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## Where's the Evidence for the CAM?

What the data say about the short form.

Studies done to assess the validity of the short Confusion Assessment Method (CAM) vary according to how the tool is administered (with or without formal cognitive testing), the method of scoring, who is administering it, and whether the tester was trained in the use of the tool.<sup>1-3</sup> In their initial work, Inouye and colleagues found the sensitivity of the short CAM to be 94% to 100% when used by physicians.<sup>4</sup> Other researchers have found varying rates of specificity ranging from 13% to 100%, depending on the user's training and the adaptation of the tool.<sup>3,5,7</sup> Lemiengre and colleagues tested two scoring versions of the short CAM<sup>3</sup>:

- The "sensitive" method (SENS) in which feature 1 reads "acute onset *or* fluctuating course" (the version discussed in *AJN's* article used in the series *Try This: Best Practices in Nursing Care to Older Adults* from the Hartford Institute for Geriatric Nursing at New York University's College of Nursing). This will detect as many cases of delirium as possible and is probably more practical in the clinical setting when the CAM is being used as a screening tool.<sup>8</sup>
- The "specific" method (SPEC) in which feature 1 is stated as "acute onset *and* fluctuating course." This is used to increase the certainty of the diagnosis, but some cases may be missed.

The study found that the SPEC method had a 23.8% sensitivity and a 97.7% specificity, while the SENS method had a 66.7% sensitivity and 90.7% specificity.<sup>3</sup> The difficulty of assessing fluctuations in cognition during a short bedside screening may explain the low sensitivity of the SPEC method and why some nurses failed to identify delirium in patients who have it when using the CAM. Using the alternative "or" with feature 1 may help broaden the net and capture more cases of possible or probable delirium, thus increasing nurses' ability to detect the condition.

Other versions include the following.

**The telephone CAM** has 100% sensitivity and 94% specificity.<sup>9</sup> This version enables nurses to complete an assessment for delirium without patient observation.

**The CAM-ICU**, which employs nonverbal tasks to assess ventilated or restrained patients, was com-

pared with the CAM in alert, nonintubated ICU patients. Researchers found moderately high agreement between the two tools but concluded that the CAM detected more subtle cases of delirium.<sup>10</sup> In this study CAM was used with the Mini-Mental State Exam and digit span, which tests a patient's ability to recall numbers. The recommendation was to use the CAM in nonintubated ICU patients, reserving use of the CAM-ICU for intubated patients. Ely and colleagues found that in ventilated patients, the CAM-ICU has a sensitivity of 95% to 100% and a specificity of 93% to 100%.<sup>11</sup>—Christine M. Waszynski, MSN, APRN, BC

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