## 2) lumind DS CTN



## Longitudinal Investigation for the Enhancement of Down Syndrome Research (LIIFE-DSR)



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## LIIFE-DSR Cognitive and Caregiver Assessments

Provided in this individual participant packet are all of the assessments needed for participants and their caregivers for the LIFE-DSR study visits.

## How can I prepare for the study visits?

Before your scheduled visit with the subject and their caregiver, please review the assessments and associated manuals.

## What is the timing and order of the assessments?

Every effort should be made to conduct phlebotomy or any invasive study related procedure after these assessments are administered. These assessments can be administered at any time during the conduct of the study visit, however, there is a unique order in which the assessments are to be given. Conduct the assessments in the proper order (as follows), beginning with the cognitive assessments and concluding with the caregiver assessments:

## Cognitive Assessments (administered to Participant):

## 1. Severe Impairment Battery (SIB)

2. Shoebox Memory Test: The Shoebox Memory Test is integrated into the SIB. When conducting the SIB, please read the instructions carefully to know when to turn to the Shoebox Memory Test.
3. Down Syndrome Mental Status Examination (DS-MSE): The DS-MSE is given or not given based on the score of the SIB.

## Caregiver Assessments:

## 4. Vineland-3

## 5. Neuropsychiatric Inventory (NPI)

6. Dementia Questionnaire for People with Learning Disabilities (DLD)

## What materials do I need for the assessments?

The rater should take the following to the clinic room:

1. The assessment packet (this document)
2. The materials for the SIB and Integrated Shoebox assessments.
3. The materials for the DS-MSE assessment.
4. The iPad or device to access the Vineland-3.

| SIB SUPPLIES | SHOEBOX SUPPLIES |
| :---: | :---: |
| - Pen and Plain Unlined Paper | - Small bar of soap |
| $\square$ Cup, Plate, Bowl, Measuring Cup | $\square$ Cup |
| $\square$ Spoon, Fork, Knife, Measuring Spoons | $\square$ Glue |
| $\square$ Plastic Container with Lid | $\square$ Sponge |
| $\square$ Plastic Scoop | $\square$ Watch |
| $\square$ (1) Red square block | $\square$ Fork |
| $\square$ (2) Blue square blocks | $\square$ Doll |
| $\square$ (1) Green square block | $\square$ Tire |
| $\square$ (2) Black square blocks | $\square \quad$ Ring |
| $\square$ (1) Black triangle block | $\square$ Opaque small box with top |
| $\square$ (1) Black circle block |  |
| $\square$ Stopwatch |  |
| $\square$ Cue Card: "Give me your hand" |  |
| $\square$ Cue Card: Picture of a Cup |  |
| $\square$ Cue Card: Picture of a Spoon |  |
| DS-MSE SUPPLIES | VINELAND-3 SUPPLIES |
| $\square$ Ball | $\square \quad$ iPad (issued by Sponsor) |
| $\square$ Key | $\square$ Clipboard |
| $\square$ Yellow toy truck | $\square$ Black pen |
| $\square$ (20) 1" wooden cubes |  |
| $\square$ White collared button-down shirt |  |
| $\square$ Cue Card: Picture of a Spoon |  |

## Who Administers Which Assessments?

If there are two raters on site, the Cognitive Measures and Caregiver Measures can be done simultaneously by different raters.

If the assessments are being done by a single rater, the Cognitive Measures are to be done first with the participant, followed by the Caregiver Assessments to be done with the caregiver, all in the abovementioned order. The same rater should conduct each study visit if possible.

## How Are The Rater Assessments Administered?

All assessments (with the exception of the Vineland-3) are to be completed on the forms provided in this packet. You will need an iPad, clipboard, and a black pen.

The Vineland-3 is to be completed on the iPad provided to you. In case of any technical errors with the iPad or administration of the Vineland-3 with the iPad, the Vineland 3 can also be administered on another device with access to the internet like a laptop. There is also a paper version of the Vineland-3. The paper version provided can be used as a tool to review the Vineland-3 prior to administration or as a backup in case of technical error.

## Source Documentation

This packet is the source documentation for your administration of these assessments. It is critical to document the participant responses verbatim. This gives you the opportunity to verify scoring if a question arises post administration.

## Acknowledgments

- Severe Impairment Battery (SIB), developed by Thames Valley Test Company, © University of Pittsburgh
- Shoebox Memory Test, developed by Burt, D.B. and Aylward, E.H. (1998)
- Down Syndrome Mental Status Examination (DS-MSE), developed by Haxby, J. V. (1989)
- Vineland Adaptive Behavior Scales, Third Edition (Vineland -3), developed by Sparrow, S., Cicchetti, D., and Saulnier, C., © Pearson
- Neuropsychiatric Inventory (NPI), developed and copyright held by Jeffrey L. Cummings, MD
- Dementia Questionnaire for People with Learning Disabilities (DLD), developed by Evenhuis, Kengen, and Eurlings, © Pearson
$\square$
$\square$
$\square$
$\square$
$\square$


## The Severe Impairment Battery (SIB)

Please follow the instructions provided when using this Scoring Sheet.
Start outside of the room that you will be testing in and greet the participant with \#1a, \#1b, and \#1c will be walking towards the testing table (c directing participant to their seat).

1 (SI) a "Hello, my name is $\qquad$ ." [Give your name]

2 points: spontaneously shakes hands


1 point: raises right hand towards examiner's but doesn't take examiner's hand
Score 2,1 or 0
b "I want you to answer some questions for me."
"Come with me (to my office/over here)."
Prompt by taking the subject's arm: "Come with me."
Alternative: "I want you to answer some questions for me - can you sit up/back/forward?" Prompt by taking the subject's arm: "Sit up/back/forward."
2 points: spontaneously moves in direction indicated or spontaneously sits up/back/forward 1 point: after prompt

(SI)
Score 2,1 or 0
c "Please sit here."
Prompt by taking the subject's arm: "Sit here."
Alternative: If the subject is in a wheelchair: "Come and sit by this table." Prompt by pressing your arm gently on the subject's shoulder. "Come and sit over here."

Alternative: If the subject is sitting in a stationary chair; 'Pull your chair towards the table." Prompt by touching the table while repeating the instructions
2 points: spontaneously sits in chair or (alternative) spontaneously wheels chair to table or (alternative) spontaneously pulls table towards chair


Score 2,1 or 0

2 (M) "My name is $\qquad$ ." [Give your name]
"I want you to remember my name because l'm going to ask what it is." (pause)
"What's my name?" "(Yes) My name is $\qquad$ ." [Give your name]

2 points: spontaneously correct
1 point: close approximation e.g. Julie for Judy


2 Point: full name, one prompt allowed
1 Point: first, last name or previous name only
Score 2, 1 or 0

4 (L) a "Please write your name here."
2 points: spontaneously correct (some degree of carelessness is allowed, especially if the subject signs usual signature)
1 point: partially correct i.e. first or last name only or previous name

- "- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

2 points: spontaneously correct (printed name or signature), or 4a correct

$\square$
$\square$
$\square$
$\square$
$\square$

## Shoebox Memory Test - integrated with SIB

## Shoebox Memory Test: Immediate Memory

General Instructions: Verbal instructions and allowable follow-up prompts are indicated in bold. Record all gestures and responses. For object naming, give credit only for recognizable responses (i.e., so for soap). For recall, give credit for name and appropriate gestures or nonverbal vocalization, if they specify object.


Check objects correctly named. If participant incorrectly names object, write their response below the object (e.g., mug for cup)

Prompts: "This is a...." See how participant describes item, and use their language to create a prompt. If they say, "It's what you wash your hands with," affirm and say, "Yes, you wash your hands with it, but what is it called?"

Provide correct name for each item not named and have them repeat it.
b. "Put the $\qquad$ in the box.". $\square$ Soap $\square$ Cup $\square$ Ring

Check objects correctly placed in box.
Place the objects in the box if the person does not.

