Handwriting Assessment Battery

for Adults - v6

**Test Booklet**

##### Prepared by

Prepared by

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& Dr Natasha Lannin**

[Version 6]

A collaboration between researchers at

Western Sydney University and the University of Sydney

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**Administration of Subtests**

Administration of the *HAB-v6* takes approximately 20 minutes and should be completed in a quiet environment. For standardisation purposes, the assessment should be administered in the booklet order. The following materials will be needed:

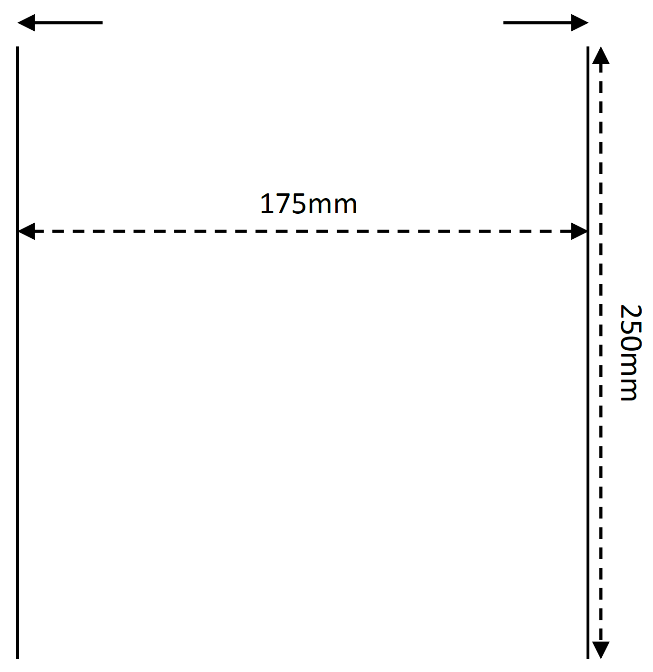
|  |  |
| --- | --- |
| * Test manual/booklet * Test score sheet (end of test booklet) * Writing speed sentence cards * A transparent ruler (see through) * A local grocery catalogue | * Sharpened HB pencil * Pencil sharpener * Pen * Eraser * Stopwatch |

The *HAB-v6* test booklet should be placed on a table in front of the participant, face up, at their midline. The participant may move the booklet to a comfortable position in front of them.

**Section 1:  Pen Control and Manipulation (Horizontal Lines)**

**Test set up:**

* Prepare three sheets of plain paper with two vertical lines (each 250mm in length), spaced 175mm apart.
* Place arrows pointing toward each line at the top of each line. These arrows are used for noting the direction of line drawing used by the participant.
* A person may naturally choose to draw the lines from right to left, without prompting, especially if the person is left-handed (Dettrick-Janes, McCluskey, Lannin, & Scanlan, 2016).
* An example of the prepared lines and arrows is presented (not to scale).



**Administration Procedure:**

1. **Instruction:** ‘Using a pencil, draw as many horizontal lines as possible in 20 seconds on the sheet of paper provided. Lines should be drawn between the two vertical lines and stop accurately at a vertical line. You are timed from the moment you put the pencil on the paper to start the assessment. You will be stopped once the 20 second time period has elapsed. You are able to have 3 attempts at the test, and your best attempt will be scored’.
2. While no instruction is given about which direction to draw the line, participants can draw from left to right or right to left (a left-handed person may choose to draw from right to left). Circle the appropriate arrow provided on the prepared page to indicate the direction of line drawing.
3. Offer a practice attempt (which is not timed) to draw some horizontal lines. Mark practice lines “P” next to each practice line. Provide clarification that the lines should stop accurately at a vertical line if required.
4. Repeat the task 3 times, using the 3 separate pieces of paper.

**Section 1:  Pen Control and Manipulation (Horizontal Lines)**

**Preparation:** Preparepages with lines and arrows as described in “test set up”.

**Verbal Instruction:** **Verbal Instruction:** ‘Using a pencil, draw as many horizontal lines as possible in 20 seconds on the sheet of paper provided. Lines should be drawn between the two vertical lines and stop accurately at a vertical line. You are timed from the moment you put the pencil on the paper to start the assessment. You will be stopped once the 20 second time period has elapsed. You are able to have 3 attempts at the test, and your best attempt will be scored. Ready?... Go!’.

