NOR-CAL EMS	1217	Treatment of Patients with Influenza Like Illness
Nor-Cal EMS Policy & Procedure Manual		Treatment Guidelines
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Purpose

The purpose of this policy is to help protect our clinical providers while providing high quality care to our patients with influenza-like illness signs and symptoms.

The causative agent of the current pandemic is the Coronavirus which is transmitted by primarily droplets and potentially aerosolized particles. This occurs during airway and respiratory interventions that we routinely perform. There is very limited high-quality data and studies regarding the amount of aerosol generated by various procedures including but not limited to nasal cannula with flow rates great than 6 liters/minute, CPAP, and CPR. We are encouraging you to try and avoid any procedure that may aerosolize particles including but not limited to nasal cannula (greater than 6 liters/minute), non-rebreather mask, beta agonist nebulizer, and CPAP/NIV. This is to be viewed in the light of not jeopardizing the safety and care of your patients.

Procedure

EMS personnel should use their judgment to determine if a patient has signs and symptoms compatible with influenza-like illnesses.

With any respiratory patient that is coughing, sneezing, and/or running a temperature (greater than 100.4 F) or they feel warm by tactile sensation assume they have a potential influenza illness until proven otherwise. Therefore, use appropriate protective PPE for these patients.

When dealing with any respiratory patient please remember that a SaO2 (oximetry) of between 90 to 92% is completely acceptable if it adequately treats the patient's breathing (oxygenation) issues. Always evaluate the patient's breathing work and respiratory rate to see whether they need more aggressive care

Remember that all advanced airways generate droplet and airborne particles. Please use the most non-invasive technique/device possible.

Here is a list of Aerosol-Generating Procedures/Events. Providers should consider wearing PPE (N-95 respirators, goggles/face shields, gloves, and gowns) should be considered with patients exhibiting these signs or symptoms.

1. Coughing and/or sneezing.
2. Nasal cannula particularly at greater than 6 liters/minute.
3. Simple and non-rebreather masks.
4. Nebulized medications.
5. Cardiopulmonary resuscitation (prior to endotracheal intubation, does not include supraglottic airway placement).
6. Tracheal suctioning.
7. Laryngoscopy.
8. Intubation with either the supraglottic airway or endotracheal tube.
9. CPAP (continuous positive airway pressure) devices.
10. BVM (essential to use two hands while performing to reduce aerosolized particles).

The following are clinical recommendations for your safety while providing excellent patient care.

1. Placement of a Nasal Cannula.
    A. Titrate the flow rate until you reach a SaO2 (oximetry) of between 90 and 92% if possible. Remember that patients who have COPD (chronic obstructive pulmonary disease) may never be able to reach saturations between 90 to 92%. Ask them what their best SaO2 is on any given day. This does not hold true for asthmatics who may respiratory arrest with relatively good SaO2. Evaluating the work of breathing for an asthmatic patient is critical. Remember that a slowing respiratory rate in asthmatic can indicate impending arrest.
    B. Place a surgical mask over the patient with a nasal cannula. It has been demonstrated that flow rates of greater than 6/liters per minute can generate droplet/airborne particles.
    C. It has been demonstrated in recent studies that many COVID-19 patients may tolerate lower SaO2 levels than between 90 to 92%. Again, treat the patient not the values of the monitors.

D. Providers should consider wearing appropriate PPE (personal protective equipment) consisting of gloves, mask, and face shield and/or goggles.

2. Placement of a Non-Rebreather Mask.

   A. This is for patients who don't respond to a nasal cannula and are getting worse from a respiratory standpoint. Titrate the flow rate until you reach a SaO2 (oximetry) of between 90 and 92% if possible. Remember that patients who have COPD may never be able to reach between 90 to 92%. Ask them what their best SaO2 is on any given day. This does not hold true for asthmatics who may respiratory arrest with relatively good SaO2. Evaluating the work of breathing for an asthmatic patient is critical. Remember that a slowing respiratory rate in asthmatic can indicate impending arrest.
   B. Place a surgical mask over the patient with a non-rebreather. This will help eliminate the droplet/airborne particles that can leak out at the sides of the mask.
   C. Providers should consider wearing appropriate PPE (personal protective equipment) consisting of gloves, mask, and face shield and/or goggles when necessary.

