

## CLINIC FOR ADULT COMMUNICATION DISORDERS

<b>Name:</b>	<b>H, J “D”</b>	<b>CA:</b>	62 years, 3 months
<b>Address:</b>	1234 N. Paseo Marana, AZ XXXXX	<b>Date of Birth:</b>	01/05/1952
<b>Telephone:</b>	(520) XXX-XXXX	<b>Date of Evaluation:</b>	04/16/2014
		<b>Graduate Clinicians:</b>	Jacalyn, B.S. Catherine, B.A. Katrina, Ph.D.
		<b>Clinical Instructor:</b>	Janet L. Hawley, M.S., CCC-SLP

### Speech and Language Evaluation

#### Statement of the Problem

J “D” H, a 62-year-old man, was referred by his sister, J, to the Clinic for Adult Communication Disorders (CAC). He has had communication difficulties since a stroke in December 2011.

#### History

History was based on review of the CAC intake/history form completed by Mr. H's sister, prior medical records, and an interview at the time of the evaluation. Mr. H and his sister willingly answered all of our questions. Of note, given Mr. H's readily apparent language difficulties, the information he provided may not be fully reliable.

#### Medical

Mr. H suffered a stroke in December 2011 while he was at work. He did not go to the hospital and returned home. Two days later he experienced similar symptoms which he reported to a close friend, who took him to the hospital where he was diagnosed with a stroke in the “left posterior inferior temporal lobe.” He remained in inpatient care at Carondelet Hospital for approximately two weeks. He received physical therapy to improve his ability to walk, but reportedly did not receive any speech therapy.

He was discharged on January 12, 2012 and returned home. He reportedly did not receive any outpatient treatment because he did not have insurance. From January 2012 to February 2014 Mr. H lived alone but reported that he had a hard time taking care of himself. His sister concurred with this comment, indicating that she had concerns during that time about his health and nutrition. He moved in with his sister in February 2014 and plans to remain in her care.

Medical history is positive for diagnoses of hypertension, diabetes, and coronary heart disease. Current medications include metoprolol and aspirin to control blood pressure, pravastatin to manage cholesterol, metformin and Glimperide for diabetes, Keppra and phenytoin to manage seizures, and paroxetine for depression. Mr. H sees his neurologist, Dr. D, M.D., every three months. He will be receiving further blood work in June. Of note, Mr. H reported a current history of intermittent seizures. However, he stated that had no seizures from October 2013 to February 2014. His sister reported that prior to that, he had three within two months. He reported that during a seizure he feels a little shaky before, sits down so that he does not fall, and he stays conscious. After a seizure he experiences confusion.

Remarkable past medical history includes a traumatic brain injury. As a teenager, Mr. H was hit by a car when riding his bike. He was in the hospital for several months in a full body cast. He reported a “difference in thinking” after his accident and indicated that he was disinterested in school. He stated that he “didn’t care for anything.” Mr. H was homebound and worked with a tutor. He did not continue school after the 11<sup>th</sup> grade.

Mr. H acknowledged a history of tobacco and alcohol abuse, but reported that since his accident in 2011 he has changed his habits. He “seldom” consumes alcohol, estimating one drink every six months, and he no longer smokes cigarettes.

### Employment and Social

Prior to his accident, Mr. H was a glazer and worked with glass. He was a self-described “work-aholic” and reported no injuries from work. He was unable to return to work after the stroke and currently receives disability compensation. A typical day consists of sleeping and watching television. His favorite television shows are Gun Smoke, game shows, and nature shows. By report, he does not have much interaction outside of his family (brother and sister).

### Current Concerns

Mr. H has struggled with oral communication since his stroke in 2011. He has not received any speech treatment and has not tried any strategies to aid his oral communication. His sister reported that she hopes that therapy will teach him to recognize and write letters and numbers to enable him to use the telephone. She expressed a desire for Mr. H to attain more independence through improved communication abilities.

### Behavioral Observations

Mr. H exhibited borderline fluent speech with paraphasias, perseveration, word repetitions, and nonspecific speech. In conversation, he was pragmatically appropriate, but had difficulty understanding questions and frequently asked for repetitions. When experiencing comprehension difficulties, he often laughed. He exhibited eye fluttering, slow blinking, and repetitive “pill rolling” hand movements. Although his sister reported that he fatigues more easily since the stroke, he demonstrated strong mental endurance on the day of the evaluation as evidenced by completing a four-hour evaluation without showing signs of fatigue.

