

# Child Development: Applying the Pediatric Assessment Triangle



## Objectives

- Use the PAT to determine severity, physiologic abnormality, and urgency for treatment.
- Describe key developmental characteristics for different age groups
- Employ special assessment techniques
- Integrate the PAT with age-appropriate assessment

# The Pediatric Assessment Triangle (PAT)



- Observational assessment
- Formalizes the “general impression”
- Establishes severity of illness or injury
- Determines urgency of intervention
- Identifies general category of physiologic abnormality



# PAT: Respiratory Distress

**Appearance**  
Normal



**Work of Breathing**  
Increased

**Circulation to Skin**  
Normal



# PAT: Respiratory Failure

**Appearance**  
Abnormal



**Work of Breathing**  
Increased or decreased

**Circulation to Skin**  
Normal or abnormal



# PAT: Shock

**Appearance**  
Abnormal



**Work of Breathing**  
Normal

**Circulation to Skin**  
Abnormal

# PAT: Primary Central Nervous System (CNS) Dysfunction or Metabolic Abnormality



**Appearance**  
Abnormal

**Work of Breathing**  
Normal



**Circulation to Skin**  
Normal

## 2-week-old infant

- Called to the home of 2-week-old infant who had stopped breathing
- Infant turned pale, limp, revived when sitter “blew in her face”
- Term delivery, no complications
- Two days poor feeding; no fever





## 2-week-old infant

### Appearance

Eyes open,  
moves arms and  
legs, strong cry



### Work of Breathing

Abdomen rises  
and falls with each  
breath

### Circulation to Skin

Face and trunk normal,  
hands and feet blue



*What do you think of this baby's work of breathing?*

*Are you concerned about her skin signs?*

## Assessment of Infants < 2 Months of Age

- “Belly breathing” reflects increased reliance on the diaphragm.
- Acrocyanosis reflects poor peripheral vasomotor control.
- These are normal findings in an infant < 2 months of age.



*Is this baby's appearance normal?*

*Should you transport?*

## Assessment of Infant < 2 Months of Age

- Limited behavioral repertoire
  - Brief awake periods
  - Does not make eye contact/track faces
  - No “social smile”
  - Does not recognize parents vs. strangers
- Transport based on age, history

## Normal Appearance Infant 2-6 Months of Age

- Social smile
- Recognizes caregivers
- Tracks light, faces
- Strong cry/increasing vocalization
- Rolls over/sits with support



## Normal Appearance of Infant 6-12 Months of Age

- Socially interactive
- Stranger/separation anxiety
- Sits without support
- Plays with toys/“oral exploration”
- Increased mobility
- Babbles

## Techniques in Assessment of Infants < 6 Months of Age

- Examine in any location
- Use soothing voice
- Offer distractions
- Keep hands/instruments warm
- Examine chest/abdomen first





## Techniques in Assessment of an Infant > 6 Months of Age

- Anticipate separation anxiety
- Examine on caregiver's lap
- Sit or squat
- Offer toys/distractions
- Take “toe to head” approach

## 23-month-old toddler

- Called to home of a 23-month-old with “trouble breathing”
- Child is on mom’s lap, sees you, and starts to wail!
- Patient is alert, with retractions and audible wheezing. Skin color is normal.

*What can we tell from the PAT?*



## 23-month-old toddler

### **Appearance**

Seated, alert,  
strong cry



### **Work of Breathing**

Retractions, audible  
wheezing

### **Circulation to Skin**

Normal color

As you approach, the child yells, “Go away!” and tries to hit, kick, and bite you.

*Is this “normal appearance”?*

*What are the expected behaviors of a toddler?*

## Assessment of a Toddler

The “terrible two’s” last from 1-3 years of age, and are characterized by:

- Lots of mobility
- Curiosity/no fear of danger
- Strong “opinions”
- Stranger anxiety/  
separation anxiety
- Egocentrism



# Assessment of a Toddler

Discussion

Toddlers are concrete thinkers.

