Identifying Indicators of Important Diagnostic Features of Delirium

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Identifying Indicators of Key Diagnostic Features of Delirium

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Abstract

Background—Delirium is a common, serious, and potentially treatable condition in older persons. Healthcare professionals often fail to recognize delirium. Our objective was to use an expert consensus process to identify indicators of key delirium features to help enhance bedside recognition of delirium.

Design—Modified Delphi consensus process to assign existing cognitive and delirium assessment items to delirium features in the Confusion Assessment Method (CAM) diagnostic algorithm.

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Setting—Meetings of expert panel.

Participants—Panel of seven interdisciplinary clinical experts.

Measurements—Panelists' assignments of each assessment item to indicate CAM features.

Results—From an initial pool of 119 assessment items, the panel assigned 66 items to at least one CAM feature, and many items were assigned to more than one feature. Experts achieved a high level of consensus, with a post-meeting kappa for agreement of 0.98. The study staff compiled the assignment results to create a comprehensive list of CAM feature indicators, consisting of 107 patient interview questions, cognitive tasks, and interviewer observations, with some items assigned to multiple features. A subpanel further shortened this list to 28 indicators of key delirium features.

Conclusion—We used a systematic, well-described qualitative methodology to create a list of indicators for delirium based on the features of the CAM diagnostic algorithm. This indicator list may be useful as a clinical tool for enhancing delirium recognition at the bedside and for aiding in the development of a brief delirium screening instrument.

Keywords

delirium; assessment; cognitive impairment; Confusion Assessment Method; aging

INTRODUCTION

Delirium, an acute change in mental status characterized by a fluctuating course, is a common, serious, yet potentially preventable and treatable complication in hospitalized older patients.[1–6] Delirium is independently associated with poor outcomes, including increased risk of mortality, dementia, and institutionalization, as well as increased length of hospital stay and higher healthcare costs.[2,3,7] Despite its clinical importance and economic impact, delirium remains a poorly understood condition, and health care professionals often fail to recognize delirium at the bedside.[8–11]

Delirium is difficult to effectively evaluate at the bedside for many reasons. First, delirium has a wide range of features. Some features, such as inattention, are essential for diagnosis, while others, such as hallucinations, are supportive but not necessary.[12] Not all healthcare professionals recognize that different features have different diagnostic utilities or know how to evaluate the core features effectively. Second, the hypoactive form of delirium, characterized by reduced psychomotor activity and level of consciousness, is often overlooked or misdiagnosed, since a subdued, "compliant" patient may not be recognized to have delirium.[8,13] Third, cognitive dysfunction due to delirium often cannot be detected without formal cognitive testing, yet healthcare professionals rarely administer such testing in day-to-day patient evaluations due to lack of time, training, or appreciation for its importance.[8] A bedside evaluation of delirium requires a synthesis of information collected from the patient interview, formal cognitive testing, and clinical observations.[12,14]

Few tools provide practical assistance for delirium assessment in the clinical setting. The Confusion Assessment Method (CAM) diagnostic algorithm[15] has been widely used in research and has been cited as the bedside delirium instrument with the best supportive evidence.[16] While the CAM is an extremely useful tool, it is a diagnostic algorithm, not a structured patient interview designed for routine clinical care. The CAM has been used most successfully in the research setting, where in studies that involved more than 1000 patients and used trained staff and a formal assessment process, the CAM demonstrated an overall sensitivity of 94% (95% confidence interval [CI] = 91%–97%), specificity of 89% (95% CI = 85%–94%), and inter-rater reliability of 0.70–1.00.[17] As these research studies

demonstrate, optimal use of the CAM requires formal cognitive evaluation and some training.[17,18] However, not all healthcare professionals have the training or expertise required to appropriately operationalize the CAM.

Our overall goal was to identify specific assessment items that indicate key CAM features of delirium. These indicators can help to systematize observations and ensure that clinicians assess for all the core features of delirium in a structured manner. The specific aims of this study were: (1) starting with a pool of standard delirium assessment items, to use a standard expert panel process to determine which CAM features are evaluated by each assessment item, and (2) to develop a list of indicators of key diagnostic features of delirium that would promote delirium recognition in the clinical, educational, and research settings.