### Test Results

The results of a variety of formal and informal measures are summarized below.

#### Hearing Screening

A hearing screening was administered to assess Mr. H’s hearing. Pure tones at 1000, 2000, and 4000 Hz were presented at 25 dB. Mr. H failed the screening at all frequencies in both ears, and it is recommended that he receive a full audiological evaluation.

#### Motor Speech Examination

The Motor Speech Exam adapted from Darley, Aronson, and Brown (1975) and Edwards (1995) was used to identify any structural or functional abnormalities of the speech mechanism. His uvula was observed to be long, thin, and hung low in the oral cavity. This observation may be insignificant or may reflect mild muscle weakness. However, we had no significant concerns regarding resonance suggesting that his velopharyngeal port is working adequately. No other structural deviations were noted.

Performance across a variety of oral motor movement tasks was suggestive of apraxia. For example when asked to “Move your jaw side to side,” Mr. H required a model to accurately perform the task. When instructed to close his lips and puff out his cheeks, he displayed air escape from the lips despite additional instruction and modeling, possibly indicating reduced labial strength. When instructed to protrude his tongue, the tongue deviated to the right, consistent with right sided hemiparesis. When moving his tongue side to side, movements were disorganized and required a model, again a sign of apraxia. The average time across two trials for sustained “ah” was 5 seconds, which is far below the mean for his age range (mean for adult males = 28.5, SD = 8.4). The limited duration he demonstrated may reflect poor effort and/or his history of smoking. Performance on both alternating and sequential motion rates (i.e., diadochokinetic productions) was characterized by reduced rate and accuracy. He was unable to complete the sequential motion rate task (pʌtkʌ). However, when doing the same task with the word “buttercup,” rate and accuracy fell within normal

limits. Based on this motor speech exam, Mr. H displays signs of apraxia and mild unilateral muscle weakness consistent with his stroke.

Language

The *Western Aphasia Battery Revised (WAB-R)* was administered to sample Mr. H's language abilities. The subtests scores are indicated below:

Subtest	Possible	Score	Comments
Spontaneous Speech (SS)-Information Content	10	4	Correct response to 4 of 6 basic personal facts in the conversational questions task and naming of 0 items in the Picnic Scene in the picture description task.
SS- Fluency	10	5	Borderline fluent speech with some grammatical organization and severe word finding difficulties. Paraphasias and filler speech prominent.
<b>Spontaneous Speech</b>	<b>20</b>	<b>9</b>	
Comprehension: Yes/No Questions	60	54	Potential difficulty with temporal relationships (e.g., 'before').
Comp: Auditory Word Recognition	60	37	Body parts were a strength. Letters was the most difficult category.
Comp: Sequential Commands	80	29	Difficulty with two or more step commands.
<b>Comprehension Composite</b>	<b>10</b>	<b>6</b>	
Repetition	100	65	Difficulty repeating sequences of five or more words. Phonemic paraphasias prominent in longer phrases.
<b>Repetition Composite</b>	<b>10</b>	<b>6.5</b>	
Naming: Object Naming	60	32	Responses were frequently inaccurate with limited self-monitoring and poor ability to self-correct (e.g., "pillow" for 'book' and 'knife'). Highly perseverative. Inconsistently responsive to phonemic cues (3x) and semantic cues (2x).
Naming: Word Fluency	20	1	Responses: horse, cow (horse not counted because given in prompt). Severe hesitation.
Naming: Sentence Completion	10	8	Inappropriate response: 'Christmas is in the month of ...' "Christmas."
Naming: Responsive Speech	10	5	Both semantic and phonemic paraphasias.
<b>Naming Composite</b>	<b>10</b>	<b>4.6</b>	

**Aphasia Quotient: 52.2**  
**Aphasia Type: Wernicke's Aphasia**

Mr. H presented with moderate (borderline to severe) Wernicke's aphasia. Comprehension, repetition, and word finding were notably impaired. Overall, his language impairment is likely to have a significant impact on activities of daily living.