- Problem solve by trial and error
- Limited ability to anticipate consequences
- Not swayed by logic!
- Variable language capabilities
- Comprehension is greater than expression

## Techniques in Toddler Assessment (1-3 Years)

Discussion

- “Across the room” observation
- Allow child to remain on caregiver’s lap
- Get down to child’s level
- Use play and distraction



## Techniques in Toddler Assessment (1-3 Years)

Discussion

- Talk, reassure, and praise
- Explain procedures simply
- “Toe to head” exam
- Save the worst part of the exam for last!
- Enlist caregiver’s assistance



## 23-month-old toddler

You recognize that this toddler's continued agitation, despite attempts to reassure and distract him, is developmentally normal.

*Would crying and fighting be a normal response in a 6-year-old with respiratory distress?*

## Normal Appearance of a Child 4-10 Years of Age

- Mobile, independent, risk-taking
- Good verbal skills
- Analytical, understand cause and effect
- “Age of reason”
- Cooperative with exam, instructions



## Normal Appearance of a Child 4-10 Years of Age

Discussion

BUT...

- Many misconceptions about bodies
- May overestimate implications of illness/injury
- Fear of pain, deformity, needles
- May misinterpret information given
- “Independence” may crumble when sick

## Techniques in Assessment of a Child 4-10 Years of Age

- Speak directly to the child
- Provide simple, clear explanations
- Anticipate questions and fears
- Praise cooperation/avoid ridicule



## Techniques in Assessment of a Child 4-10 Years of Age

- Promote a sense of control but don't negotiate
- Examine head to toe and respect modesty
- Minimize lag time between describing and performing procedures
- If talking fails, restrain to ensure patient/ EMT safety

## 16-year-old adolescent

- Called to the scene of a 16-year-old who rolled his Jeep
- Patient is standing by car on your arrival and is intoxicated, alert, and hostile.
- Starts to cry when realizes he is bleeding from scalp
- Asks you, “Am I going to die?”



# 16-year-old adolescent

## Appearance

Verbal, interactive,  
normal tone

## Work of Breathing

Normal



## Circulation to Skin

Normal



*Is this young man's appearance normal?*

*What are the special challenges you face in assessing an adolescent?*



# Adolescent Development



Adolescents and toddlers share many characteristics!

- Very mobile, risk-taking, no fear of danger
- Limited ability to anticipate consequences
- Not swayed by common sense

# Adolescent Development



- Capacity for rational thought/analysis
- Dependence shifts from family to peers
- Fears loss of control, disfigurement, “being different”
- May misperceive severity of illness/injury

## Techniques for Assessment of an Adolescent



- Talk to the teen, not to the parents
- Respect privacy and confidentiality
- Provide concrete explanations
- Reassure
- Do not succumb to provocation



# 8-year-old child

Case Study



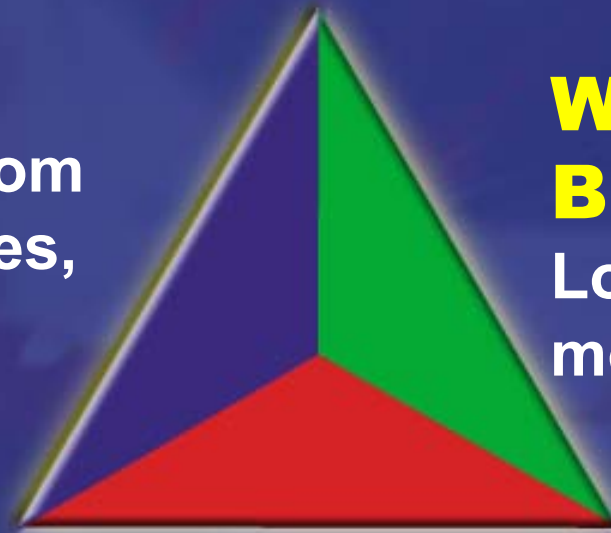
## 8-year-old child

### Appearance

Eyes open, random gaze, contractures, no movement

### Work of Breathing

Loud gurgling, moderate retractions



### Circulation to Skin

Extremities mottled

# Assessment of a Child with Special Health Care Needs

Discussion

- Enlist assistance of caregiver
- Establish baseline functional status
- Establish baseline medical status
- Have a low threshold for transport

## Conclusion



Conclusion

- Knowledge of normal child development enhances your ability to recognize abnormal appearance.
- The use of age-appropriate assessment techniques maximizes history and exam information.
- Children with Special Health Care Needs offer a unique challenge.