**ATTEMPT 1**

Number of lines drawn =

Number of accurate lines drawn =

**Section 1:  Pen Control and Manipulation (Horizontal Lines)**

**Verbal Instruction:** ‘Using a pencil, draw as many horizontal lines as possible in 20 seconds on the sheet of paper provided. Lines should be drawn between the two vertical lines and stop accurately at a vertical line. You are timed from the moment you put the pencil on the paper to start the assessment. You will be stopped once the 20 second time period has elapsed. Ready?... Go!

**ATTEMPT 2**

Number of lines drawn =

Number of accurate lines drawn =

**Section 1:  Pen Control and Manipulation (Horizontal Lines)**

**Verbal Instruction:** ‘Using a pencil, draw as many horizontal lines as possible in 20 seconds on the sheet of paper provided. Lines should be drawn between the two vertical lines and stop accurately at a vertical line. You are timed from the moment you put the pencil on the paper to start the assessment. You will be stopped once the 20 second time period has elapsed. Ready?... Go!

**ATTEMPT 3**

Number of lines drawn =

Number of accurate lines drawn =

**Section 1:  Pen Control and Manipulation (Dots)**

**Verbal Instruction:** “Holding a pencil, make as many rapid consecutive dots as possible in 5 seconds on the sheet of paper provided. You must make ‘dots’ not ‘strokes’. A dot with a ‘tail’ counts as a “stroke”. To be considered an accurate dot, the dot must not be more than 1mm ‘thick’ at any point in its diameter. You must pick up the pencil and position it without assistance and hold the pencil as for writing You are able to have 3 attempts at the test, and your best attempt will be scored. Ready… Go!”.

**ATTEMPT 1**

Number of dots (up to 10 maximum) =

Count the dots and record the number as soon as possible, as dots may be  
 difficult to identify later, due to the “light” appearance of pencil marks

**Section 1:  Pen Control and Manipulation (Dots)**

**Verbal Instruction:** “Holding a pencil, make as many rapid consecutive dots as possible in 5 seconds on the sheet of paper provided. You must make ‘dots’ not ‘strokes’. A dot with a ‘tail’ counts as a “stroke”. To be considered an accurate dot, the dot must not be more than 1mm ‘thick’ at any point in its diameter. You must pick up the pencil and position it without assistance and hold the pencil as for writing. Ready… Go”.

**ATTEMPT 2**

Number of dots (up to 10 maximum) =

Count the dots and record the number as soon as possible, as dots may be  
 difficult to identify later, due to the “light” appearance of pencil marks

**Section 1:  Pen Control and Manipulation (Dots)**

**Verbal Instruction:** “Holding a pencil, make as many rapid consecutive dots as possible in 5 seconds on the sheet of paper provided. You must make ‘dots’ not ‘strokes’. A dot with a ‘tail’ counts as a “stroke”. To be considered an accurate dot, the dot must not be more than 1mm ‘thick’ at any point in its diameter. You must pick up the pencil and position it without assistance and hold the pencil as for writing. Ready…Go!”.

**ATTEMPT 3**

Number of dots (up to 10 maximum) =

Count the dots and record the number as soon as possible, as dots may be  
 difficult to identify later, due to the “light” appearance of pencil marks

**Section 2: Writing Speed – 24-letter copied sentence (Jebsen)**

**Instructions:** **“**Take a pencil (or pen) in your writing hand and arrange everything so that it is comfortable for you to write. There is a sentence on the other side of the card the therapist will give you. When the therapist says ‘go’, copy the sentence in cursive not PRINTING. You will be timed from the word ‘Go’ until you have completed the sentence. If a word is misspelt or printed you will need to rewrite the sentence using a different card. Ready?... Go!”.

Please write the sentence below:

|  |
| --- |
|  |
|  |
|  |
|  |
|  |

Time Taken: \_\_\_\_\_\_\_\_\_\_\_ Pen/pencil: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Attempt 2 (only to be completed if a word is misspelt or printed):

|  |
| --- |
|  |
|  |
|  |
|  |
|  |

Time Taken: \_\_\_\_\_\_\_\_\_\_ Pen/pencil: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Writing Speed Cards**

These cards can be photocopied and cut out for assessment use.

