Instrument	Preschool Confusion Assessment Method—Intensive Care Unit
Acronym	psCAM-ICU
Core Domain	Diagnosis
Area assessed (Number of questions)	4 areas assessed: 1) Acute change or fluctuating course of mental status, 2) Inattention, 3) Altered level of consciousness, 4) Disorganized thinking
Description	Based on the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU), the psCAM-ICU is designed to assess for delirium in critically ill children, with or without mechnical ventilation. The psCAM-ICU was designed with cognitive testing that is developmentally appropriate for infants-5 year olds. This includes significant changes to the attention screening examination and the interview questions addressing disorganized thinking from the adult CAM-ICU.
Versions	The psCAM-ICU includes a short-form for clinical use and a long-form for research use.
Scoring information	Each item is rated yes or no, with the psCAM-ICU laid out as a flowchart (see link below); delirium considered present if score "yes" on areas 1 AND 2 and EITHER 3 OR 4.
Cognitive testing	Yes, included in instrument
Estimated time to rate	<2 minutes
Require trained rater	Yes, validated for use by physicians or nurses with pediatric expertise
Administer to	Infants and children age 6 months-5 years
Special resources required	Richmond Agitation Sedation Assessment; ASE picture cards (accessible via link below)
How to obtain	Available at http://www.icudelirium.org/pediatric.html
Licensing Fee*	None
Languages available	English, Portuguese (Brazilian), German
Highest COSMIN** rating	In progress
Test Performance Characteristics	**Smith 2016 (n=320 PICU patients aged 6 months to 5 years, any diagnosis; reference standard: diagnosis of delirium by child psychiatrist using DSM-IV criteria)** •Inter-rater Reliability: k=0.79 [95% CI 0.76-0.83] •Specificity: overall, 91% [95% CI 90-93%] •Sensitivity: overall, 75% [95% CI 72-78%] •Negative Predictive Value: 86% [95% CI 84-88%] •Positive Predictive Value: 84% [95% CI 81-87%]

* 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.*

References:

Smith HAB, Gangopadhyay M, Goben CM, Jacobowski NL, Chestnut MH, Savage S, et al. (2016). The Preschool Confusion Assessment Method for the ICU (psCAM-ICU): Valid and Reliable Delirium Monitoring for Critically Ill Infants and Children. *Crit Care Med*, 44(3):592-600.

Reviews: Harris J, Ramelet A-S, van Dijk M, Pokorna P, Wielenga J, Tume L, Tibboel D, Ista E (2016). Clinical recommendations for pain, sedation, withdrawal and delirium assessment in critically ill infants and children: an ESPNIC position statement for healthcare professionals. *Intensive Care Med,* 42:972-986. doi:10.1007/s00134-016-4344-1

Subgroup Analyses

Patients <2 years old (n=349 paired assessments):

- Sensitivity: 78% [95% CI 75-81%]
- Specificity: 93% [95% CI 92-95%]

Patients >2-5 years old (n=181 paired assessments):

- Sensitivity: 66% [95% CI 58-74%]
- Specificity: 87% [95% CI 83-91%]

Patients on mechanical ventilation (n=185 paired assessments):

- Sensitivity: 81% [95% CI 77-85%]
- Specificity: 96% [95% CI 93-99%]