

Procedure: The DS-DAT is completed by a rater who has been trained in identifying the presence and intensity levels of the behaviors contained in each of the items. The rater observes the person for a 5-minute period in his or her current environment (e.g., own room, outside in a garden, public room watching TV), either during activity or resting.

Familiarize yourself with the DS-DAT item definitions on page 3. You should be able to define the nine items from memory so that you can concentrate solely on listening to the person and observing his or her expressions and movements as you complete the DS-DAT.

Review the conceptual development of the scale, including theoretical and operational definitions. Raters should not make inferences based on common sense, but should instead rely only on the definitions/descriptions provided with the scale.

Because the variable of note in the DS-DAT is discomfort, avoid any activity that might invoke any response associated with discomfort or providing comfort.

Instructions for Observation:

- Observe the person in an unobtrusive manner for 5 minutes. Do not alter the person's activity pattern. Do not guide the person into a sitting position if he or she is moving about. Do not deliberately wake the person.
- Smile.
- Position yourself where you can notice facial expressions, hear noises, and see the total body and all extremities. If the person is in bed or in a chair, sit on a chair facing him or her.
- If the person is ambulatory and is either walking or pacing, gradually move into the person's area. You may need to walk with the person or position yourself so that you have an unobstructed view of him or her.
- Do not engage the person in conversation, but respond neutrally to any verbalizations. Do not do anything to invoke responses.
- Remain close enough to the person to be able to hear possible sounds of noisy breathing or negative vocalizations.

Scoring: All items must be scored. The nine items represent discrete behaviors. Do not be influenced by scores on one item when scoring another item. During the observation period, make a check mark beside the item and under the appropriate category that best matches the description. If a person's behavior changes after you have checked a category, change the rating.

The scoring system was designed to allow for computer computation of the DS-DAT score total, but if one wishes to tabulate the scores directly on the form, two items need to be reverse coded (see form).

Scoring Criteria:

1. **NA.** For an item that does not apply to the person with dementia or cannot be scored, check NA. For example, a patient on a respirator should be scored NA for noisy breathing. For an item where the eyes must be observed and the person is sleeping, mark NA. This category should be used only when the behavior cannot be observed. Raters should write an explanation under observations/descriptive data to justify the specific reason why NA was the appropriate selection.
2. **NONE.** NONE means that the item was not observed during the rating period. If none of the behaviors or descriptions of an item were detectable, check the NONE category. The code for NONE under the SCORE section is 0.
3. The next three categories are scored according to the presence of the description of an item according to 1) number, 2) intensity, and 3) duration.
 - a. **Number** refers to the number of defining characteristics observed and ranges from 1 to 2 to < 2.
 - b. **Intensity** is scored low or high, depending on the degree to which the observed behavior was present.
 - c. **Duration** is scored short or long, depending on the length of time the behavior was present during the observation.
4. If during the rating period the intensity or duration of the behavior increases or an additional defining characteristic becomes present, update the score. Once declared as present, the behavior cannot be changed to absent, but may be changed to "high intensity" or "long duration."

5. **Observations/Descriptive data.** In this section, record anything about the person or your observations that you would like to bring to the investigator's attention (e.g., the person paced during the entire rating period). For any items you scored as NA, provide the reason.
6. **Difficulties encountered.** In this section, record anything about the situation that you would like to bring to the investigator's attention (e.g., the area on the unit where you administered the DS-DAT was very noisy).
7. At the conclusion of the rating period, find the appropriate score for each item (NA, 0, 1, 2, or 3) using the scoring scheme (see below) to convert the number, intensity, and duration into the score. Record the score in the SCORE section beside each item. Do not leave any blanks unless the item was scored NA and is explained later on at the bottom of the form.

There are 11 possible scoring options for each item, and an abbreviated view is used in the DS-DAT form (see tables below).

Possible scoring options for DS-DAT items

Number	Intensity	Duration	Score
1	Low	Short	1
1	Low	Long	2
1	High	Short	2
2	Low	Short	2
1	High	Long	3
2	Low	Long	3
2	High	Long	3
< 2	Low	Short	3
< 2	Low	Long	3
< 2	High	Short	3
< 2	High	Long	3

View of scoring options in DS-DAT form

Number	Intensity	Duration	Score
1	Low	Short	1
1	Low	Long	2
1	High	Short	2
2	Low	Short	2
1	High	Long	3
2	Low or High	Long	3
< 2	Low or High	Short or Long	3

Item Definitions:

Rating the Items: We recognize that manifestations of discomfort are difficult to detect. The DS-DAT is a behavioral measure and is not intended to ascribe meaning other than relative level of discomfort observed in persons with dementia. During the administration of the DS-DAT, persons will be heterogeneous regarding their level of consciousness, activity level, and position. Persons with dementia may also exhibit some behaviors that would be interpreted as manifestations of discomfort in a cognitively intact individual who does not have dementia of the Alzheimer type (DAT). For example, some persons will engage in pacing behaviors. However, experienced nurses have interpreted pacing as an activity that certain persons engage in during the course of their DAT rather than a marker of discomfort. For these reasons, some additional clarification of the item descriptions and examples of scoring are provided.

