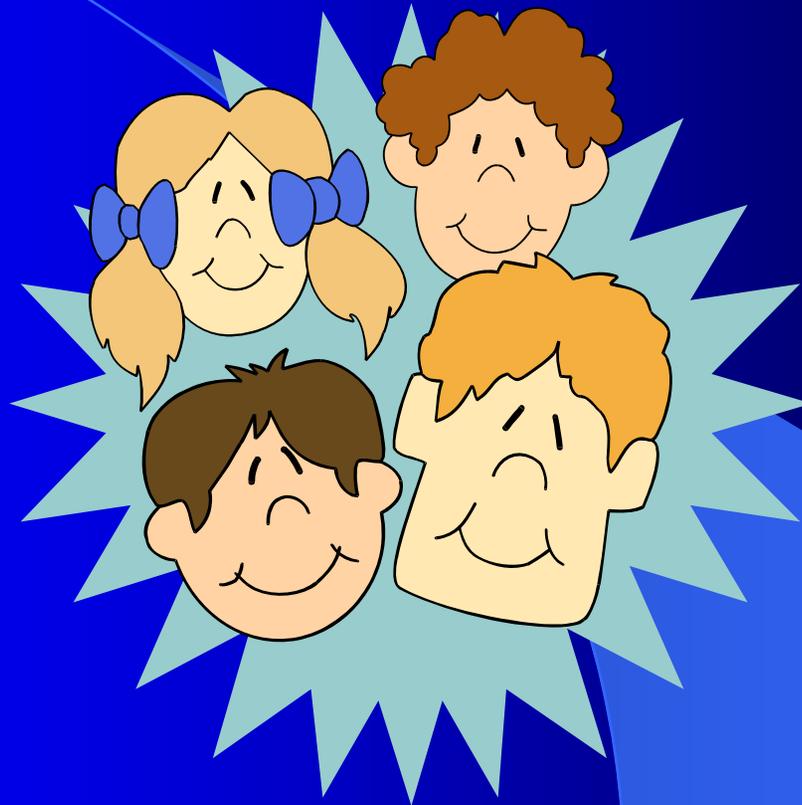


Pediatric Assessment



High Stress Situation

- | **Child**
 - | **In pain**
 - | **Frightened**
 - | **Guilty**

High Stress Situation

- | **Parent**
 - | **Frightened**
 - | **Guilty**
 - | **Exhausted**

High Stress Situation

- | **Paramedic**
 - | **Frightened**
 - | **May over-empathize**

High Stress Situation

Who has to control situation?

Basic Points

- | **Oxygenation, ventilation adequate to preserve life, CNS function?**
- | **Cardiac output sufficient to sustain life, CNS function?**
- | **Oxygenation, ventilation, cardiac output likely to deteriorate before reaching hospital?**
- | **C-spine protected?**
- | **Major fractures immobilized?**

Basic Points

- | **If invasive procedure considered, do benefits outweigh risks?**
- | **If parent is not accompanying child, is history adequate?**
- | **Transport expeditiously**
- | **Reassess, Reassess, Reassess**