## Put the lid on the box.

c. "What is in the box?" $\square$ Soap $\square$ Cup

Prompts: "There's a...." "What else is in the box?" or "and a..."

|  | Score |
| :---: | :---: |
| Check off each object correctly recalled. | 1 pt. each word |
| If they incorrectly named object in 7a, they can still receive credit for memory of item if they use the same name. |  |
| Once you move on to next grouping, there is no credit (no score adjustment) given for delayed recall from previous grouping. | /3 |

$\square$
$\square$
$\square$
$\square$


## Shoebox Memory Test: Immediate Memory

## 2. Immediate Memory (6 items)

## Place objects in single line from participant's left to right

 soap cup ring glue sponge watchTake the 3 previous items out of box the and and place in front of participant. Then, show the person each NEW object as you place it on the table and ask,: "What is this called?" Prompt as above. Provide correct name for each object not named and have them repeat it.
a. "What is this called?" $\square$ Soap $\square$ Cup $\quad \square$ Ring $\square$ Glue $\square$ Sponge $\square$ Watch

Prompts: "This is a...."

Check objects correctly named. If participant incorrectly names object, write their response below the object (e.g., clock for watch)
b. "Put the $\qquad$ in the box." $\square$ Soap $\square$
$\square$ Ring $\square$ Glue $\square$ Sponge $\square$ Watch

Check objects correctly placed in box. Place the objects in the box if the person does not.

## Put the lid on the box.

| c. "What is in the box?" | Soap | Cup | Ring | Glue | Sponge | Watch | Score 1 pt. each word |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Prompts: "There's a...." "What else is in the box?" or "and a..." |  |  |  |  |  |  | 16 |



## Shoebox Memory Test: Immediate Memory

## 3. Immediate Memory (9 items)

## Place objects in single line from participant's left to right

 soap cup ring glue sponge watch fork doll tireTake the 6 previous items out of box and and place in front of participant. Then, show the person each NEW object as you place it on the table, and ask "What is this called?". Prompt as above. Provide the correct name for each object not named and have them repeat it.
a. "What is this called?" Prompts: "This is a...."

check each object correctly named. if participant incorrectly names object, write their response below the item (e.g., clock for watch)
b. "Put the $\qquad$ in the box." $\square$ Soap

CupRing
Check objects correctly placed in box.
Place the objects in the box if the person does not.
Glue
 Watch

$\square$ Doll


Put the lid on the box.
c. "What is in the box?"

| $\square$ Soap | $\square$ Cup | $\square$ Ring |
| :--- | :--- | :--- |
| $\square$ Glue | $\square$ Sponge | $\square$ Watch |
| $\square$ Fork | $\square$ Doll | $\square$ Tire |

Score
1 pt. each
word

Prompts: "There's a...." "What else is in the box?" or "and a..."
Check objects correctly recalled.
$\square$ Site Number $\square$
$\square$
$\square$


5 (O) "What month is it now?"
Prompt: "Is it $\qquad$ , $\qquad$ or $\qquad$ ?"
(Six months prior to present month, present month, preceding month)
$\square$
2 points: spontaneously correct
1 point: correct with multiple choice prompt

6 (L) "Tell me the months of the year"
Prompt: "Begin with - January, February, March... go on...?"


2 points: spontaneously correct
1 point: if correct following prompt, or misses only one or two month (Up to 2 prompts are allowed)
Score 2, 1 or 0

7 (0) "What's the name of this city?"
Prompt: "Is it $\qquad$ , $\qquad$ or $\qquad$ ?"
(Give target city and two alternatives)


2 points: spontaneously correct
Score 2, 1 or 0
1 point: correct following prompt

8 (L) a "What do you call the thing you drink coffee from?"
Prompt: "What's the (china/thing) you drink coffee/tea/cocoa out of?"
$\square$
2 points: 'cup’ or 'mug'
1 point: related alternative, e.g. 'glass' or 'coffee pot', or if correct following prompt
0 points: unrelated item, e.g. 'plate'

$\qquad$
b "What do you call the thing you eat soup with?"
Prompt: "What do you call the (utensil/piece of silverware/cutlery) used for soup?"
$\square$

[^0]
$\square$ Site Number $\square$
$\square$
$\square$

9 (L) a Present the "Give me your hand" card: "Read this card and do what it says." without extending your hand to the participant

First prompt: repeat the instructions, "Read this card and do what it says." without extending your hand to the participant

Second prompt: read the card aloud: "Give me your hand." and lay your hand in front of the participant

2 points: spontaneously offers hand
1 point: close approximation, e.g. holding up hand, or correct after first prompt

(L)

O points: if examiner reads card
Score 2,1 or 0
b "Now give me your other hand." without extending your hand to the participant
Prompt: repeat the instructions and gesture with outstretched open hand

2 points: spontaneously offers hand
1 point: close approximation, e.g. raising hand but not moving hand towards
examiner, giving same hand or correct after prompt


Score 2,1 or 0
c "What does this say?"
Prompt: "Read this card aloud."

2 points: spontaneously reads card
1 point: partially correct, e.g. misreads card of reads only part of the sentence or correct after prompt


Score 2, 1 or 0

10 (M) "Pardon me, what did you say?"
Prompt: "What did you say?"
$\square$
2 points: spontaneously correct repetition of what was said in 9c
1 point: partially correct, i.e. repeats only parts of the sentence or correct after prompt
Score 2, 1 or 0

11 (L) "Now say this: "
a "People spend money."
$\square$
2 points: item repeated correctly
1 point: partially correct repetition or a comment using the word, e.g. "There's never enough money"
Score 2, 1 or 0
b "Baby."
$\square$
2 points: item repeated correctly
1 point: partially correct repetition or a comment using the word, e.g. "I love babies"
Score 2, 1 or 0
$\square$


Rater Initials

$\square$
$\square$


12 (ATT)
You are assessing attention. Do not repeat the number sequences, but encourage with "try to remember."

"7-5-8-3-6"


Write the numbers the participant says for each series.
Discontinue after failure on both series of a given length.


2 points: correct repetition of a three, four or five digit series
Score 2, 1 or 0
1 point: correct repetition of either a one or two digit series

## Shoebox Memory Test: Delayed Memory

Administer in full, regardless of performance in previous section.
Score
1 pt. each

| a. "What is in the box?" | $\square$ Soap | $\square$ cup | $\square$ Ring |
| :--- | :--- | :--- | :--- |
| Prompts: "There's a..."" "What else | $\square$ Glue | $\square$ Sponge | $\square$ Watch |
| is in the box?" or "and a..." | $\square$ Fork | $\square$ Doll | $\square$ Tire |

13 (L) "Tell me all the things you like to eat..." and/or "Tell me all the things you like to cook/eat for breakfast/dinner/lunch." Record all the items named in one minute
$\square$
2 points: four or more items named


14 (M) "Do you remember my name?" "(Yes) My name is $\qquad$ "
$\square$
2 points: spontaneously correct
1 point: close approximation, e.g. "Carol" for "Karen", or "Ms/Dr Schmitt" for "Smith"
$\square$ Site Number
$\square$
$\square$

$\square$


15 (L) Show photograph of cup: "What's this?"
$\qquad$
2 points: "cup"
Score 2, 1 or 0

16 (PR) "Show me how you would use it"


2 points: a clear demonstration
1 point: approximation, e.g. hand moves in upward motion but not clearly towards the mouth

17 (L) "Take hold of this..." (give cup) "What is it (again)?"
If the subject received 2 point for Q15 give full credit for this question
(2points) but always complete the task
$\square$

(L)

2 points: "cup," spontaneously correct, or if Q15 was correct
1 point: an approximation, or alternative, "mug" or "glass"
Score 2, 1 or 0

18 (PR) Allow the participant to keep hold of the cup: "Show me (again) how you would use it"

2 points: a clear demonstration
1 point: an approximation, e.g. hand moves in upward motion but not clearly towards mouth
Score 2, 1 or 0

19 (L) Omit this question if either Q15 or Q17 was correct and give full credit (1 point)
"Is this a hat or a cup?"


1 point: "cup", or if Q15 or Q17 was correct
Score 2, 1 or 0
O point: 'hat'
"I want you to remember this cup..." (hold up cup) "...because I'm going to ask you about it in a few minutes, so try to remember it"
*Be sure to say this part even if question 19 is omitted!
$\square$ Site Number
$\square$
$\square$
$\square$


20 (L) Show photograph of spoon: "What's this?"
$\square$
2 points: "spoon"
1 point: approximation, e.g. "silverware/cutlery"

21 (PR) "Show me how you would use it"

2 points: a clear demonstration
1 point: close approximation, e.g. hand is raised upwards to the mouth but there is no

(PR) mouth movement towards the hand

22 (L) If the subject received 2 points for Q20 give full credit for this question (2 points)
but always complete the task: "Take hold of this..." (give spoon) "...what is it (again)?"