3. Placement of a CPAP (continuous positive airway pressure) Mask/NIV (noninvasive ventilation).

   A. CPAP/NIV will be avoided, if possible, based upon the patient's clinical condition. For example, a worsening respiratory status (increasing respiratory rate or nearing respiratory collapse) where all respiratory interventions have not worked.
   B. Do I think the patient has an exacerbation of obstructive lung disease (COPD) or acute pulmonary edema (CHF)? If not, then CPAP/NIV (non-invasive ventilation) is unlikely to be of significant benefit in the first place (in pneumonia specifically). [1]
   C. Try to reserve this airway intervention for CHF (congestive heart failure) and COPD (chronic obstructive pulmonary disease) patients.
   D. Evaluate the patient's work of breathing and SaO2 and decide does the patient really need CPAP?
   E. Providers should consider wearing complete PPE (personal protective equipment) consisting of gloves, N-95 respirator (if possible, not surgical mask), face shield, googles and gown.

4. Utilization of a beta agonist nebulizer.

   A. Evaluate the patient's work of breathing and SaO2 and decide does the patient really need an albuterol nebulizer?
   B. Are they asthmatic? What is their respiratory rate?
   C. Remember to place a face shield, if possible, over the nebulizer. This will significantly decrease the number of droplet/airborne particles being generated.
   D. Utilize IM (Intramuscular) Epinephrine instead of a beta agonist nebulizer for asthmatics. This needs to be considered for patients who are experiencing severe asthma attacks.

      a. Consider this option for otherwise healthy asthmatics who are 50 years of age and younger who don't have any significant cardiovascular illnesses/risk factors (poorly controlled diabetes or hypertension for example).
      b. This is for asthmatics who are severely short of breath.

5. The use of a BVM (Bag Valve Mask) Ventilation.

   A. If you are performing BVM, always place an inline Bacterial/Viral filter between the mask and the ETCO2 detector.
   B. Whenever possible use a two-handed approach to BVM to reduce the generation and liberation of droplets/airborne particles. This will require bringing an additional First Responder along with you for transport.
   C. Providers should consider wearing complete PPE (personal protective equipment) consisting of gloves, N-95, face shield, googles and gown while performing any advanced airway placement when appropriate. The PPE should stay on for the entire 911 call.

6. Placement of an i-gel or Endotracheal Tube (ETT).

   A. When placing an i-gel (supraglottic airway) or ETT (endotracheal tube) Providers should consider wearing full PPE (personal protective equipment) consisting of gloves, N-95 respirator if possible and not a surgical mask, face shield, googles and gown while performing any advanced airway placement when appropriate. The PPE should stay on for the entire 911 call.
   B. The placement of any advanced air device is higher risk and exposes the clinician to droplets and aerosolized particles.
   C. The risk of droplets and aerosolized particles is significantly reduced by post-intubation with an endotracheal tube. This is not the same for supraglottic airways.
   D. The PPE should stay on for the entire 911 call.

E. All patients who have had an i-gel or ETT placed the crew will utilize inline Bacterial/Viral filters. Place the filter between the BVM and the ETCO2 detector connected to the ETT connection.

7. Using Suction.

   A. This procedure generates droplet and aerosolized particles.
   B. Providers should consider wearing complete PPE (personal protective equipment) consisting of gloves, N-95 respirators, if possible, not surgical mask, face shield, googles and gown while performing any advanced airway placement.
   C. The PPE should stay on for the entire 911 call.

8. CPR.

   A. The placement of any advanced air device is higher risk and exposes the clinician to droplets and aerosolized particles.
   B. The PPE should stay on for the entire 911 call.