

Infant/children presenting with **ACUTE RESPIRATORY DISTRESS** in the **ABSENCE OF FEVER** should be suspected of having a **FOREIGN BODY AIRWAY OBSTRUCTION** (FBAO)

UPPER AIRWAY DISEASES			LOWER AIRWAY DISEASES			
Croup	Epiglottitis	Foreign body aspiration	Asthma	Bronchiolitis	Pneumonia	Foreign body obstruction
<p>Viral infection</p> <p>Most common in children 6 months-4 years</p> <p>s/s: - of resp. distress or failure depending on severity - appears sick - stridor - barking (seal or dog like) or brassy cough - hoarseness - fever (+/-)</p> <p>Rarely progress to respiratory failure.</p> <p>Usually appear following a recent cold or other upper respiratory infection.</p> <p>Another form is spasmodic group: - occurs mostly at night - usually without prior upper respiratory infection</p>	<p>Acute bacterial infection -> swelling of the Epiglottitis</p> <p>Most common in children 3-7 years</p> <p>s/s: - of resp. distress or failure depending on severity - appears agitated, sick - stridor - muffled voice - drooling - difficulty + pain swallowing - sore throat - sitting fully upright - high fever</p> <p>Usually no previous Hx, but a rapid onset of symptoms (6-8 hours).</p> <p>Can quickly progress to respiratory arrest.</p> <p>Can cause a life-threatening upper airway obstruction!!!</p>	<p>Partial or complete blockage</p> <p>Most common in children 1-4 years</p> <p>Objects are usually: -food (candy, nuts, ...) -small objects (coins,...)</p> <p>If no interventions or if interventions not successful => resp. arrest followed by cardiopulmonary arrest.</p> <p>Partial: - signs of mild resp. distress or failure depending severity - appears anxious, but not toxic - inspiratory stridor - muffled or hoarse voice - drooling - pain in throat - interventions other than O₂ + transport may precipitate COMPLETE obstruction Usually hx of choking.</p> <p>Complete: - sings of severe respiratory failure or arrest - appears: - anxious, but not toxic - agitated or lethargic - no or minimal movement - if NO interventions, respiratory arrest ensues, followed by cardiopulmonary arrest. Hx often lacking Inability to ventilate despite proper airway positioning</p>	<p>Acute bronchospasm, excessive mucous production + inflammation of the bronchioles</p> <p>s/s: - of resp. distress or failure depending on severity - appears anxious - wheezing w/ prolonged expiration phase - tachycardia - tachypnea - agitation - a silent chest means danger</p> <p>Typically in children with hx of asthma. Find out if child has: - prescribed a MDI - and if so, has he taken any puffs?</p> <p>Status asthmaticus A severe + prolonged asthma attack Characterized by a 'quiet chest', indicating profound bronchospasm + minimal air movement. Usually unresponsive to conventional asthma treatment Many children will experience respiratory failure secondary to: - severe hypoxia - acidosis - physical exhaustion</p> <p>Will require assisted ventilation or advanced airway management.</p>	<p>Viral infection that results in inflammation + constriction of the bronchioles</p> <p>Usually occurs during winter months in children < 2 years</p> <p>Is difficult to distinguish from asthma, however Albuterol will NOT improve bronchiolitis but it will also NOT harm the pt.</p>	<p>Common disease caused by virus or bacteria that infects the lower airway + the lungs.</p> <p>Most common in children 1-5 years</p> <p>s/s: - of resp. distress or failure depending on severity - appears anxious - unilaterally diminished breath sounds - rales - rhonchi - chest pain - fever</p> <p>Usually a Hx of lower resp. infectious symptoms.</p>	<p>It may partially or completely obstruct airflow into affected lung.</p> <p>Occasionally a child will aspirate a small object into the lower airway.</p> <p>Objects are usually: -food (candy, nuts, ...) -small objects</p> <p>s/s: - of resp. distress or failure depending on severity - appears anxious - severe cough - unilaterally diminished breath sounds - unilateral rales or rhonchy - chest pain</p> <p>May be a Hx of choking in witnessed by an adult.</p>
<p>Treatment: - ABCs - O₂ / NRB or blow-by - ECG - Position of comfort - Pharmacological interventions - DO NOT AGITATE the infant/child (no IVs, BP,...)</p>	<p>Treatment: - ABCs - O₂ / NRB or blow-by - Be prepared to assist w/ BVM ventilations - Position of comfort - Defer IV unless transport time is prolonged - ECG</p> <p>Never attempt to visualize the airway if the pt is awake.</p> <p>- DO NOT AGITATE the infant/child ((no IVs, BP,...))</p>	<p>Treatment: Partial: - place pt in sitting position - O₂ / NRB or blow-by - encourage pt keep coughing - DO NOT ATTEMPT TO LOOK IN MOUTH!!! Complete: - open airway & attempt to visualize obstruction - sweep visible obstruction - perform BLS FBAO maneuvers - attempt BVM ventilations - DO NOT AGITATE the infant/child</p>	<p>Treatment: - ABCs - O₂ / NRB or blow-by - BVM ventilations for resp. failure/arrest - Position of comfort - Admin Albuterol nebulizer - ECG</p>	<p>Treatment (similar to asthma): - ABCs - O₂ / NRB or blow-by - BVM ventilations for resp. failure/arrest - Position of comfort - ECG</p>	<p>Treatment: - ABCs - O₂ / NRB or blow-by - BVM ventilations for resp. failure/arrest - Consider IV or IO - Position of comfort - ECG</p>	<p>Treatment: - ABCs - O₂ / NRB or blow-by - position of comfort - Consider IV or IO - ECG</p>