**JOHN SAW THE RED TRUCK COMING**

**THE OLD MAN SEEMED TO BE TIRED**

**FISH TAKE AIR OUT OF THE WATER**

**Section 2: Writing Speed – Shopping List**

*As per test administration instructions: If the person has difficulty generating a list of items, offer suggestions such as breakfast foods, or give them a grocery catalogue to look at.*

**Verbal Instructions**: “Think of and then write down 5 single word items that you might write on a shopping list. You can use pencil or pen. I will ask you if you are ready and if you are, you will be timed from when I say the word “Go” until you have completed writing the 5-item shopping list, Ready?... Go!”

Time Taken: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Words/minute: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pen/pencil: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section 3: Writing Legibility**

**Sentence CompositionSubtest**

*The person generates and writes a 5-word sentence. As per the HAB administration instructions, if the person has difficulty generating a sentence, suggest a broad topic such as “outdoor activities”. If the person continues to have difficulty generating a sentence, suggest a more concrete topic such as “a sentence about an animal” or “today’s lunch”.*

***Verbal Instruction*:** “Think of a sentence containing five words. I will give you a few seconds to think of the sentence and then you can write it down, in your usual style of writing (whether that was cursive, printed or a mixture of both). You can write using a pen or pencil. Ready?... Go!”

|  |
| --- |
|  |
|  |
|  |

Time taken: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Pen/pencil: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section 4: Handwriting Appearance & Satisfaction Index (HASI)**

