

## Child Development: Applying the Pediatric Assessment Triangle (PAT)



EMC 420: Maternal & Child Emergency Care

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## 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
- For additional PALS/PEPP intro.- review, see “PALS/PEPP I+II” slides
- For additional Developmental information, see : <http://www.fpnotebook.com/PED45.htm> ; . [ref : Frankenburg (1990) Denver II Developmental Screening ]

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## The Pediatric Assessment Triangle (PAT)

- Observational assessment
- Formalizes the “general impression”
- Establishes severity of illness or injury
- Determines urgency of intervention
  - ( CUPS / “load + go” )
- Identifies general category of physiologic abnormality

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## PAT: Respiratory Failure



Appearance  
**Abnormal**

Work of Breathing  
**Increased or decreased**

Circulation to Skin  
**Normal or abnormal**

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## PAT: Shock



Appearance  
**Abnormal**

Work of Breathing  
**Normal**

Circulation to Skin  
**Abnormal**

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## PAT: Primary CNS Dysfunction or Metabolic Abnormality

Appearance  
**Abnormal**

Work of Breathing  
**Normal**

Circulation to Skin  
**Normal**

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## 2-week-old infant

Case Study

- 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

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## 2-week-old infant

PAT

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**

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Key Question

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

*Are you concerned about her skin  
signs?*

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## 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.

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Key Question

*Is this baby's appearance normal?*

*Should you transport?*

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## 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

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## Normal Appearance Infant 2-6 Months of Age

- Social smile (2 mo)
- Recognizes caregivers
  - Month 4-9: Seeks primary caregiver
- Tracks light, faces
- Strong cry/increasing vocalization
- Rolls over/sits with support



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## Normal Appearance of Infant 6-12 Mo. of Age

- Socially interactive
- Stranger/separation anxiety
- Sits without support
- Plays with toys/"oral exploration"
- Increased mobility
  - Pincer ability (9 mo) [mo. 8-12: Has neat pincer grasp]
- Babbles

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## 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



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

- Anticipate separation anxiety
  - month 8-15 (by 12 mo): Stranger anxiety
- Examine on caregiver's lap
- Sit or squat
- Offer toys/distractions
- Take "toe to head" approach

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## 23-month-old toddler

Case Study

- 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?*

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## 23-month-old toddler



Appearance  
**Seated, alert,  
strong cry**

Work of Breathing  
**Retractions, audible  
wheezing**

Circulation to Skin  
**Normal color**

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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?*

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## 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
- Self Help Milestones:
  - Month 18-28: Washes and dries hands



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## Assessment of a Toddler

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

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

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



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

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

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## 23-month-old toddler



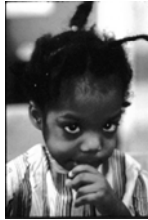
You recognize that this toddler’s continued agitation, despite attempts to reassure and distract him, is developmentally normal.

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

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## 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



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

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

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## 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



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## 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

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## 16-year-old Adolescent



- Called to the scene of a 16-year-old who has been in a SUV rollover
- 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?”

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## 16-year-old adolescent



Appearance  
Verbal, interactive,  
normal tone

Work of Breathing  
Normal

Circulation to Skin  
Normal

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*Is this young man's appearance normal?*

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

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## 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

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## 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

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## 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



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## Assessment of a Child with Special Health Care Needs

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

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## 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.
- Knowledge of a few developmental milestones
  - 2 mo : social smile
  - 9 mo : pincer
  - 12 mo : stranger anxiety
- Special Health Care Needs : a unique challenge
  - Primary caretaker usually can provide invaluable information.

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