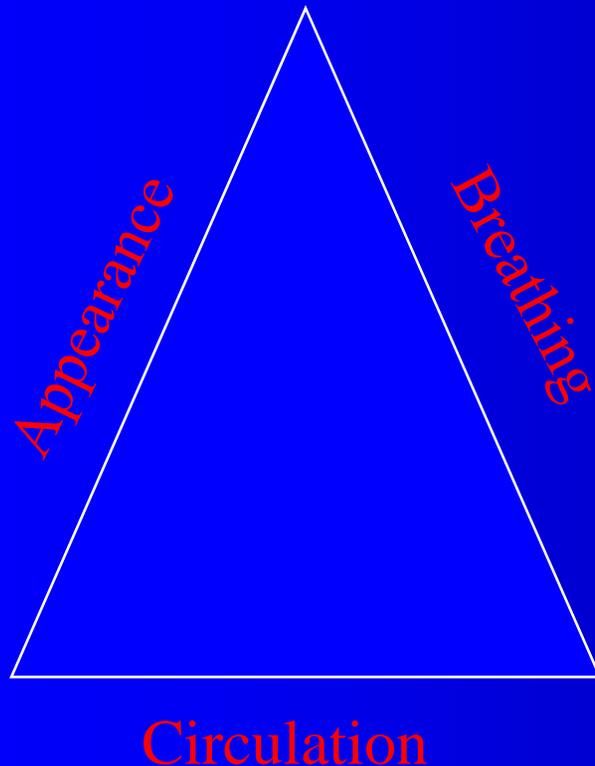
Patient Assessment

- | **Priorities are similar to adult**
- | **Greater emphasis on airway, breathing**

Patient Assessment

- | **Limit to essentials**
- | **Look before you touch**

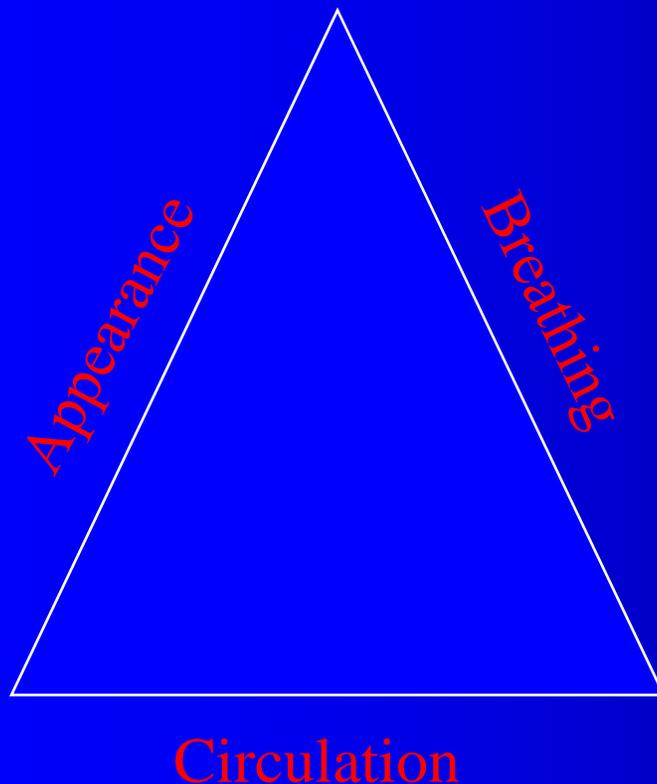
Pediatric Assessment Triangle: First Impression



- | **Appearance** - mental status, body position, tone
- | **Breathing** - visible movement, effort
- | **Circulation** - color

Pediatric Assessment Triangle

Initial Assessment



- | **Appearance** - AVPU
- | **Breathing** - airway open, effort, sounds, rate, central color
- | **Circulation** - pulse rate/strength, skin color/temp, cap refill, BP (↓ use at early ages)

Initial Assessment

- | **Categorize as:**
 - | **Stable**
 - | **Potential Respiratory Failure or Shock**
 - | **Definite Respiratory Failure or Shock**
 - | **Cardiopulmonary Failure**

Initial Assessment

- | **Identify, correct life threats**
- | **If not correctable,**
 - | **Support oxygenation, ventilation, perfusion**
 - | **Transport**

Vital Signs

- | **Essential elements**
 - | **Proper equipment**
 - | **Knowledge of norms**
- | **Carry chart of norms for reference**

Weight

- | Why is weight a pedi vital sign?
- | $(\text{Age}[\text{yrs}] \times 2) + 8$

Heart Rate

- | **Apical auscultation**
- | **Peripheral palpation**
- | **Tachycardia may result from:**
 - | **Fear**
 - | **Pain**
 - | **Fever**

Heart Rate

- | Tachycardia + Quiet, non-febrile patient =
Decrease in cardiac output
 - | Heart rate rises long before BP falls!
- | Bradycardia + Sick child =
Premorbid state
 - | Child < 60
 - | Infant < 80

