NWC EMSS COVID-19 Guidelines Rev. 7-1-20

APPENDIX C

All patients should be considered to be infected with COVID-19 until proven otherwise.

RISK FACTORS for SEVERE ILLNESS from COVID-19 (CDC, 6-25-20)

- Age alone: risk increases with age, older adults at highest risk
- Any age with these comorbid conditions: Chronic kidney disease; COPD; Obesity (BMI of 30 or higher); serious heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies; Sickle cell disease; Type 2 DM
- **Immunocompromised state:** Primary, secondary, or acquired immune-deficiencies due to a condition or immunosuppressive Rx and/or chronic disease assoc. w/ immune dysfunction organ dysfunction or failure or severe inflammatory disease. Ex: Cancer, solid organ transplantation, rheumatological autoimmune, inflammatory, and metabolic bone disorders
- **Children** who are medically complex, have neurologic, genetic, metabolic conditions, or who have congenital heart disease.

Might be at an increased risk for severe illness from COVID-19:

- Asthma (moderate-to-severe); Cerebrovascular disease (affects blood vessels and brain blood supply)
- Cystic fibrosis; Hypertension or high blood pressure
- Immunocompromised state from blood or bone marrow transplant, immune deficiencies, HIV, use of corticosteroids, or use of other immune weakening medicines
- Neurologic conditions, such as dementia
- Liver disease; Pulmonary fibrosis (having damaged or scarred lung tissues); Smoking
- Thalassemia (a type of blood disorder); Type 1 and gestational diabetes mellitus

Pregnant Hispanic and non-Hispanic black pregnant women appear to be disproportionately affected by SARS-CoV-2 infection during pregnancy. Among reproductive-age women with SARS-CoV-2 infection, pregnancy was associated with hospitalization and increased risk for ICU admission, and receipt of mechanical ventilation, but not with death (CDC, June 26, 2020 / 69(25); 769–775).

Minimize chance for exposure: Implement safety measures before and upon arrival, throughout the duration of patient care, and until the ambulance is cleaned and disinfected.

- Don contact/droplet precaution PPE before approaching any patient.
- **Limit responders who initially don PPE and approach patient within 6 feet to one or two persons**

PPE required

- **NO aerosol generating procedures (AGPs)**: PPE on 2 EMS responders
  Nonsterile gloves; procedure (surgical) mask (*N-95 OK if available and restocked by agency*); isolation gown or coveralls (if available); eye protection (goggles or face shield). Expected # per front line ambulance (non-cardiac arrest): 3 surgical masks (2 EMS personnel; 1 pt), 3 gowns, 2 eye protection/face shields; 3 sets of gloves.
- **+ Aerosol generating procedures (AGPs)[1] (add Airborne precautions)**:
  Nonsterile gloves; N-95 mask (unless wearing an alternate respirator); gown or coveralls; eye protection (face shield preferred if N95 is not splash resistant or place surgical mask over N95). Expected # N95 masks/vehicle: 2

Patient: Procedure (surgical) mask. Ensure they adhere to respiratory hygiene and cough etiquette
Source control all bystanders: At least cloth facemasks

[1]**Aerosol generating procedures (AGPs)**: Open suctioning of airway secretions, CPR; Endotracheal intubation (advanced airway placement); manual ventilation with a BVM, nebulized meds; CPAP (See COVID-19 Playbook for all)

Screening questions for COVID-19

☐ Have you had exposure to someone in the past 14 days with confirmed or suspected COVID-19?
☐ Have you been tested for or had a diagnosis of COVID-19 in the last 30 days?

Do you have any of the following S&S?

☐ Fever > 100° F[2]; chills	☐ Congestion nose or lungs	☐ Unusual fatigue/weakness	☐ Bruising/discoloration
☐ Cough (new or worsening)	☐ Abdominal cramping/pain	☐ New onset confusion	☐ Rash; discoloration
☐ Dyspnea; ↑ WOB	☐ Anorexia/nausea/vomiting	☐ Lightheadedness	☐ Red eye
☐ Chest pain (positional/pleuritic)	☐ Diarrhea or loose stools	☐ Severe headache	☐ Abn. eye movement
☐ Loss of smell or taste	☐ Sore throat	☐ Muscle pain/myalgia	☐ Leg pain/swelling

S&S Multisystem Inflammatory Syndrome in Children (MIS-C) (Age <21 years)

There appears to be a delay of 2-6 weeks after possible COVID infection before onset of MIS-C or pt may have been asymptomatic for COVID-19.

