The tones go out at 3 am for a child with difficulty breathing. As it is a kid call, you get an engine to back you up. Enroute to the call, dispatch states that it is for a 2 y/o/m that is having difficulty breathing. The patient is conscious and has been sick for the past couple days. The considerations range from partial airway obstruction, to allergic reaction, Croup or Epiglottitis. As you enter the house, you hear a cough that sounds like a bark. We know that history and lung sounds will help determine an airway obstruction. History and skin parameters can also help with determining an allergic reaction. Croup and Epiglottitis are both a restricted airway for different reasons. How do you tell them apart? Do we need to tell them apart? Let’s take a look………………

**Upper Airway Review**

Remember the upper airway is anything above the Larynx. This includes the Nasopharynx, Oropharynx, Epiglottis/Glottic Opening and the Larynx.

In the adult patient, the narrowest point of the airway is below the vocal cords. For a pediatric patient, there are some anatomical differences. These differences are dependent on the age and size of the child. A pediatric tongue is proportionally larger and their jaw can be smaller. The epiglottis is much floppier and rounder. The narrowest point (until around age 10) is above the vocal cords (the cricoid cartilage is the narrowest point). The airway also sits more anterior and superior than an adult. So what does this mean? The airway of the child can be affected by the smallest changes. Any swelling or small irritation (a small obstruction) can cause a life threatening response. Because of the anatomical differences, smaller children have a tendency to have more issues with their breathing around the Larynx.
What is Croup?

Croup (or laryngotracheobronchitis) is a viral infection of the upper airway. Croup is usually seen in pediatrics between the age of 6 months and 4 years. The history for the child may include mild cold symptoms during the day. In the evening, the patient may develop a “seal bark” cough that can re-occur over a couple nights. This cough is due to the swelling in the subglottic area of the airway. As with any child having difficulty breathing, you may see Nasal Flaring, Tracheal Tugging and/or Retractions. You may also hear Stridor upon listening to the lungs. There is also a form of Croup called Spasmodic Croup that can present with no cold symptoms during the day. It is very rare that swelling from croup will cause a complete airway obstruction.

What is Epiglottitis?

Epiglottitis is a bacterial infection that causes swelling of the epiglottis. It can be seen in pediatrics from the age of 3 years old to 7 years old. With the H. influenza vaccine, Epiglottitis is now uncommon. The patient may go to bed with a mild respiratory infection and wake up with a high fever and a cough. The child will complain of pain when swallowing. Because of the pain, it is not uncommon to see the patient drooling. Along with the high fever and drooling, they may also have shallow breathing, dyspnea and stridor. Further irritation of the airway can lead to complete closure and makes this a critical condition. New research is showing that epiglottitis can affect all ages, not just pediatrics. “Epiglottitis was once believed to occur exclusively in children. In the past, this condition occurred most commonly in children aged 2-4 years; however, it may occur at any age. Adult cases have been reported in recent years, and some evidence suggests the incidence in adults is increasing.” (Medscape, Jan. 2016) Because of the size of the airway, it is more critical in the pediatric population.

Presentation

As you see, the symptoms of Croup and Epiglottitis are very similar. The patient may have mild infection symptoms during the day and wake in the night with a restricted airway. Both Croup and Epiglottitis involve the area around the epiglottis so an airway obstruction is a critical consideration. Both can present with a fever and stridor because of the irritation around the Larynx. The “Barking cough” is very distinct and once you hear it, you will identify it quickly in future patients. The “Barking Cough” is a good indicator that it is Croup. Because of the pain when swallowing, an Epiglottitis patient can present with a large amount of drool and shallow breathing.

Treatment

With both of these patients, an inspection of the mouth or throat is contraindicated. Any further irritation to the Larynx can cause a laryngospasm and lead to a complete airway obstruction. It is also important to keep the patient calm. If the patient should start to cry, this can increase inflammation and cause more irritation. Involving the care giver may help to reduce the anxiety of the patient.

Croup: Parents may be instructed (by their pediatrician) to put the patient into a steamy shower or in front of an open freezer if they suspect the patient has Croup. The humidified air can help reduce some of the inflammation. It is not uncommon to see improvement with the patient’s breathing after moving them to the ambulance. The cold, night air can help reduce the swelling in the airway. For the patient presenting with cyanosis, marked stridor or respiratory distress (Emergent to Critical patient), set up a hand held nebulizer with Epinephrine (1mg/10ml) 0.5 mg (5ml) on a mask or blow-by. ETCO₂ should
also be monitored along with Pulse Oximetry. In this situation, the treatment should be given enroute to the Emergency Room.