Blood Pressure

- | **Proper cuff size**
 - | **Width = $\frac{2}{3}$ length of upper arm**
 - | **Bladder encircles arm without overlap**

Blood Pressure

- | **Children >1 year old**
 - | **Systolic BP = (Age x 2) + 80**

Blood Pressure

- | Hypotension = Late sign of shock
- | Evaluate perfusion using:
 - | Level of consciousness
 - | Pulse rate
 - | Skin color, temperature
 - | Capillary refill
- | Do not delay transport to get BP

Respirations

- | **Before touching**
- | **For one full minute**
- | **Approximate upper limit of normal =
(40 - Age[yr])**

Respirations

- | **> 60/min = Danger!!**
- | **Slow = Danger, impending arrest**
- | **Rapid, unlabored**
 - | **Metabolic acidosis**
 - | **Shock**

Capillary Refill

- | Check base of thumb, heel
- | Normal \leq 2 seconds
- | Increase suggests poor perfusion
- | Increases long before BP begins to fall
- | Cold exposure may falsely elevate

Temperature

- **Cold = Pediatric Patient's Enemy!!!**
 - Large surface:volume ratio
 - Rapid heat loss
- **Normal = 37°C (98.6°F)**
- **Do not delay transport to obtain**

Temperature

- **Measurement: Axillary**
 - **Hold in skin fold 2 to 3 minutes**
 - **Normal = 97.6°F**
 - **Depends on peripheral vasoconstriction/dilation**

Temperature

- **Measurement: Oral**
 - **Glass thermometers not advised**
 - **May be attempted with school-aged children**

Temperature

- **Measurement: Rectal**
 - Lubricated thermometer
 - 4cm in rectum, 1 - 2 minutes
 - Do not attempt if child
 - Is < 2 months old
 - Is struggling

Physical Exam

- **Do not delay transport for full secondary survey**
- **Children under school age: go toe to head**
- **Examine areas of greatest interest first**

Physical Exam

After exposing during primary survey, cover child to avoid hypothermia!

Physical Exam: Special Points

□ **Head**

□ **Anterior fontanel**

- **Remains open until 12 to 18 months**
- **Sinks in volume depletion**
- **Bulges with increased ICP**

Physical Exam: Special Points

- **Chest**
 - **Transmitted breath sounds**
 - **Listen over mid-axillary lines**

Physical Exam: Special Points

- **Neurologic**
 - **Eye contact**
 - **Recognition of parents**
 - **Silence is NOT golden!**

History

- **Best source depends on child's age**
- **Do not underestimate child's ability as historian**
 - **Imagination may interfere with facts**
 - **Parents may have to fill gaps, correct time frames**

History

- **Brief, relevant**
 - **Allergies**
 - **Medications**
 - **Past medical history**
 - **Last oral intake**
 - **Events leading to call**
 - **Specifics of present illness**

History

- **On scene observations important**
- **Do not judge/accuse parent**
- **Do not delay transport**

General Assessment Concepts

- Children not little adults
- Do not forget parents
- Do not forget to talk to child
- Avoid separating children, parents unless parent out of control

General Assessment Concepts

- **Children understand more than they express**
- **Watch non-verbal messages**
- **Get down on child's level**
- **Develop, maintain eye contact**
- **Tell child your name**
- **Show respect**
- **Be honest**

General Assessment Concepts

- **Kids do not like:**
 - **Noise**
 - **Cold places**
 - **Strange equipment**

General Assessment Concepts

- In emergency do not waste time in interest of rapport
- Do not underestimate child's ability to hurt you

The background is a gradient of blue, transitioning from a dark blue at the top to a lighter blue at the bottom. A curved line starts from the left edge and curves downwards towards the right. A spotlight effect, represented by a semi-transparent blue shape, is positioned over the text, highlighting it.