METHODS

Overview

This study involved three distinct stages. First, the study team selected the initial pool of assessment items considered relevant for delirium and developed the assignment form to be used by experts. Second, an interdisciplinary panel of delirium experts from internal medicine, psychiatry, nursing, neurology, and neuropsychology determined which of the four key diagnostic features of the CAM were evaluated by each item using a two-round consensus process. Third, the study staff used the final consensus agreements to develop a list of indicators for delirium.

Delirium Assessment Selection and Assignment Form Development

Delirium Assessment Selection—The study team selected the initial pool of delirium assessment items from existing delirium and cognitive instruments, balancing competing goals of including the widest pool of items and having the ability to subsequently test items empirically. Ultimately, the team selected a pool of 119 delirium assessment items from the Blessed Information-Memory-Concentration (BIMC) test,[19] the Digit Span test,[20] and the Delirium Symptom Interview (DSI).[21] Importantly, similar items were included in a structured delirium assessment to operationalize the CAM algorithm used extensively by the research team in previous work.[22] Table 1 describes the initial pool of assessment items, which consists of patient interview questions, cognitive tasks, and interviewer observations.

The study team chose to use the CAM diagnostic algorithm[15] to define the key features of delirium due to its validity and clinical relevance.[16,17] The CAM diagnostic algorithm evaluates four key features of delirium: 1) Acute Change in Mental Status with Fluctuating Course, 2) Inattention, 3) Disorganized Thinking, and 4) Altered Level of Consciousness. While Feature 1 was originally described as Acute Change *and* Fluctuating Course,[15] it was broadened to Acute Change *or* Fluctuating Course for this study, as recommended in the CAM Training Manual for situations where maximal sensitivity for delirium detection is required.[18]

Assignment Form Development—In order to determine which CAM feature(s) can be informed by each assessment item, potentially informative responses to each item must be assigned to the four features of the CAM diagnostic algorithm. In general, four types of responses were thought to be potentially indicative of delirium symptoms: 1) incorrect response to an interview question or cognitive task, 2) patient report or interviewer observation that is positive for a delirium symptom, 3) no response (i.e., the patient failing to provide any answer to a question), or 4) a response of “don’t know.” Each item response could be assigned to one, more than one, or none of the CAM features. For each item, potentially informative responses were assigned to the CAM features as shown in Figure 1.

Since correct responses to cognitive tasks or patient responses and interviewer observations negative for a delirium symptom indicate the absence of delirium features, they were not included for assignment.

The measurement units for this study included both *items* and *indicators*, which are important to distinguish. An *item* is a patient interview question, cognitive task, or interviewer observation. Each item may have several possible responses, such as incorrect answer, positive report/observation of a symptom, no response, or "don't know." An *indicator* is the set of responses to a single item that indicate a given CAM feature. Thus, items and item responses are not necessarily assigned exclusively to one feature, but indicators are. An item with responses assigned to multiple features will have multiple indicators. For example, in Figure 1, DSI question 6 ("Have you felt confused at any time during the past day?")[21] has four indicators, one for each CAM feature. A response of "yes" and "don't know" are assigned to Feature 1 (Acute Change or Fluctuating Course), and thus these two item responses make up an indicator for Feature 1. The same set of responses is also an indicator for Feature 3 (Disorganized Thinking). Similarly, no response and "don't know" make up the indicator for Feature 2 (Inattention), and no response alone is an indicator for Feature 4 (Altered Level of Consciousness).

Expert Panel Process

Panel Assignments, Meeting—The study team convened an interdisciplinary panel of seven experts chosen for their expertise in delirium assessment and knowledge of the CAM diagnostic algorithm. The panel included three experts from internal medicine/geriatric medicine and one each from geriatric psychiatry, geriatric nursing, neurology, and neuropsychology. The expert panel followed the modified Delphi method for the consensus process,[23–25] involving one round of individual, anonymous completion of the assignment form, followed by a face-to-face panel discussion, and finally, another round of individual assignment form completion.

