient care, etc.). This documentation may need to be shared with local public health authorities.

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Airway Management Considerations for Aerosol-Generating Procedures:

1. Ensure full provider PPE is donned prior to performing airway or aerosol-generating procedures.
 - a. N-95 or higher-level respirator, along with other PPE, is required when performing aerosol-generating procedures.
2. Aerosol-generating procedures should be limited. If needed EMS providers should exercise extreme caution when utilizing BVM, CPAP, BiPAP, Intubation, BIAD, Suctioning, Nebulizer therapies.
 - a. BVMs and other ventilator equipment, should be equipped with HEPA filtration to filter expired air.
 - b. Non-transport providers should defer any aerosol-generating procedures to the transporting agency if at all possible to limit exposure.

OXYGENATION

- Maintain SpO₂ > 90%
- Nasal Cannula (NC) with surgical mask placed over the cannula is the preferred method of oxygenation.
- If persistently hypoxic despite NC, apply nonrebreather (NRB).

NEBULIZATION THERAPY

- Limit nebulized breathing treatments if at all possible. Utilization of albuterol Metered Dose Inhalers (MDI) is highly encouraged, favoring the use of patient's own MDI.
 - ◊ If MDI is used on suspected EID patient, the MDI should be left with the patient at the receiving facility, given the limited resources.

NONINVASIVE POSITIVE-PRESSURE VENTILATION (CPAP, BiPAP)

- Limit CPAP / BiPAP if at all possible in suspected COVID-19 patients.
 - ◊ CPAP / BiPAP is associated with significantly increased risk of coronavirus aerosol transmission and EMS provider exposure.
- If EMS providers feel CPAP / BiPAP is essential, consider contacting MEDICAL CONTROL as needed and utilize in-line HEPA filtration.

ENDOTRACHEAL INTUBATION

- Only perform invasive airway procedures if absolutely necessary when treating a potential COVID-19 patient.
 - ◊ Intubation is associated with significantly increased risk of coronavirus aerosol transmission and EMS provider exposure.
- Use of Blind Insertion Airway Devices (BIAD) (e.g. i-gel) is preferred over intubation, when needed, for patients with suspected COVID-19 as it will limit the exposure of aerosolized particles to the person placing the airway.
- If EMS providers feel intubation is essential, consider contacting MEDICAL CONTROL as needed.

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Medical Treatment Considerations:

ALBUTEROL METERED-DOSE INHALERS (MDI) (ALL LEVELS)

- Consider **ALBUTEROL MDI (90 mcg/puff)** with spacer (or modified mask spacer—see below).
 - Utilize patients home MDI if available.
 - ◊ **Adult: 8 Puffs** with spacer. May repeat x 1 in 5-10 minutes.
 - ◊ **Pediatric: 4 Puffs** with spacer. May repeat x 1 in 5-10 minutes.

MAGNESIUM SULFATE (ALS ONLY)

- Consider **MAGNESIUM SULFATE** for patients with persistent respiratory distress despite oxygen therapy.
 - ◊ **Adult: 2 grams IV** in 50 mL NS over 10-15 minutes
 - ◊ **Pediatric: 50 mg/kg IV** in 50 mL NS over 10-15 minutes. Maximum dose: 2 grams.

EPINEPHRINE (ALS ONLY)

- Consider **EPINEPHRINE (1:1,000)** for patients in severe respiratory distress with impending respiratory failure.
 - ◊ **Adult: 0.3 mg IM (1:1,000)**
 - ◊ **Pediatric: 0.01 mg/kg IM (1:1,000)**. Maximum dose: 0.3 mg.

Modified Mask Spacer:

1. Take the flexible tube from nebulizer kit, attach to bottom of facemask and cover ventilation ports with ECG electrodes.
2. Attach metered-dose inhaler (MDI) to the opposite end of the flexible tube and apply mask to patient's face, securing the straps.
3. Give albuterol and instruct the patient to take deep breath while disconnecting the MDI.



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Vehicle Decontamination:

1. After transporting the patient, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
 - a. The time to complete transfer of the patient to the receiving facility and complete all documentation should provide sufficient air changes.
2. When cleaning the vehicle, EMS clinicians should wear a disposable gown and gloves. A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated.
3. Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle.
4. Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for SARS-CoV-2 (the virus that causes COVID-19) in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
5. Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. These products can be identified by the following claim:
 - a. "[Product name] has demonstrated effectiveness against viruses similar to SARS-CoV-2 on hard non-porous surfaces. Therefore, this product can be used against SARS-CoV-2 when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces."
 - b. This claim or a similar claim, will be made only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, "1-800" consumer information services, social media sites and company websites (non-label related). Specific claims for "SARS-CoV-2" will not appear on the product or master label.
6. If there are no available EPA-registered products that have an approved emerging viral pathogen claim, products with label claims against human coronaviruses should be used according to label instructions.
7. Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have come in contact with the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital grade disinfectant in accordance with the product label.
8. Clean and disinfect reusable patient-care equipment before use on another patient, according to manufacturer's instructions.
9. Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste.
10. Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.

