

Brief Engagement and Attention Tool for Situational Awareness (BEAT-SA®)

Modified Version for Nonverbal Patients

Before beginning, consider the following criteria for participation in the BEAT-SA®.

- Can the patient respond when their name is stated? (either verbal or nonverbal)
- Do they respond to pain?
- Do they participate in intentional interactions? (i.e., making eye contact during care tasks or during an activity, reacting to something they do not like, etc.)

If you respond 'YES' to at least one of the questions above, proceed with administering the BEAT-SA® Modified Version for Nonverbal patients.

Best Practices for Assessing Nonverbal Communication:

- After asking a question, allow additional time for the patient to process the information prior to restating the question.
- Look for signs that the patient understands the question, and / or any type of communication intent. This may include facial expressions including eye movements, movements of hands and fingers or legs and feet.
- Consider the following nonverbal responses as communication intent: head nod, pointing, eye contact, eye blink, tapping the hand, squeezing hand, etc.

Note: This modified version is intended for use with nonverbal or minimally communicative patients. If verbal communication deficits are severe, then reading comprehension may also be affected, but the patient's responses—or lack thereof— will still provide useful information about their ability to engage and sustain attention. Consider the impact of hearing impairment and ensure amplification is present as needed to support successful communication.

Brief Engagement and Attention Tool for Situational Awareness (BEAT-SA®)

For older adults, cognition should be considered a “vital sign.” Vital signs are measurements of the body’s basic functions and are vital for healthy functioning. Cognition is at the center of everything we do and is essential for residents to successfully perform everyday tasks. Leveraging the BCAT® Test System to determine the cognitive abilities of the residents in your community is a best practice and frequent administration of the BCAT® test offers a detailed report of preserved strengths and functional abilities. When working with residents with advancing dementia, however, the healthcare practitioner may switch to administering the BCIS® and the BCAT®-SF to assess global cognition. For those residents with losses in cognitive functioning, Situational Awareness (SA) skills should be the focus. Situational awareness (SA) refers to a person’s perceptual recognition and cognitive understanding of an immediate environmental context (e.g., bathing, toileting, dressing, participating in a life enrichment activity). This often becomes a challenge for persons with moderate stage dementia and can be associated with care compliance issues, as well as increases in falls and behavioral and psychological symptoms of dementia (BPSDs). The BEAT-SA® is an appropriate tool for assessing situational awareness.

The BEAT-SA® is a component of the BCAT® Test System and can be found on the BCAT® website (www.thebcat.com). The BEAT-SA® consists of four subtests, each containing 3 items. The 4 subtest scores and a total score are determined after administration. Generally, the BEAT-SA® can be administered in 5 minutes or less. With minimal training, all members of the care team can accurately administer the BEAT-SA®. The BEAT-SA® does not assess global cognitive functioning. The BCAT®, BCAT®-SF, and BCIS® should be used to assess global cognitive functioning. The BEAT-SA® should be considered when the *BCAT® score is under 25, the BCAT®-SF score is under 13, and the BCIS® score is under 13.*

Interpretations of BEAT-SA® scores are made by using the provided crosswalks. Specific score-based considerations are offered to improve care and lower risk. The crosswalks and considerations are informed by a developmental and validation study. The BEAT-SA® demonstrated strong inter-rater reliability and construct validity (convergent and discriminant). The BEAT-SA® significantly identified BPSDs, especially in caregiver situations, and no education, age, gender, or race biases were found. The clinical sample represented participants from nursing homes, senior living communities, and an outpatient brain health and psychiatry clinic. For more information about the science supporting the BEAT-SA®, contact us at info@thebcat.com.

Administration Instructions:

- 1.) To complete the BEAT-SA®, administer each BEAT-SA® subtest and obtain each subtest scores.
- 2.) Add all subtest scores to obtain a BEAT-SA® Total Score.
- 3.) Refer to Table ‘A’ for the Situational Awareness (SA) level and corresponding considerations based on the BEAT-SA® Total Score.
- 4.) Refer to Table ‘B’ for actionable takeaways based on the individual subtest scores (i.e., Orientation, Verbal Engagement, Visual Attention, Command Processing). Share key considerations with the interprofessional team to inform resident specific care planning.
- 5.) Review the Common BEAT-SA® Subtest Pathways in Dementia care which provide two profiles that inform care around dementia related behaviors, resistance to care, and falls.

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Name: _____

DOB: _____

Gender: Female / Male

Education: _____

Examiner: _____

Today's Date: _____

The BEAT-SA® is designed for people with significant cognitive impairment. It is a cognitive tool that rapidly assesses a patient's engagement and attentional abilities as they pertain to personal care and interpersonal/social situations. The BEAT-SA® has a scoring range of 0-24; with 4 sections, each with a 0-6 range.