In the first round, the study staff provided the experts with the assignment form and instructed them to assign each item response to one, more than one, or none of the CAM features. The panelists could also describe any difficulties or questions about the process in a "Notes" section on the form. The study staff combined the individual assignment results into a composite report that showed the number of times each item response was assigned to each CAM feature, along with any comments from the panelists. The staff then distributed the composite report to all panelists prior to the face-to-face meeting.

At the face-to-face consensus meeting, the panel reviewed the goals of achieving consensus and the clinical applicability of the results. The experts then discussed any areas of concern or disagreement. After the meeting, panel members immediately and independently reassigned all item responses to the CAM features. Consensus was determined by four or more agreeing votes among the seven experts.

Data Collection and Analysis—The study staff compiled the CAM feature assignments of all item responses and computed the resulting number of indicators for each CAM feature. The kappa for agreement was calculated for the pre- and post-meeting expert assignments for each CAM feature as well as all features combined. The staff also tallied the frequency of different response types (i.e., incorrect answer vs. positive report/observation vs. no response vs. "don't know") by feature to elucidate any patterns of CAM feature assignments according to response type.

Development of List of Delirium Indicators

The study staff used the final consensus results to create the comprehensive list of indicators for the CAM features of delirium. Because this list was too long for publication, the study staff employed a subpanel to select indicators from the comprehensive list for a brief list of indicators for key delirium features, with special consideration for minimizing items being assigned to multiple features. Using a similar process, a subpanel of five experts selected indicators that were representative of each CAM feature, with consensus determined by at least three out of five votes.

RESULTS

Expert Panel Process

From the initial pool of 119 assessment items, a total of 53 items were not found to be indicators of delirium. Of these 53, 33 items were not assigned to any CAM features with unanimous agreement from the panel, 18 items that were initially assigned to CAM features were subsequently combined with items on which they were logically dependent, and 2 items were dropped because they were repetitive with other assigned items (for details, see Table 1 footnote). For example, items scoring presence or absence of a symptom were combined with items rating severity of that symptom.

Table 2 shows the CAM feature assignments of the 66 assessment items remaining from the initial pool. The panel assigned several items to multiple CAM features, resulting in a total of 135 indicators. On average, each item was assigned to approximately two CAM features. In summary, the panel assigned 29 indicators to Feature 1 (Acute Change or Fluctuating Course), 37 indicators to Feature 2 (Inattention), 41 indicators to Feature 3 (Disorganized Thinking), and 28 indicators to Feature 4 (Altered Level of Consciousness). The kappa for agreement before the expert panel meeting was 0.22 for Feature 1, 0.29 for Feature 2, 0.34 for Feature 3, 0.31 for Feature 4, and 0.31 for all features combined. The post-meeting kappa for agreement was 0.98 for Feature 1, 0.97 for Feature 2, 0.98 for Feature 3, 0.98 for Feature 4, and 0.98 for all features combined. In summary, the panel achieved 100% agreement on 97% of the post-meeting assignment decisions.

Table 3 breaks down the feature assignments by response type, demonstrating how certain response types preferentially indicate certain CAM features. While positive patient symptom reports or interviewer observations inform all features, incorrect responses to interview questions or cognitive tasks tend to indicate Inattention (Feature 2) and Disorganized Thinking (Feature 3). No response to patient questions and cognitive tasks exclusively indicates Inattention (Feature 2) or Altered Level of Consciousness (Feature 4). These results reflect the panel's discussions that failing to respond to the interviewer's questions could indicate either: 1) distractibility and trouble keeping track of or attending appropriately to the interview, or 2) a decreased level of consciousness. A response of "don't know" mostly informs Inattention (Feature 2) or Disorganized Thinking (Feature 3).

List of Delirium Indicators

The study staff adapted the 135 indicators from the final consensus assignments, rewording or combining certain indicators for the sake of brevity, to create a comprehensive list of delirium indicators. The resulting comprehensive list consists of 107 patient interview questions, cognitive tasks, and interviewer observations (Appendix for reviewers only, available to readers online or upon request). Items appear more than once if they were assigned to more than one feature, but the response(s) that indicate a particular feature vary from one to another.