**Epiglottitis:** These patients cannot lay flat. Because of the swelling to the epiglottis, lying flat can completely block their airway. The patient will usually be seated in a tri-pod position to help maintain their airway. Some parent’s may have moved their child to humidified air because they think their child has croup. The humidity can help with some of the inflammation, but these patients will not improve with just humidity. If the patient is maintaining their airway, and are stable, transport this patient keeping them as calm as possible. Interventions should be as the patient tolerates. We can get a lot of information by watching our patient. Have a high index of suspicion for a complete obstruction and be ready. If the patient is Bradycardic, has an altered mental status, ineffective air exchange or a pending respiratory arrest then set up a HHN with Epinephrine (1mg/10ml) 0.5 mg (5ml) on a mask or by blow-by. Be ready to use a BVM on this patient. For Epiglottitis, all treatments would be done enroute to the Emergency Room.

**The Original Scenario Revisited**

The crew enters the bathroom with mom holding a 2 y/o/m. Mom states she has been holding the patient for the past hour and the child has had a “horrible” cough the whole time. The bathroom is very steamy as the shower is running. The patient is breathing, but looks tired. Respirations are shallow and around 30 bpm. Every few breaths, the patient gives a very hoarse cough. Mom states that the patient has had cold symptoms for the past 2 days. The pulse is around 100 and the patient’s skin is very warm to the touch. The patient does not interact very much with you. Mom wants the child to be transported to the hospital. After moving the patient to the ambulance, the patient appears to become more responsive and the cough is not as hoarse. Mom does tell you that the patient has had a 101⁰ fever since after dinner. You determine that the best course of action for the transport is to keep the child and mom calm. You transport with no changes in patient status and repeat the vitals you were able to determine initially.

Reference used:

# Pediatric Patients

(12 years or younger)

## Age Definitions

- **Newborn:** Neonate in first minutes to hours following birth
- **Neonate:** Infants in the first 28 days of life
- **Infant:** Neonates to 12 months
- **Child:** 1 to 12 years

## Special Considerations

- Assessments & interventions must be based on the individuality of each child in terms of age, size, developmental and metabolic status.
- **Communications Guidelines:** Look at their faces for clues to well-being. Keep small children w/ caregivers if at all possible. Do assessments while they are being held. Speak slowly & calmly in words they understand.
- **Younger children do not appreciate time.** Explain things in "need to know" time.
- **Fear:** Use non-medical techniques, i.e., pacifiers, toys, to calm child: Let them play with pennights, etc.
- **Pain:** Children do not localize pain well. Defer painful part of exam to last if possible.
- **Shock:** Children can maintain their SBP until a 30% volume loss, and then crash rapidly.
- **Prone to heat loss & cold stress which may result in acidosis, hypoxia, bradycardia, hypoglycemia & cardiac arrest.**
- **Gastric distention develops from crying → ventilatory impairment.**

## Peds Initial Medical Care

**Assess for causal factors of distress:** Hypoxemia, acidosis, hypovolemia (dehydration), hypoglycemia, hypothermia, tension pneumothorax, cardiac tamponade, shock, poisoning/ingestion, or severe infection; initiate resuscitative measures.

1. **Scene size up:** Situational awareness; dynamic risk assessment—Assess/intervene as needed:
   - Scene safety; control and correct hazards; remove pt/crew from unsafe environment ASAP; if potential crime scene, make efforts to preserve integrity of possible evidence
   - Nature of illness; scan environment for clues; DNR/POLST orders
   - Universal blood/body secretion & sharps precautions; use appropriate personal protective equipment
   - Number of patients; triage; request additional resources if needed. Weigh risk of waiting for resources against benefit of rapid transport to definitive care. Consider if medium or large scale MPI declaration is needed.

