

Center for Clinical Care and Education

Client Name: Dan Ellis

Age: 77 years old

Speech-Language Diagnosis: 169.320 Aphasia Following Cerebral Infarction

Referral Source: Donaldson Neurological

Medical Diagnosis: 169.3 Cerebral Infarction

Date of Evaluation: 2 years ago

Evaluation and Treatment Report

Background Information

Dan is a 77-year-old male referred to our center by the Donaldson Neurological where he was previously receiving individual speech and language services. Referral was made for evaluation and treatment regarding aphasia related speech and language concerns. In addition, per verbal report by his previous therapist, Dan also has a diagnosis of apraxia of speech. Medical history is significant for stroke 6 years ago and 2 years ago, hernia repair, cataract surgery, and insertion of pacemaker for atrial fibrillation. Per Dan's wife, Sherl, Dan began to exhibit severe communication difficulty after his second stroke. At that time, primary concerns included limited verbal output, decreased verbal comprehension, and limited participation in conversations. Following his second stroke, Dan received individual services for outpatient speech-language pathology due to his severe Wernicke's aphasia through Donaldson Neurological. He was recently discharged from individual services but continues to receive group language therapy at Donaldson.

As reported by Sherl in case history, Dan has allergies to the following: latex, shellfish, iodine, Ativan and Xanax. His current medications include: Tylenol, Carvedilol for high blood pressure, Simvastatin for cholesterol, Bupropion HCL, Trazodone, Ropinirole, Warfarin blood thinner, Pantoprazole acid reducer, Thiamine and multivitamins.

Dan is a retired school teacher and former president of the Master Gardeners Club. He enjoys reading, relaxing, and family gatherings. Dan and Sherl are active in their church. Prior to his second stroke, Dan volunteered regularly at church. Dan lives at home with his wife and dog, Bo and has three adult children. Dan and Sherl sought out services to improve Dan's overall communicative participation as well as increase his independence with activities at home.

Evaluation Results

Assessment tools administered:

Western Aphasia Battery-Revised (WAB-R)

- Spontaneous Speech subtest
- Auditory Comprehension subtest

- Repetition subtest
- Naming and Word Finding subtest
- Assessment for Living with Aphasia (ALA)
- Communication Effectiveness Index (CETI)
- L!V- Life Interests and Values Cards
- Hearing Screening
- Oral Motor Examination

Language

Western Aphasia Battery-Revised (WAB-R)

The Western Aphasia Battery-Revised (WAB-R) was administered. The WAB-R is an individually administered assessment for adults with acquired neurological disorders that assesses the linguistic skills most frequently affected by aphasia, in addition to key nonlinguistic skills and provides differential diagnosis information. The WAB-R evaluates spontaneous speech, auditory verbal comprehension, repetition, and naming and word finding and is used to obtain an Aphasia Quotient (AQ) score, severity rating, and aphasia classification. Dan's results from subtests of the WAB-R are displayed in Table 1 below.

Table 1: Western Aphasia Battery-Revised Scores		
Spontaneous Speech Subtest		
	Maximum Score	Dan's Score
Informational Content	10	3
Fluency, Grammatical Competency & Paraphasia	10	7
TOTAL	20	10
Auditory Comprehension Subtest		
	Maximum Score	Dan's Score
Yes/No Questions	60	48
Auditory Word Recognition	60	28
Sequential Commands	80	5
TOTAL	200	81
Repetition Subtest		
	Maximum Score	Dan's Score
Speech Repetition	100	19
TOTAL	100	19
Naming and Word Finding		
	Maximum Score	Dan's Score
Object Naming	60	14
Word Fluency	20	0
Sentence Completion	10	5
Responsive Speech	10	2

TOTAL	100	21
--------------	-----	----

Spontaneous Speech

During the WAB-R, Dan produced one-word responses to two simple questions (i.e. “How are you today”- “Good,” and “Have you been here before?”- “No.”), however was inconsistent with his responses to other simple questions throughout the evaluation. He demonstrated difficulty answering more complex questions requiring multi-word responses. When asked to describe a pictured picnic scene, Dan pointed to many aspects of the picture but produced primarily unintelligible single-word utterances. He frequently produced neurological paraphasias, which are nonsense words that are substituted for target words (e.g. flav for grass). He identified a couple having a picnic and said, “probably dating,” which was an appropriate statement for the scene. Overall, a score of 10/20 on the Spontaneous Speech subtest classifies Dan’s utterances as fluent containing varied phonemes and neologisms with mostly unintelligible speech output.