Semantics

The *Arizona Semantic Test* was administered to assess Mr. H's semantic knowledge. He scored 21/40 which is far below typical expectations, indicating semantic knowledge is impaired.

Reading

The *Reading Comprehension Battery for Aphasia-2 (RCBA-2)* was administered to examine reading ability. This criterion-referenced assessment looks at reading at the word, sentence, and paragraph levels and also in a functional, real-world context. Scores suggest Mr. H is severely impaired at all levels. He exhibited a low degree of accuracy in matching words to pictures and sentences to pictures from a field of three. He had great difficulty with functional and paragraph reading both in terms of accuracy and latency of response, particularly with functional reading. Based on these scores, it was determined that Mr. H is not a functional reader at this time.

Subtest	Percent Correct
Word-Visual	60%
Word-Semantic	50%
Functional Reading	10%
Sentence-Picture	50%
Paragraph-Picture	40%

Writing

Subtests of the *WAB Supplement* were administered to assess Mr. H's writing abilities. He scored 0 out of 6 on the Writing Upon Request subtest, indicating impaired writing at the word level. Mr. H was unable to write his name. When asked to write the alphabet, he produced a capital script 'D' when instructed to write 'a'. The Dictated Letters and Numbers subtest was attempted, but was not completed due to Mr. H's extreme difficulty with the task.

Informal assessment was performed to determine strategies to aid with writing. When asked to copy letters, Mr. H produced close approximations of the letters, but his performance was characterized as slow and effortful. He initially used his right hand, but when asked to switch to his left hand he produced smoother, more accurate strokes. This indicates that motor control of the right hand has been compromised due to his left hemisphere stroke.

Limb Motor Control

The Apraxia subtest of the *WAB Supplement* was administered to assess Mr. H's limb control. He demonstrated gross approximations for the majority of apraxia tasks, scoring 49 out of 60. He required a demonstration for the task "pretend to fold a paper," but was able to imitate the action. His results were consistent with mild limb apraxia and as previously mentioned, oral and verbal apraxia were suggested by behavior on oral motor tasks and during repetition.

### Nonverbal Cognition

We administered the *Test of Nonverbal Intelligence-3 (TONI-3)* to examine nonverbal problem solving skills. This norm-based assessment tests the ability to complete a visual pattern with a single choice from a field of 4 to 6 items. Mr. H received a quotient of 66, falling in the 1st percentile when compared to peers between ages 60 and 69 years old. This score potentially indicates very low nonverbal reasoning skills. However, taking his overall alertness and handling of interview questions into account, it is unlikely that this performance reflects his actual level of cognitive functioning. Rather, this score may have been influenced by his aphasia which impacts his ability to verbally mediate non-verbal reasoning tasks.

### Summary

Mr. H was seen at the CAC to examine communication abilities and make treatment recommendations following his stroke in December 2011. He was determined to have moderate Wernicke's aphasia (indicating impairments in comprehension, repetition, and naming), oral apraxia, alexia (reading deficits), agraphia (writing deficits), semantic deficits, and potential weakness in cognitive skills. Given his familial support and stated willingness to participate in treatment, prognosis for therapeutic gain is positive.

Diagnostic codes: **Aphasia due to CV disease (438.11), Alexia & Dyslexia (784.61), and Apraxia (438.81) due to Cerebral Vascular Accident (434.31).**

### Recommendations

It is recommended that Mr. H:

1. Receive a full audiological evaluation.
2. Attend individual speech-language therapy once to twice per week for one-hour long sessions with objectives including:
  - a. Learning effective cueing strategies to improve word finding.
  - b. Developing basic reading skills for activities of daily living.
  - c. Learning to recognize and form letters and numbers for functional communication and writing.
  - d. Developing his ability to utilize various non-verbal modalities (e.g., picture books, gestures) to aid in communication.
3. Attend weekly one-hour long aphasia group sessions with goals to focus on carry-over and generalization of objectives from individual therapy, and to receive psychosocial support.

---

Janet L. Hawley, M.S., CCC-SLP  
Clinical Assistant Professor

---

Jacalyn, B.S.  
Graduate Student Clinician

---

Catherine, B.A.  
Graduate Student Clinician

---

Katrina, Ph.D.  
Graduate Student Clinician