2. **Primary Assessment/Resuscitation:** Establish rapport with patient/significant others
   - **General impression:** Age, gender, preferred position, purposeful movements
   - **Pediatric Assessment Triangle:** General appearance; work of breathing; circulation to the skin
   - Observe response to environment (recognize parents/pets/toys), obvious respiratory distress or extreme pain, odors, muscle tone (good or limp), movements (spontaneous/purposeful), irritable, consolable/non-consolable
   - Estimate size using a length-based tape (Breslow or equivalent)
   - Determine if immediate life threat exists and resuscitate as found
   - **Level of consciousness** using AVPU or Peds GCS; chief complaint S&S
     - If unconscious, apneic or gasping, & pulseless START QUALITY CPR – see appendix
   - **Airway:** snoring, gurgling, stridor, silence; consider possible spine injury
     - Initiate selective spine precautions if indicated; vomiting/severe precautions
       - Reposition; suction; use appropriate size catheter; appropriately sized airway adjuncts
       - Limit suction application to 5 sec. Monitor ECG for bradycardia during procedure.
       - If child is intubated: Max suction of -80 to -120 mmHg; higher suction pressures OK for mouth/Pharynx
     - If obstructed: Go to AIRWAY OBSTRUCTION SOP
     - Vomiting and seizure precautions as indicated
   - **Breathing/gas exchange/adequacy of ventilations:** Assess/intervene as needed:
     - Spontaneous ventilations; general rate (fast/slow); depth, effort (work of breathing), position, air movement, symmetry of chest expansion; accessory muscle use (nasal flaring); retractions, head bobbing, expiratory grunting
     - Lung sounds if in ventilatory distress:
       - \( \text{SpO}_2 \) if possible hypoxia, cardiopulmonary or neurological compromise. Note before & after \( \text{O}_2 \) if able.
       - Clinical recognition of hypoxia may not be reliable. \( \text{SpO}_2 \) unreliable in pts w/ poor peripheral perfusion, CO poisoning or methemoglobinemia. If \( \text{SpO}_2 \) abnormal; move sensor to central site and reassess.
       - \( \text{ETCO}_2 \) number & waveform if possible ventilatory/perfusion/metabolic compromise
     - Reduce anxiety if possible to decrease \( \text{O}_2 \) demand & work of breathing
     - **Anticipate deterioration or imminent respiratory arrest if:** Increased or decreased RR esp. if accompanied by S&S of distress, increased effort; poor chest excursion; diminished peripheral lung sounds; gasping or grunting; decreased LOC or response to pain; poor skeletal muscle tone; or cyanosis.
**PEDS INITIAL MEDICAL CARE**

Correct hypoxia/assure adequate ventilations: Target $\text{SpO}_2$ 94%-98%
- $\text{O}_2$ 1-5 L/Peds NC: Adequate rate/depth; minimal distress; $\text{SpO}_2$ 92%-94%
- $\text{O}_2$ 12-15 L/Peds NRM: Adequate rate/depth; mod/severe distress; $\text{SpO}_2$ < 92%
- $\text{O}_2$ 15 L/Peds BVM: Apnea and/or shallow/adequate rate/depth with mod/severe distress; unstable

Ventilate 1 breath every 3 to 5 sec, just to cause visible chest rise.

**CIRCULATION / PERFUSION / HYDRATION / ECG:**
- **Pulse:** General activity & stress levels, quality, & regularity of central vs. peripheral pulses. If NO central pulse & unresponsive OR pulse present but < 60 in infant or child with poor perfusion: Begin quality CPR – See appendix – appropriate SOP for rhythm/condition.
- **Perfusion:** Mental status; skin: color, temperature, moisture; cap refill on a warm area of the body.
- **Hydration status:** General appearance (restless, irritable, lethargic, or unconscious); anterior fontanelle in infants, breathing (normal or deep); mucous membranes, skin turgor, presence of tears when crying; urine output (#1 diapers).

**Conditions requiring rapid cardiopulmonary assessment and potential cardiopulmonary support:**
- Monitor ECG if unstable. Standard size electrodes/defib pads may be used in children > 10 kg. (Use largest size that fits chest wall w/o touching with 3 cm between them). Prepare pads for defibrillation if not used.
- Peds ECG: PR & QRS intervals are shorter. Be alert for conduction abnormalities in what looks like “normal” intervals or complex durations in young infants. T waves normally inverted V1-V3 up to 8 yrs.

**Consider need for peds 12 L ECG:** Based on chief complaint/PRM, same criteria as adults. ALS patients do not necessarily require ongoing ECG monitoring or transmission of a strip to OLMC. If ECG is run, attach/append to PCR/EHR left at, faxed to, or downloaded to, the receiving facility.
- Treat rate/rhythm/pump/volume/volume distribution disorders per appropriate SOP.

Most peds arrhythmias caused by hypoxemia, acidosis, or hypotension.