S&S may include: **Persistent fever**[2], abdominal pain, vomiting, diarrhea, rash, sore throat, cough (respiratory symptoms not prevalent), irritability, headache, conjunctivitis, swollen lymph nodes in the neck, swollen hands and feet, cracked lips and a tongue that is redder than usual. (See COVID-19 Playbook Standards of Practice section for full summary)

Leaky blood vessels cause **low BP and fluid accumulation in the lungs and other organs** resulting in a state that resembles cardiogenic or distributive shock **with coronary artery abnormalities and myocardial impairment/dysfunction**.

[2]Fever >38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours

EMS Assessment/Care

1. **IMC:**
   - Be particularly vigilant for severe hypoxia per SpO_2 without dyspnea; O_2 per SOP.
   - Anticipate hypotension, dysrhythmia, myocardial dysfunction: Assess baseline ECG; 12 L if indicated. Place ECG leads in the lateral limb position (left and right deltoid; L & R 12th intercostal space midaxillary line).
   - **Assess glucose and hydration status** for evidence of hyperglycemia and acidosis (↑ RR and ↓ $ETCO_2$). (Severe insulin resistance may cause glycemic control issues and DKA with no Hx of DM).
   - **Transport pt. w/ known DM with all their DM-related equipment** (glucose meters, test strips, insulin pump supplies); plus their insulin. Some insulins are not typically available in hospitals, e.g. insulin degludec (*Tresiba*, Novo Nordisk) or insulin aspart (*Fiasp*, Novo Nordisk). Transitioning from degludec to glargine [*Lantus*, Sanofi] or detemir [*Levemir*, Novo Nordisk] at the hospital can be problematic.
   - Full set of VS including measured temperature for evidence of fever
   - ROS: Assess all for typical AND atypical S&S. Assess children carefully for S&S of MIS-C.
   - Assess extremities for asymmetric swelling/loss of distal pulses; rashes, discoloration fingers/toes

Mild illness/low risk for complications:

- **IMC: Supportive care:** Encourage rest, adequate fluids, and OTC pain relievers and fever reducers.
- Determine if patient meets non-transport criteria.

Moderate distress: Bilaterally wheezing/crackles; dyspnea; moderate hypoxia; ↑ WOB; MAP ≥ 65mmHg)

1. **Hx Asthma or COPD** (not ARDS) **or HF with wheezing or crackles and good ventilatory effort**
   - **Nebulized medications and/or CPAP** reinstated as indicated by SOP if COVID-19 status negative or unknown and no dx suspected based on Hx or S&S. Do not reinstate if pt. known to be COVID-19 positive within in last 10 days or PMH and clinical condition strongly suggest COVID-19 disease. N95 masks on all EMS personnel in close contact w/ pt. Inform hospitals PTA; may ask for suspension of procedure during transfer into ED.
   - **Alternatives: ALBUTEROL MDI** (90 mcg/puff) with spacer: - may use after expiration date
     - Adult:: 8 puffs every 20min up to 4 hours then every 1-4 hr
     - Peds: 8 puffs every 20 min for 3 doses
   - **IPRATROPIUM MDI** (18mcg/puff) with spacer:
     - Adult: 8 puffs every 20min, as needed for 3 hours
     - Peds: (severe asthmatic cases only): 4-8 puffs every 20 min as needed, up to 3 hours **OR**
   - Combination Inhaled MDI: Albuterol with Ipratropium (90 mcg albuterol with 18 mcg ipratropium per puff)
     - Adult: 8 puffs every 20min, as needed for 3 hours 3
     - Peds: (severe asthmatic cases only): 4-8 puffs every 20 min as needed, up to 3 hours

3. **Consider if awake proning protocol may be indicated**
   - Indications: Awake patient with good inspiratory effort; severe hypoxia (SpO_2 <90%) despite O_2
     Grossly hemodynamically stable; can communicate on their own and can cooperate in self–positioning
   - Continue O_2; cardiac, BP, and SpO_2 monitoring. Obtain VS & Oximetry readings right before proning and 10 minutes after position change. Pts must not be left alone.
   - Have 2 HCP stand on either side of stretcher to keep it stable and protect pt during movement.
     Position stretcher flat. Ask pt to turn over onto stomach unless contraindicated. If pt experiences pain when turning, STOP and return to supine position. Provide sufficient pillows to support head, shoulders and arms. Rotate head to one side. Avoid pressure on the eyes and ear. Place a blanket roll under ankles to elevate both feet. May be more comfortable with one arm above head and one at side (swimmer's position). Ensure comfort.