2 points: spontaneously correct, or of Q20 was correct

(L)

1 point: approximation, e.g. "silverware/cutlery"
Score 2, 1 or 0

23 (PR) Allow the subject to keep hold of the spoon: "Show me (again) how you would use it"

2 points: a clear demonstration
1 point: close approximation, e.g. hand is raised upwards to the mouth but there is no


24 (L) Omit this question if either Q20 or Q22 was correct and give full credit (1 point)
"Is this a boot or a spoon?"


1 point: "spoon" or if Q2O or Q22 correct


O point: 'boot’
Score 1 or 0

-     -         -             -                 -                     - 

Show the subject the cup and spoon again
"I want you to remember this spoon..." (hold up spoon)" ...and also this cup..." (hold up cup)
"...because I'm going to ask you about these items later. Take a good look at them, and try to remember them."

## *Be sure to say this part even if question 24 is omitted!

$\square$

$\square$



Examiner's left
plastic container

Center Examiner's right
plate
"Which one of these (items/objects/things) did I ask you to remember?"

|  |  |
| :--- | :--- | :--- |
| Examiner's left Center Examiner's right <br> spoon scoop fork |  |

"I also asked you to remember one of these (items/objects/things), which one was it?"


2 points: "cup" and "spoon" named
1 point: either "cup" or 'spoon' named
Show the subject the cup and spoon again
"I want you to remember this spoon..."(hold up spoon) "...and also this cup..." (hold up cup) "...because l'm going to ask you about these items later. Take a good look at them and try to remember them"

## Remember to say these lines!

26 (L) Show the subject a blue block: "What color is this?"
Prompt: "Is it blue or red?"


Score 2, 1 or 0

## Keep this blue block for yourself.

27 (VS)
Examiner's left blue

Center
green

## Examiner's right

red
"Which of these blocks... (gesture to the blocks) ... is the same color as this one?"
Prompt: "This is my blue block, show me your blue block."
If incorrect or no response: "This is it-this is the blue block."


2 points: spontaneously correct
1 point: if correct after prompt
O points: if examiner identifies block


Score 2,1 or 0

Remember to re-arrange order of the blocks here
28 (M)

## Examiner's left <br> green

Center
blue
Examiner's right
red
"Give that block back to me - the same one you just showed me."
Prompt: "Which block did you just give me (did I just show you) - was is this one, this one, or this one?" (point to the blocks on the board)
If incorrect or no response: "This is it - this is the one."
$\square$
2 points: spontaneously correct
1 point: correct after prompt
O points: incorrect or identified by examiner
Score 2, 1 or 0

29 (VS) "Now give me a different block, not the one I just showed you - a different one" Prompt: "This is a blue block..." (hold up blue block) "...give me a different colored block"


2 points: spontaneously correct
Score 2, 1 or 0
1 point: if correct after prompt

$\square$


30 (L) a Show red block: "What color is this?"
Prompt: "Is it blue or red?"


1 point: color near to the original ("pink" or "orange"), or if the subject is correct after forced choice Score 2, 1 or 0
b Show green block: "What color is this?"
Prompt: "Is it green or blue?"


2 points: spontaneously correct
1 point: color or shade near to the original (e.g. "olive" or "lemon"), or if the subject is correct after forced choice
c Show black square block: "What shape is this?"
Prompt: "Is it a square or a circle?"


Score 2, 1 or 0

## 31 (VS)

Examiner's left
triangle

Center
circle

## Examiner's right

square
"Which of these blocks... (gesture to the whiteboard) is the same shape as this one?"
Prompt: "This is my square block, show me your square block"
If incorrect or no response: "This is it-this is the square block"
2 points: spontaneously correct, 1 point: if correct after prompt, 0 points: if examiner identifies block

| * | Remember to re-arrange order of the blocks here |  |  |
| :---: | :---: | :---: | :---: |
| 32 (M) | Examiner's left circle | Center square |  |
|  | "Give that block back to me- the same one you just gave me (I showed you)" <br> Prompt: "Which block did you just give me (I did I just show you) - was it this or this one?" (point to the blocks on the board) <br> If incorrect or no response: "This is it-this is the one" |  |  |
|  | 2 points: spon <br> 1 point: correc <br> 0 points: inco | sly correct prompt examine | s blo |

Score 2, 1 or 0

1 point: correct after prompt

33 (VS) "Now show me a different shape, not the one I just showed you - a different one."
Prompt: "This is a square... (hold up square block) show me a different shape."


2 points: spontaneously correct
Score 2, 1 or 0
1 point: if correct after prompt
34 (L) a Show round block: "What shape is this?"
Prompt: "Is this a square or a circle?"


2 points: spontaneously correct (either "circle" or "round" is acceptable)

(L)

Score 2, 1 or 0
b Show triangular block: "What shape is this?"
Prompt: "Is this a triangle or a square?"
$\square$
2 points: spontaneously correct
1 point: if correct after prompt, or "pyramid"


Score 2, 1 or 0
$\square$

$\square$
$\square$


35 (C) a "Draw a circle."
Prompt by presenting a drawing of a circle: "Copy this."

2 points: circle, oval or ellipse drawn spontaneously
1 point: an approximation e.g. a shape that forms at least half a circle or if the subject draws
a circular shape after the prompt or if the subject attempts to trace the circle
O points: a straight line, dot etc.
b "Draw a square."
Prompt by presenting a drawing of a square: "Copy this."
2 points: a square, rectangle or oblong (the figure must have 4 sides)
1 point: an approximation e.g. a shape that is open at one end but if closed would form a square, or if the subject draws a square shape after the prompt or if the subject attempts to trace the square
O points: a straight line, dot etc.

36 (ATT) "I'm going to tap the table and count the number of times I tap-listen."
Tap the table three times, and count out loud, "1-2-3" as you tap
Use knuckles to knock on table. Avoid non-verbal cues like nodding your head while counting.
"Now you count when I tap, remember to keep counting, don't stop"
Tap five times, only one prompt allowed
2 points: if the subject counts to five without prompting
1 point: if the subject counts to five with one prompt
O points: if the subject requires more than one prompt or doesn't count to five
Score 2, 1 or 0


> Say, "I'm just going to grab something over here, l'll be right back" and walk behind the participant before doing \#39...
$\square$
$\square$
$\square$
$\square$
$\square$

39 (ON) While walking back to the waiting room or preparing to leave, stand directly behind the subject and call his/her name

```
2 points: a spontaneous response i.e. the subject turns around
1 point: some reaction (verbal or non-verbal but appears to be unsure of the direction of the sound)
O points: no response
```



Score 2, 1 or 0

Now return to your seat and engage participant in \#40

40 (L) If the subject responds to Q39, engage the subject in conversation: "How have you been?"
Prompt: "Got any plans for the weekend?" or "Had any visitors today?"
Alternative: If the subject did not respond to Q39 simply ask this question (or these questions) prior to the point of departure.


2 points: a coherent and appropriate answer to one of the question, it must be one complete sentence Score 2, 1 or 0 1 point: an appropriate answer but not a complete sentence, e.g. "ok" or only two or three words, e.g. "I'm alright" or "Yes, I have"


Total (Maximum 14)
Orientation (O)
3 Subject's name
$2,1,0-$
$2,1,0-$
$2,1,0-$

Total (Maximum 6)

| Language (L) |  | Attention (ATT) |  |
| :---: | :---: | :---: | :---: |
| 4a Write name | 2,1,0 | 12 Digit span | 2,1,0 |
| 4b Copy name | 2,1,0 | 36 Auditory span | 2,1,0 |
| 6 Months of year | 2,1,0 | 37 Visual span | 2,1,0 |
| 8a Responsive naming-cup | 2,1,0 | Total (Maximum 6) |  |
| 8b Responsive naming-spoon | 2,1,0 | Praxis (PR) |  |
| 9a Reading comprehension | 2,1,0 | 16 Using cup-photograph |  |
| 9b Verbal comprehension | 2,1,0 | 18 Using cup-cup |  |
| 9c Reading | 2,1,0 | 21 Using spoon-photograph |  |
| 11 a Repetition-spend money | 2,1,0 | 23 Using spoon-spoon |  |
| 11b Repetition-baby | 2,1,0 | Total (Maximum 8) |  |
| 13 Fluency | 2,1,0 | Visuospatial ability (VS) |  |
| 15 Confrontational naming-cup | 2,1,0 | 27 Color matching |  |
| 17 Object naming-cup | 2,1,0 | 29 Color discrimination |  |
| 19 Forced-choice naming-cup | 1,0 | 31 Shape matching |  |
| 20 Confrontational naming-spoon | 2,1,0 | 33 Shape discrimination |  |
| 22 Object naming-spoon | 2,1,0 | Total (Maximum 8) |  |
| 24 Forced-choice naming-spoon | 1,0 | Construction (C) |  |
| 26 Color naming-blue | 2,1,0 | 35a Drawing-circle |  |
| 30a Color naming-red | 2,1,0 | 35b Drawing-square |  |
| 30b Color naming-green | 2,1,0 | Total (Maximum 4) |  |
| 30c Shape identification-square | 2,1,0 | Orienting to name (ON) |  |
| 34a Shape identification-circle | 2,1,0 | 39 Orienting to name |  |
| 34b Shape identification-triangle | 2,1,0 | Total (Maximum 2) |  |
| 40 Free discourse | 2,1,0 |  |  |
| Total (Maximum 46) __ |  | Total Score <br> Maximum Total $=100$ |  |