PEDIATRIC ASSESSEMENT TRIANGLES

<p style="text-align: center;">RESPIRATORY DISTRESS</p> 	<p style="text-align: center;">RESPIRATORY FAILURE</p> 	<p style="text-align: center;">SHOCK</p> 	<p style="text-align: center;">PRIMARY CNS DYSFUNCTION METABOLIC ABNORMALITY</p> 	
<ul style="list-style-type: none"> - Normal LOC, progressing to anxiety - Tachycardia - Tachypnea - Dyspnea: <ul style="list-style-type: none"> - retractions - accessory muscle - nasal Flaring - expiratory grunting - head bobbing - Abnormal sounds: <ul style="list-style-type: none"> - stridor - wheezing - cough - rales, rhonchi, crackles - absent breath sounds (silent chest is an ominous sign) - Preferred position. Upright (tripod) except in: <ul style="list-style-type: none"> - infants - unconscious child <p style="color: red; font-weight: bold; margin-top: 10px;">It treatment is delayed, most children will quickly deteriorate to respiratory failure!!!!</p>	<p>Indicates the body has used up its available energy store& can NOT continue supporting extra work of breathing. Respiratory acidosis develops secondary to excessive CO₂ retention.</p> <p>End state of any of the causes of respiratory distress:</p> <ul style="list-style-type: none"> - ↓LOC - Tachypnea followed by Bradypnea - Marked retractions - Poor muscle tone - Marked Tachycardia followed by Bradycardia - Central cyanosis - Initial anxiety+irritability =>later lethargy+ coma <p>Failure of respiratory drive:</p> <ul style="list-style-type: none"> - apnea due to drug overdose - head trauma <p style="color: red; font-weight: bold; margin-top: 10px;">Without aggressive managements, it will quickly result in resp. arrest followed by cardiopulmonary arrest!!!!</p>	<p>Second most common cause of cardiopulmonary arrest in pediatrics.</p> <p>Children can compensate for shock for longer periods of time than adults, maintaining adequate perfusion due to vasoconstriction. When hypotension occurs, it does so quickly & may result in rapid deterioration to cardiopulmonary arrest.</p> <p>Common causes:</p> <ul style="list-style-type: none"> - Hypovolemia (dehydration, blood loss) - Allergic reactions - Poisoning <div style="display: flex; justify-content: space-between; border-left: 1px dashed black; border-right: 1px dashed black; padding: 0 10px;"> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold; color: blue;">Children</p> <p>Most children will develop hypotension after have lost 25% of blood</p> <p><u>Signs of shock:</u></p> <ul style="list-style-type: none"> - Tachycardia - Poor CRT - Mental Status changes </div> <div style="width: 45%;"> <p style="text-align: center; font-weight: bold; color: blue;">Adult</p> <p>>30-40% blood loss causes ↓BP</p> <p><u>Signs of shock:</u></p> <ul style="list-style-type: none"> - Tachycardia - Hypotension - Mental Status changes </div> </div>	<p>Neurological Crisis:</p> <ul style="list-style-type: none"> - Seizures – causes: <ul style="list-style-type: none"> - febrile convulsions (most common between 6 months-6 yo) - CNS infections: <ul style="list-style-type: none"> - Meningitis (stiff neck, fever,...) - Encephalitis - Brain abscess - Toxic ingestion - Withdrawal from: <ul style="list-style-type: none"> - narcotics, cocaine,... - metabolic - trauma (fall, burns, near-drowning, abuse,...) - epilepsy - brain tumor - stroke - Coma - Reye Syndrome <p>Metabolic Crisis:</p> <ul style="list-style-type: none"> - Dehydration - Hypoglycemia - Hyperglycemia 	
<p>Causes of Respiratory Crisis:</p> <ul style="list-style-type: none"> <li style="width: 50%;">- asthma <li style="width: 50%;">- laryngeal edema as part of anaphylaxis <li style="width: 50%;">- bronchiolitis <li style="width: 50%;">- smoke inhalation <li style="width: 50%;">- croup <li style="width: 50%;">- fractured larynx due to trauma <li style="width: 50%;">- epiglottitis <li style="width: 50%;">- birth defects <li style="width: 50%;">- foreign body aspiration <li style="width: 50%;">- SIDS 				
<p>Conscious child:</p> <ul style="list-style-type: none"> - observe as much as possible without touching - minimize handling the child - keep close to parent in position of comfort - O₂ - DO NOT attempt IV - obtain history - perform limited physical exam- as tolerated - do NOT examine or instrument the oral cavity - admin drugs following protocols <p>Unconscious child:</p> <ul style="list-style-type: none"> - open airway - suction - ventilate with O₂ immediately - watch for chest movement w/bagging <p style="color: red; font-weight: bold; margin-top: 10px;">Watch for improvement: child who remains blue + bradycardic is inadequately ventilated</p> <p style="color: red; font-weight: bold; margin-top: 5px;">Watch for PUPILS: low blood O₂ can cause pupil's to become enlarged. If the child is responding to O₂ the pupils may get smaller.</p>		<ul style="list-style-type: none"> - Ensure airway is open - Asses breathing adequacy - Control bleeding if present - Admin 100% O₂ - Position by elevating legs - Keep pt warm - Provide immediate transport - Give IV – NS: 20 mL/kg bolus to maintain radial (or brachial in infant) pulses - Monitor vital signs - ECG - If unresponsive, perform intubation 		<p>Treat the patient's condition.</p>