***Scoring Guidelines** are written in the white space below each question.

ORIENTATION (total of 6 points)

1. Orientation to self

2 0

Fill in the blanks below with 3 names: the patient's first name and 2 distractors. For female patients, use Maria and Joan as the distractors. If the patient's name is Maria or Joan, substitute Anna as the distractor. For male patients, use José or David, substitute Michael as the distractor. The order of names is not important. Ask the patient to point to his or her name. Assign 2 points for a correct response. Assign 0 points for an incorrect response or lack of a response.

Alternative administration: If the patient cannot see the names, say the names aloud and ask the patient to indicate when his/her name is said aloud.

2. Orientation to time

2 0

Fill in the blanks below with the following years: the current year, the current year minus 100 (e.g. 1923, 1924, etc.) and the current year with the first 2 numbers transposed with the second 2 numbers (e.g. 2320, 2420, etc.). The order of the years is not important. Ask the patient to point to the current year. Assign 2 points for a correct response. Assign 0 points for an incorrect response or a lack of a response.

Alternative administration: "I will say three years out loud, tell me the current year."

3. Orientation to place

2 0

Fill in the blanks with the following cities: the city where the patient is currently located, Chicago, and Atlanta. If the patient is currently located in Chicago or Atlanta, use Boston as the second distractor. Ask the patient to point to their current location. Assign 2 points for a correct response. Assign 0 points for an incorrect response or lack of a response.

Alternative administration: "I am going to say three cities out loud, raise your hand when you hear the one you are living in."

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COMMAND PROCESSING (total of 6 points)

- | | |
|--|-----------|
| 1. Extend your hand to invite a handshake and say, "My name is _____." | 2 1 0 |
|--|-----------|

2 = Patient extends hand to you.
1 = Patient acknowledges you (e.g., head nod), but does not extend hand.
0 = Any other response.

- | | |
|--|-------|
| 2. One step command. Say, "Please close your eyes." (<i>Alternate Command: say, "Open your mouth widely."</i>) | 2 0 |
|--|-------|

2 = Correct response.
0 = An Inaccurate or vague response.

- | | |
|--|-----------|
| 3. Three step command: Say, "I am going to ask you to do three things. Let me tell you all three first, then do it. Raise your hand, touch your nose, then make a fist." | 2 1 0 |
|--|-----------|

2 = Correctly completing all three commands in the correct order.
1 = Correctly completing three commands in the WRONG order or completing two commands in order.
0 = An inaccurate or vague response.

Sub Score: _____ /6

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NON-VERBAL ENGAGEMENT (Total of 6 points)

1. Color

2 0

Ask the patient to point to the **color** listed below that he or she likes best. Assign 2 points for "Red" or "Blue."
Assign 0 points for "Apple" or "Car."

_____	Red	_____
_____	Apple	_____
_____	Blue	_____
_____	Car	_____

2. Walking in the woods

2 1 0

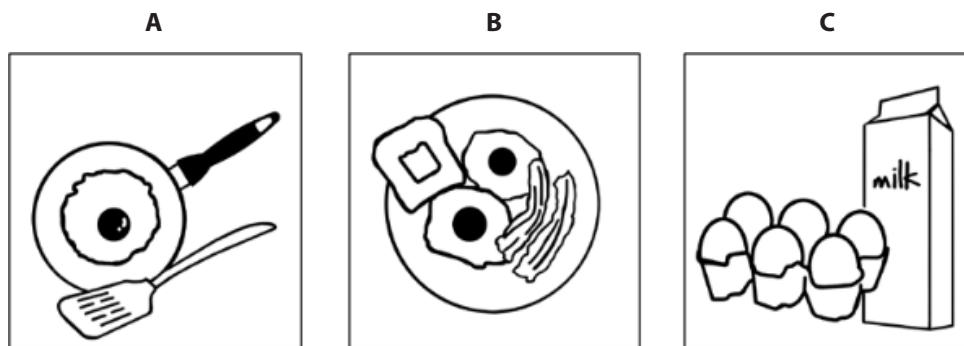
Ask the patient to point to **3** things that he or she is likely to see on a walk in the woods. Assign 2 points if the patient points to "Trees", "Leaves", and "Squirrel." Assign 1 point if the patient points to 2 appropriate things. Assign 0 points if the patient points to 0 or 1 appropriate things.

_____	Trees	_____	Dump Truck
_____	Beach Ball	_____	Leaves
_____	Squirrel	_____	Whale

3. Arrange the pictures

2 0

Below there is a series of pictures presented in a mixed-up order. Put them in the right order so that they make logical sense. There may be more than one way to do this. Each picture has a letter over it. Point to the picture that is first, second, and third or write down the order in the space provided. Assign 2 points for the correct order of all three images. Otherwise, assign 0 points.