Auditory Comprehension

Dan’s strengths in auditory comprehension included answering yes/no questions and recognizing words when presented with tangible objects. His performance was reduced when presented with pictures. Dan demonstrated difficulty identifying single letters and forms (shapes). In addition, Dan had difficulty identifying personal body parts presented verbal and paired with a directional prompt (i.e. right or left). During this task he frequently perseverated on the previous sections stimuli that asked him to physically identify and show specific fingers. Perseveration is the repetition of a particular response (such as a word, phrase, or gesture) despite the absence of cessation of a stimulus. Dan required maximal verbal and visual cues to extinguish this perseverative behavior. Dan exhibited difficulty initiating and independently following multi-step directions (i.e. “point to the pen and the book”) with and without objects; however, was successful when provided an imitative and verbal cue (i.e. “raise you hand”).

Repetition

During repetition tasks, Dan produced words and phrases verbally modeled for him. He frequently required repetition of the target word as well as verbal reminders of the instructions. He demonstrated greater success with repeating single words and exhibited breakdown on utterances increasing in length and complexity (i.e. “ninety-five percent”, “Delicious freshly baked bread”).

Naming and Word Finding

During object naming, Dan demonstrated frequent phonemic and semantic paraphasias. A phonemic paraphasia is where more than half of the word is

produced correctly and some sounds are substituted or transposed within the word. Examples of phonemic paraphasias within this subtest performance include: “hatcher” for “hammer”, and “patchin” for “matches”. Semantic paraphasias are the substitution for one word for another within the same semantic category (i.e. “toothpaste” for “toothbrush” and “brush” for “comb”). Tactile, phonemic, and semantic cues were consistently beneficial for increasing naming accuracy. His overall score was 14/60. Dan displayed many neologistic responses (i.e. “beecher” for “eraser” and “patcher” for “paperclip”). He also received reduced points for responses which required cueing. During the word fluency task, Dan was asked to name as many animals as possible within one minute. Dan’s performance included mostly silence with occasional one-word neologisms and the proclamation of “I can’t do it.” For the Responsive Speech task, which involved providing one-worded answers to wh-questions (i.e. “What do you write with?”), Dan’s provided responses suggested that he did not comprehend the questions. This was evidenced by his repetitions of the verbal prompts and his confused expression paired with gestures, such as pointing at the table.

The Aphasia Quotient (AQ) is the core measure of aphasia of the WAB-R and is derived from various calculations of Dan’s scores on four subtests of the WAB-R reported in the previous table. Table 2 outlines Dan’s AQ scores.

Subtest	Maximum Score	Dan’s Score
Spontaneous Speech	20	10
Auditory Comprehension	10	4.05
Repetition	10	1.9
Naming and Word Finding	10	2.1
Total	(50x2) 100	(18.05x2) 36.1

Table 3 displays WAB-R’s degrees of severity, ranging from mild to very severe. Dan’s AQ score reported in the previous table determines the degree of severity. The severity rating score is proportional to the severity of aphasia regardless of the type or cause.

Mild	76+
Moderate	51-75
Severe	26-50
Very Severe	0-25

Dan’s AQ score of 36.1 determined by the degree of severity. Dan’s aphasia was rated as severe, using the WAB-R guidelines.

Table 4 displays Dan's aphasia classification determined by four of his WAB-R subtest scores. His scores were compared to scores associated with different types of aphasia in the WAB-R's Aphasia Classification Criteria. Table 4 below displays Dan's subtest scores matched with the corresponding aphasia profile.