Table 4 presents the briefer list of indicators created by the subpanel for publication. This list consists of 28 indicators in total—5 for Acute Change or Fluctuating Course, 8 for Inattention, 11 for Disorganized Thinking, and 4 for Altered Level of Consciousness. By consensus, the subpanel combined several indicators consisting of no response from the patient into one observational item for evaluating Altered Level of Consciousness: "Was the patient non-communicative or unresponsive to multiple questions during the interview?"

DISCUSSION

Using a systematic, well-described qualitative methodology, a panel of seven interdisciplinary clinical experts achieved outstanding consensus in the assignment of standard delirium assessment items to key delirium features of the CAM diagnostic algorithm. A comprehensive and a brief list of indicators of key features of delirium were created. The delirium indicators include patient interview questions, cognitive tasks, and interviewer observations—each representing an important assessment modality for the evaluation of delirium. By providing specific assessment items for each CAM feature, our results may provide a valuable guide for healthcare professionals performing clinical assessments for delirium.

The panel determined that Feature 1 (Acute Change or Fluctuating Course) can be indicated, not surprisingly, by observed fluctuation of mental status domains but may also be informed by evidence of acute temporal, spatial, and personal disorientation, confusion, or perceptual disturbances. Feature 2 (Inattention) is indicated by errors on cognitive tasks designed to evaluate attention, and by observations of decreased awareness of surroundings (e.g. staring into space, losing track of interview) or a hyper-vigilant state (e.g. easily distracted). Of note, many indicators of Feature 2 are characterized by a response of "don't know" or no response from the patient, suggesting that often a pattern of lack of response, rather than the specific question content, indicates the presence of inattention. Indicators of Feature 3 (Disorganized Thinking) include abnormalities of thought (e.g. illogical ideas, paucity of thought) or speech (e.g. disjointed words or phrases) as well as evidence of temporal, spatial, and personal disorientation, confusion, or perceptual disturbances. Feature 4 (Altered Level of Consciousness) is indicated by observations of decreased (e.g. sleepy, lethargic) or increased level of consciousness (e.g. easily startled) and a pattern of unresponsiveness to questions, which the subpanel added to the shortened list of indicators as its own summary indicator.

Some results of the item assignments deserve further comment. First, a large number of indicators in Table 2 do not imply increased usefulness in delirium assessment; it simply reflects a large number of items with related content that were selected for the initial pool of assessment items. For example, the DSI contained numerous items describing the manifestations of perceptual disturbances, accounting for the large number of perceptual disturbance indicators in Table 2. However, perceptual disturbances are relatively infrequent and poorly sensitive for delirium detection (sensitivity 19–30%).[15] Second, consensus opinions from this study suggest that the type of response, in particular "don't know" or no response, may provide information in addition to the actual question content. Thus, for the creation of future delirium instruments, explicit recording of no response and "don't know" responses may be useful.

Previous studies have shown that variations in the use of formal cognitive testing and interpretation of interviewer observations affect the performance of the CAM, yet not all healthcare professionals have the training required for its optimal application.[8,17,18] By listing specific assessment items, including cognitive tasks, that can be used to evaluate each delirium feature, our results will assist clinicians in the more effective implementation of the

CAM diagnostic algorithm. In addition, the interviewer observations identified by our process may also help healthcare professionals put their observations, made either during routine clinical care or specific mental status evaluation, into the context of delirium symptoms. Identification of positive CAM features using these indicators should prompt a formal evaluation by an expert clinician and, if confirmed, appropriate steps to identify and address the underlying cause of delirium.

Strengths of this study include the use of a systematic, well-described qualitative methodology, the wide range of expertise represented by the panel, and the high level of consensus achieved after the panel meeting. Other strengths include a framework of key delirium features that will be easy to use in the clinical setting, a list of specific assessment items to guide the evaluation of each CAM feature, the inclusion of multiple assessment modalities, and the integration with the CAM diagnostic algorithm to enhance delirium recognition at the bedside.

