

PEDIATRIC RESPIRATORY **EMERGENCIES OVERVIEW**



Escambia County, Florida - ALS/BLS Medical Protocol

Most children requiring urgent intervention have primary respiratory problems. 80-90% of all pediatric cardiac arrests originate in the respiratory system.

When the child in respiratory distress can no longer compensate, respiratory failure will be followed by cardiac failure. It is crucial to recognize respiratory distress and dysfunction early, so that cardiopulmonary failure may be prevented.

Note that the respiratory system is also used to compensate for the hypoxia and acidosis found in primary circulatory failure.

Assessment of the pediatric respiratory system should focus on clinical status, as reflected by general appearance (adequacy of cerebral oxygenation and ventilation) and work of breathing.

Components of Appearance

1. Alertness	How responsive and interactive is the child with a stranger or other changes in the environment?
	Is the patient restless, agitated or lethargic?
2. Distractibility	How readily does a person, object, or sound draw the child's interest or attention?
	Will the patient play with a toy or new object?
3. Consolability	Can the patient be comforted by the caregiver or by the paramedic?
4. Eye Contact	Does the child maintain eye contact with objects or people?
	Will the patient fix his/her gaze on a face?
5. Speech/Cry	Is the speech/cry strong and spontaneous?

Weak and muffled?



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Page 1 of 3

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Hoarse?

6. Spontaneous Motor Activity	Is the patient moving and resisting vigorously and spontaneously?
	Is there good muscle tone and responsiveness?
7. Color	Is the patient pink?
	Or is the patient pale, ashen, blue or mottled?
	Does the skin coloring of the trunk differ from that of the extremities?

Signs of Work of Breathing

1. Use of Accessory	
Muscles	Pediatric patients will use accessory muscles early to compensate for deficiencies in perfusion. Intercostal and supraclavicular retractions, as well as diaphragmatic breathing (see-saw) may be very apparent.
2. Respiratory Rate	Significant finding if >60/min. or <10-20/min.
3. Tidal Volume	Inspection of chest wall movement may not be adequate for assessment of tidal volume. It is imperative to auscultate bilateral lung sounds to determine adequacy of tidal volume.
4. Nasal Flaring	Flaring of the external nares indicates respiratory distress.
5. Grunting	Grunting is an ominous sign associated with severe distress. It is caused by a premature closure of the glottis on exhalation in an effort to compensate for atelectasis. The patient is attempting to maintain a positive end expiratory pressure (PEEP) to allow for better lung inflation.



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Page 2 of 3

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6. Cyanosis	Cyanosis is usually a late finding and will initially be visible around the mouth and gums (perioral) and nail beds.
7. Pulse Oximeter	$SpO_2 < 95\%$ is suggestive of respiratory insufficiency.
8. Lung Sounds	Auscultation of bilateral lungs sounds not only assesses tidal volume, but also may uncover abnormal sounds (e.g. wheezing, stridor, rales).

References:

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Page 3 of 3

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