$\square$
$\square$
$\square$
$\square$
$\square$

## Down Syndrome Mental Status Examination (DS-MSE)

Please Note: The Down Syndrome Mental Status Examination (DS-MSE) should be completed for those individuals who have achieved a score of > 60 on the Severe Impairment Battery (SIB).

If a participant has not achieved $>60$ on the SIB, skip the DSMSE and proceed to the next study assessment.

## Was the assessment performed?

$\qquad$ Yes
$\qquad$ No
__ N/A (participant did not score > 60 on the SIB)

If yes, please check the best description of behavior during test administration:
$\qquad$ Participant was cooperative and engaged
$\qquad$ Participant was cooperative but distracted Participant was uncooperative

## Please explain behavior during test administration:

$\square$

If no, reason not done:
$\qquad$ Participant unable for cognitive reasons
__ Participant unable for other reasons (physical, auditory, etc.)
__ Participant or study partner refused
___ Oversight
___ Other reason
$\qquad$ Unknown
If other, please explain:
$\square$
$\square$
$\square$
$\square$

## I. Introduction

A. "What is your name?"

Score: 1 point for the correct first name and 1 point for the correct last name.
Prompt: Say "Hello, my name is [state your name].
Alternative Prompt: "You already know this, but my name is [state your name].
If the participant offers only first or last name, ask for the other. Repeat this question and all others as often as necessary. Remember to make sure they state their first AND last name. Prompt for their last name if they do not say their last name.
"My name is..." and have the participant repeat it.
Prompt: "And my name is?", and have the participant repeat it.
Participants Response:

## II. Orientation

A. "How old are you?"

Score: 2 points for correct answer, 1 point if within 5 years.
B. "When is your birthday?" $\qquad$ (3)

Score: 1 point each for correct month, date, and year.
Correct Month? $\qquad$ Correct Day? $\qquad$ Correct Year? $\qquad$
C. "What season is it?"

Prompt: "Is it summer, fall, winter, or spring?"
Score: 2 points for correct answer if multiple choice is not given, 1 point if it is. Remember: Dates of the seasons change.
D. "What day of the week is it?" (2)

Ask as a multiple choice question if participant cannot state day of week spontaneously. Score: 2 points for correct answer if multiple choice is not given, 1 point if it is.
E. "What is my name?"


Score: 1 point for correct name.
F. "What kind of work do I do?" $\qquad$ (2)

Note: For this item, examples of acceptable responses include: doctor, psychologist, counselor, teacher, social worker, researcher, and scientist. Accept anything that is close to correct. If a correct answer is not given ask, "Am I a waiter, a doctor, or a policeman?" (Substitute correct profession for doctor if necessary and say policewoman if female.) Score: 2 points for correct answer if multiple choice is not given, 1 point if it is.
$\square$
$\square$

$\square$

## III. Verbal Repetition

## "Say exactly what I say."

Score as correct if all words are in the correct order and recognizable, despite articulation errors. Score: 1 point per item (Give no credit if you have to repeat the phrase, OR the words are out of order. Reminder: Administer ALL items.
A.

Ball
House
Apple Juice
Come with me
The cat ran home.
I bought cookies at the store.
There i\& alegetable garden in thebackyard.

Record Response Verbatim:
$\qquad$
$\qquad$
$\qquad$
$\square$
$\qquad$
$\qquad$
$\qquad$

The car broke down before we even left the city limits.

Scoring: Two methods will be used to score response on this item.
Method 1: One point (1) for each completely correct response with the single exception that for the response "I bought cookies at the store," the participant will be given credit if she/he substitutes "in" for "at". With this method, the highest possible score for this item is 8.
Method 2: provides alternate scoring that allows partial credit for partial completion of a response. Rather than only one point for a completely stated response, the participant receives one point for each correctly stated word. They may receive a score from one to nine, depending on the length of the response. Articles (a, an, the) receive no credit and if omitted no credit is deducted. No substitutions are permitted. With this method the highest possible score for this item is 30.
Note: For ease of scoring, words that do not count for scoring Method 2 are circled.
Score:
Method 1: $\qquad$
Method 2: $\qquad$ 130

## IV. Naming for Identity of 3 Objects (ball, key, truck)

Show the participant each object and ask, "What is this called?"
Prompt: If no response is given, ask, "This is a ....?"
Record all gestures and responses using phonetic alphabet.
A. Responses: ball $\qquad$ key $\qquad$ truck $\qquad$

Provide name for each object not named by participant and have participant repeat it.
Score: 1 point per correct word. Give credit only for recognizable responses (e.g., /ba/ for ball).
$\square$
$\square$
$\square$
$\square$

## V. Verbal Comprehension

Place the ball, key, and truck in front of the participant, spaced about 1 foot apart.
Repeat all commands after incorrect response or nonresponse.
Record all responses.
Discontinue after 3 consecutive failures to respond correctly or to correct wrong response. i.e., if participant responds correctly to the 2 nd presentation of command, a score of $O$ is given, but it does not count towards discontinuation.

On items 4, 11, and 12, when making the request "Give me..." the examiner must not offer his/her hand to receive the object before the participant has moved the object toward the examiner.

|  |  | Trial 1 | Trial 2 | Score |
| :--- | :--- | :--- | :--- | :--- |
| 1 | "Touch the ball" |  | $1,1 / 2$, or 0 |  |
| 2 | "Touch the truck" |  | $1,1 / 2$, or 0 |  |
| 3 | "Touch the key" |  | $1,1 / 2$, or 0 |  |
| 4 | "Give me the truck" |  | $1,1 / 2$, or 0 |  |
| 5 | "Touch the key then the ball" |  | $1,1 / 2$, or 0 |  |
| 6 | "Touch the truck then the key" |  | $1,1 / 2$, or 0 |  |
| 7 | "Put the ball in the truck" |  | $1,1 / 2$, or 0 |  |
| 8 | "Put the key next to the ball" |  | $1,1 / 2$, or 0 |  |
| 9 | "Touch the truck with the key" |  | $1,1 / 2$, or 0 |  |
| 10 | "Touch the ball, then the truck, then the ball again" |  | $1,1 / 2$, or 0 |  |
| 11 | "Put the key in the truck and give me the ball" |  | $1,1 / 2$, or 0 |  |
| 12 | "Touch the truck then give me the key and the ball" |  |  |  |

TOTAL SCORE
Score: 1 point if correct on first command; $1 / 2$ point if correct after repetition for nonresponse; O points if correct after repetition for incorrect response.

For items 1, 2, and 3, no credit is deducted for picking up the object.
On item 5, no credit is deducted for carrying the key over to the ball or, on item 6, for carrying the truck over to the key.

On item 9, no credit is deducted for putting the key in the truck. All other responses must be made exactly as requested, e.g., when told "Put the key next to the ball", credit is not given for putting the ball next to the key, even though by doing so that participant gets the key next to the ball.


$\square$

## VI. Immediate Memory for Location

"I'm going to put the key in my pocket (or lap), like this... and the truck under my chair, like this... And the ball behind the box, like this...."
"Where is the truck?"
Remember: If incorrect, show participant the truck again. Remind participant of the location of each object if he or she cannot indicate it to you.
"Where is the key?"
"Where is the ball?"
Repeat this procedure up to 3 times or until the participant correctly indicates location of all 3 objects.
A. Trial:
Truck
Key
Ball
$\qquad$
$\qquad$
$\qquad$
2. $\qquad$
$\qquad$
$\qquad$
3. $\qquad$
$\qquad$
$\qquad$

Score: 1 point for either naming or pointing to location. Give credit only for 1st trial. Credit is given if the participant locates the object either verbally or nonverbally, e.g., by pointing.