Developmental Stages

Neonates

- **Gestational age affects early development**
- **Normal reflexive behavior present**
 - **Sucking**
 - **Grasp**
 - **Startle response**

Neonates

- **Mother, father can usually quiet**
- **Knows parents, but others OK**
- **Keep warm**
- **Use pacifier, finger**
- **Have child lie on mother's lap**

Neonates

- **Common Problems**
 - **Respiratory distress**
 - **Vomiting, diarrhea**
 - **Volume depletion**
 - **Jaundice**
 - **Become hypothermic easily**

Young Infants (1 - 6 months)

- **Follows movement of others**
- **Recognizes faces, smiles**
- **Muscular control develops:**
 - **Head to tail**
 - **Center to periphery**
- **Examine toe to head**

Young Infants (1 - 6 months)

- **Parents important**
- **Usually will accept strangers**
- **Have lie on mom's lap**
- **Keep warm**
- **Use pacifier or bottle**

Young Infants (1 - 6 months)

- **Common problems**
 - Vomiting, diarrhea
 - Volume depletion
 - Meningitis
 - SIDS
 - Child abuse

Older Infants (6 - 12 months)

- **May stand, walk with help**
- **Active, alert**
- **Explores world with mouth**

Older Infants (6 - 12 months)

- **Intense stranger anxiety**
- **Fear of lying on back**
- **Assure parent's presence**
- **Examine in parent's arms if possible**
- **Examine toe to head**

Older Infants (6 - 12 months)

□ **Common problems**

- **Febrile seizures**
- **Vomiting, diarrhea**
- **Volume depletion**
- **Croup**
- **Bronchiolitis**

- **Meningitis**
- **Foreign bodies**
- **Ingestions**
- **Child abuse**

Toddlers (1 - 3 years)

- **Excellent gross motor development**
- **Up, on, under everything**
- **Runs, walks, always moving**
- **Actively explores environment**
- **Receptive language**

Toddlers (1 - 3 years)

- **Dislike strange people, situations**
- **Strong assertiveness**
- **Temper tantrums**

Toddlers (1 - 3 years)

- **Examine on parent's lap, if possible**
- **Talk to, "examine" parent first**
- **Examine toe to head**
- **Logic will not work**
- **Set rules, explain what will happen, restrain, get it done**

Toddlers (1 - 3 years)

□ **Common problems**

□ **Trauma**

□ **Febrile seizures**

□ **Ingestions**

□ **Foreign bodies**

□ **Meningitis**

□ **Croup**

□ **Child abuse**

Preschoolers (3 - 5 years)

- **Increasing gross, fine motor development**
- **Increasing receptive, expressive language skills**

Preschoolers (3 - 5 years)

- **Totally subjective world view**
- **Do not separate fantasy, reality**
- **Think “magically”**
- **Intense fear of pain, disfigurement, blood loss**

Preschoolers (3 - 5 years)

- **Take history from child first**
- **Cover wounds quickly**
- **Assure covered areas are still there**
- **Let them help**
- **Be truthful**
- **Examine toe to head**

Preschoolers (3 - 5 years)

□ **Common problems**

- **Trauma**
- **Drowning**
- **Asthma**
- **Croup**
- **Meningitis**
- **Febrile seizures**
- **Ingestions**
- **Foreign bodies**
- **Child abuse**

School Age (6 - 12 years)

- **Able to use concepts, abstractions**
- **Master environment through information**
- **Able to make compromises, think objectively**

School Age (6 - 12 years)

- **Give child responsibility for history**
- **Explain what is happening**
- **Be honest**

School Age (6 - 12 years)

- **Common problems**
 - **Trauma**
 - **Drowning**
 - **Child abuse**
 - **Asthma**

Adolescents

- **Wide variation in development**
- **Seeking self-determination**
- **Peer group acceptance can be critical**
- **Very acute body image**
- **Fragile self-esteem**

Adolescents

- **Reassure, but talk to them like adult**
- **Respect need for modesty**
- **Focus on patient, not parent**
- **Tell truth**
- **Honor commitments**

Adolescents

- **Common problems**
 - **Trauma**
 - **Asthma**
 - **Drugs/alcohol**
 - **Suicidal gestures**
 - **Sexual abuse**
 - **Pregnancy**