Some limitations to this study must be noted. First, our initial item pool does not contain every neuropsychological test that can be used to assess delirium. However, it does contain tests of temporal, spatial, and personal orientation, many standard tests of attention, and commonly used tests for all pertinent domains of delirium. Secondly, items were frequently assigned to multiple CAM features in the comprehensive list of indicators. This finding reflects the inter-related nature of the CAM features and the challenge of isolating mental status domains in neuropsychological testing. The initial methodological decision to not restrict the number of CAM features to which each item could be assigned contributed to these multiple assignments. The subpanel took steps to limit multiple assignments in the brief list of indicators. Lastly, this study does not utilize any patient data, and the panel decisions represent consensus of expert opinions, not objective measures. However, the expert panel provided invaluable insights into this complex syndrome, allowing us to advance understanding in this area. We will take steps to validate this list of indicators using clinical data and to identify the best-performing assessment items for each delirium feature using advanced measurement techniques. The long-term goal is to use these indicators to create a brief delirium screening instrument for the clinical setting.

Prompt recognition of delirium and timely intervention may reduce its morbidity and mortality,[5,6] yet its multifaceted nature makes diagnosis challenging, especially for those untrained in delirium and cognitive assessments.[14] We have created both a comprehensive and a brief list of indicators for delirium based on the key delirium features in the CAM diagnostic algorithm to provide a framework for delirium assessment. By listing specific assessment items, response patterns, and linking these to the key CAM features, our results may be useful for helping healthcare professionals recognize delirium at the bedside. In addition, this work lays the groundwork for the creation of future brief screening instruments to improve delirium detection.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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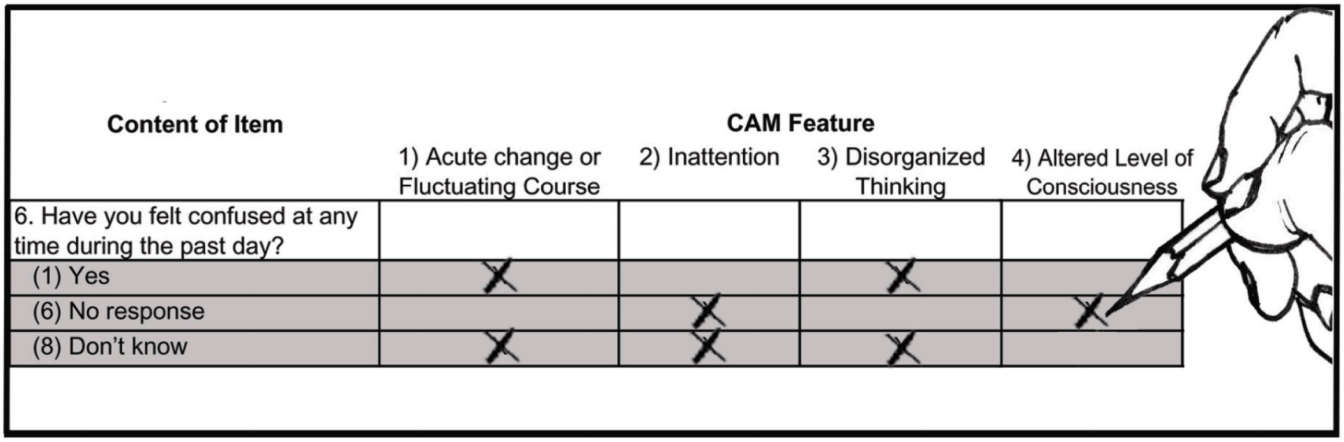

Content of Item	CAM Feature			
	1) Acute change or Fluctuating Course	2) Inattention	3) Disorganized Thinking	4) Altered Level of Consciousness
6. Have you felt confused at any time during the past day?				
(1) Yes	X		X	
(6) No response		X		X
(8) Don't know	X	X	X	

Figure 1. Item Assignment Form Sample: Delirium Symptom Interview[21] Question 6

This sample helps distinguish between an item (a question) and an indicator (the set of responses indicating one feature). While there is only one item here, there are four indicators, one for each Confusion Assessment Method (CAM) feature. For this example "yes" and "don't know" are assigned to Feature 1, and thus these 2 responses make up the indicator for Feature 1. Likewise, no response and "don't know" make up the indicator for Feature 2 "yes" and "don't know" make up the indicator for Feature 3, and no response is the indicator for Feature 4. Only responses potentially indicative of delirium features were included; thus, correct responses or responses/observations indicating absence of a delirium feature are not presented.