Logical order for preparing eggs: _____ / _____ / _____

Sub Score: _____ /6

Brief Engagement and Attention Tool for Situational Awareness (BEAT-SA®) Modified for Nonverbal Patients

VISUAL ATTENTION (Total of 6 points)

1. Visual tracking: Put your right index finger in front of your face. Say, "Look at me please. Notice my finger here (move or wave your finger). Follow my finger as I move it." Note: Move your finger from the front of your face by stretching out your arm fully to the right, then bring it back to the center of your body and extend it fully to the left. 2 1 0

2 = Patient successfully follows your finger.
1 = Patient is partially successful in following your finger.
0 = Patient does not follow your finger.

2. Sustained visual attention: Say, "Please look at me." Point to an object 3-6 feet away. Say, "Please look at that object (identifying and pointing to it) until I tell you to stop." 2 1 0

2 = Patient looks at you, then at the object for 10 seconds.
1 = Patient looks at you and then the object for less than 10 seconds.
0 = Patient fails to look at you and the object for 10 seconds.

3. Basic engagement and attention: Based on your observation throughout this assessment, please choose the most appropriate response below. 2 1 0

2 = Patient makes and maintains at least periodic eye contact.
1 = Patient makes eye contact, but mostly keeps eyes closed or focuses elsewhere.
0 = Patient does not make eye contact at all.

Sub Score: _____ /6

TOTAL Score: _____ /24

Brief Engagement and Attention Tool for Situational Awareness (BEAT-SA®) Crosswalk

Situational Awareness in Dementia: Development and Validity of the BEAT-SA®

Situational awareness (SA) refers to a person's perceptual recognition and cognitive understanding of an immediate environmental context (e.g., bathing, toileting, dressing, participating in a life enrichment activity). It also includes the necessary skills to appropriately respond to the situation. In dementia, situational awareness typically declines with losses in cognitive functioning. From a care perspective, rapidly assessing attention and engagement are key to improving care for those with dementia. They are also essential cognitive components to functional performance.

The Brief Engagement and Attention Tool for Situational Awareness (BEAT-SA®) assesses one's situational awareness, particularly in dementia. It is designed to identify and predict adverse events commonly associated with dementia or memory care. By understanding the BEAT-SA® scores, caregivers can reduce adverse events and improve care outcomes. The BEAT-SA® classifies residents into four SA categories:

- (1) within normal limits (minimal to no concerns)
- (2) some impairment
- (3) severe impairment
- (4) critical impairment

The three impairment categories are associated with multiple risk factors, especially falls, BPSD, and care compliance issues.

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A: Total BEAT-SA® Score Crosswalk

Total BEAT-SA® Score	Situational awareness level	Resistance to Care / BPSD Risk	Fall Risk	What the Score Means
22-24	Generally normal	Resident should have adequate agency to participate in all aspects of care. Care resistance is likely not cognitive but psychological. BPSDs: Low risk	Low	<ul style="list-style-type: none"> May have some orientation impairments, but generally oriented to self and situation. Should be able to recall autobiographical events and experiences. Able to follow basic and complex commands (3-step) and express basic needs. May be independent with some ADLs but may require assistance with higher-level ADLs. May require some assistance with IADLs (e.g., medication management, preparing a meal). Able to path-find to familiar locations in the community. Able to participate in preferred activities and adequate attention to task.
17-21 *Use subtest scores to guide care	Some impairment	Resident can participate in some aspects of care. BPSDs: Moderate risk BPSDs: 40% probability for having a BPSD in the previous 7 days, and in the near term.	Mild-Moderate	<ul style="list-style-type: none"> Orientated to self and often situation, but likely not time and place. Inconsistent recall of autobiographical events and experiences. Challenges with making new memories and reduction in working memory. Often able to follow basic commands (less than 3-step) and express basic needs when prompted. May require assistance with some aspects of ADLs. Requires assistance or dependent with some IADLs. May have difficulty in finding familiar locations within the community. Able to participate in preferred activities with set up and assistance. Inconsistent attention to task requiring cues and may be a candidate for small groups. May require memory care program.
10-16 *Use subtest scores to guide care	Severe impairment	Resident is dependent on caregivers for most aspects of care. BPSDs: High Risk BPSDs: 68% probability for having had a BPSD in the last 7 days. 1.7X more likely to have BPSDs in immediate future compared with “mild-moderate” SA category.	Moderate-High	<ul style="list-style-type: none"> May be oriented to self, but typically not time, place, and situation. Gaps in recall of autobiographical events but procedural memory intact (muscle memory). May be able to follow basic 1-step commands that are simple and concrete. May be able to answer yes/no questions related to basic needs. Caregiver should use short phrases/ sentences of 5 or less words. Requires assistance with most/all aspects of ADLs and dependent with all or most IADLs. Dependent on caregivers to find familiar locations in the community. Inconsistently able to participate in preferred activities with set up and assistance. Easily overstimulated, especially in larger groups and poor attention to task requiring cues. At the lower score range, typically requires memory care program.
0-9 Use subtest scores to guide care	Critical Impairment	BPSDs: Moderately High Risk BPSDs: 50% probability for having had a BPSD in the last 7 days. 1.2X more likely to have BPSDs in the immediate future compared to “mild-moderate” SA category.	High	<ul style="list-style-type: none"> Disoriented to time, place, and situation. Often not oriented to self. Poor recall of autobiographical events/experiences and deficits in procedural memory. Inconsistently follows basic 1-step commands that are simple and concrete. May be able to answer yes/no questions related to basic needs. Caregiver should use short phrases/sentences of 5 or less words. Requires assistance with most/all aspects of ADLs and dependent with all IADLs. Dependent on caregivers to find familiar locations in the community. Unable to participate in preferred activities without assistance. Easily overstimulated, use small groups as appropriate. Requires memory care program.