EMS Contraindications to prone positioning	
- Need for immediate ETI - Pregnancy; patients with larger abdominal girth - Concerns for increasing ICP (intra-cranial hemorrhage) - Massive hemoptysis - Tracheal surgery or sternotomy during previous 15 days - Serious facial trauma or surgery during previous 15 days - Deep venous thrombosis treated less than 48 hours - Cardiac pacemaker inserted in the last 48 hours - Unstable spine, femur, or pelvic fractures	- MAP <65mmHg (OK if pt on Norepi to keep MAP ≥65mmHg) - Chronic respiratory failure on home O_2, BiPAP/CPAP - Frequent ventricular arrhythmia - DNR/DNI **Considerations**: Ask about Hx of rotator cuff tear, stroke, nerve damage, brachial plexus injury, osteoarthritis of shoulder complex, Hx of clavicle fx, or hyperflexible joints.

CRITICAL (Severe distress): Severe SOB, ↑ RR & WOB, inadequate ventilations; speaks in syllables, lung sounds have wheezes, crackles, are diminished or absent; HR & BP may be dropping; SpO_2 <90%; ventilatory failure with severe hypercarbia ($ETCO_2$ >45). Monitor carefully for evidence of clotting, CV dysfunction, and development of sepsis and septic shock (use qSOFA criteria).

Time sensitive

ALS

2. IMC special considerations:

- Assess **$ETCO_2$**: SOB is a COVID-19 symptom but may also be d/t metabolic acidosis, as with DKA.
- Unique needs for BVM ventilations and ETI/Advanced airway insertion; see procedure.
  - Do not delay ETI if severe hypoxia persists despite O_2 and/or proning is contraindicated unless contraindicated (DNR/DNI order).
  - **If BVM ventilations and/or ETI indicated: ADD N95 mask to EMS PPE.**
  - Preoxygenate with 15 L O_2/BVM (tight mask seal/2-person technique). (HEPA filter required) **Do NOT over-ventilate**. Use only enough tidal volume to see chest rise
- Prepare resuscitation equipment **– anticipate rapid development of cardiac arrest**
  ApOx contraindicated in these patients – generally have severe hypoxia prior to cardiac arrest.

ASTHMA Hx ONLY – Severe distress; no improvement from above or critically ill:

EPINEPHRINE (1 mg/1mL)

- ADULT: (1mg/1mL) **0.3 mg IM** [BLS]
- PEDS: Typical dosing: <25 kg (**54 lbs**): 0.15 mg ≥25 kg (55 **lbs**): 0.3 mg **IM** (vastus lateralus muscle) [BLS].
- **Begin transport as soon as Epi is given; Do not wait for a response;** May repeat X 1 in 10 min if needed

If severe distress persists: MAGNESIUM (50%)

- **Adult: 2 Gm** in16 mL NS (slow IVP/IO) over 5-10 min. Max 1 Gm / minute.
- **PEDS: 25 mg/kg (max 2 Gm) in NS to total volume of 20 mL (slow IVP) over 10 min. Max 1 Gm/5 min.**

2. **IV NS TKO -**Do not fluid overload; the lungs are like sponges due to inflammatory processes
   IVF COVID-19 + DKA: NS just to correct dehydration and ketosis, See Glucose Emergencies SOP.
3. If $ETCO_2$ ≤31: **Assess qSOFA criteria** and treat **SEPTIC Shock** with **NOREPINEPHRINE** if hypotensive for pt.

TRANSPORT

- Transport patients at high risk for severe illness and/or with moderate to severe symptoms.
- Contact OLMC before leaving scene. Notify receiving hospital ASAP of imminent receipt of a potential COVID-19 pt.
- **Generally, no support person may accompany a patient**. **Exceptions (DPH):** Minors and pts with intellectual and/or developmental disabilities (I/DD) or cognitive impairments. If needed, these pts must be accompanied by a support person essential to their care (e.g., a guardian, family member, caregiver, or paid support worker) and be provided reasonable accommodations that afford meaningful access to information and an equal opportunity to benefit from treatment provided that essential precautions can be taken to contain the spread of infection. https://www.team-iha.org/files/non-gated/quality/support-persons-in-health-care-facilities.aspx

UPON ARRIVAL at a HEALTHCARE FACILITY

- Follow pandemic procedures for pt transfer into a receiving facility (wheel directly into an exam room). **Hospitals may ask EMS to hold pts in the ambulance for a few minutes while opening an exam room**. None of these patients should be "admitted to the wall".
- **Remove/dispose of gloves and gowns before leaving the receiving space** per guidelines and perform hand hygiene. **Do not cross contaminate ED** wearing gown or gloves used in direct pt care. **DO NOT immediately remove or discard face masks/eye protection if cleaning ambulance.** Remove after cleaning is done.