## VII. Naming

A. Record response using phonetic alphabet.

Watch $\qquad$
$\qquad$
Pencil $\qquad$
$\qquad$
Finger $\qquad$
$\qquad$
Elbow $\qquad$
$\qquad$
Shirt $\qquad$
$\qquad$
Collar $\qquad$
Sleeve $\qquad$ - $\qquad$
Cuff $\qquad$
$\qquad$
Scoring: 1 point each if utterance is recognizable (e.g., /bo/ for elbow or /sli/ for sleeve). Note: If the participant had made an incorrect response or no response to sleeve, but then responds to cuff with "sleeve", give credit for the previously incorrect response, but give no credit for cuff. Give credit for identifying collar as "neckline."
$\square$
$\square$
$\square$
$\qquad$

## VIII. Visuospatial Construction

A. Item 1 - Stacking Blocks

Put a block on the table in front of the participant and hand the participant another block.
Say, "Put this on top of this one here."
After participant has stacked first block, give him or her another block and indicate that he or she should put that on top of the other two. Then give the participant a fourth block.

Score: 1 point for each block stacked by participant.
B. Items 2-6-Constructing 3-D patterns to model

Give participant the correct number of blocks for each design. Construct design in front of participant and indicate that he or she should make one just like it.

Time limit: 1 minute per design.
Discontinue after 2 consecutive failures.
Say, "Make yours look just like mine"
Score: 1 point for each design. (Give half credit on designs 3-6 if participant doesn't leave gaps in between blocks and correct participant's construction.)

2. $\qquad$

3. $\qquad$

5. $\qquad$
4.
$\qquad$


6. $\qquad$

## IX. Delayed Memory for Location

A.
$\qquad$ "Where is the truck?"
$\qquad$ "Where is the key?"
$\qquad$ "Where is the ball?"

Score: 1 point for each location correctly indicated. (Credit is given if the participant locates the object either verbally or nonverbally, e.g., by pointing).

## X. Apraxia

A. Intransitive
"Show me how you wave goodbye."
"Show me how you salute."
B. Transitive:
"Show me how you throw a ball."
If fails: give them ball and say, "Show me how you use this." Give half credit if correct.
"Show me how you lock a door with a key."
If fails: give them key and say, "Show me how you use this." Give half credit if correct.
$\qquad$ (4)

## DS-MSE

FINAL SCORE: $\qquad$
NOTES:

DS



Because the participant will have a blood draw at the conclusion of the assessments, it 1. Water break* is important they hydrate regularly throughout the day. Please plan to break for water at the conclusion of the participant section.

## 2. Proceed with Vineland on tablet

3. At conclusion of the Vineland, carry on with NPI, on next page.

# Neuropsychiatric Inventory (NPI): 

Instructions for Use and Administration

## I. Purpose of the NPI

The purpose of the Neuropsychiatric Inventory (NPI) is to obtain information on the presence of psychopathology in patients with brain disorders. The NPI was developed for application to patients with Alzheimer's disease and other dementias, but it may be useful in the assessment of behavioral changes in other conditions. Ten behavioral and two neurovegetative areas are included in the NPI:
A. Delusions
G. Apathy/Indifference
B. Hallucinations
H. Disinhibition
C. Agitation/Aggression
I. Irritability
D. Depression
J. Aberrant motor behavior
E. Anxiety
K. Sleep and Nightime Behavior Disorders
F. Elation/Euphoria
L. Appetite and Eating Disorders

## II. Administration of the NPI

## A. NPI Interview

The NPI is based on responses from an informed caregiver, preferably one living with the patient. If an informed observer is not available, this instrument cannot be used or must be modified. The interview is best conducted with the caregiver in the absence of the patient to facilitate an open discussion of behaviors that may be difficult to describe with the patient present. Several points should be made when you introduce the NPI interview to the caregiver:

- Purpose of the interview
- Ratings - frequency, severity, distress (described below)
- Answers apply to behaviors that are new since the onset of the disease and have been present for the past four weeks or other defined period
- Questions can usually be answered with "yes" or "no" and responses should be brief

When beginning the inventory, say to the caregiver "These questions are designed to evaluate [your loved one's] behavior. They can usually be answered 'yes' or 'no' so please try to be brief in your responses." If the caregiver lapses into elaborate responses that provide little useful information, he/she may be reminded of the need to be brief. Some of the issues raised with this are very emotionally disturbing to caregivers and the interviewer should reassure the caregiver that they will discuss the problems in more detail after completion of the inventory.

Questions should be asked exactly as written. Clarification should be provided if the caregiver does not understand the question. Acceptable clarifications are restatements of the questions in alternate terms.
$\square$
$\square$


## B. Changes in Behavior

The questions pertain to changes in the patient's behavior that have appeared since the onset of the illness. Behaviors that have been present throughout the patient's life and have not changed in the course of the illness are not scored even if they are abnormal (e.g., anxiety, depression). Behaviors that have been present throughout life but have changed since the illness are scored (e.g., the patient has always been apathetic but there has been a notable increase in apathy during the period of inquiry).

The NPI is typically used to assess changes in the patient's behavior that have appeared in a defined period of time (e.g., in the past four weeks or other defined interval). In some studies, the NPI may be used to address changes occurring in response to treatment or that have changed since the last clinic visit. The time frame of the question would then be revised to reflect this interest in recent changes. For example, the questions might be phrased "Since he/she began treatment with the new medications..." or "Since the dosage of $\qquad$ was increased ...."

## C. Screening Questions

The screening question is asked to determine if the behavioral change is present or absent. If the answer to the screening question is negative, mark NO and proceed to the next screening question without asking the subquestions. If the answer to the screening question is positive or if there are any uncertainties in the caregiver's response or any inconsistencies between the response and other information known by the clinician (e.g., the caregiver responds negatively to the euphoria screening question but the patient appears euphoric to the clinician), the category is marked YES and is explored in more depth with the subquestions. If the subquestions confirm the screening question, the severity and frequency of the behavior are determined according to the criteria provided with each behavior.

In some cases, the caregiver will provide a positive response to the screening question and a negative reply to all subquestions. If this happens, ask the caregiver to expand on why he/she responded affirmatively to the screen. If he/she provides information relevant to the behavioral domain but in different terms, the behavior should be scored for severity and frequency as usual. If the original affirmative response was erroneous, leading to a failure to endorse any subquestions, then the behavior is changed to "NO" on the screen.

Some sections such as the questions pertaining to appetite are framed so as to capture whether there is an increase or decrease in the behavior (increased or decreased appetite or weight). If the caregiver answers "yes" to the first member of the paired questions (such as has the patient's weight decreased?), do not ask the second question (has the patient's weight increased?) since the answer to the second question is contained in the answer to the first. If the caregiver answers "no" to the first member of the pair of questions, then the second question must be asked.
$\square$

$\square$

## D. Frequency and Severity Ratings

When determining frequency and severity, use the behaviors identified by the subquestions as most aberrant. For example, if the caregiver indicates that resistive behavior is particularly problematic when you are asking the subquestions of the agitation section, then use resistive behavior to prompt judgments regarding the frequency and severity of agitation. If two behaviors are very problematic, use the frequency and severity of both behaviors to score the item. For example, if the patient has two or more types of delusions, then use the severity and the frequency of all delusional behaviors to phrase the questions regarding severity and frequency.

When determining frequency, say to the person being interviewed: "Now I want to find out how often these things [define using the description of the behaviors noted as most problematic on the subquestions] occur. Would you say that they occur less than once per week, about once per week, several times per week but not every day, or every day?" Some behaviors such as apathy eventually become continuously present, and then "are constantly present" can be substituted for "every day."

When determining severity, tell the person being interviewed "Now I would like to find out how severe these behaviors are. By severity, I mean how disturbing or disabling they are for the patient. Would you say that [the behaviors] are mild, moderate, or severe?" Additional descriptors are provided in each section that may be used to help the interviewer clarify each grade of severity.

In each case, be sure that the caregiver provides you with a definite answer as to the frequency and severity of the behaviors. Do not guess what you think the caregiver would say based on your discussion.

