

Pediatric Assessment Triangle: Meaning, Application, and Sample PDF

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The **Pediatric Assessment Triangle (PAT)** has recently been widely introduced into the pediatric resuscitation curriculum.

Although logical, its performance attributes remain unmeasurable. So, using the PAT, the physician observes three components: appearance, breathing work, and skin circulation.

This study aims to evaluate its accuracy, reliability, and validity as used by nurses during triage.

RELATED: [CANS Assessment: Overview of Child and Adolescent Needs and Strengths](#)

What is the Pediatric Assessment Triangle

The Pediatric Assessment Triangle (PAT) is a brief assessment tool that determines a child's clinical condition and disease category to guide prevention and treatment objectives.

What is the Assessment Triangle?

The assessment triangle in Working Together to Safeguard Children provides a model, which should be used to examine how the different aspects of the child's life and context interact and impact on the child.

Also Read: [RBT Competency Assessment: Requirement and Free Practice](#)

Who Created Pediatric Assessment Triangle?

Dieckmann RA et al. introduced the Pediatric Assessment Triangle (PAT) in 2000, which involves three main elements: appearance, work of breathing, and circulation to the skin.

Methods

Triage nurses administered the PAT to all patients arriving at the pediatric emergency department of an urban teaching hospital in the United States in this prospective observational study.

Results

In total, 524 kids were included in the study. The PAT was used to calculate likelihood ratios (LRs) for instability and pathology categories.

So, children rated stable by initial PAT were nearly ten times more likely to be stable on subsequent evaluation (LR 0.12, 95% CI 0.06-0.25).

The PAT also defined pathophysiology categories, including respiratory distress (LR+ 4, 95% CI 3.1-4.8), respiratory failure (LR+ 12, 95% CI 4.0-37), shock (LR+ 4.2, 95% CI 3.1-5.6), central nervous system/metabolic disorder (LR+ 7, 95% CI 4.3-11), and cardiopulmonary failure (LR+ 49, 95% CI 20-120).

Discussion

The thorough study of the first PAT, as conducted by triage nurses, quickly and accurately identifies high-acuity pediatric patients and their pathophysiology category.

Therefore, the PAT is a good predictor of the child's clinical state after additional testing.

What is the Purpose of the Pediatric Assessment Triangle

Triage nurses conduct the PAT on all patients coming to an urban teaching hospital's pediatric emergency department. This is for the purposes of prospective observational research.

As a result, the researchers conducted a blind record review, with the physician's initial evaluation and final diagnosis serving as the criteria standard for comparison.

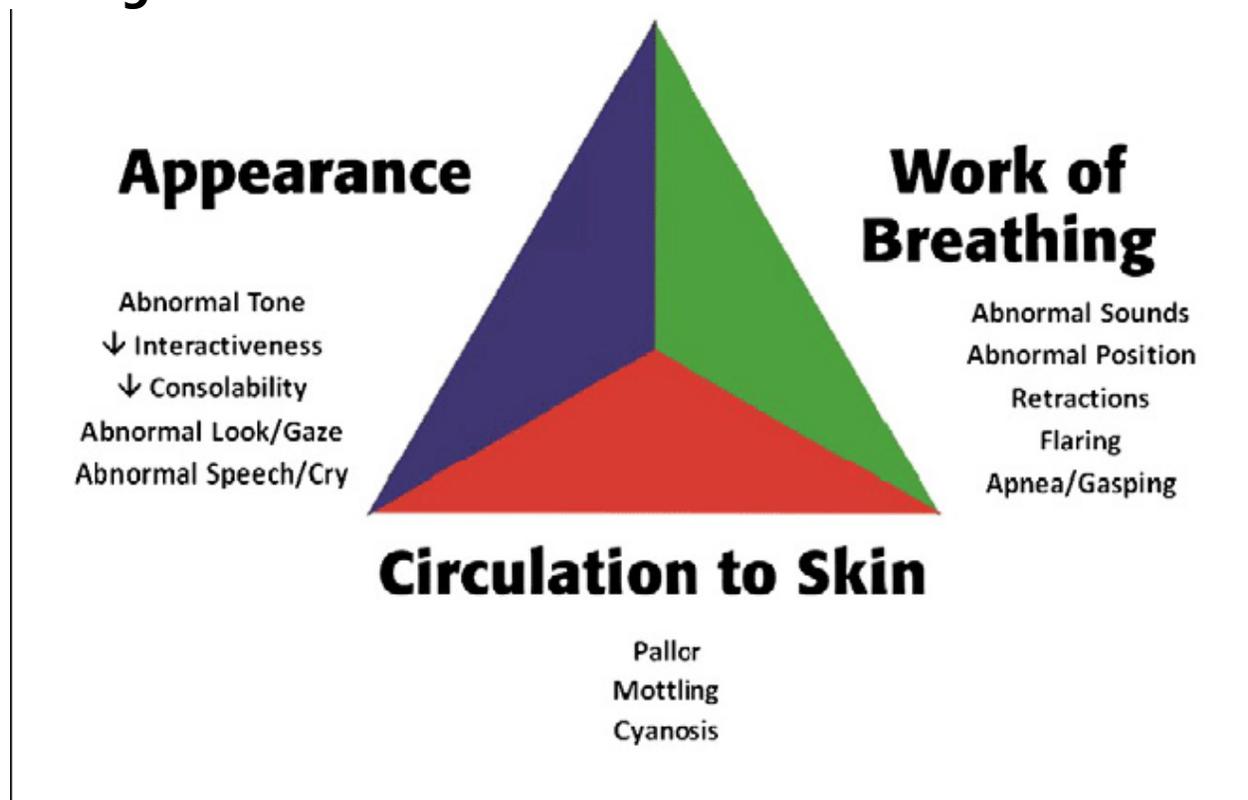
Normal Respiratory Rate: Normal Pulse Rate Lower Limit of Normal Systolic BP