Aphasia Type	Fluency	Auditory Verbal Comprehension	Repetition	Naming & Word Finding
Wernicke's	>4	<7	<8	<10
Dan's Scores	10	4.05	1.9	2.1

Using the WAB-R Aphasia Classification Criteria, Dan's scores are classified as Wernicke's aphasia characterized by fluent speech containing phonemic, semantic and neologistic paraphasias with decreased auditory comprehension. Throughout the administration of the WAB-R, Dan displayed relative strengths in producing an overall fluent speech in conversation and answering yes/no questions. Dan had challenge in initiating and following multi-step directions, spontaneous production of objects within a category, completing sentences from verbal prompt (i.e. roses are __.) and providing one-worded answers to wh-questions. Results of the WAB-R also indicated difficulty with repeating utterances of increasing lengths and complexity, inconsistent speech errors and a varying performance on completing multistep commands involving common objects (pen, book, and comb).

Quality of Life

Assessment of Living with Aphasia (ALA)

The ALA provides quantitative and qualitative results from the perspective of Dan and his life living with aphasia. The ALA captures real-life issues for planning and evaluating treatment and making funding decisions. The ALA is a pictographic, self-report measure of aphasia-related quality of life. The ALA utilizes user-friendly pictographic conversation aid between the facilitator and the participant. The ALA looks at quality of life with aphasia in four different domains: Language and Related Functions, Participation, Personal Factors, and the Environment. Questions from each domain are answered using a Participation, Personal Facts, and the Environment. Questions from each domain are answered using a 0-4 rating scale (0=poor, 4=very good). Scores from each domain are added together to total a sum and then are divided to obtain an average score. These average scores are then compared on the 0-4 rating scale to assess which domains might be targeted in therapy. Dan's results are displayed in Table 5 below.

Domains	Dan's Average Score
Aphasia Domain	2.1
Participation Domain	3.39

Environment Domain	3.25
Personal Domain	3
Wall Question	1
Total	3
<i>Rating Scale: 0-4 rating scale (0=poor, 4=very good)</i>	

The Aphasia Domain addresses questions such as “How do you rate your talking?” and other aspects of an individual’s aphasia. Dan scored an average of 2.1 in the Aphasia domain rating how he feels about his talking, writing, and ability to understand. He expressed that writing is most difficult for him. Dan rated his aphasia and how his aphasia affects his communication abilities as a 2.5, and more specifically his ability to understand and talk as a ‘2,’ writing as ‘1’ and reading at a ‘3.’ Results indicated reading is a relative strength among his communication abilities.

The Participation Domain addresses interactions with family and strangers in different settings such as in the home or community. Dan scored an average of 3.39 on the participation section and reported a ‘2.5’ for satisfaction with the number of days he goes into the community, and a ‘4’ in participation of leisure and recreation activities. Dan indicated his partner, Sherl, is the most important person in his life and rated his relationship with her as a ‘4.’

The Environment Domain evaluates an individual’s feelings about conversation at home and in the community. Dan scored an average of 3.25 indicating that he was comfortable talking at home and in the community. When discussing how other people help him to communicate and join in conversations, he indicated a ‘4’ for “How much help to communicate at home”, and a ‘3’ for help communicating in the community. Additionally, he indicated that people outside his home, in the community, know that he is competent/intelligent by rating a ‘4.’

The Personal Domain assesses topics regarding the way an individual feels about his or her life. Dan scored an average of 3 on this domain. He reported a ‘3’ in the following: he feels in charge of his life, he has good feelings about himself, he has things that he looks forward to in life, and a ‘3.5’ that he feels accepted. Additionally, he reported he feels a ‘3’ for emotions of lonely, frustrated and angry. Dan reported a score of ‘1’ for “Do you feel depressed’. When asked to think about this future a year from now, Dan scored a ‘4’ (‘Better’) to what his life will be like.