Table 1

Initial Pool of Delirium Assessment Items

Item Content (No. items)	Instrument
Patient Interview/Cognitive Tasks	
Orientation to time (5)	BIMC[19]
Orientation to place (3)	BIMC
Digit span 3,4,5 forwards (1)	Digit Span[20]
Digit span 3,4 backwards (1)	Digit Span
Orientation to person, place, time of day (5*)	DSI[21]
Self-report of confusion (4†)	DSI
Self-report of sleep disturbance (15‡)	DSI
Self-report of hallucinations, misperceptions, or illusions (29†‡)	DSI
Days of the week backwards (1)	DSI
Months of the year backwards (1)	DSI
Interviewer Observations	
Evidence of disorientation (1)	DSI
Evidence of sleep disturbance (1)	DSI
Evidence of hallucinations, misperceptions or delusions, or perceptual distortions (3)	DSI
Staring off into space, unaware of surroundings (1)	DSI
Disorganized thinking observational items (5)	DSI
Attention observational items (5*)	DSI
Fluctuation of attention (1)	DSI
Level of consciousness observational items (2)	DSI
Fluctuation of consciousness (1)	DSI
Incoherent speech observational items (8)	DSI
Fluctuation of speech or thinking (1)	DSI
Psychomotor disturbance observational items (8‡)	DSI
Fluctuation of psychomotor activity (1)	DSI
Observations of emotions (13‡)	DSI
Fluctuation of emotions (1)	DSI
Observation of use of restraints (1‡)	DSI
Level of cooperation with interview (1‡)	DSI

Note: Symbols indicate if any item(s) with the listed item content was not found to be an indicator of delirium by the expert panel:

*repetitive items—orientation to place (1), attention observational item (1);

†items combined—self-report of confusion (3), self-report of hallucinations (3), self-report of misperceptions (4), self-report of illusions (8);

‡items not assigned—self-report of sleep disturbance (15), self-report of illusions (2), psychomotor disturbance observational items (2), observation of emotions (12), observation of use of restraints (1), level of cooperation with interview (1).

BIMC = Blessed Information-Memory-Concentration Test;[19] DSI = Delirium Symptom Interview.[21]

Table 2

Final Assignment Summary by the Expert Panel

	# Indicators by CAM Feature*			
Item Content (No. items assigned)	**1**	**2**	**3**	**4**
BIMC[19]				
Orientation to time (5)		5	5	
Orientation to place (3)		3	3	
Digit Span[20]				
Digit span 3,4,5 forwards (1)		1		
Digit span 3,4 backwards (1)		1		
DSI[21]				
Orientation to person, place, time of day (4)	4	4	4	
Self-report of confusion (1)	1	1	1	1
Self-report of hallucinations, misperceptions, or illusions (12)	12	12	12	
Days of week backwards (1)		1		1
Months of year backwards (1)		1		1
Evidence of disorientation (1)			1	
Evidence of sleep disturbance (1)	1			1
Evidence of hallucinations, misperceptions or delusions, or perceptual distortions (3)	3		3	
Staring off into space, unaware of surroundings (1)	1	1		1
Disorganized thinking observational items (illogical flow of ideas, faulty reasoning, sudden subject changes, paucity of thought, conversation rambling) (5)			5	5
Attention observational items (inappropriately distracted, excessive absorption with ordinary objects, recurring thoughts, trouble following interview) (4)	1	3	1	1
Fluctuation of attention (1)	1	1		
Level of consciousness observational items (inappropriately startled; sleepy, stuporous, or comatose) (2)				2
Fluctuation of consciousness (1)	1			
Incoherent speech observational items (speech unusually limited or sparse, slow or halting, slurred, fast or pressured, loud, or repetitive; speech sounds in wrong place; disjointed/inappropriate words or phrases) (8)			5	8
Fluctuation of speech or thinking (1)	1		1	
Psychomotor disturbance observational items (restlessness, grasping/picking, increased speed of motor response, lethargy, slowness of motor response, staring into space) (6)		3		6

