



UTSouthwestern
Medical Center

UTSW/Parkland BioTel EMS ALERT

May 12, 2020

EMS ALERT 20-009 COVID-19 in Infants and Children

Purpose:

To provide EMS Professionals with guidance about the recognition and management of pediatric patients with possible COVID-19.

Background:

Refer to previous EMS Alerts ([20-001](#), [20-002](#), [20-003](#), [20-004](#), [20-005](#), [20-006](#), [20-007](#) and [20-008](#)) and to the [BioTel PPE Algorithm](#) for additional COVID-19 information.

According to the [CDC](#), as of May 2020, infants & children may account for [less than 5% of cases](#)¹ in the US ([3% in Dallas County](#)) and typically have only [mild symptoms](#). Recently, however, several hundred US cases have been reported of an **acute, potentially fatal, inflammatory syndrome** with ATYPICAL signs and symptoms associated with pediatric COVID-19^{2-7,9,10}. Moreover, infants and children can often **spread the COVID-19 virus to others, even when they are asymptomatic**^{8,11,12}.

A high index of suspicion for COVID-19 **MUST** therefore be maintained when caring for **any** infant or child during the COVID-19 pandemic, even for those with **mild** symptoms and for those with **atypical** signs and symptoms that could be caused by COVID-19. Moreover, similar to adults, BioTel Clinical Practice Guidelines should be modified when possible, in order to minimize use of Aerosol Generating Procedures (AGPs)[†] that increase the risk of virus transmission to EMS Professionals.

EMS Action Items, effective immediately and until further notice:

1. Use appropriate PPE for all team members within 6 feet of patient (refer to [PPE Algorithm](#)):

- a. "PPE before ABCs":
 - i. Minimum PPE for all patient care: Surgical mask + eye protection + gloves
 - ii. Suspected COVID-19 PPE: Surgical mask/N95 + eye protection + gloves + gown
 - iii. AGP PPE: N95 + eye protection + gloves + gown
- b. Scout should perform initial screening* in PPE, with 6-ft standoff
- c. Surgical mask for patient, if tolerated, and for family members on-scene ("source control")

2. Consider the possibility that any infant or child may have COVID-19 (refer to [Sepsis CPG](#)):

- a. *Less likely to have typical symptoms (fever, cough or shortness of breath)
- b. *May have only mild, cold-like symptoms, such nasal congestion, runny nose or sore throat
- c. ***Evaluate for any worrisome signs and symptoms, with or without fever, such as:**
 - i. **GI symptoms** (e.g. abdominal pain, nausea, vomiting and/or diarrhea);
 - ii. **Conjunctivitis** ("pink eye") in both eyes, usually without purulent discharge;
 - iii. **Skin rash** – red rash; or peeling & swelling of hands/feet, lips, tongue or oral mucosa:
 - Also: discolored blotches (resembling frostbite) on toes, a.k.a. **"COVID toes"**;
 - iv. **Neurological symptoms** (e.g. weakness, lethargy or poor feeding); OR
 - v. **Signs and symptoms of "warm" shock** (e.g. tachycardia, tachypnea, altered mental status, brisk capillary refill or PetCO₂ less than 30 mmHg) **or "cold" shock** (e.g. narrow pulse pressure, cool and pale extremities or delayed capillary refill):
 - Reminder: hypotension is a late sign in pediatric sepsis



Images 1-4 from VisualDx.com, with permission; Image 5 courtesy of news.northwestern.edu

3. **Minimize use of AGPs[†] to reduce risk of disease spread (refer to [EMS Alert 20-006](#) for details):**
 - a. If possible, **perform AGPs in an open space** (e.g. outside the ambulance) or in a stationary ambulance with the rear doors opened and HVAC system activated
 - b. **Minimize the number of personnel** within 6 feet of patient, especially during AGPs
 - c. **“Source control”**: apply surgical mask for patient, if tolerated (reapply over nasal cannula or NRBM if patient requires supplemental oxygen) and for parents/caregivers
 - d. **Supplemental oxygen**: use minimal flow to achieve SpO₂ of at least 94%
 - e. **Nebulized medications****: use only if wheezes + current/past history consistent with asthma (or other chronic condition) OR if signs/symptoms consistent with croup (nebulized epi):
 - i. If available, assist pt. with his/her own MDI instead of using nebulized medications
 - f. **Intranasal meds**: Avoid IN meds, in favor of IM or IV/IO, when possible (refer to [PEDI-Guide](#))
 - g. ****IM epinephrine (1 mg/mL)**: use early for moderate-severe asthma or other bronchospasm (especially anaphylaxis), before or instead of nebulized bronchodilators (refer to [PEDI-Guide](#))
 - h. **Assisted ventilation**: Use 2-person technique and maintain tight seal for BVM ventilation:
 - i. Use PEEP valve, if available
 - i. **Advanced airway**: SGA (King or i-gel, if available) preferred over ET intubation:
 - i. Use pediatric viral/HEPA filter, if available (pre-place onto SGA before insertion)
 - j. **CPR**: Place advanced airway as soon as possible (without interrupting chest compressions):
 - i. For infants & children: minimum on-scene resuscitation = 10 minutes (unless ROSC) and NO field termination of resuscitation without explicit BioTel authorization
4. **ALWAYS offer and strongly encourage transport to an appropriate ED for ANY ill infant or child (14 years old or less) with known or suspected COVID-19 (even if symptoms appear mild or atypical), especially for any pediatric patient with a chronic, underlying medical condition⁹:**
 - a. Any non-transport for pediatric patients with fever or any of the worrisome signs or symptoms listed on page 1 **MUST** be directly authorized by an online BioTel Physician
5. **Notify BioTel and/or receiving hospital directly while en route if suspected COVID-19 patient**

➤ **As the science evolves on this new, potentially fatal, inflammatory syndrome associated with COVID-19, the safest plan is to transport symptomatic pediatric patients to the ED**

[†]**Aerosol-generating procedures (AGPs)**: nebulization; airway suctioning; bag-valve-mask (BVM) ventilation; high-flow nasal cannula (≥ 6 LPM); 100% O₂ non-rebreather mask (NRBM); non-invasive positive pressure ventilation support (CPAP and BiPAP); advanced airway insertion (SGA or ETT); and CPR.

UTSW/Parkland BioTel EMS Professionals may contact BioTel or the [EMS Medical Direction Team](#) at any time with questions or concerns about this EMS Alert

Resources (links accessed 05/05/2020):

[BioTel CPGs and PEDI-Guide](#)

[EMS Alert 20-006](#)

[PPE Algorithm](#)

[Reference 1](#)
[Reference 2](#)
[Reference 3](#)
[Reference 4](#)

[Reference 5](#)
[Reference 6](#)
[Reference 7](#)
[Reference 8](#)

[Reference 9](#)
[Reference 10](#)
[Reference 11](#)
[Reference 12](#)