

**CONTROLLED ORAL WORD ASSOCIATION TEST (COWAT)****TABLE OF CONTENTS**

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**CONTROLLED ORAL WORD ASSOCIATION TEST (COWAT)****1. Background and rationale**

The Controlled Oral Word Association Test (COWAT) is an oral fluency test in which the participant is required to make verbal associations to different letters of the alphabet by saying all the words which they can think of beginning with a given letter. Three letters of progressively increasing associative difficulty are presented successively as stimuli. Difficulty level of each letter was defined in terms of relative frequency of words beginning with that letter in each language, as found in standard dictionaries of the language.

**2. Equipment and supplies**

- Pen
- Stopwatch
- Page 16 of the Telephone Interview (Quarter 1 and Quarter 3)

**3. Safety issues and exclusions**

None.

**4. Detailed measurement procedures****4.1 Recording and scoring**

The data collection form provides numbered lines on which the participant's responses can be recorded. If the participant's speed of word production is too fast to permit verbatim recording, a "+" should be recorded to indicate a correct response. Total all correct answers.

**4.2 Comments on scoring**

- 1) The instructions include a specific prohibition against giving different forms of the same word:

"You may say any words at all, except proper names such as the names of people or places, so you would not say 'Rochester' or 'Robert.' Also, do not use the same word again with a different ending, such as 'run' and 'running.'"

Hence, inflections of the same word are not admissible responses. Participants often give both a verb and substantive derived from the verb. If the substantive can be considered as a simple derivation from the verb or adjective (e.g., fun-funny; sad-sadness) it is not an admissible response. On the other hand, if the substantive refers to a specific object (e.g., clap-clapper; foot-footstool; hang-hanger), it would be counted as an admissible response.

- 2) Many words have two or more meanings (e.g., foot, can, catch). A repetition of the word is acceptable if the participant definitely indicates the alternative meaning. This should be queried after the one minute time is up for the given letter.
- 3) Slang terms are admissible if in general use.
- 4) Foreign words are admissible if they can be considered part of the English lexicon, the criterion being their listing in a standard English dictionary.

### 4.3 Administration

Introduce test to participant.

Script: “I am going to say a letter of the alphabet, and I want you to say as quickly as you can all of the words you can think of that begin with that letter. You may say any word at all except proper names such as the names of people or places. So you would not say ‘Rochester’ or ‘Robert.’ Also, do not use the same words again with a different ending, such as ‘run’ and ‘running.’ For example, if I say R you could say rat, river, or run. Can you think of any other words beginning with the letter R?”

Wait for the participant to give a word, indicate if the word is correct, and ask the participant to give another word beginning with the letter R.

Script: “Can you tell me another word that begins with R?”

If the participant says another appropriate word that begins with R, tell participant “That is fine,” mark “Sample Completed,” and go on to the timed test. If the participant is unable to complete the sample, do not go on to the timed test. Do not score. Go on to the next page in the Telephone Interview.

#### 4.3.1 Timed test – C

Script: “Now I’m going to give you another letter, and again, say all the words beginning with that letter that you can think of. Remember, no names or people or places, just ordinary words. Also, if you should draw a blank, I want you to keep on trying until the time limit is up. You will have a minute for each one. The first letter is C. Ready, go.”

Start the stopwatch when the participant provides the first word. If after 15 seconds the participant gives no words, start stopwatch, and repeat the basic instructions and the letter. No extension on the time limit is made in the event that the instructions are repeated. Stop the participant after 60 seconds. If the participant does not provide any appropriate words, or refuses to go on, record “0” for the number of correct words.

### 4.3.2 Timed test – F and L

Follow same instructions as those in section 4.3.1 testing the participant on letter F and then on letter L.

## 5. Alert values/follow-up/reporting

When the interview is completed, thank the participant without offering specific feedback on their performance. You might say, “Thank you for doing this portion of the interview.”

## 6. Quality assurance

### 6.1 Training requirements

The examiner requires no special qualifications or prior experience to perform this assessment. Training should include:

- Read and study manual
- Attend Health ABC training session on techniques (or observe administration by experienced examiner)
- Practice on volunteers
- Discuss problems and questions with local expert or QC officer

### 6.2 Certification requirements

- Complete training requirements
- Explain how to score a question if:
  - Participant is unable to complete the sample
  - Participant does not respond

### 6.3 Quality assurance checklist

- Exam performed in quiet, private area without interruptions
- Correct instructions for sample test given in clear, slow speaking voice
- Sample test completed correctly
- Correct instructions for actual test given clearly
- Stopwatch started at appropriate time (when participant provides first word or after 15 seconds if participant gives no words)
- C word instructions given correctly
- C words written down correctly
- F word instructions given correctly
- F words written down correctly
- L word instructions given correctly

- L words written down correctly
- Responses correctly scored (QC officer should independently fill out scoring sheet)
- Reviews form for completeness
- Correctly completes form

## 7. Reference

1. Benton, A.L., Hamsher, K., & Sivan, A.B. (1994). *Multilingual Aphasia Examination* (3<sup>rd</sup> ed.). Iowa City, IA: AJA Associates.

