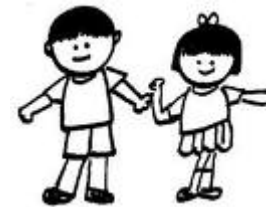


Rapid Pediatric Assessment

*Judy Leverette, MSN, APN,
ACHPN, CEN, EMT*

Characteristics of Pediatric Population

- Lack of primary care
- Children with special health care needs
- Violence against children
- Non-immunized and under immunized children



Dealing with Children

Childhood-Dynamic state of Change.



Growth and Development

- Predictable, directional, and sequential
- Multifaceted
- Affected by genetic, nutritional, and environmental factors
- Developmental Milestones
- Erickson/Piaget



Epidemiology

- Trauma is the leading cause of death in children > 1 y/o
- MVCs are the leading cause of unintentional injury-related deaths in children of all age groups
- Child maltreatment is the leading cause of injury related death in children 4 y/o and younger
- Severe head trauma is the primary cause of death from child maltreatment

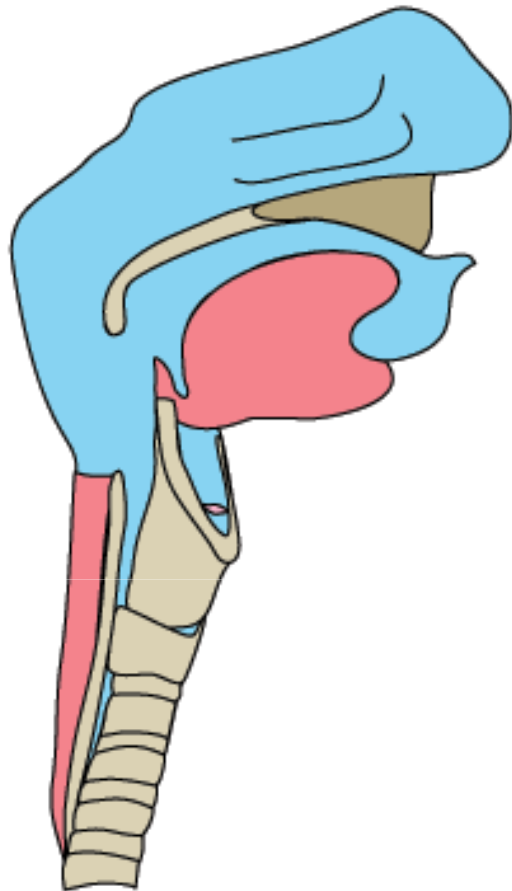
Anatomic and Physiologic Features of Children

- Airway
- Breathing
- Circulation
- Disability
- Exposure
- Additional Differences

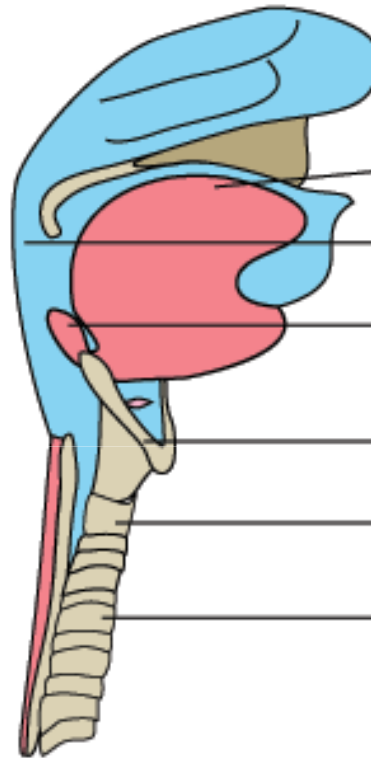


Airway

- Large Tongue
- Smaller airway diameter
- Cartilaginous larynx
- Airway Obstruction
- Obstruction from secretions/small objects
- Airway obstruction from hyperflexion or hyperextension



Adult's Upper Airway



Child's Upper Airway

Tongue is larger in proportion to mouth

Pharynx is smaller

Epiglottis is larger and floppier

Larynx is more anterior and superior

Narrowest at cricoid

Trachea narrow and less rigid

Breathing



- Compensatory mechanisms less effective
- Higher metabolic rate
- Respiratory rate varies with age
- Fewer smaller alveoli
- Tire easily=rapid decompensation
- Less efficient use of oxygen and glucose; increased with fever and anxiety
- Normal resp rate inversely related to age
- Less surface area for gas exchange