The final question of the ALA is the “Wall Question”, displaying the picture below, the client is asked, “Which one is you?” Aphasia can sometimes be like a wall and can stop individuals from participating in life experiences. The picture displayed below depicts 3 phrases: an individual standing behind the wall, the same individual using a ladder to climb over the wall, and the individual stepping over the wall.

When asked which picture describes your life these days, Dan reported a '1' on the scale of '0' to '4' ('0' representing aphasia as a 'Big Problem'; '4' representing aphasia as not much of a problem).

The ALA results should be interpreted with caution due to Dan's reduced comprehension during the ALA due to his aphasia. It is also noted that Dan displayed a decreased self-awareness of communicative deficits, which may have potentially inhibited his ability to rate other's interpretations of his communication. It is indicated by Dan that during the week he talks to about 5-6 different people with the inclusion of his brother. Sherl reported this is incorrect due to the passing of his brother several years ago. The intermittent auditory comprehension along with decreased self-awareness of communicative ability is a common characteristic in individuals with Wernicke's aphasia.

Life Interest and Value Cards (L!V Cards)

The Life Interest and Value Cards (L!V Cards) are a tool that allows assessment of Dan's views on his interests and life goals as self-determined targets for rehabilitation. Results of L!V cards can be used to facilitate goal-setting in therapeutic sessions, assessments, and everyday conversations. L!V cards look at four different areas of interest: Creative and Relaxing Activities, Social Activities, Home and Community Activities, and Physical Activities. Activities were divided into two categories: wanting to do more of the present activity, or not wanting to do more of the presented activity. Both Dan and his spouse, Sherl were asked to participate. Sherl was asked to rate each activity through Dan's perspective, noted below in blue. Results of each were compared and contrasted to allow for constructive decisions that can be initiated about new priorities, possible misunderstandings, and ways to overcome barriers to activity participation. Below is a list of all the activities Dan reported as "something he wants to do more of." Activities with an *(asterisk) are those his significant other reported as an activity of which she was unaware he wanted to do more of.

Home and Community Activities:

3 Cooking
Washing Dishes
Taking Out the Trash
Indoor Plant Care
Yard Work
Grocery Shopping 1

Clothes Shopping
*Shopping at Hardware Store
Beauty/Barber Shop
Going to the Doctor
2 Going to Place of Worship
Voting

Creative and Relaxing Activities:

Watching TV 2
Bird Watching 1
Library 3

Reading
Resting
Getting a Massage

Social Activities:

Volunteering
Family Gatherings
Entertaining at Home
Discussing Politics/Current Affairs 1
Attending Meetings
Having Coffee/Tea with Friends
Eating Out 2
Picnic
Laughing/Joking
Gift Giving 3
Story Telling to Children
Table Games
Using the Phone

Physical Activities:

*Camping
Beach
Traveling
Sightseeing
2 Going to the Mall
1 Gardening
*Woodworking
Drawing/Painting
Flower Arranging
3 Listening to Music
Attending Concerts
Going to the Movies

Communication Effectiveness Index (CETI)

The CETI questionnaire is a subjective measure of functional communication, consisting of a series of questions asked of spouses or other caregivers, relating to communication interactions and situations of day-to-day life. Responses are indicated on a non-numerical scale between “not at all able” to “as able as before the stroke.” Sherl completed the survey and indicated the following strengths: answering yes/no questions appropriately, indicating when he understands what is being said to him, and having “coffee-time” conversation when visiting at home or with friends and neighbors. The following areas were scored as “not at all able” by Sherl: describing/discussions in-depth, conversations with strangers or when a number of people are involved, one-on-one conversations, and involvement in group conversations that are about him.

Hearing Screening

A hearing screening was attempted; however, Dan was unable to follow the auditory or visual directions due to his language and motor deficits. Per Sherl’s report, there are currently no concerns or complaints with Dan’s quality of hearing, nor is there any history of noise exposure, ear infections, or surgeries. Despite language challenges due to aphasia, Dan appeared to respond to auditory stimuli such as verbal prompts and conversation throughout evaluation within the quiet treatment room. He was observed not to wear amplification devices.