References:

- CDC Interim Guidance for EMS: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>
- CDC Main Coronavirus Page: <https://www.cdc.gov/coronavirus/2019-nCoV/index.html>
- EPA Disinfectants for Use Against SARS-CoV-2: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Protocol Continues

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Special Situations

Protocol Continues 

Emerging Infectious Disease

Non-Transport for Suspected COVID-19

History

- Flu-like symptoms
- Known COVID-19 PUI
- Known COVID-19 Exposure
- Travel to affected geographical regions / area within the past 14 days.

Signs and Symptoms

- Fever (> 100.4°F)
- Cough
- Shortness of breath
- Nasal/chest congestion
- Sore throat
- Body aches / Fatigue
- Nausea / Vomiting / Diarrhea

Differential

- Viral infections (e.g. COVID-19, Influenza, etc)
- Bacterial infections
- Sepsis
- Asthma / COPD
- Cardiac
- Hyperthyroidism

All Levels

Patient meets COVID-19 Criteria
(911 screen, PUI or High Suspicion)

YES

PATIENT ASSESSMENT

- **Age:** 60 years and younger
- **Temperature:** Less than 104°F
- **Respiratory Rate:** Greater than 8 or less than 20
- **SpO₂:** Greater than 94% on room air
- **Heart Rate:** Less than 110 bpm
- **Systolic BP:** Greater than 100 mmHg
- **GCS:** 15 (no altered LOC)

YES

CONTINUED ASSESSMENT

Is the patient experiencing any of the following:

- Chest pain / discomfort
- Shortness of breath / Respiratory distress
- Diaphoresis
- Cyanosis
- Syncope
- Immunocompromised or poorly controlled comorbidities (e.g. lung, heart, renal, liver disease; diabetes; pregnant)

NO

PPE MUST Be Worn:
N-95, Gown, Goggles, Gloves

Limit patient contact to ONE provider if at all possible.

NO to ANY

Treat Appropriately and Transport

YES to ANY

Treat Appropriately and Transport

NON-TRANSPORT / STAY AT HOME

- Ensure patient has medical decision-making capacity and agrees with non-transport.
- Educate patient on the possible risks associated with transport and non-transport options.
- Encourage patient to stay home and self-monitor for signs and symptoms.
- Ensure patient has appropriate support system (e.g. family, etc.) and able to contact 911 if needed.
- Leave *COVID-19 Patient Handout* with patient and advise to call 911 if symptoms worsen. Patient to contact their local health department *and* their primary care provider.
- Contact MEDICAL CONTROL.
- Complete IDPH "*Patient Agreement for Non-Transport during COVID-19 Pandemic*", Refusal Form and appropriate Patient Care Report.

Special Situations

Emerging Infectious Disease

Non-Transport for Suspected COVID-19

Pearls:

- This is a rapidly evolving situation. Changes will be made to this and other COVID-19 protocols as data and guidance becomes available.
- For the most current information go to <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-for-ems.html>
- Patient must meet criteria on previous page and have appropriate resources as outlined by CDC¹:
 - ◇ The patient is stable enough to receive care at home.
 - ◇ Appropriate caregivers are available at home.
 - ◇ There is a separate bedroom where the patient can recover without sharing immediate space with others.
 - ◇ Resources for access to food 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).
- **Immunocompromised or poorly-controlled comorbidities:** There are NO obvious indications that this patient is experiencing an exacerbation of a chronic illness such as COPD, CHF, Asthma, etc. or on current chemotherapy treatments or chronic steroid use. According to CDC² those at high-risk for severe illness from COVID-19 include those patients with chronic lung disease or moderate to severe asthma, serious heart conditions, immunocompromised, severe obesity (BMI ≥ 40), diabetes, renal failure, or liver disease.
- According to CDC² people who are pregnant should be monitored since they are known to be at risk with severe viral illness, however, to date data on COVID-19 has not shown increased risk.
- **Recommended Scripting:**
“Due to the recent outbreak of coronavirus, hospitals are seeing increased number of patients. Based on your age, medical history and our assessment we highly recommend that you stay at home and self-quarantine in order to limit exposures. You should contact and/or seek care with your primary care provider. If your symptoms worsen you should call 911. Are you agreeable with these recommendations?”
- **Suggested Documentation:**
“The patient was evaluated for the listed complaint. At this time, their illness is consistent with possible COVID-19. They have the exam and vital signs as documented. Their medical history is listed in the report. At this time, their symptoms can be managed at home. They have a separate living space for isolation, can adhere to the recommendations in the provided patient handout, are able to care for themselves (or have a caregiver who can care for them), can call 911 or seek further care if their condition worsens, and they are otherwise safe. Medical Control was contacted [list physician name and/or MD number] and agreed. The patient was provided with the appropriate handouts associated with this protocol.”

OSF HealthCare Alternatives to Emergency Care:

Call: COVID-19 Nurse Hotline - 833-OSF-KNOW (833-673-5669)

Text: Text OSF to 67634

Online: Chat online with our virtual assistant Clare. Clare offers education on symptoms, prevention and preparedness. Visit <https://www.osfhealthcare.org/>

1. Centers for Disease Control and Prevention. Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for Coronavirus Disease 2019 (COVID-19). Updated February 12, 2020. Access at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-home-care.html>
2. Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): People Who Are At Higher Risk. Updated March 26, 2020. Access at: <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>