

Instrument	Pediatric Anesthesia Emergence Delirium Scale
Acronym	PAED
Core Domain	Severity
Area assessed (Number of questions)	5 total items: 1) Child makes eye contact with caregiver, 2) child's actions are purposeful, 3) child is aware of his/her surroundings, 4) child is restless, 5) child is inconsolable.
Description	The Pediatric Anesthesia Emergence Delirium Scale (PAED) is an observational scale that has been validated in children ages 18 months to 6 years to detect and measure severity of hyperactive emergence delirium upon awakening from anesthesia. PAED measures changes to a child's awareness and attention, along with disorientation and perceptual disturbances, immediately following conclusion of anesthesia. Perceptual disturbances include hypersensitivity to stimuli and hyperactive motor behavior.
Versions	1
Scoring information	All items are scored on a 0-4 point scale as occurring not at all, just a little, quite a bit, very much, or extremely. Item scores are added together for a total score, with higher scores indicating more severe delirium.
Cognitive testing	Not required
Estimated time to rate	<2 minutes; to be administered within 30 mins of awakening from surgery, preferably 10 minutes after child awakens and remains awake
Require trained rater	Yes, validated for use by nurses, physicians, emergency medical services
Administer to	Children ages 18 months to 6 years, within 30 mins after awakening from surgery
Special resources required	None
How to obtain	Available at http://anesthesiology.pubs.asahq.org/article.aspx?articleid=1942731
Licensing Fee*	None
Languages available	English, Swedish, Portuguese
Highest COSMIN** rating	In progress
Test Performance Characteristics	<p>Sikich 2004 (n=50 children aged 18 months to 6 years, scheduled to receive sevoflurane, isoflurane, or halothane for elective out-patient surgery; reference standard: clinical judgment score of emergence delirium from 1 [none] to 7 [extreme amount], conducted by same clinicians rating the PAED)</p> <ul style="list-style-type: none"> •Interobserver reliability: 0.84 [95% CI 0.76-0.90] •Construct Validity: Correlation with child's age [$r = -0.31, p < 0.04, n = 46$]; child's time to awakening [$r = -0.50, p < 0.001, n = 46$]; clinical judgment scores [$r = 0.86, p < 0.001, n = 46$]; Post Hospital Behavior Questionnaire scores on postoperative day 2 [$r = -0.31, p < 0.08, n = 33$] and 7 [$r = -0.22, p = 0.20, n = 34$] •Sensitivity: 64% at PAED score of 10 or greater •Specificity: 85% at PAED score of 10 or greater

* Fees and licensing information is effective as of 2018 but is subject to change over time

** COSMIN is used to rate a study's evaluation of a survey or test's measurement properties. COSMIN does NOT rate the instrument itself, but helps readers understand if they can have confidence in the results of studies evaluating measurement properties of surveys and tests. For example, a rigorous study evaluating a test with poor measurement properties will receive a "good" COSMIN rating, while a poorly-conducted study evaluating a test with good measurement properties will receive a "poor" COSMIN rating. Small sample size can impact all COSMIN ratings. You must consider both the COSMIN rating and the results of studies provided when forming your opinion about that test. *COSMIN ratings shown are based solely on the instrument's original validation study.*

Reference: Sikich N, Lerman J (2004). Development and Psychometric Evaluation of the Pediatric Anesthesia Emergence Delirium Scale. *Anesthesiology*, 100(5):1138-1145.

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Reviews:

Daoud A, Duff JP, Joffe AR, Alberta Sepsis Network (2014). Diagnostic accuracy of delirium diagnosis in pediatric intensive care: a systematic review. *Crit Care*, 18(5):489. doi:10.1186/s13054-014-0489-x

Grover S & Kate N (2012). Assessment Scales for Delirium: A Review. *World J Psychiatry*, 2(4):58-70. doi:10.5498/wjp.v2.i4.58

Janssen NJ, Tan EY, Staal M, Janssen EP, Leroy PL, Lousberg R, van Os J, Schieveld JN (2011). On the utility of diagnostic instruments for pediatric delirium in critical illness: an evaluation of the Pediatric Anesthesia Emergence Delirium Scale, the Delirium Rating Scale 88, and the Delirium Rating Scale-Revised R-98. *Intensive Care Med*, 37(8):1331-7. doi:10.1007/s00134-011-2244-y

Schieveld JNM, van der Valk JA, Smeets I, Berghmans E, Wassenberg R, Leroy PLMN, Vos GD, van Os J (2009). Diagnostic considerations regarding pediatric delirium: a review and a proposal for an algorithm for pediatric intensive care units. *Intensive Care Med*, 35(11):1843-9. doi:10.1007/s00134-009-1652-8