EMS CAVEATS for Patient DISPOSITION:

- All patients shall receive proper care in the most appropriate setting.
- **CONTRAINDICATIONS for NO Transport**: Pt has any of the high risk factors and/or comorbidities for severe illness and/or S&S of moderate-severe disease, and/or is socially unsafe to be left where residing.
- If a physician has requested transport – consider pt high risk – transport. Do NOT accept a refusal unless a decisional adult with SpO_2 ≥94% on RA signs out **AMA**.
- If pt does not require urgent care but additional assessment or testing is indicated; they may be instructed to self-transport to a COVID-19 clinic or same day primary care. Not required to transport just for PCR testing. See below.

NO TRANSPORT CALLS – Initiated by EMS: See NT form Rev. 4-20-20

(Pt. initiated Refusal of transport calls: Follow all elements in R6: Refusal of Service Policy)

During a pandemic, hospitals may become overwhelmed with pts, requiring EMS to consider alternative destinations for pts who would otherwise be transported to the nearest hospital.

These pts can crash rapidly and without warning. Patients must meet the following criteria:

Clinical assessment:

- Decisional mental status; normal vital signs for patient (based on age; previous norms)
- No S&S of moderate to severe disease (see below)
- Normal ventilatory effort; no dyspnea, air hunger; or labored work of breathing (WOB); SpO_2 ≥94% on RA
- Age <65 + Absence of comorbid conditions / risk factors for severe disease
- Age <21: No evidence of EMS-C

Social assessment

- Patient must be capable of safely performing activities of daily living (ADLs)
- Pt must have responsible adult who can assist with recovery or call for help if needed
- Patient should have a separate room for in-place isolation
- Pt must have adequate access to food, meds, and necessities for period of isolation
- Those living with pt must be able to adequately practice protective precautions
- Determine if pt has household members with high risk of COVID complications and morbidity

Must have NO S&S suggesting moderate to severe COVID-19 illness	
Fever > 100° F (may not have a fever)	Abnormal VS for pt; severe weakness
Dyspnea; SpO_2 <94%; increased WOB	Severe headache or new onset confusion/AMS
Abn. breath sounds/sputum production (pneumonia)	Chest pain, leg pain, asymmetric/loss of distal pulses
Evidence of clotting (venous or arterial)	S&S of sepsis or septic shock (qSOFA; $ETCO_2$)

EMS shall offer clear guidance to NT patients & those refusing transport regarding:

- Disclosure of risk; expected clinical course of disease; symptomatic treatment
- **Signs and symptoms that trigger need for further medical evaluation; where to seek help**
- Isolation precautions to avoid community spread (See CDC link under Resources and References page)

Refusal disclosure to patient: (See NT Form)

Based on your age, medical history, and our current assessment, you may have an infectious condition that could include Covid-19, but your condition currently appears mild. Currently, hospitals are unable to test everyone who presents to the ED and immediate care for mild cases consists of rest, hydration, taking acetaminophen (Tylenol) for fever and muscle aches.

Fortunately, you do not currently meet the criteria for evaluation in the ED. In order to limit exposures and preserve resources, we will not be transporting you to the hospital. We encourage you to contact your personal healthcare practitioner. Many medical groups are able to conduct a virtual visit if you have computer access. There are also state and county hotlines set up if you would like to call them for information, If your condition worsens please do not hesitate to call your doctor, call us again, or have someone take you to the emergency department.

OLMC Report for NO TRANSPORT or Refusal of Service calls – include the following:

- Patient age; decisional capacity; SAMPLE history; absence of risk factors for severe disease
- Chief complaint; S&S; full set of VS (+measured temp & SpO_2); lung sounds unless refused by pt
- Confirmation that social assessment meets CDC requirements for shelter in place (See Reference page)

Documentation: In addition to all clinical and social assessments, confirm that pt/legal representative has consented to EMS signing the **NO TRANSPORT or Refusal form** or the **NT or Refusal screens in Image Trend.** Agencies may take photo of signed paper form and attach electronically to ePCR. Delete photo from electronic device.