1. **Noisy Breathing (Description):** Noisy breathing is characterized by a negative sounding noise on inspiration or expiration. Breathing looks strenuous, labored, or wearing. Respirations sound loud, harsh, or gasping. In this type of breathing, it looks as if the person is having some difficulty breathing or is trying hard to achieve a good gas exchange. There may be episodic bursts of rapid breaths. Hyperventilation may be present.

Noisy Breathing (Clarification): Fever episodes and pneumonia are complications associated with the later stage of DAT. Look and listen for physiological responses to potential respiratory problems. Noisy breathing can be present in ambulatory persons sitting in a day room as well as in seriously ill bed-bound patients or patients who have been transferred to acute medical care. The presence of any one of the descriptions for noisy breathing means that the patient is scored as at least "1" or higher depending on their number, intensity, or duration during the rating period.

Noisy Breathing (Example of Scoring): A person who hyperventilated during the entire rating period = 3 (1 defining characteristic, at high intensity, for a long duration). A person who took one labored breath = 1 (1 defining characteristic, low intensity, short duration). A person who had a few very harsh-sounding breaths = 2 (1 defining characteristic, high intensity, short duration).

2. **Negative Vocalization (Description):** Negative vocalization is characterized by a noise or speech that has a negative or disapproving quality. These may be hushed, low sounds, such as constant muttering with a guttural tone. Such noise from a person with dementia tends to be monotone, subdued, and low-pitched, but has a definite unpleasant sound. The rate of sounds may be faster than the rate of a conversation or drawn out, as in a moan or groan. The person may repeat the same words over and over in a mournful manner. The person may verbalize hurt or pain.

Negative Vocalization (Clarification): There are some persons who are mute. Since the DS-DAT is based on behavioral observation, the rater will not know the person's speaking ability and should not seek out this information. Even if the person is mute, it is alright to score NONE because no negative vocalization was heard.

Negative Vocalization (Example of Scoring): A person who moans loudly during the entire rating period = 3 (1 defining characteristic, high intensity, long duration). A person who muttered (a distinct mutter, not gibberish or an attempt at conversation) once during the entire rating period = 1 (1 defining characteristic, low intensity, short duration). Some defining characteristics of noisy breathing and negative vocalization were found to sound similar. If you are not sure whether a negative sound is respiratory or is a vocalization (such as a low, intermittent groan), select either category for the score but only rate the sound once. If the sound qualifies for a score of "2" because of the number of defining characteristics, intensity, and duration during the rating period, score that item "2." Do not use that defining characteristic when scoring the other item.

3. **Content Facial Expression (Description):** A content face is characterized by a pleasant, peaceful expression. The person looks tranquil, at ease, or serene. The person has a relaxed facial expression characterized by a slack, unclenched jaw. The person could be looking out the window or just looking off into space. The person's eyes may be closed, but the overall look is one of ease.

Content Facial Expression (Clarification): Many persons with dementia will be asleep during the rating period. Look for absence of tension around the mouth as an indicator of a slack, relaxed face. Some persons have a definite smile. Lack of a smile cannot be described as an indicator of discomfort, but a facial expression of positive joy is considered to be one of content.

Content Facial Expression (Example of Scoring): The person had a tense face but relaxed his or her jaw for a brief moment = 1 (1 defining characteristic, low intensity, short duration). A person's face looks like the epitome of peacefulness during the entire rating period = 3 (1 defining characteristic, high intensity, long duration).

4. **Sad Facial Expression (Description):** A sad face appears hurt, worried, lonesome, lost, or troubled. The person has a distressed expression characterized by a sunken, hang-dog look and lackluster eyes. His or her eyes appear empty. There may be tears.

Sad Facial Expression (Clarification): The DS-DAT is an observation scale, and meaning is not assigned to the items. However, a sad facial expression may make the person look depressed. Patients who have a sad-looking face appear unhappy.

Sad Facial Expression (Example of Scoring): A person who has tears in his or her eyes during the entire period = 3 (1 defining characteristic, high intensity, long duration). One glimpse of lackluster eyes = 1 (1 defining characteristic, low intensity, short duration).

5. **Frightened Facial Expression (Description):** A frightened facial expression appears scared or concerned. The person looks like something is bothering him or her or appears fearful or troubled. The face has an alarmed expression characterized by open eyes and a pleading face.

