



**CONFIDENTIAL**

**University of Nevada, Reno Speech and Hearing Clinic  
Reassessment and Treatment Plan – Fall 2017**

<b>Date of Reassessment:</b> 9/6/2017	
<b>Name:</b> Zachary Holm	<b>Spouse:</b> Sarah Holm
<b>Address:</b> PO Box 4501, Incline Village, NV 89450	<b>Telephone:</b> 775-671-0955
<b>DOB:</b> 3/1/1972	<b>Alt. Telephone:</b> 775-772-0398
<b>Age:</b> 45;5	
<b>SLP:</b> Rachael Walden, M.S. CCC-SLP	<b>Referred By:</b> Emily Smith, M.D.
<b>Graduate Clinician:</b> Hanna Crews B.S.	<b>CPT Code:</b> 92507
<b>ICD-10 Code(s):</b> I69.120-Aphasia following non-traumatic intracranial hemorrhage; I69.190-Apraxia following non-traumatic intracranial hemorrhage	

**I. Background Information:**

Zachary "Zach" Holm is a 45 year old male who was seen at the University of Nevada, Reno Speech and Hearing clinic for a speech and language evaluation on 6/28/2016 to determine presence and severity of aphasia and apraxia. Mr. Holm was referred to the UNR speech clinic by Dr. Emily Smith following a craniotomy to remove a large hematoma, and a subsequent cerebral infarction. He was hospitalized and in rehab at Renown Regional Medical Center from April 20<sup>th</sup>, 2015 to June 19<sup>th</sup>, 2015. The speech and language evaluation found that Mr. Holm had a moderately severe non-fluent aphasia consistent with Broca's type aphasia. Speech patterns were consistent with apraxia of speech. Verbal productions at that time consisted of 1-2 word phrases.

Speech therapy goals during the Summer, 2017 session focused on increasing speech intelligibility and expressive language abilities. Mr. Holm met or partially met his goals for increasing intelligibility at the sound and word level. He partially met his goal for increasing CIUs in connected speech. However, his CIUs increased only when discussing the apartment he lived in and these improvements were not generalized to other contexts or subjects.

It was recommended that Mr. Holm continue working with his personal functional words to increase his use of CIUs to help him convey more meaning in his messages in a variety of everyday settings. Current concerns of Mr. Holm are his ability to produce and use words functional to his life, verbs, pronouns, prepositions, determiners, days of the week, and counting.

Receptive language and writing are areas of strength for Mr. Holm.

## II.

**Reassessment:****A. Probe sound level production**

At the end of the last treatment period Mr. Holm was independently 80% accurate with singular phoneme production. Phoneme production was probed to assess for any regression in this skill from the previous semester.

Mr. Holm was presented with printed letters on Lindamood articulation cards used in the previous treatment period. Letters were presented and Mr. Holm was asked to provide sound-letter correspondence. No support was given during the assessment.

a. 9/24 = 33% accuracy

i. missed: ng, k, g, voiced th, w, wh, h, sh, p, t, d, ch, j, r, and l

At the sound level he misidentified multiple sounds as the phoneme /z/. Mr. Holm was observed to use tactile cues if he knew the sound but could not produce it.

**B. Probe syllable level production**

To determine if larger sound segments were easier to produce syllable sound production was assessed. Syllable segments were assessed to determine if syllable segmentation would be useful as an intervention strategy.

Mr. Holm was presented with a printed open (CV) or closed (VC) syllable sound and asked to produce the syllable sound. No support was given during the assessment.

a. 10/26 = 38 % accuracy

i. missed: di, du, hi, he, lo, la, we, wo, ad, el, en, er, et, on, ow, up

Syllable level production was not assessed during the previous treatment period. Syllable level production was not found to be more accurate than sound level production. Mr. Holm indicated that small segments and words such as "I", "in", "on", "the", and "at" (pronouns, prepositions and determiners) are difficult for him.

**C. Probe word level production**

Mr. Holm partially met word level production goal from previous semester with minimal support. Word level production to assess to assess his level of independence in this task.

Mr. Holm was presented with a printed word and asked to produce the word. Words were chosen based on the areas of identified difficulty from the previous semester. Specifically, words with initial /d/, /g/, and /k/sounds were assessed. These sounds were tested in both medial and final positions to determine level of accuracy in other contexts. No support was given during the assessment.

a. 21/45 = 46 % accuracy

Initial /d/ words: 3/5 = 60% accuracy

Words missed: dirty and deer

Medial and final /d/ words: 8/10 = 80% accuracy

Words missed: soda and salad

Initial /g/ words: 5/5 = 100% accuracy

Medial and final /g/ words: 4/10 = 40% accuracy

CIUs contribute to the communicative content, accuracy and efficiency when conveying a message to a listening partner. (Nicholas & Brookshire, 1993)

**Goal 2:** Increase accuracy in production of parts of speech contributing to percentage of CIUs used in connected speech.

**Objective 1:** Client will increase accuracy in production of pronouns to 70 % accuracy in spontaneous sentence production independently across 2 sessions.

**Baseline:** 5/10 = 50% accuracy

**Objective 2:** Client will increase accuracy in production of prepositions to 30% in spontaneous sentence production independently across 2 sessions.

**Baseline:** 1/10 = 10% accuracy

**Objective 3:** Client will increase accuracy in production of determiners to 70% in spontaneous sentence production independently across 2 sessions.

**Baseline:** 5/10 = 50% accuracy

**Objective 4:** Client will increase accuracy of verb production to 40% in spontaneous sentence production independently across 2 sessions.