**Vascular access:** Actual/potential volume replacement and/or IV meds prior to hospital arrival.
- 0.9% NS – Catheter size, access site, & infusion rate based on pt size, hemodynamic status; SOP or OLMC.
- Peripheral IV challenging in infants/children during emergency – may use IO if unresponsive.
- Limit time spending establishing peripheral venous access in critically ill or injured child.
- If hypovolemic: NS 20 mL/kg IV/IO in < 20 minutes. May repeat X 2 if necessary.

Do not delay transport of time-sensitive pts to establish elective vascular access on scene.

*Conditions requiring rapid cardiopulmonary assessment and/or potential cardiopulmonary support

- Respiratory rate > 60 breaths/min
- Cyanosis or decreased $\text{SpO}_2$ despite administration of $\text{O}_2$
- Increased work of breathing (retractions, nasal flaring, grunting), respiratory fatigue and/or failure
- Heart rates: (Weak, thready, or absent peripheral pulses)
  - Child ≤ 8 years: < 80 BPM or > 180 BPM
  - Child > 8 years: < 60 BPM or > 160 BPM
- Poor perfusion, dysrhythmias, chest pain
- Altered LOC (syncpe, unusual irritability or lethargy or failure to respond to parents or painful procedures)
- Seizures
  - Trauma
  - Post-ingestion of toxic substance
- Fever with petechiae
  - Burns involving > 10% BSA
  - Hypoglycemia

**Disability:** Brief pupil check mental status using peds GCS (see below); ability to move all four extremities.
- If AMS or cardiac arrest – glucose level: If < 70: Treat per Hypoglycemia SOP

**Expose and examine as indicated/Environmental control:** Keep warm with protected hot packs/blankets/warmers as able

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**PEDIATRIC GLASGOW COMA SCORE**

<table>
<thead>
<tr>
<th>Eye Opening</th>
<th>Best Verbal Response</th>
<th>Best Motor Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneously</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>&gt; 5 years</td>
<td>Oriented/Converses</td>
<td>Oriented/appropriate words/phrases</td>
</tr>
<tr>
<td>3-5 years</td>
<td>Confused</td>
<td>Confused</td>
</tr>
<tr>
<td>&lt; 2 years</td>
<td>Cries to pain</td>
<td>Cries to pain</td>
</tr>
<tr>
<td>6 months</td>
<td>Inappropriate sounds</td>
<td>Inappropriate sounds</td>
</tr>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>To speech</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>To pain</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Moves spontaneously and purposefully; obeys commands

Locomotor/withdraws to touch

Abnormal reflex

Abnormal extension

None

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3. SECONDARY ASSESSMENT

- **Vitals signs -BP (MAP):** Obtain 1st BP manually; usesize-appropriate cuff (min. 15% length upper arm), trend pulse pressures; ophthalmic changes if indicated; Pulse: rate, quality, rhythm (appropriate site) count HR 30-60 sec; Respiration: rate, pattern, depth, Temp if indicated
- If FEVER: Assess causes; hydration status, if dehydrated, may attempt IV X 1. If successful: NS 20 mL/kg IV P: Passive cool by removing all clothing but diaper/underwear. Cover lightly. Do not induce shivering.
  - Do not give over-the-counter anti-fever meds unless ordered by OLMC. ASA contraindicated.
- **Chief complaint:** History of present illness; SAMPLE history
  - S&S: OFQRST (symptom onset, provocation/palliation, quality, region/locution/irritation, severity, time); quantify pain using a pain scale that is consistent with the pt’s age, condition, and ability to understand.
  - Age < 4 yrs: Observational scale such as FLACC (see appendix)
  - Age 4-12 yrs: Self-report scale such as Wong-Baker faces, numeric or verbal scales
  - Allergies (meds, environment, foods). Medications (prescription/over-the-counter – bring containers to hospital if possible), PMH (medicant-attention; advance directives; medical devices/implants). Last oral intake/LMP. Events leading to illness. In pts w/ syncope, seizure, AMS, cardiac arrest, or acute stroke: bring witness to hospital or obtain their contact phone number to provide to ED.
- **Review of systems** based on chief complaint: S&S; practitioner scope of practice, and pt level of acuity
  - Head, eyes, ears, nose, throat/neck: Jugular veins
  - Chest: Symmetry, chest wall movement; deformity, retractions; lung/heart sounds
  - Abdomen: GI/O/GU/Reproductive organs: Inspection, contour, symmetry, distention, pain changes in function; auscultate bowel sounds; palpate (light); assess for rebound tenderness S&S peritonitis
  - Extremities: Edema, pulses, discoloration; warmth, pain, motor/sensory changes/deficits
  - Back/ankle: pain, discoloration
  - Neurologic: Affect, behavior, cognition, memory/orientation; select/renal nerves (procedure); motor/sensory; alaxia
  - Skin: color (variation), moisture, lep, texture, turgor, lesions/breakdown; hair distribution; nails