Frightened Facial Expression (Clarification): Persons who have a frightened facial expression may look like they are afraid of something but cannot express it. Look for a facial expression suggesting that the person would ask for help if able to communicate verbally.

Frightened Facial Expression (Example of Scoring): One glimpse of fear = 1 (1 defining characteristic, low intensity, short duration). Looking very troubled throughout the entire period = 3 (1 defining characteristic, high intensity, long duration).

6. **Frown Facial Expression (Description):** A frown is a facial expression in which the face looks strained. The person looks stern or is scowling. A frown is a displeased expression characterized by a wrinkled brow with creases in the forehead. The corners of the person's mouth may turn down.

Frown Facial Expression (Clarification): Some persons have permanent wrinkles in their faces that are not transient folds associated with a negative facial expression, which should not be considered when rating this item. To detect a frown, observe the area around the mouth and look for tension. An extreme frown would be a facial expression defined as a grimace and would be scored "high intensity."

Frown Facial Expression (Example of Scoring): One glimpse of a stern look (not a weather-beaten, wrinkled face) = 1 (1 defining characteristic, low intensity, short duration). A definite grimace for a short time = 2 (1 defining characteristic, high intensity, short duration). A completely displeased expression for the entire period = 3 (1 defining characteristic, high intensity, long duration).

7. **Relaxed Body Language (Description):** Relaxed body language is characterized by an easy, openhanded position. The person looks like he or she is in a restful state just taking everything in. He or she may be cuddled up or stretched out. The person's muscles look of normal firmness and his or her joints are without stress. If reclining, a relaxed person looks idle, lazy, or "laid back." If sitting or walking, a relaxed person looks like he or she is "just enjoying the day." The person looks casual.

Relaxed Body Language (Clarification): Some persons may pace or be contracted. Exclude that fact when making this observation. If the body position is out of the person's control, observe other areas and look for more subtle body language indicating that the person still may be relaxed.

Relaxed Body Language (Example of Scoring): A person who is napping on his or her bed in a stretched out or curled up position with his or her extremities showing no stress = 3 (1 defining characteristic, high intensity, long duration). A person who is sitting in the day room looking like he or she is "just enjoying the day" = 2 (1 defining characteristic, low intensity, long duration).

8. **Tense Body Language (Description):** Tense body language is characterized by extremities that show tension, such as wringing hands, clenched fists, or knees pulled up tightly. The person looks like he or she is in a strained and inflexible position.

Tense Body Language (Clarification): Exclude the fact that the person may be contracted or pacing. Observe the total body position or parts of the body under the person's control and look for examples of tension.

Tense Body Language (Example of Scoring): A person who has markedly clenched fists for the rating period = 3 (1 defining characteristic, high intensity, long duration). A person who seems to be in an inflexible position for part of the rating period = 2 (1 defining characteristic, low intensity, long duration).

9. **Fidgeting Body Language (Description):** Fidgeting is characterized by restless, impatient motion. The person looks like he or she is squirming or jittery. A person confined to a chair might look like his or her bottom hurts and appear as if he or she wants to get away. Behaviors include touching, tugging, or rubbing body parts.

Fidgeting Body Language (Clarification): Even persons who are in bed may exhibit lower extremity fidgeting. Also observe for hand and mouth motions that reflect fidgeting body language.

Fidgeting Body Language (Example of Scoring): A person who pulls at a curtain several times during the rating period = 2 (1 defining characteristic, high intensity, short duration). A person who is constantly kicking his or her foot for the entire period = 3 (1 defining characteristic, high intensity, long duration).

Discomfort Scale for Dementia of the Alzheimer Type (DS-DAT)

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Patient Identification Number: _____ Patient Unit: _____

Date: _____ Time: _____ Rater: _____

Item	NA	NONE	Number	INTENSITY Low or High	DURATION Short or Long	Score	
1. Noisy Breathing							
2. Negative Vocalization							
3. Content Facial Expression*						Raw	*Recode
4. Sad Facial Expression							
5. Frightened Facial Expression							
6. Frown Facial Expression							
7. Relaxed Body Language*						Raw	*Recode
8. Tense Body Language							
9. Fidgeting Body Language							
Total Score = sum of items (includes 2 recoded)							

* Recode 0 = 3, 1 = 2, 2 = 1, 3 = 0.

Observations/Descriptive Data/Difficulties Encountered:

[illegible]

Scoring options

Number	Intensity	Duration	Score
1	Low	Short	1
1	Low	Long	2
1	High	Short	2
2	Low	Short	2
1	High	Long	3
2	Low or High	Long	3
< 2	Low or High	Short or Long	3