Circulation



- Increased circulating blood volume
- Rapid heart rate
- Myocardium less compliant with less contractile mass and limited stroke volume
- Higher cardiac output
- Small amounts of blood loss can lead to circulatory compromise
- Normal ranges vary with age
- $CO = HR \times SV$ ($\uparrow HR$)
- \uparrow oxygen demand but depletes cardiac output reserve

Disability (Neuro)

- Level of consciousness
- Greatly affected by adequate ventilation and oxygenation



Exposure

- Children have a higher body surface area to weight ratio



- Ill and injured children are at increased risk for hypothermia which can result in:
 - Hypoglycemia
 - Altered LOC
 - Hypoxia

Additional Differences



- High metabolic rate with limited glycogen stores
- Medications metabolized differently
- Proportionally larger and heavier head as compared to body size
- Increased risk for hypoglycemia
- Medication administered based on weight
- High risk for head injury from falls



Initial Assessment

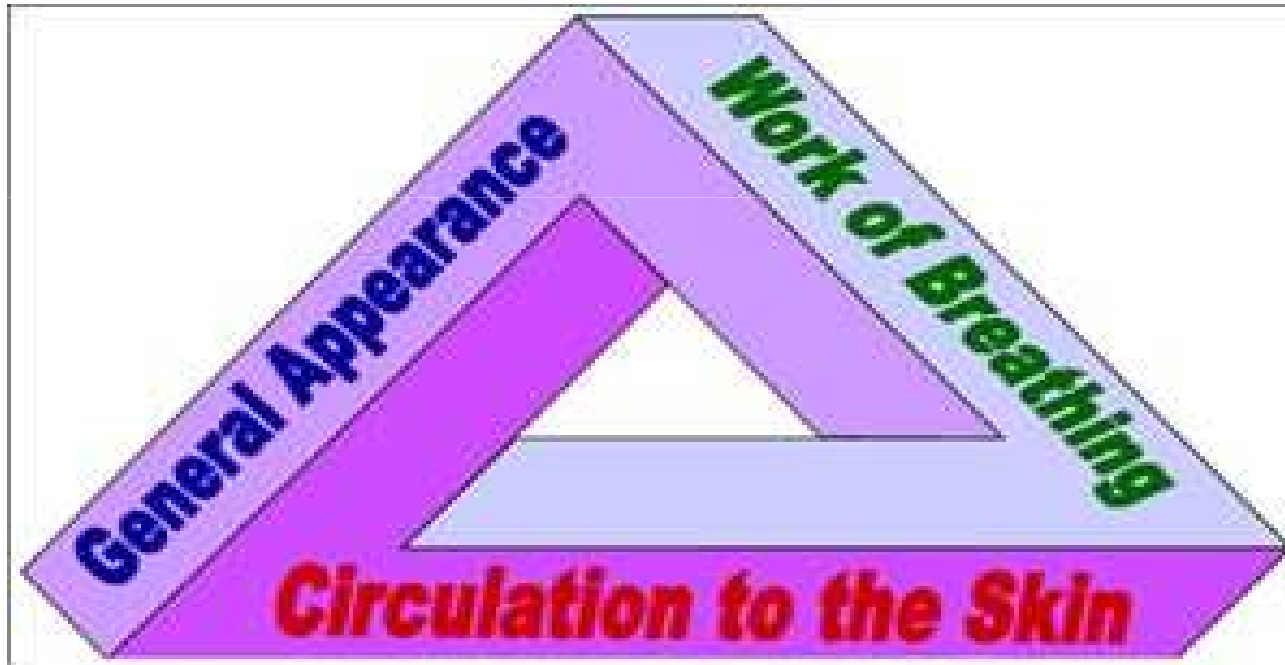
- A=Airway with cervical spine control
- B=Breathing
- C=Circulation
- D=Disability (Neurologic status)
- E=Exposure and Environmental Control
- F=Full set of VS and family presence
- G=Give comfort Measures
- H=Head-to-toe assessment/History
- I=Inspect posterior surfaces

Triaging the Pediatric Patient

- Pediatric Assessment Triangle
- Physical Assessment
- History (CIAMPEDS or SAMPLE)
- Triage Decision



Pediatric Assessment Triangle



Physical Assessment

- Head to toe exam
- Focused exam



History

- CIAMPEDS
- SAMPLE



TRIAGE DECISION



RED Flags

- Choking
- Drooling
- Audible airway sounds
- Positioning
- Grunting
- Cyanosis
- Cool or clammy skin
- Altered LOC
- Petechia
- Signs of Abuse
- Severe Pain