Infant (<1yr): 30- 60 Infant: 100-160 Infant: >60 (or strong pulses)
Toddler (1-3yr): 24 -40 Toddler: 90-150 Toddler: >70 (or strong pulses)
Preschooler(4-5yr): 22- 34 Preschooler: 80-140 Preschooler: >75
School-age(6-12yr): 18 -30 School-age: 70-120 School-age: >80
Adolescent(13-18yr): 12 -20 Adolescent: 60-100 Adolescent: >90

Circulation (Pulse Rate & Strength / Extremity Color & Temperature / Capillary Refill / Blood Pressure)

Check Out: [NJSLA Practice Test 2022: Tips For Exam Prep & Practice Questions \(2022\)](#)

What are the Components of the Pediatric Assessment Triangle?



Pediatric Assessment Triangle

It is a quick, global evaluation that uses just visual and audio cues and takes only seconds to complete.

As a result, the PAT consists of three parts:

- Physical appearance
- Work of Breathing
- Circulation Skin

It is the first step in answering three key questions:

- What is the severe condition of the child's illness or injury?
- Which is the most likely physiologic abnormality?
- How urgent is treatment needed?

The combination of anomalies identified by the three components defines one of six clinical status categories:

- Constant
- Respiratory
- Distress.
- Respiratory failure
- Shock
- CNS/metabolic dysfunction, or Cardiopulmonary failure

Also Read: [Executive Assessment Test: Questions, Answers, and How to Use It?](#)

Components of the Pediatric Assessment Triangle and the General Impression

	Appearance	Work of breathing	Circulation to skin	
Stable		Normal	Normal	Normal
Respiratory distress		Normal	Abnormal	Normal
Respiratory failure		Abnormal	Abnormal	Normal
Shock		Normal or Abnormal	Normal	Abnormal

Appearance	Work of breathing	Circulation to skin	
Central nervous system/metabolic disturbance	Abnormal	Normal	Normal
Cardiopulmonary failure	Abnormal	Abnormal	Abnormal

Adapted from Dieckmann RA, Brownstein D, Gausche-Hill M, eds. *Pediatric Education for Prehospital Professionals: PEPP Textbook*. Sudbury, MA: Jones & Bartlett Publishers; 2000.

1]. Physical Appearance (PAT)

The Triangle’s “Appearance” section measures a number of variables to determine whether the kid is going through mental status changes (for these can be difficult to pinpoint in an infant or young child).

The “Appearance” item’s elements can also be used to detect whether a child’s airway is clear.

Table 1.

Characteristics of appearance: The ‘Tickles’ (TICLS) Mnemonic

Characteristic	Normal Features
Tone	Moves on its own
	Resists exam
	Sits or stands (age suitable)
Interactiveness	The appearance of alertness and engagement with the physician or caregiver
	Interacts with others and the environment
	Reaches for toys and other stuff (e.g. flashlight)
Consolability	With the caregiver’s holding and consoling, the weeping stops.
	Has there been a difference in response to caregiver versus examiner?
Look/Gaze	Makes direct eye contact with the service provider
	Visual tracks
Speech/Cry	Has a powerful cry
	Makes use of age-appropriate language

Characteristics of appearance

Pet lovers read: [Volhard Puppy Aptitude Test | Sample Test Score Sheet](#)

2]. Work of Breathing (PAT)

The “Work of Breathing” test assesses respiratory effort as well as visible signs of respiratory distress.

To receive an average score on the “Work of Breathing” item, the child’s breathing must be noiseless, easy, and painless.

The youngster should not appear to be struggling to breathe any more than normal.

Table 2.