4. **Position:** Semi-Fowler’s or position of comfort unless contraindicated or otherwise specified
- AMS: Place on side or elevate head of stretcher 10-30° unless contraindicated, to minimize aspiration

5. **Nausea:** ONDANSETRON 0.15 mg/kg (max 4 mg) ODT (SLS) or slow IV P over no less than 30 sec. May repeat once in 10 min to a max of 8 mg.

6. **Pain:** Pharmacologic and non-pharmacologic (narcotic/paracetamol, distraction) options should reflect a pt-centered approach based on specific needs. Consider pt status, responder scope of practice. Risks/benefits of each strategy. Provide individualized pain mg regardless of transport interval.
- If SBP < minimum age: STANDARD DOSING:
  - **NITROUS OXIDE** if available
  - **FENTANYL:** If > 2 yrs: 1 mcg/kg (round to closest 5 mcg max single dose 100 mcg) IV/IM/IO. May repeat once in 5 min: 0.5 mcg/kg (max 50 mcg). Max total dose per SOP (100 mcg [1.5 mcg/kg])
- Additional doses require OLMC: 0.5 mg/kg, 5 min up to a total of 3 mcg/kg (300 mcg) if indicated & available
- **Peds - sedation:** Children <6 yrs (esp. those <6 mos) may be at greater risk for an adverse event from sedation and/or opioid pain medication. They are particularly vulnerable to the medication’s effects on ventilatory drive, airway patency and protective airway reflexes.

**Safe sedation of children requires a systematic approach that includes the following:**
- Close supervision by qualified EMS practitioner(s)
- Pre-sedation evaluation for underlying medical conditions that would place child at risk from sedating medications
- Airway exam for large (kissing) tonsils or anatomic airway abnormalities that might increase risk from sedating meds
- Clear understanding of medication actions, side effects, and drug interactions
- Appropriate training and skills in pediatric sedation and airway/ventilator management to allow rescue of the pt
- Age and size appropriate equipment for airway management and vascular access
- Appropriate medications and reversal agents (per local policy/procedures)
- Sufficient staff to provide medication and monitor patient
- Appropriate physiologic monitoring and continuous observation before, during, and after the procedure
- Practitioners must have the skills and age and size-appropriate equipment based on their scope of practice to rescue a child from a level of sedation that is deeper than desired, apnea, laryngospasm, and/or airway obstruction. This includes the ability to open the airway, suction secretions, perform successful bag-mask ventilation, insert an oral airway, a nasopharyngeal airway, an extraglottic airway, and rarely perform tracheal intubation per local policy/procedures. (Am Acad of Pediatrics, 2016)
### CROUP / EPIGLOTTITIS / RSV / Bronchiolitis

1. **IMC special considerations:**
   - Assess level of consciousness: alert, tired, restless to lethargic, unresponsive
   - Assess air entry (normal, mild delay, diminished); lung sounds (clear, wheezes, crackles, diminished)
   - Signs of distress: (grunting, nasal flaring, retracting, stridor); weak cry or inability to speak full sentences
   - Color (pallor, cyanosis, normal)
   - Hydration status (+/- sunken eyes, delayed cap refill, moisture of mucus membranes, fontanelles)
   - If airway/ventilatory distress: Prepare airway/suction equipment; O₂ 15 L/peds NRM; assess tolerance to O₂ administration; if inadequate ventilations: O₂ per Peds BVM
   - Avoid agitation. Allow adult to hold upright in position of comfort until transport. Transport in sitting position if possible.
   - Monitor SpO₂ for hypoxia and ETCO₂ for ventilatory, perfusion, & metabolic deficits if sensors available
   - Monitor ECG for changes in heart rate. Bradycardia signals deterioration.