Neatness is rated by the stroke survivor with assistance from a therapist/carer if required. If the person being tested has not had a stroke, do not complete **section A** of each item*.*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. The overall **appearance** or ‘look’ of yourhandwriting | | | | | | | | | | |
| **1A. Compared with your pre-stroke handwriting, is the overall appearance of your handwriting now worse*?*** | | | | | | | | | | |
| 🞎 | | | Not at all, the overall appearance of my handwriting is the same or better | | | | | | | |
| 🞎 | | | The appearance of my handwriting is a little worse | | | | | | | |
| 🞎 | | | The appearance of my handwriting is moderately worse | | | | | | | |
| 🞎 | | | The appearance of my handwriting is a lot worse | | | | | | | |
| **1B. How satisfied are you now with the overall appearance or ‘look’ of your handwriting?** | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | |
| **1C. Do you want to improve the overall look of your handwriting with advice from a therapist?** | | | | | | | | | | |
| 🞎 | | Yes | | | | | | | |
| 🞎 | | No | | | | | | | |
| 1. The **size** of your handwritten **letters**   *Letter sizing may seem ‘too big’, ‘too small’ or a combination of these.* | | | | | | | | | | |
| **2A. Compared with your pre-stroke handwriting, is the size of your handwritten letters now worse?** | | | | | | | | | | |
| 🞎 | | | Not at all, the size of my handwritten letters is the same or better | | | | | | | |
| 🞎 | | | The size of my handwritten letters is a little worse | | | | | | | |
| 🞎 | | | The size of my handwritten letters is moderately worse | | | | | | | |
| 🞎 | | | The size of my handwritten letters is a lot worse | | | | | | | |
| **2B. How satisfied are you now with the size of your handwritten letters?** | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | |
| **2C. Do you want to improve the size of your handwritten letters with advice from a therapist?** | | | | | | | | | | |
| 🞎 | Yes | | | | | | | |
| 🞎 | No | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. The **spacing** between your handwritten **letters**   *Letters may seem too close together or may overlap, or seem too far apart, or a combination of these.* | | | | | | | | | | | |
| **3A. Compared with your pre-stroke handwriting, is the spacing between your handwritten letters now worse*?*** | | | | | | | | | | | |
| 🞎 | | | Not at all, the spacing between my handwritten letters is the same or better | | | | | | | | |
| 🞎 | | | The spacing between my handwritten letters is a little worse | | | | | | | | |
| 🞎 | | | The spacing between my handwritten letters is moderately worse | | | | | | | | |
| 🞎 | | | The spacing between my handwritten letters is a lot worse | | | | | | | | |
| **3B. How satisfied are you now with the spacing between your handwritten letters?** | | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | | |
| **3C. Do you want to improve the spacing between your handwritten letters with advice from a therapist?** | | | | | | | | | | | |
| 🞎 | | Yes | | | | | | | | |
| 🞎 | | No | | | | | | | | |
|  | | | | | | | | | | | |
| 1. The **spacing** between your handwritten **words**   *Words may be too close together, overlapping, too far apart, or a combination of these*  **4A. Compared with your pre-stroke handwriting, is the spacing between your words now worse?** | | | | | | | | | | | |
| 🞎 | | | Not at all, the spacing between my handwritten words is the same or better | | | | | | | | |
| 🞎 | | | The spacing between my handwritten words is a little worse | | | | | | | | |
| 🞎 | | | The spacing between my handwritten words is moderately worse | | | | | | | | |
| 🞎 | | | The spacing between my handwritten words is a lot worse | | | | | | | | |
| **4B. How satisfied are you now with the spacing between your handwritten words?** | | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | | |
| **4C. Do you want to improve the spacing between your handwritten words with advice from a therapist?** | | | | | | | | | | | |
| 🞎 | | Yes | | | | | | | |
| 🞎 | | No | | | | | | | |
|  |  | | | | | | | |
| 1. The **alignment** of your handwriting   *Alignment refers to the letters and words appearing ‘in line’ in relation to each other, regardless of whether the writing is on lined or blank paper.* | | | | | | | | | | | |
| **5A. Compared with your pre-stroke handwriting, is the alignment of your handwriting now worse?** | | | | | | | | | | | |
| 🞎 | | | Not at all, the alignment of my handwriting is the same or better | | | | | | | | |
| 🞎 | | | The alignment of my handwriting is a little worse | | | | | | | | |
| 🞎 | | | The alignment of my handwriting is moderately worse | | | | | | | | |
| 🞎 | | | The alignment of my handwriting is a lot worse | | | | | | | | |
| **5B. How satisfied are you now with the alignment of your letters and words?** | | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | | |
| **5C. Do you want to improve the alignment of your handwriting with advice from a therapist?** | | | | | | | | | | | |
| 🞎 | | | Yes | | | | | | | | |
| 🞎 | | | No | | | | | | | | |
|  | | | | | | | | | | | |
| 1. The **slant** or **angle** of your handwriting   *The letters may seem to slant too far towards a clockwise or anticlockwise direction, or the slant of the writing may not be uniform or consistent.* | | | | | | | | | | | |
| **6A. Compared with your pre-stroke handwriting, is the slant or angle of your handwritten letters now worse*?*** *For example,* | | | | | | | | | | | |
| 🞎 | | | Not at all, the slant or angle of my letters is the same or better | | | | | | | | |
| 🞎 | | | The slant or angle of my letters is a little worse | | | | | | | | |
| 🞎 | | | The slant or angle of my letters is moderately worse | | | | | | | | |
| 🞎 | | | The slant or angle of my letters is a lot worse | | | | | | | | |
| **6B. How satisfied are you now with the slant or angle of your letters and words** | | | | | | | | | | | |
| 🞎 | | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | | | |
| Very satisfied | | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | | | |
| **6C. Do you want to improve the slant or angle of your handwritten letters with advice from a therapist?** | | | | | | | | | | | |
| 🞎 | | Yes | | | | | | | | |
| 🞎 | | No | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. The **quality or appearance** of the **lines and curves** of your **letters** 2. *Letter lines and curves may appear too dark, too light, jerky/shaky or the letter curves may not appear smooth or may appear to have abrupt directional changes.* | | | | | | | | |
| **7A. Compared with your pre-stroke handwriting, is the quality of the lines and curves now worse*?*** | | | | | | | | |
| 🞎 | | Not at all, quality of the lines and curves of my letters is the same or better | | | | | | |
| 🞎 | | The quality of the lines and curves of my letters is a little worse | | | | | | |
| 🞎 | | The quality of the lines and curves of my letters is moderately worse | | | | | | |
| 🞎 | | The quality of the lines and curves of my letters is a lot worse | | | | | | |
| **7B. How satisfied are you now with the quality of the lines and curves of your letters?** | | | | | | | | |
| 🞎 | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | |
| Very satisfied | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | |
| **7C. Do you want to improve the quality of the lines and curves of your handwritten letters with advice from a therapist?** | | | | | | | | |
| 🞎 | Yes | | | | | | |
| 🞎 | No | | | | | | |
|  | | | | | | | | |
| 1. **Extra marks** around your writing   *There may be extra blotches, dashes, smudges or corrections* | | | | | | | | |
| **8A. Compared with your pre-stroke handwriting, are the number of extra pen or pencil marks on or around the writing now worse*?*** | | | | | | | | |
| 🞎 | | Not at all, the overall appearance of my handwriting is the same or better | | | | | | |
| 🞎 | | The appearance of my handwriting is a little worse | | | | | | |
| 🞎 | | The appearance of my handwriting is moderately worse | | | | | | |
| 🞎 | | The appearance of my handwriting is a lot worse | | | | | | |
| **8B. How satisfied are you now with the number of extra pen or pencil marks on or around your handwriting?** | | | | | | | | |
| 🞎 | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | |
| Very satisfied | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | |
| **8C. Do you want to reduce the number of extra pen or pencil marks on or around your writing with advice from a therapist?** | | | | | | | | |
| 🞎 | Yes | | | | | | |
| 🞎 | No | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. The **formation** of your handwritten **letters**   *Letter parts may not be joined up, letters may be incomplete, letters may appear distorted, stretched, squashed, or reversed* | | | | | | | | |
| **9A. Compared with your pre-stroke handwriting, is the formation of your handwritten letters now worse?** | | | | | | | | |
| 🞎 | | Not at all, the formation of my handwritten letters is the same or better | | | | | | |
| 🞎 | | The formation of my handwritten letters is a little worse | | | | | | |
| 🞎 | | The formation of my handwritten letters is moderately worse | | | | | | |
| 🞎 | | The formation of my handwritten letters is a lot worse | | | | | | |
| **9B. How satisfied are you now with the formation of your handwritten letters?** | | | | | | | | |
| 🞎 | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | |
| Very satisfied | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | |
| **9C. Do you want to improve the formation of your letterswith advice from a therapist?** | | | | | | | | |
| 🞎 | Yes | | | | | | |
| 🞎 | No | | | | | | |
|  | | | | | | | | |
| 1. Use of the **writing space**   For example, the writing may be squashed up to one side | | | | | | | | |
| **10A. Compared to your pre-stroke handwriting, is your use of the writing space now worse?** | | | | | | | | |
| 🞎 | | Not at all, my use of the writing space is the same or better | | | | | | |
| 🞎 | | My use of the writing space is a little worse | | | | | | |
| 🞎 | | My use of the writing is moderately worse | | | | | | |
| 🞎 | | My use of the writing space is a lot worse | | | | | | |
| **10B. How satisfied are you now with your use of the writing space?** | | | | | | | | |
| 🞎 | | | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 | |
| Very satisfied | | | Moderately satisfied | Somewhat satisfied | Somewhat dissatisfied | Moderately dissatisfied | Very dissatisfied | |
| **10C. Do you want to improve your use of the writing space with advice from a therapist?** | | | | | | | | |
| 🞎 | Yes | | | | | | |
| 🞎 | No | | | | | | |