Characteristics of work of breathing

Characteristic	Abnormal features
Abnormal airway sounds	Snoring
	Muffled or hoarse speech
	Stridor
	Grunting
Abnormal positioning	Wheezing
	Sniffing position
	Tripoding
Retractions	Preference for seated posture
	Supraclavicular, intercostals, or substernal retractions
Flaring	Head bobbing (infants)
	Flaring of the nares on inspiration.

Characteristics of work of breathing

This is a good read: [Lehigh County Assessment: All You Need to Know](#)

3]. Characteristics of Circulation to Skin (PAT)

Skin tone and visible bleeding determine “Circulation to Skin.” Circulation is a good sign of perfusion in children, as measured by skin color and capillary refill.

As a result, an infant with regular circulation will have a normal skin tone. There will be no noticeable bleeding.

Table 3.

Characteristics of circulation to skin

Characteristic	Abnormal features
Pallor	Skin or mucous membrane coloring that is white or pale
Mottling	Patchy skin discoloration caused by vasoconstriction/vasodilation
Cyanosis	Skin and mucous membrane discoloration.

Characteristics of circulation to skin

How Do You Use the Pediatric Assessment Triangle?

Using the pediatric evaluation triangle, the physician observes three components (or 'arms' of the triangle): appearance, breathing work, and skin circulation.

In fact, every abnormality found inside a triangle arm classifies the entire component (arm) as abnormal.

Also Read: [Neurovascular Assessment; Clinical Guide, Sample Chart and PDF](#)

What Does ABC in Pediatric Assessment Triangle Stand For?

In cases of cardiac or respiratory arrest, as well as severe traumatic injuries. Unstable Compromised airway, breathing, or circulation is abbreviated as ABC.

What is the Pediatric Circulation Warning Signs

In cases of cardiac or respiratory arrest, as well as severe traumatic injuries. Unstable Compromised Airway, Breathing, or Circulation is abbreviated as ABC.

The pediatric general evaluation triangle's (PAT) last side evaluates the child's circulation.

So, the first step is to search for a pale face.

What is the general color of the child?

Therefore, when judging a pale face, keep lighting and the child's ethnicity in mind.

Is it possible to time capillary refill?

In fact, the answer is relatively few, but seeing "normal" hundreds of times makes abnormal quite clear.

As a result, it is challenging to develop this testing skill without studying capillary refill in every patient, young and old.

If the child seems pale with an irregular capillary refill, he or she should be checked for mottling and cyanosis.

Finally, mottling is a splotchy discoloration of the limbs that indicate poor perfusion, whereas cyanosis is a blueish discoloration that indicates hypoxia.

Pediatric Assessment Triangle: Meaning, Application, and Sample PDF (FAQs)

What is the purpose of the Pediatric Assessment Triangle?

The PAT is a way for fast detecting the child's alertness, identifying the kind of pathophysiology, such as respiratory distress, respiratory failure, or shock, and deciding the urgency for treatment.

How do you use the Pediatric assessment triangle?

Using the pediatric evaluation triangle, the physician observes three components (or 'arms' of the triangle): appearance, breathing work, and skin circulation.

What are the three components of the Pediatric Assessment Triangle (PAT)?

The three components of the pediatric assessment triangle (PAT) are appearance, work of breathing, and skin circulation.

What does ABC in Pediatric Assessment Triangle stand for?

In cases of cardiac or respiratory arrest, as well as severe traumatic injuries. Unstable Compromised airway, breathing, or circulation is abbreviated as ABC.

What is the assessment triangle?

The assessment triangle in Working Together to Safeguard Children provides a model, which should be used to examine how the different aspects of the child's life and context interact and impact on the child.

Who created Pediatric Assessment Triangle?

Dieckmann RA et al

Conclusion

As demonstrated by a serious adverse probability ratio, the PAT performed well in finding stability in triage.

So, the strength of positive and negative LR's varies between pathophysiological groups, limiting the utility of the PAT alone to rule out an emerging disease.

The PAT can easily identify "red flags" for illness as an alternative to conventional triage techniques, especially when history is absent or restricted.

Reference

- [wikipedia.org](https://en.wikipedia.org/wiki/Pediatric_assessment_triangle)– Pediatric assessment triangle
- [slideshare.net](https://www.slideshare.net)– Pediatric assessment triangle
- Dieckmann RA, Brownstein D, Gausche-Hill M. The Pediatric Assessment Triangle: a novel approach for the rapid evaluation of children. *Pediatr Emerg Care*. 2010;26:312–5.
[[PubMed](#)] [[Google Scholar](#)]

Recommendation

- [FBI Phase 1 Practice Test: Learn How it Works with Free Online Practice Questions |2022](#)
- [CANS Assessment: Overview of Child and Adolescent Needs and Strengths](#)
- [Scholastic Aptitude Test 2022: Exam Dates, Registration, Fees, Eligibility](#)
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