Children with Special Health Care Needs

- Respiratory-cystic fibrosis; asthma
- Cardiovascular-congenital heart disease
- Neurologic-spina bifida; cerebral palsy; seizure disorders
- Immunologic-HIV; Hepatitis
- Mental Retardation-

Medical Technology

- Tracheostomy Tubes
- Ventilators
- Central Venous Access Devices
- Gastrostomy Tubes
- Ventriculoperitoneal Shunts

Trouble Shooting-Central Lines

- DOPE Pneumonic
- D-Displacement, disconnection, damage
- O-Obstruction
- P-Pneumothorax, pericardial tamponade, pulmonary embolus
- E-Equipment Failure

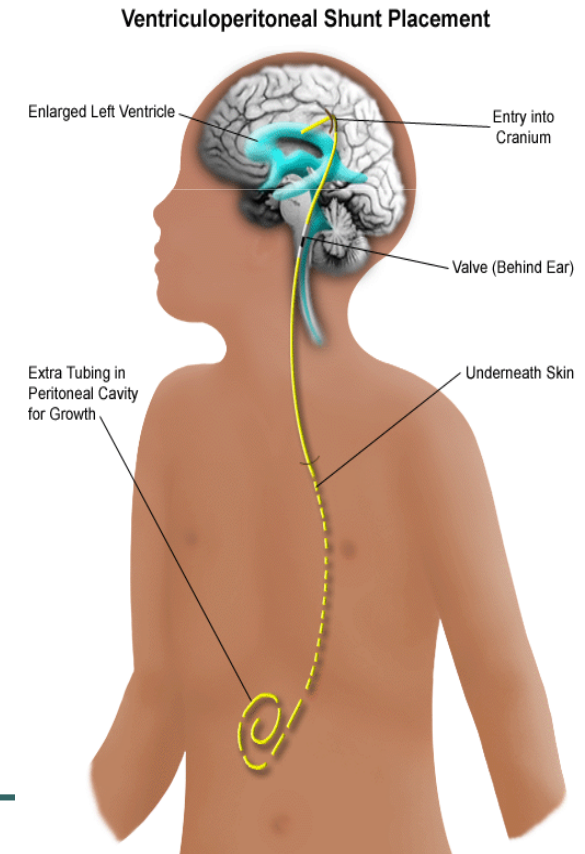
Trouble Shooting Ventilators

- D-Displacement or disconnection of the tube or ventilator circuit
- O-Obstruction of airflow
- P-Pneumothorax or other patient related problem
- E-Equipment Failure



Troubleshooting VP shunts

- D-Displacement
- O-Obstruction
- P-Peritonitis, perforation
- E-Elevated temperature



Emergency Information Form

- Form

Emergency Information Form for Children With Special Needs

American College of
Emergency Physicians*

American Academy
of Pediatrics



Date form completed By whom	Revised	Initials
	Revised	Initials

LAST NAME:

Name:		Birth date:	Nickname:
Home Address:		Home/Work Phone:	
Parent/Guardian:		Emergency Contact Names & Relationship:	
Signature/Consent**:			
Primary Language:		Phone Number(s):	
Physicians:			
Primary care physician:		Emergency Phone:	
		Fax:	
Current Specialty physician:		Emergency Phone:	
Specialty:		Fax:	
Current Specialty physician:		Emergency Phone:	
Specialty:		Fax:	
Anticipated Primary ED:		Pharmacy:	
Anticipated Tertiary Care Center:			
Diagnoses/Past Procedures/Physical Exam:			
1. _____		Baseline physical findings:	
2. _____			
3. _____		Baseline vital signs:	
4. _____			
Synopsis:		Baseline neurological status:	

*Consent for release of this form to health care providers

Injury



“I tripped and fell on the playground”

Abdominal Pain



- “I’ve been throwing up”



Injury

“I fell of my bicycle”

Adolescent with Syncope



“I passed out”

Injury Prevention

- MVC
- Pedestrian
- Bicycle
- Fires/burns
- Falls
- Poisons
- Firearms
- Child abuse
- Playgrounds
- Sports
- Drowning



Summary

- Children are not “small adults”
- Pediatric Assessment Triangle
- History
- Physical Exam
- Priorities of Care
- Disposition



Health Promotion and Injury Prevention

- The best treatment for illness or injury is:

Prevention

References

- Emergency Nursing Pediatric Course
- http://hsc.unm.edu/emmermed/ped/school_rn/course.shtml