**Other aspects of your handwriting**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **11. Spelling** when handwriting | | | | | | |
| **11A. Are you satisfied with your spelling when handwriting?** | | | | | | |
| |  |  | | --- | --- | | 🞎 | Yes | | 🞎 | No | | |  |  |  |  |  |
| **11B. Do you want to improve your spelling when handwriting *with advice from a therapist*?** | | | | | | |
| 🞎 | Yes | | | | | | |
| 🞎 | No | | | | | | |
|  | | | | | | |
| **12. Writing speed** | | | | | | |
| **12A. Are you satisfied with your writing speed?**   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 🞎 | Yes | | 🞎 | No | | |  | |  |  |  |  | | **12B. Do you want to improve your writing speed *with advice from a therapist*?** | | | | | | | | | 🞎 | Yes | | | 🞎 | No | | | | | | | | |

|  |
| --- |
| **13. Pen grip** when writing |
| **13A. Are you satisfied with your pen grip?**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 🞎 | Yes | | 🞎 | No | | |  |  |  |  |  | | **13B. Do you want to improve your pen grip *with advice from a therapist*?** | | | | | | | | 🞎 | Yes | | | | | | | 🞎 | No | | | | | | |

**14.** Is there **any other aspect of your handwriting** you are unsatisfied with and would like to improve?

|  |  |
| --- | --- |
| 🞎 | Yes |
| 🞎 | No |

**Please List:**

**The Handwriting Assessment Battery (v6) - Score Sheet**

Age: …… Dominance: L/R Hand used to write now: L/R Posture/position comments: …………