### CROUP:
- 1-3 day rx inflammation & edema of larynx, trachea and bronchi usually caused by a virus; producing respiratory distress, dyspnea; ↑ RR, marked stridor, retractions, hoarse voice, barking cough, low grade fever

<table>
<thead>
<tr>
<th>Lower acuity: NONE TO MILD cardiorespiratory compromise:</th>
<th>Emergent-Critical: Time Sensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peds IMC &amp; transport.</td>
<td></td>
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</tbody>
</table>

### EPIGLOTTITIS:
- Usually caused by bacterial infection; rapid onset with drooling; dysphonia (difficulty speaking); dysphagia (difficulty swallowing); distressed inspiratory efforts/ respiratory distress; nasal flaring, aide, grey color; retractions; inspiratory stridor or wheezes (not as loud as croup); high fever

<table>
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<th>EMERGENT: None to mild cardiorespiratory compromise:</th>
<th>Time Sensitive pt</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cyanosis, effective air exchange; Peds IMC only.</td>
<td>Sit up; anticipate rapid deterioration of condition and be prepared for above.</td>
</tr>
</tbody>
</table>

### CRITICAL: Moderate to severe cardiorespiratory compromise:
- Bradycardia, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>BradyCARDIA, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.</td>
<td>Position to optimize air exchange (upright); do not delay transport setting up medication.</td>
</tr>
</tbody>
</table>

### Respiratory Syncytial Virus (RSV)/Bronchiolitis:
- Child <2 w/ S/S of bronchiolitis or pneumonia Early S&S like common cold: runny nose, cough, mild fever. Breathing becomes more labored w/ fever: Severe: retractions; apnea; prolonged expiration w/ air trapping and wheezing; RR rapid and shallow; w/ increasing exhaustion child may develop respiratory/cardiac arrest.

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</tr>
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<tbody>
<tr>
<td>Peds IMC only.</td>
<td>Anticipate rapid deterioration.</td>
</tr>
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</table>

### CRITICAL: Moderate to severe cardiorespiratory compromise:
- BradyCARDIA, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.

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</tr>
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<tr>
<td>BradyCARDIA, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.</td>
<td>If continued inadequate ventilations/oxygenation: Position supine in sniffing position; O₂/high flow NC/mask.</td>
</tr>
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<td>CRITICAL: Moderate to severe cardiorespiratory compromise:</td>
<td>Time Sensitive pt</td>
</tr>
<tr>
<td>BradyCARDIA, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.</td>
<td>If ventilatory failure: 15L O₂/Peds BVM at age-appropriate rate using slow compressions of bag.</td>
</tr>
<tr>
<td>CRITICAL: Moderate to severe cardiorespiratory compromise:</td>
<td>Time Sensitive pt</td>
</tr>
<tr>
<td>BradyCARDIA, AMS, marked ventilatory distress, retractions, ineffective air exchange, and/or actual or impending respiratory arrest.</td>
<td>If unable to ventilate: Temporarily stop ambulance; provide aper Peds Airway Adjuncts SOP. Last invasive way possible.</td>
</tr>
</tbody>
</table>
1) Croup is a viral infection of the Lower Airway?
   a. True     b. False

2) Epiglottitis is a viral infection that affects the epiglottis?
   a. True     b. False

3) What area, above the vocal cords, is smaller in the pediatric patient airway?
   a. Glottic Opening
   b. Cricoid Cartilage
   c. Thyroid Gland
   d. Tongue

4) For a patient with Epiglottitis, it is more important to get a complete set of vitals than it is to keep the patient calm?
   a. True     b. False

5) What is the primary age range that you would expect to see Epiglottitis?
   a. 10 to 15 years old.
   b. 6 months to 2 years.
   c. 3 to 7 years old.
   d. Only in neonates.

6) Once we give the HHN to our patient, we don’t need to worry about the airway getting worse?
   a. True     b. False
7) When giving Albuterol in the HHN, the dose is?
   a. We don’t give Albuterol, we give Epinephrine
   b. Albuterol 6 mg
   c. Albuterol 6 ml
   d. Albuterol 2.5 mg

The last questions are based on the final scenario in the reading.

8) Based on the information given to us by the mom, what do we suspect is going on with our patient?
   a. Airway Obstruction
   b. Epiglottitis
   c. An overreaction to a cough by mom
   d. Croup

9) Enroute to the hospital, the patient becomes more lethargic and their finger tips are starting to turn blue. What would our treatment be?
   a. Monitor closely and put the BVM on the counter.
   b. Set up an Albuterol HHN with 2.5 mg of Albuterol at 6 L O₂
   c. Set up an Epinephrine HHN with 0.5 mg of Epi 1 ml/10 ml at 6 L O₂
   d. Set up a Humidified O₂ HHN with 6 ml of 0.9 NS at 6 L O₂

10) It would be a good idea to do a visual inspection of the mouth at this time?
    a. True    b. False