	# Indicators by CAM Feature*			
Item Content (No. items assigned)	**1**	**2**	**3**	**4**
Fluctuation of psychomotor activity (1)	1			
Observations of emotions (combativeness) (1)	1			1
Fluctuation of emotions (1)	1			
Total # of Indicators	**29**	**37**	**41**	**28**

Note: The number of items assigned to CAM features by the expert panel is indicated in parentheses. If items were unassigned or dropped, this number would be smaller than the corresponding number in Table 1. Since items can be assigned to more than one feature, the numbers in the columns on the right would not necessarily add up to the total number of items in parentheses. Instead they show the number of indicators derived from that item and the CAM feature(s) to which they are assigned.

*CAM Features: 1) Acute Change or Fluctuating Course, 2) Inattention, 3) Disorganized Thinking, 4) Altered Level of Consciousness.

CAM = Confusion Assessment Method;[15] BIMC = Blessed Information-Memory-Concentration Test;[19] DSI = Delirium Symptom Interview.[21]

Table 3

CAM Feature Assignments by Indicator Response Type

	CAM Feature*			
Indicator Response Type	**1**	**2**	**3**	**4**
Incorrect Response by Patient to Cognitive Testing or Interview Question	0	12	11	2
Positive Symptom Report by Patient or Positive Symptom Observation by Interviewer	26	8	30	17
No Response by Patient to Cognitive Testing or Interview Question	0	17	0	14
"Don't Know" Response by Patient to Cognitive Testing or Interview Question	5	17	17	0

Note: Since an indicator may be composed of more than one response type, the numbers of different response types under one CAM feature are not mutually exclusive and thus do not necessarily add up to the total number of indicators per feature shown in Table 2.

*CAM Features: 1) Acute Change or Fluctuating Course, 2) Inattention, 3) Disorganized Thinking, 4) Altered Level of Consciousness.

CAM = Confusion Assessment Method.[15]

Table 4

Brief List of Indicators for the CAM Features of Delirium

Assessment Item
Feature 1: Acute Change or Fluctuating Course
Patient Interview
Have you felt confused at any time during the past day?
Interviewer Observations
Did the patient's level of attention fluctuate during the interview?
Did the patient's level of consciousness fluctuate during the interview?
Did the patient's speech or thinking fluctuate during the interview?
Did the patient's psychomotor activity fluctuate during the interview?
Feature 2: Inattention
Cognitive Tasks
I am going to read some numbers. Please repeat them in the same order. (use span of 3, 4, or 5)
Now I am going to read some more numbers, but I want you to repeat them in backwards order from the way I read them to you. (use span of 3 or 4)
Can you tell me the days of the week backwards, starting with Saturday?
Can you tell me the months of the year backwards, starting with December?
Interviewer Observations
Did the patient stare into space and appear unaware of his/her environment?
Was the patient inappropriately distracted by environmental stimuli?
Was the patient excessively absorbed with ordinary objects in the environment?
Did the patient have trouble keeping track of what was being said during the interview?
Feature 3: Disorganized Thinking
Patient Interview
What type of place is this?
Do you know why you are here?
During the last day, did you think that people were trying to harm you?
During the last day, did you see or hear anything that you thought was not what it seemed to be?
Interviewer Observations
Was the patient disoriented at any time during the interview?
Did the patient express unclear or illogical flow of ideas?
Did the patient express faulty reasoning or make contradictory statements?
Did the patient change the subject suddenly or unpredictably?
Did the patient express a paucity of thoughts?
Was the patient's conversation rambling?
Did the patient have words or phrases that were disjointed or inappropriate?
Feature 4: Altered Level of Consciousness
Interviewer Observations
Was there evidence of sleep disturbance, such as the patient falling asleep during the interview?
Was the patient sleepy, stuporous, or comatose?
Was the patient non-communicative or unresponsive to multiple questions during the interview?
Was the patient inappropriately startled by environmental stimuli?

Note: Some items have been reworded from the original instrument. Responses indicative of delirium features include: incorrect responses to interview questions or cognitive tasks, positive symptom reports/observations, or “don’t know” response to a question or cognitive task.

CAM = Confusion Assessment Method.[15]