8. Data collection form

HABC Enrollment ID #	Acrostic	Year and Quarter of Interview							
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px;">H</div> <div style="border: 1px solid black; padding: 2px;"> </div> </div>	<div style="border: 1px solid black; padding: 2px;"> </div>	<input type="radio"/> 15Q1	<input type="radio"/> 15Q2	<input type="radio"/> 15Q3	<input type="radio"/> 15Q4	<input type="radio"/> 16Q1	<input type="radio"/> 16Q2	<input type="radio"/> 16Q3	<input type="radio"/> 16Q4
		<input type="radio"/> 17Q1	<input type="radio"/> 17Q2	<input type="radio"/> 17Q3	<input type="radio"/> 17Q4	<input type="radio"/> 18Q1	<input type="radio"/> 18Q2	<input type="radio"/> 18Q3	<input type="radio"/> 18Q4
		<input type="radio"/> 19Q1	<input type="radio"/> 19Q2	<input type="radio"/> 19Q3	<input type="radio"/> 19Q4	<input type="radio"/> 20Q1	<input type="radio"/> 20Q2	<input type="radio"/> 20Q3	<input type="radio"/> 20Q4

CONTROLLED ORAL WORD ASSOCIATION

I am going to say a letter of the alphabet, and I want you to say as quickly as you can all of the words you can think of that begin with that letter. You may say any word at all except proper names such as the names of people or places. So you would not say "Rochester" or "Robert." Also, do not use the same words again with a different ending, such as "run" and "running." For example, if I say R you could say rat, river, or run. Can you think of any other words beginning with the letter R? **Wait for the participant to give a word, indicate if the word is correct, and ask the participant to give another word beginning with the letter R.**

35. Can you tell me another word that begins with R?  
*(Examiner Note: If participant says another appropriate word that begins with R, tell participant "That is fine," mark "Sample Completed," and go on to timed test.)*

Sample completed     
  Unable to complete sample     
  Refused     
  Unable to test

Do NOT go on to timed test. Do not score. Go to Page 17, Question # 39.

36. Now I'm going to give you another letter, and again, say all the words beginning with that letter that you can think of. Remember, no names of people or places, just ordinary words. Also, if you should draw a blank, I want you to keep on trying until the time limit is up. You will have a minute for each one. The first letter is C. Ready, go.  
*(Examiner Note: Start the stop watch when the participant provides the first word. If after 15 seconds the participant gives no words, start stopwatch, and repeat the basic instructions and the letter. No extension on the time limit is made in the event that the instructions are repeated. Stop the participant after 60 seconds.)*

1. _____	7. _____	13. _____	19. _____	Number correct words  <div style="border: 1px solid black; width: 30px; height: 20px; margin: 0 auto;"></div>
2. _____	8. _____	14. _____	20. _____	
3. _____	9. _____	15. _____	21. _____	
4. _____	10. _____	16. _____	22. _____	
5. _____	11. _____	17. _____	23. _____	
6. _____	12. _____	18. _____	24. _____	

37. Now I am going to give another letter. Tell me as many words as you can that begin with F. Tell me as many words as quickly as you can that begin with F. Ready, go.  
*(Examiner Note: See instructions above. Stop the participant after 60 seconds.)*

1. _____	7. _____	13. _____	19. _____	Number correct words  <div style="border: 1px solid black; width: 30px; height: 20px; margin: 0 auto;"></div>
2. _____	8. _____	14. _____	20. _____	
3. _____	9. _____	15. _____	21. _____	
4. _____	10. _____	16. _____	22. _____	
5. _____	11. _____	17. _____	23. _____	
6. _____	12. _____	18. _____	24. _____	

38. Now I am going to give another letter. Tell me as many words as you can that begin with L. Tell me as many words as quickly as you can that begin with L. Ready, go.  
*(Examiner Note: See instructions above. Stop the participant after 60 seconds.)*

1. _____	7. _____	13. _____	19. _____	Number correct words  <div style="border: 1px solid black; width: 30px; height: 20px; margin: 0 auto;"></div>
2. _____	8. _____	14. _____	20. _____	
3. _____	9. _____	15. _____	21. _____	
4. _____	10. _____	16. _____	22. _____	
5. _____	11. _____	17. _____	23. _____	
6. _____	12. _____	18. _____	24. _____	

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Telephone Interview  
Q1,3  
AR