B: Taking Action Using BEAT-SA® Scores

Score	Impairment Level	Orientation	Command Processing	Verbal Engagement	Visual Attention	Additional Considerations
Subtest Score of 5-6	Low	Resident requires minimal re-orientation. Anticipate minimal orientation impairments related to date and time.	Can engage in conversation about elements of the resident's past. Provide 2-3 step commands.	Anticipate resident will seek having their basic needs met. Able to engage in meaningful conversation.	Anticipate resident will be able to visually scan and locate personal belongings in their living space but may need cues for a complete search.	Minimize distractions for resident to complete ADLs and IADLs.
Subtest Score of 4	Moderate	Introduce yourself when entering the resident's room. Frequently reorient the resident during the encounter.	May have difficulty following more than 1 command at a time. Use yes/no questions and provide choices when communicating with residents.	Working Memory is reduced. Use shorter phrases/sentences. Able to make basic needs known with caregiver cues/prompting.	Anticipate limited attention to task and provide redirection as needed. Provide cues to scan environment and all visual stimuli during activities.	Anticipate need for set up and provide intermittent cues as needed for resident to complete ADLs. Care needs should be a shared responsibility.
High Score of 0-3	Severe	Introduce yourself upon entering the resident's room. Frequently remind the resident who you are and why you are there. Example: <i>"I am here to help you eat breakfast."</i> Frequently repeat what task is being completed.	Pair statements and questions with gestures. Example: ask if the resident wants something to drink while demonstrating bringing a cup to the lips. Ensure the resident is following simple 1-step direction, before providing the next direction.	Mirror the position of the resident and ensure you are face-to-face. Example: If the resident is in a wheelchair, find your own chair and sit directly in front of them Resident unable to consistently make basic needs known.	Minimize background noise to support attention to task. Offer a choice of 2 items in the immediate visual field.	Facilitate hand over hand techniques as needed to use functional objects during ADL tasks. Anticipate all care needs to minimize risk and promote overall health (i.e. caregivers frequently check skin integrity, positioning, hydration/nutritional needs are met, implement toileting schedule as appropriate, etc.).

Common BEAT-SA® Subtest Pathways in Dementia Care

There are two profiles which are particularly prevalent in dementia related behaviors, resistance to care and falls. They are detailed below with specific considerations.

- Some residents have low scores in both orientation and verbal engagement (**O + VE**). Keep in mind the following:
 - May benefit from frequent reminders about daily events, family visits, and tasks throughout the day.
 - Maintain eye contact to promote improved attention.
 - Use the Great 8 Communication Tips to support successful caregiver interactions.
 - Declining ability to express basic needs may result in an increase in Behavioral and Psychological Symptoms of Dementia (BPSD).
 - May benefit from 15 For Me® *Engage Your Senses* Meditation series.
- Some residents have low scores in orientation, verbal expression, and visual attention (**O + VE + VA**). Keep in mind the following:
 - May benefit from frequent reminders about daily events, family visits, and tasks throughout the day.
 - Maintain eye contact to promote improved attention.
 - Use the Great 8 Communication Tips to support successful caregiver interactions.
 - Declining ability to express basic needs may result in an increase in Behavioral and Psychological Symptoms of Dementia.
 - May benefit from 15 For Me® *Engage Your Senses* Meditation series.
 - Anticipate that residents may become overstimulated and may benefit from 1:1 interaction versus group settings.