1. Pen Control & Manipulation

**Horizontal Lines** **Task** Number of accurate lines (best attempt): ………

**Dots Task** Number of dots (best attempt): ………..

* **Need for pen control and manipulation intervention:** *If the person did not  
  produce the expected number of lines or dots for their age group*

|  |  |
| --- | --- |
| **Age Group (Tick)** | **Average/ range of lines and dots produced by healthy older adults** *1* |
| * 60-69 | Lines: 9 (Range 6-10) Dots: 10 |
| * 70-79 | Lines: 8 (Range 5-10) Dots: 10 |
| * 80-89 | Lines: 8 (Range 6-10) Dots: 10 |
| * 90-99 | Lines: 7 (Range 2-10) Dots*:* Usually produce less than  10 but more than 1 dot |

**2. Writing Speed**

**24-Letter Copied Sentence (Jebsen)** **Time taken**: ………

Handwriting speed (seconds ± standard deviation) for the copied sentence (Jebsen)

|  |  |  |
| --- | --- | --- |
| **Age Group (Tick)** | **Time taken by healthy older adults to copy a 24-letter sentence** | |
| * 20-59 | **Men**  Pencil: 12.2 (± 3.5) | **Women**  Pencil: 11.7 (±2.1) |
| * 60-69 | Pen: 11.24 (± 3.48)  Pencil: 11.97 (± 2.62) | Pen: 11.92 (± 2.65)  Pencil: 12.05 (± 2.41) |
| * 70-79 | Pen: 12.24 (2.11)  Pencil: 13.48 (2.65) | Pen: 12.27 (2.18)  Pencil: 12.81 (± 1.97) |
| * 80-89 | Pen: 14.63 (4.18)  Pencil: 15.20 (± 3.38) | Pen: 14.25 (2.21)  Pencil: 16.35 (± 3.24) |
| * 90-99 | Pen: 20.69 (6.61)  Pencil: 22.35 (± 7.73) | Pen: 22.13 (7.64)  Pencil: 23.60 (± 8.80) |

*Reference*: Burger and McCluskey, 2011; Jebsen et al, 1969 (20-59 age group)

**Shopping List Task**  **Time taken:** ………… **Convert to Letters/Min** =

Handwriting speed (mean letters / minute ± standard deviation) for the shopping list task

|  |  |  |
| --- | --- | --- |
| **Age Group (Tick)** | **Time taken by healthy older adults to write a 5-word shopping list** | |
| * 60-69 | **Men**  Pen: 106.7 (± 30.83)  Pencil: 126.6 (± 26.86) | **Women**  Pen: 98.1 (± 30.00)  Pencil: 111.3 (± 22.32) |
| * 70-79 | Pen: 92.2 (± 26.28)  Pencil: 97.7 (± 17.89) | Pen: 99.3 (± 29.15)  Pencil: 105.5 (± 23.19) |
| * 80-89 | Pen: 84.0 (± 22,36)  Pencil: 83.8 (± 14.49) | Pen: 88.9 (± 31.46)  Pencil: 90.6 (± 22.82) |
| * 90-99 | Pen: 58.8 (± 22.45)  Pencil: 56.5 (± 23.22) | Pen: 58.5 (± 18.38)  Pencil: 57.0 (± 19.69) |

*Reference*: Burger & McCluskey (2011)

* **Need for intervention to improve speed:** *If the person wrote slowly for their age group*

# 3. Writing Legibility

#### 5-word self-composed sentence: Refer to mFPS-v2 decision trees for scoring

Sentence Legibility (FPS-v2, 1-4) =

|  |  |
| --- | --- |
| Word Legibility (FPS-v2-W, 1-4) = % legibility (for 5 words) |  |
| * **Need for intervention to improve legibility:** *If the person did not write legibly* | |

# 4. Neatness

|  |  |  |  |
| --- | --- | --- | --- |
| **HASI - Handwriting Appearance Descriptors – *circle Y if assistance is required from a therapist*** | | | |
| 1. Overall appearance of handwriting | Y / N | 9 Formation of letters | Y / N |
| 1. Size of letters | Y / N | 10 Use of the writing space | Y / N |
| 1. Spacing between letters | Y / N | 11 Spelling | Y / N |
| 1. Spacing between words | Y / N | 12 Writing speed | Y / N |
| 1. Alignment of writing | Y / N | 13 Pen grip | Y / N |
| 1. Slant or Angle of writing | Y / N | 14 Others – List: | Y / N |
| 1. Quality/appearance of lines and curves | Y / N |  |
| 1. Extra marks around writing | Y / N |