We have found it helpful to provide the caregiver with a piece of paper on which is written the frequency and severity descriptions (less than once per week, about once per week, several times per week and daily or continuously for frequency; and mild, moderate, and severe for severity) to allow him her to visualize the response alternatives. This also saves the examiner from reiterating the alternatives with each question.

## E. Not Applicable Designations

In very impaired patients or in patients with special medical circumstances, a set of questions may not be applicable. For example, bed-bound patients may exhibit hallucinations or agitation but are unable to exhibit aberrant motor behavior. If the clinician or the caregiver believes that the questions are inappropriate, then the section should be marked NA (upper right corner of each section), and no further data are recorded for that section. Likewise, if the clinician feels that the responses are invalid (e.g., the caregiver did not seem to understand the particular set of questions asked), NA should also be marked.

## F. Neurovegetative Changes

Items 11 (sleep) and 12 (appetite) were added after the original publication of the NPI (Cummings et al, 1994). They were included because they are common problem areas in Alzheimer's disease and other dementias. They form part of the depression syndrome in some patients and were specifically excluded from the dysphoria subscale of the NPI in order to allow that subscale to focus on mood symptoms. These two symptoms are usually not included in the total NPI score and may not be included in all protocols.

## G. Caregiver Distress (NPI-D)

When each domain is completed and the caregiver has completed the frequency and severity rating, you may want to ask the associated caregiver distress question if your protocol includes the distress assessment. To do this, ask the caregiver how much, if any, "emotional or psychological" distress the behavior he or she just discussed causes him or her (the caregiver). The caregiver must rate his or her own distress on a five point scale from 0 - no distress, 1 - minimal, 2 - mild, 3 - moderate, 4 - moderately severe, 5 - very severe or extreme.

## II. Scoring the NPI

## FREQUENCY is rated as:

1 - Occasionally - less than once per week
2 - Often - about once per week
3 - Frequently - several times per week but less than every day
4 - Very frequently - daily or essentially continuously present

## SEVERITY is rated as:

1 - Mild - produces little distress in the patient
2 - Moderate - more disturbing to the patient but can be redirected by the caregiver

3 - Severe - very disturbing to the patient and difficult to redirect

## The score for each domain = FREQUENCY x SEVERITY.

DISTRESS is scored as:
O-no distress
1 - minimal
2 - mild
3 -moderate
4 - moderately severe
5 - very severe or extreme.

## A total NPI score can be calculated by adding the scores of the first 10 domain scores together.

In most cases, the two neurovegetative items are not included in the NPI total score. If they are included, specify that the $\mathbf{1 2}$ item score is being used rather than the 10 item score.

The distress score is not included in the total NPI score. The total distress score is generated by adding together the scores of the first 10 or all 12 items of the NPI distress questions; specify specifically whether the 10 or 12 item score is being used.

Thus, for each behavioral domain there are four scores:

- Frequency
- Severity
- Total (frequency x severity)
- Caregiver distress


## A. Delusions

Does the patient have beliefs that you know are not true (for example, insisting that people are trying to harm him/her or steal from him/her)? Has he/she said that family members are not who they say they are or that the house is not their home? I'm not asking about mere suspiciousness; I am interested if the patient is convinced that these things are happening to him/her.

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient believe that he/she is in danger - that others are planning to hurt him/her?
2. Does the patient believe that others are stealing from him/her?
3. Does the patient believe that his/her spouse is having an affair?
4. Does the patient believe that unwelcome guests are living in his/her house?
5. Does the patient believe that his/her spouse or others are not who they claim to be?
6. Does the patient believe that his/her house is not his/her home?
7. Does the patient believe that family members plan to abandon him/her?
8. Does the patient believe that television or magazine figures are actually present in the home? $\qquad$ [Does he/she try to talk or interact with them?]
9. Does the patient believe any other unusual things that I haven't asked about?

If the screening question is confirmed, determine the frequency and severity of the delusions.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - once or more per day.

Severity: 1. Mild - delusions present but seem harmless and produce little distress in the patient.
2. Moderate - delusions are distressing and disruptive.
3. Marked - delusions are very disruptive and are a major source of behavioral disruption. [If PRN medications are prescribed, their use signals that the delusions are of marked severity.]

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## B. Hallucinations

Does the patient have hallucinations such as seeing false visions or hearing imaginary voices? Does he/she seem to see, hear or experience things that are not present? By this question we do not mean just mistaken beliefs such as stating that someone who has died is still alive; rather we are asking if the patient actually has abnormal experiences of sounds or visions.

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient describe hearing voices or act as if he/she hears voices?
2. Does the patient talk to people who are not there?
3. Does the patient describe seeing things not seen by others or behave as if he/she is seeing things not seen by others (people, animals, lights, etc)?
4. Does the patient report smelling odors not smelled by others?
5. Does the patient describe feeling things on his/her skin or otherwise appear tobe feeling things crawling or touching him/her?
6. Does the patient describe tastes that are without any known cause?
7. Does the patient describe any other unusual sensory experiences?

If the screening question is confirmed, determine the frequency and severity of the hallucinations.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - once or more per day.

Severity: 1. Mild - hallucinations are present but harmless and cause little distress for the patient.
2. Moderate - hallucinations are distressing and are disruptive to the patient.
3. Marked - hallucinations are very disruptive and are a major source of behavioral disturbance. PRN medications may be required to control them.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## C. Agitation/Aggression

Does the patient have periods when he/she refuses to cooperate or won't let people help him/her? Is he/she hard to handle?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient get upset with those trying to care for him/her or resist activities such as bathing or changing clothes?
2. Is the patient stubborn, having to have things his/her way?
3. Is the patient uncooperative, resistive to help from others?
4. Does the patient have any other behaviors that make him hard to handle?
5. Does the patient shout or curse angrily?
6. Does the patient slam doors, kick furniture, throw things?
7. Does the patient attempt to hurt or hit others?
8. Does the patient have any other aggressive or agitated behaviors?

If the screening question is confirmed, determine the frequency and severity of the agitation.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than daily.
4. Very frequently - once or more per day.

Severity: 1. Mild - behavior is disruptive but can be managed with redirection or reassurance.
2. Moderate - behaviors are disruptive and difficult to redirect or control.
3. Marked - agitation is very disruptive and a major source of difficulty; there may be a threat of personal harm. Medications are often required.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## D. Depression/Dysphoria

Does the patient seem sad or depressed? Does he/she say that he/she feels sad or depressed?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient have periods of tearfulness or sobbing that seem to indicate sadness?
2. Does the patient say or act as if he/she is sad or in low spirits? $\qquad$
3. Does the patient put him/herself down or say that he/she feels like a failure?
4. Does the patient say that he/she is a bad person or deserves to be punished?
5. Does the patient seem very discouraged or say that he/she has no future?
6. Does the patient say he/she is a burden to the family or that the family would be better off without him/her?
7. Does the patient express a wish for death or talk about killing him/herself? $\qquad$
8. Does the patient show any other signs of depression or sadness?

If the screening question is confirmed, determine the frequency and severity of the depression.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - essentially continuously present.

Severity: 1. Mild - depression is distressing but usually responds to redirection or reassurance.
2. Moderate - depression is distressing, depressive symptoms are spontaneously voiced by the patient and difficult to alleviate.
3. Marked - depression is very distressing and a major source of suffering for the patient.

Distress: $\quad$ How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely
$\square$

## E. Anxiety

Is the patient very nervous, worried, or frightened for no apparent reason? Does he/she seem very tense or fidgety? Is the patient afraid to be apart from you?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient say that he/she is worried about planned events?
2. Does the patient have periods of feeling shaky, unable to relax, or feeling excessively tense?
3. Does the patient have periods of [or complain of] shortness of breath, gasping, or sighing for no apparent reason other than nervousness?
4. Does the patient complain of butterflies in his/her stomach, or of racing or pounding of the heart in association with nervousness? [Symptoms not explained by ill health]
5. Does the patient avoid certain places or situations that make him/her more nervous such as riding in the car, meeting with friends, or being in crowds?
6. Does the patient become nervous and upset when separated from you [or his/her caregiver]? [Does he/she cling to you to keep from being separated?]
7. Does the patient show any other signs of anxiety?

If the screening question is confirmed, determine the frequency and severity of the anxiety.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - once or more per day.