Oral Motor Examination

An oral motor examination was conducted to assess the symmetry, strength, range of motion and sensation of Dan’s oral and facial structures. Dan presented with

facial asymmetry as evidenced by right-sided labial droop at rest and during labial retraction. Low tone in the bilateral buccal areas were also noted. Dan also presented with lingual groping while attempting some of the activities such as lateralizing his jaw. His lingual structure was of normal symmetry and shape at rest. Dan's sensation of his facial structures appeared to be within functional limits as indicated by an appropriate response to right and left-sided facial touch. Dan demonstrated difficulty volitionally sticking out his tongue out and up and lateralizing the tongue from side-to-side. Dan initially demonstrated difficulty transitioning from a retraction to a protrusion when provided a model, but was successful when the movements were paired with the sounds "ee" and "ooh." Velum elevation was symmetrical upon phonation. Throughout the examination, Dan demonstrated difficulty with volitional movements when presented with auditory cues and visual imitation cues; however, when these movements were paired with a non-volitional act such as saying certain speech sounds, Dan demonstrated greater success in completing these movements. It is suspected that these observations are related to his previous diagnosis of apraxia of speech (AOS) as individuals who have AOS present with difficulties in motor imitation and volitional movement acts.

Summary

Dan presents with severe Wernicke's aphasia as characterized by fluent, neologist speech with paraphasic errors and nonsensical words. His fluent speech can be described as a disorganized rambling style with unrecognizable syllables, words or phrases (jargon) with decreased loudness and increased rate. Dan's relative strengths include: understanding others when presented with information relevant to the current environment (i.e. discussion of family photo presented) and following simple conversations involving one or more persons. Additionally his strengths during conversational speech include responding to yes/no questions, intermittent commentary using one-word declaratives, use of gestures, eye contact, and head nods to show comprehension, and occasional self-corrective strategies. The current evaluation revealed a relatively high self-rated quality of life with an optimistic outlook in the future. In addition, support from Sherl has shown to increase Dan's participation in conversation and his overall involvement in past and present speech and language therapy. Dan also presents with apraxia of speech as characterized by frequent groping during, and difficulty completing oral and motor imitation activities such as a pucker and retraction, lingual protrusion, and jaw lateralization. Dan also presented with difficulty following verbal and physical commands of increasing length and complexity as evidenced by partial completion of these tasks. This diagnosis has been confirmed by a previous diagnosis from the Donaldson Neurological.

Assessments and discussion indicated areas of improvement to increase independence at home involving both conversation and language-based activities of daily living. Other areas of need include: auditory comprehension, self-awareness of communicative deficits, naming (objects and people), disorganized speech output, neologistic, semantic, and phonemic paraphasias, and following sequential commands and procedural steps.

Prognosis

Prognosis for improvement in overall quality of life is good with consistent and appropriate intervention and continued familial support.

Recommendations

- Dan receive individual and group speech-language pathology services.
- Dan would benefit from one (1), two (1) hour sessions per week. Therapy should focus on functional speech-language goals of improving expressive language and adjustment to living with aphasia.
- Continue group therapy.
- Considering attending support group for persons with aphasia and their spouses.

Plan of Treatment

- Visual Scene Display
- Communication Partner Training
- Aphasia Education
- Supporting Communicative Environment
- Compensatory Strategies
- Increased engagement in meaningful activities

Functional Long Term Goal

Dan will improve overall communication by engaging in meaningful activities with placement of environmental supports within the home.

Functional Short Term Goals

- Dan and his communicative partner will implement 3 environmental kitchen supports in the home to foster Dan's independence.
- Dan and his care partner will identify and implement 2-3 aphasia-friendly language-based apps to be used on their tablet during free time.
- Dan and care partner will identify 3 scenarios in which an aphasia card can be used to facilitate participation in activities outside the house.
- Care partner and Dan will identify and practice 2-3 conversational activities utilizing Visual Scene Display to be implemented throughout the holidays with family.

Thank you for the opportunity to evaluate Dan.

Supervising SLP: *Julia Martin*

Julia Martin CCC-SLP