

USING THE CAM-ICU OUTSIDE THE ICU

One frequently asked question is if the CAM-ICU can be used outside the ICU. Based upon our experiences and the reports of others, the CAM-ICU may have lower sensitivity in non-ICU patients. To improve its sensitivity, the CAM-ICU was modified into the Brief Confusion Assessment Method (bCAM). Like the CAM-ICU, the bCAM requires minimal training and takes the less than two minutes to perform. It can also be performed algorithmically allowing for early stoppage (i.e. stop the assessment if the patient can recite the months backwards perfectly).

THE BRIEF CONFUSION ASSESSMENT METHOD (BCAM)

Though bCAM and CAM-ICU are very similar, there are two key differences. Instead of the Letters (auditory) and the Picture (visual) tests used by the CAM-ICU, the B-CAM simply asks the patient to recite months backwards from December to July to test for inattention (Feature 2). If the patient makes greater than 1 error, or is unable or refuses to perform the task, then he / she is considered to be positive for inattention. We recommend stopping the inattention assessment if there is a 15 second break or pause (i.e. patient gets stuck at a specific month) in order to minimize the time spent on this task. The disorganized thinking assessment (feature 4) is the same as the CAM-ICU, but the error cutoff is reduced. For the bCAM, if the patient makes any error, then he / she is positive for disorganized thinking. If the patient is unable or refused to perform this task, then the patient is considered to be inattentive.

In older 406 ED patients, the bCAM was found to be 84% sensitive and 96% when performed by a physician and 78% sensitive and 97% specific when performed by a non-physician ([Han et al. *Ann Emerg Med.* 2013](#)); a psychiatrist's *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision* assessment was the reference standard. Though the bCAM has been validated in older emergency department patients, the diagnostic performances

appear to be similar in patients who are admitted to hospital. Additional details about the bCAM can be obtained by contacting jin.h.han@vanderbilt.edu.

THE CONFUSION ASSESSMENT METHOD

Though many other delirium assessments have been studied for non-ICU patients, the Confusion Assessment Method (CAM) is the most widely studied and used. The CAM is also the progenitor of the CAM-ICU and bCAM. The original validation study observed that the CAM was 94% to 100% sensitive and 90% to 95% specific compared with a psychiatrist's assessment ([Inouye et al. *Ann Int Med.* 1990](#)). Wong et al. performed a meta-analysis and observed a pooled sensitivity of 86% and pooled specificity of 93% ([Wong et al. *JAMA.* 2010](#)). Additional details of the CAM can be found in [Hospital Elder Life Program \(HELP\) website](#).