Severity: 1. Mild - anxiety is distressing but usually responds to redirection or reassurance.
2. Moderate - anxiety is distressing, anxiety symptoms are spontaneously voiced by the patient and difficult to alleviate.
3. Marked - anxiety is very distressing and a major source of suffering for the patient.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## F. Elation/Euphoria

Does the patient seem too cheerful or too happy for no reason? I don't mean the normal happiness that comes from seeing friends, receiving presents, or spending time with family members. I am asking if the patient has a persistent and abnormally good mood or finds humor where others do not.

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient appear to feel too good or to be too happy, different from his/her usual self? $\qquad$
2. Does the patient find humor and laugh at things that others do not find funny?
3. Does the patient seem to have a childish sense of humor with a tendency to giggle or laugh inappropriately (such as when something unfortunate happens to others)?
4. Does the patient tell jokes or make remarks that have little humor for others
but seem funny to him/her?
5. Does he/she play childish pranks such as pinching or playing "keep away" for the fun of it?
6. Does the patient "talk big" or claim to have more abilities or wealth than is true?
7. Does the patient show any other signs of feeling too good or being too happy?

If the screening question is confirmed, determine the frequency and severity of the elation/euphoria.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - essentially continuously present.

Severity: 1. Mild - elation is notable to friends and family but is not disruptive.
2. Moderate - elation is notably abnormal.
3. Marked - elation is very pronounced; patient is euphoric and finds nearly everything to be humorous.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely
$\square$
$\square$

## G. Apathy/Indifference

## (NA)

Has the patient lost interest in the world around him/her? Has he/she lost interest in doing things or does he/ she lack motivation for starting new activities? Is he/she more difficult to engage in conversation or in doing chores? Is the patient apathetic or indifferent?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient seem less spontaneous and less active than usual?
2. Is the patient less likely to initiate a conversation?
3. Is the patient less affectionate or lacking in emotions when compared to his/her usual self?
4. Does the patient contribute less to household chores?
5. Does the patient seem less interested in the activities and plans of others?
6. Has the patient lost interest in friends and family members?
7. Is the patient less enthusiastic about his/her usual interests?
8. Does the patient show any other signs that he/she doesn't care about doing new things?

If the screening question is confirmed, determine the frequency and severity of the apathy/indifference.
Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - nearly always present.

Severity: 1. Mild - apathy is notable but produces little interference with daily routines; only mildly different from patient's usual behavior; patient responds to suggestions to engage in activities.
2. Moderate - apathy is very evident; may be overcome by the caregiver with coaxing and encouragement; responds spontaneously only to powerful events such as visits from close relatives or family members.
3. Marked - apathy is very evident and usually fails to respond to any encouragement or external events.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## H. Disinhibition

Does the patient seem to act impulsively without thinking? Does he/she do or say things that are not usually done or said in public? Does he/she do things that are embarrassing to you or others?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient act impulsively without appearing to consider the consequences?
2. Does the patient talk to total strangers as if he/she knew them?
3. Does the patient say things to people that are insensitive or hurt their feelings?
4. Does the patient say crude things or make sexual remarks that he/she would not usually have said?
5. Does the patient talk openly about very personal or private matters not usually discussed in public?
6. Does the patient take liberties or touch or hug others in way that is out of character for him/her?
7. Does the patient show any other signs of loss of control of his/her impulses?

If the screening question is confirmed, determine the frequency and severity of the disinhibition.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - essentially continuously present.

Severity: 1. Mild - disinhibition is notable but usually responds to redirection and guidance.
2. Moderate - disinhibition is very evident and difficult to overcome by the caregiver.
3. Marked - disinhibition usually fails to respond to any intervention by the caregiver, and is a source of embarrassment or social distress.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## I. Irritability/Lability

Does the patient get irritated and easily disturbed? Are his/her moods very changeable? Is he/she abnormally impatient? We do not mean frustration over memory loss or inability to perform usual tasks; we are interested to know if the patient has abnormal irritability, impatience, or rapid emotional changes different from his/her usual self.

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient have a bad temper, flying "off the handle" easily over little things?
2. Does the patient rapidly change moods from one to another, being fine one minute and angry the next?
3. Does the patient have sudden flashes of anger?
4. Is the patient impatient, having trouble coping with delays or waiting for planned activities?
5. Is the patient cranky and irritable?
6. Is the patient argumentative and difficult to get along with?
7. Does the patient show any other signs of irritability?

If the screening question is confirmed, determine the frequency and severity of the irritability/lability.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - essentially continuously present.

Severity: 1. Mild - irritability or lability is notable but usually responds to redirection and reassurance.
2. Moderate - irritability and lability are very evident and difficult to overcome by the caregiver.
3. Marked - irritability and lability are very evident, they usually fail to respond to any intervention by the caregiver, and they are a major source of distress.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely



5. Very severely or extremely

## J. Aberrant Motor Behavior

Does the patient pace, do things over and over such as opening closets or drawers, or repeatedly pick at things or wind string or threads?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient pace around the house without apparent purpose?
2. Does the patient rummage around opening and unpacking drawers or closets?
3. Does the patient repeatedly put on and take off clothing?
4. Does the patient have repetitive activities or "habits" that he/she performs over and over?
5. Does the patient engage in repetitive activities such as handling buttons, picking, wrapping string, etc?
6. Does the patient fidget excessively, seem unable to sit still, or bounce his/her feet or tap his/her fingers a lot?
7. Does the patient do any other activities over and over?

If the screening question is confirmed, determine the frequency and severity of the aberrant motor activity:

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - essentially continuously present.

Severity: 1. Mild - abnormal motor activity is notable but produces little interference with daily routines.
2. Moderate - abnormal motor activity is very evident; can be overcome by the caregiver.
3. Marked - abnormal motor activity is very evident, usually fails to respond to any intervention by the caregiver, and is a major source of distress.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## K. Sleep

Does the patient have difficulty sleeping (do not count as present if the patient simply gets up once or twice per night only to go to the bathroom and falls back asleep immediately)? Is he/she up at night? Does he/she wander at night, get dressed, or disturb your sleep?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Does the patient have difficulty falling asleep?
2. Does the patient get up during the night (do not count if the patient gets up once or twice per night only to go to the bathroom and falls back asleep immediately)?
3. Does the patient wander, pace, or get involved in inappropriate activities at night?
4. Does the patient awaken you during the night?
5. Does the patient awaken at night, dress, and plan to go out thinking that it is morning and time to start the day?
6. Does the patient awaken too early in the morning (earlier that was his/her habit)?
7. Does the patient sleep excessively during the day?
8. Does the patient have any other nighttime behaviors that bother you that we haven't talked about?

If the screening question is confirmed, determine the frequency and severity of the nighttime behavior.
Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - once or more per day (every night)

Severity: 1. Mild - nighttime behaviors occur but they are not particularly disruptive.
2. Moderate - nighttime behaviors occur and disturb the patient and the sleep of the caregiver; more than one type of nighttime behavior may be present.
3. Marked - nighttime behaviors occur; several types of nighttime behavior may be present; the patient is very distressed during the night and the caregiver's sleep is markedly disturbed.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

## L. Appetite and eating disorders

Has he/she had any change in appetite, weight, or eating habits (count as NA if the patient is incapacitated and has to be fed)? Has there been any change in type of food he/she prefers?

NO (If no, proceed to next screening question). YES (If yes, proceed to subquestions).

1. Has he/she had a loss of appetite?
2. Has he/she had an increase in appetite?
3. Has he/she had a loss of weight?
4. Has he/she gained weight?
5. Has he/she had a change in eating behavior such as putting too much food in his/her mouth at once?
6. Has he/she had a change in the kind of food he/she likes such as eating too many sweets or other specific types of food?
$\qquad$

Has he/she developed eating behaviors such as eating exactly the same types of food each day or eating the food in exactly the same order?
8. Have there been any other changes in appetite or eating that I haven't asked about?

If the screening question is confirmed, determine the frequency and severity of the changes in eating habits or appetite.

Frequency: 1. Occasionally - less than once per week.
2. Often - about once per week.
3. Frequently - several times per week but less than every day.
4. Very frequently - once or more per day or continuously

Severity: 1. Mild - changes in appetite or eating are present but have not led to changes in weight and are not disturbing.
2. Moderate - changes in appetite or eating are present and cause minor fluctuations in weight.
3. Marked - obvious changes in appetite or eating are present and cause fluctuations in weight, are embarrassing, or otherwise disturb the patient.

Distress: How emotionally distressing do you find this behavior?
O. Not at all

1. Minimally
2. Mildly
3. Moderately
4. Severely
5. Very severely or extremely

NPI

TOTAL SCORE:
$\square$
$\square$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES

# Screening Instrument for Diagnosis of Dementia in People with Learning Disabilites 

H.M. Evenhuis, M.M.F. Kengen, H.A.L. Eurlings

Name:
Gender: M/F

Birth Date:

## Completed by:

Date of completion:

## Address:

## Other information:

Instructions: The questionnaire has to be completed by a caregiver who is familiar with the observed person. Behavior during approximately the last two months has to be observed and scored. Score the behaviour carefully, by circling ' 0 ', ' 1 ' or ' 2 '.

Some of the items (e.g.those about the past or family members) are probably not spoken about regularly. It is advised to ask them incidentally, before completion of the DLD.

If the observed person is not able to move independently, items about 'where to go' (nos. 15 and 46) are to be scored '0' if he/she clearly know where to go (e.g by pointing).

Some items require verbal skills. If he/she is not able to engage in verbal tasks, e.g. due to a low functional level of hearing impairment, the item is scored as '2'.

The scores of the subscales (last page) are to be completed and added up afterwards by the psychologist or physician.
$\square$
$\square$
$\square$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE

 WITH LEARNING DISABILITIESRecord score in gray box
2. Remembers where he/she put something away as short time ago (no longer than half an hour ago):

0 = normally yes
1 = sometimes
2 = normally no
3. Remembers an important event that took place during the last few weeks (talks about it or recognition is apparent from behaviour when it is spoken about):

0 = normally yes
1 = sometimes
2 = normally no
4. Know which month it is (if it is the first week of the month you can accept the previous month as the correct answer):

0 = yes
1 = sometimes
2 = no
5. Remembers family members or friends whom he/she has not seen for a long time or who are deceased:

$$
\begin{aligned}
& 0=\text { yes } \\
& 1=\text { sometimes } \\
& 2=\text { no }
\end{aligned}
$$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES

6. Know whether it is spring, summer, autumn or winter:

$$
\begin{aligned}
& 0=\text { yes } \\
& 1=\text { sometimes } \\
& 2=\text { no }
\end{aligned}
$$

7. Knows what year it is (a mistake of one year is permitted):

$$
\begin{aligned}
& 0=\text { yes } \\
& 1=\text { sometimes } \\
& 2=\text { no }
\end{aligned}
$$

8. Is interested in outdoor activities *e.g. clubs, family parties, trips):

0 = normally yes
1 = sometimes
2 = normally no
9. Hits or kicks other people or shows aggression in any other way:

$$
\begin{aligned}
& 0=\text { never } \\
& 1=\text { sometimes } \\
& 2=\text { often }
\end{aligned}
$$

10. Remembers events from his/her youth:
$0=$ remembers a lot
$1=$ remembers a little
$2=$ remembers nothing
11. Is able to undress (can be with some help or stimulus):

$$
\begin{aligned}
& 0=\text { never } \\
& 1=\text { sometimes } \\
& 2=\text { often }
\end{aligned}
$$

Record score in gray box


## DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES

12. During the day is:

0 = continent
1 = only continent with the help of others
2 = incontinent (always or several times a day)
13. Speaks (to an unknown person) integlligibly and sensibly (for individuals who only speak some stereotyped words, score (no'):

0 = normally yes
1 = sometimes
2 = normally no
14. Remembers an instruction given just a moment ago (up to five minutes ago):

0 = normally yes
1 = sometimes
2 = normally no
15. Can find his/her way to familiar places in his/her residential environment:
0 = normally yes
1 = sometimes
2 = normally no
16. Keeps his/her cothes and belongings tidy:

0 = normally yes
1 = sometimes
2 = normally no
17. Is able to wash him/herself under the shower or at the sink (may require some help):

$$
\begin{aligned}
& 0=\text { always } \\
& 1=\text { sometimes } \\
& 2 \text { = never }
\end{aligned}
$$

Record score in gray box
Category


## DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES

18. Can talk about a holiday or trip (by words and gestures) to those who stayed at home:

0 = normally yes
1 = sometimes
2 = normally no
19. Is able to dress (can be with some help or equipment):

0 = always
1 = sometimes
2 = never
20. Is interested in what is going on in the home:

0 = normally yes
1 = sometimes
2 = normally no
21. Is interested in papers and /or TV:

0 = normally yes
1 = sometimes
2 = normally no
22. Speaks:
$0=y e s$
1 = only some stereotyped words
$2=n o$
23. Recognises persons whom he/she came to know during the last few weeks (calls them by name of recognition is apparent from behaviour):
$0=$ normally yes
1 = sometimes
2 = normally no

Record score in gray box


## DEMENTIA QUESTIONNAIRE FOR PEOPLE

 WITH LEARNING DISABILITIES24. Is on familiar terms with one or more persons living in the home:

0 = often
1 = sometimes
2 = never
25. Understands simple instructions:

$$
0 \text { = normally yes }
$$

1 = sometimes
2 = normally no
26. Recognizes staff members whom he/she has known for more than a year (calls them by name or recognition is apparent from behaviour):

0 = normally yes
1 = sometimes
2 = normally no
27. Gets angry easily:

0 = never
1 = sometimes
2 = often
28. Knows that today is a weekend or a week day:

0 = normally yes
1 = sometimes
2 = normally no
29. Can talk about what he/she has been doing today:
$0=$ normally yes
1 = sometimes
2 = normally no
$\square$
$\square$
DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES
30. Keeps him/herself busy at home on his/her own initiative (e.g. with hobbies, playing games, reading or talking with others):

0 = always
1 = sometimes
2 = never
31. Threatens others by words or gestures (without a clear motive):

$$
\begin{aligned}
& 0=\text { never } \\
& 1=\text { sometimes } \\
& 2=\text { often }
\end{aligned}
$$

32. Accuses other people of harming him/her in any way (e.g. hitting or stealing), when this is not true:

$$
\begin{aligned}
& 0=\text { never } \\
& 1=\text { sometimes } \\
& 2=\text { often }
\end{aligned}
$$

33. Remembers something that has been said (or communicated in any other way) recently (no longer than an hour ago):
$0=$ normally yes
1 = sometimes
2 = normally no
34. Cries at the slightest provocation:

$$
0 \text { = never }
$$

1 = sometimes
2 = often

DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES
35. Knows which week day it is today:

$$
\begin{aligned}
& 0=\text { normally yes } \\
& 1=\text { sometimes } \\
& 2 \text { = normally no }
\end{aligned}
$$

36. Is able to get into and out of his/her bed:

$$
\begin{aligned}
& 0=\text { always } \\
& 1=\text { sometimes } \\
& 2=\text { never }
\end{aligned}
$$

37. Is spontaneously helpful (e.g. washing the dishes or setting the table):

$$
0 \text { = often }
$$

1 = sometimes
2 = never
38. Is restless or awake during the night:

0 = never
1 = sometimes
2 = always
39. Is gloomy or sad:

0 = never
1 = sometimes
2 = always
40. Knows what was the profession of his/her father or mother:

$$
0 \text { = yes }
$$

1 = sometimes
$2=n o$
41. Is incontinent during the night:

$$
\begin{aligned}
& 0=\text { never } \\
& 1=\text { sometimes } \\
& 2=\text { always }
\end{aligned}
$$

Total Page 8

Record score in gray box

$\square$
$\square$
$\square$
$\square$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE

 WITH LEARNING DISABILITIESRecord score in gray box

47. Knows the name of the president (the preceding prime minister is permitted):

$$
\begin{aligned}
& 0=\text { yes } \\
& 1=\text { sometimes } \\
& 2=\text { no }
\end{aligned}
$$

$\square$
$\square$
$\square$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE

 WITH LEARNING DISABILITIESRecord score in gray box

$\square$
$\square$

## DEMENTIA QUESTIONNAIRE FOR PEOPLE WITH LEARNING DISABILITIES



## Comments:

Print this page - Research Testing in progress, do not disturb SIB/Shoebox Quick Set-up Guide

Months of the year Cities


[^0]:    2 points: "spoon"
    1 point: related alternative, e.g. "soup bowl", or if correct after prompt
    O points: unrelated item, e.g. "knife"