**Baseline:** 2/10 = 20% accuracy

**Rationale/Research Citations:** Client's priority. Mr. Holm owns a business and leads a very active lifestyle. Improvements in these areas would positively contribute to functional speech in his everyday life.

**VI. Frequency and Anticipated Duration of Therapy:**

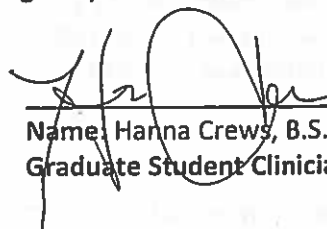
Zach will be seen at the UNR speech and hearing clinic twice a week for one hour sessions. Sessions should focus on CIUs, and word level intelligibility.

Date Report Completed: 9/25/2017

 Rachael Walden, M.S. CCC-SLP

Name: Rachael Walden, M.S. CCC-SLP

Speech-Language Pathologist/Supervisor

 Hanna Crews, B.S.

Name: Hanna Crews, B.S.

Graduate Student Clinician

**Cc:**

Name: Zachary Holm

Address: PO Box 4501, Incline Village, NV 89450

Name: Emily Smith, M.D.

Address: 10085 Double R Blvd #120, Reno, NV 89521

Correct: A, few, some, which, what

Missed: an, this, that, these, the

**Verb**

2/10 = 20% accuracy

Correct: help, fetch

Missed: are, was, were, have, know, need, show, do

**Counting**

9/10 = 90% accuracy

Correct: 1,2,3,4,5,6,7,9,10

Missed: 8

These words are parts of speech that add to the clarity and specificity of messages.

Designating the subject, what is happening to the subject, and spatial designations (e.g. on, in, out etc.).

**III. Observations**

Mr. Holm is motivated to work on increasing his accuracy of verbal productions. He communicated that he found phonemic tactile cues to be helpful. He indicated all speaking situations are difficult, with none reportedly more stressful than another. He indicated he never uses the phone but he does utilize text messaging. Mr. Holm was asked if there were any specific areas in which he would like to target or see improvement. He stated all areas and that he specifically has difficulty with smaller words such as "I" and "at" and numbers, especially when presented as a number and not a word.

**Summary of Findings**

- IV.** Mr. Holm had the most errors at sound and syllable level production. At word level production his accuracy increased. Connected speech and spontaneous conversation was another area of difficulty. The amount of correct information units (CIUs) used in conversation was very low.

Information provided by from the previous treatment period indicates that Mr. Holm has a wide variability of accuracy at sound and word level from session to session. Therefore, this treatment session will focus on increasing correct information units CIUs for functional communication purposes using tactile prompts for phonetic word cues.

**V. Treatment Plan:**

**Goal 1:** Increase use of CIUs in connected speech.

**Objective 1:** Client will increase CIUs to 75% in descriptive tasks independently across 2 sessions.

**Baseline:** 66% accuracy during descriptive task.

**Objective 2:** Client will increase CIUs to 60% in procedural tasks independently across 2 sessions.

**Baseline:** 50% accuracy during procedural task description.

**Rationale/Research Citations:**

To assess his CIU use in spontaneous speech without a visual cue Mr. Holm was asked to describe what he typically does on the weekend. There was no visual or verbal prompting or cueing given during assessment.

**2<sup>nd</sup> task:**

50/75= 66%

60 wpm

40 CIU wpm

50 of the 75 words produced were relevant to the question asked. Filler words were less frequent in this sample. Verbs were more frequent in this sample. Only 25 of the words produced were repetitions or irrelevant to the context.

**c. Procedural task**

To assess his CIU use when verbalizing explicit knowledge Mr. Holm was asked to explain how to make a sandwich. There was no visual or verbal prompting or cueing given during assessment.

13/26 CIUs = 50%

52 wpm

26 CIU wpm

13 of the 26 words produced were relevant to the question asked. Words used were mostly nouns. No verbs were used. Multiple filler words were present in this sample.

Mr. Holm showed the greatest variety of words, and the most on topic statements when the tasks had personal relevance to him. Salient and personal topics elicit the most CIUs in spontaneous speech. Using salient and personally relevant topics would be beneficial stimulus during therapy.

**E. Grammar probes**

Mr. Holm indicated he has trouble with verbal production of "smaller words" (e.g. I, is, an, on, the). Areas of concern identified by Mr. Holm were probed to obtain baseline accuracy measurements for intelligibility of: pronouns, prepositions, determiners (including counting), and verbs. These parts of speech contribute to intelligibility and the ability to accurately convey thoughts and ideas.

Mr. Holm was presented with flash cards with pronouns, prepositions, determiner, verbs, and numbers. He was asked to produce the target on the card. No support was given during the assessment.

**Pronoun**

5/10 = 50 % accuracy

Correct: I, us, you, she, him

Missed: we, me, her, he, it

**Preposition**

1/10 = 10% accuracy

Correct: up

Missed: in, off, at, before, by, under, out, in

**Determiner**

5/10 = 50% accuracy

Words missed: sugar, wagon, begin, August, jog, and leg

Initial /k/ words: 1/5 = 20% accuracy

Medial and final /k/ words: 0/10 = 0% accuracy

Words missed: soccer, pickles, turkey, raccoon, necklace, duck, back, shark, book, knock

At the end of the previous treatment session Mr. Holm read initial /d/ words with 52% accuracy, initial /g/ words with 50% accuracy, and initial /k/ words with 68% accuracy with minimal support. Mr. Holm has maintained progress from the previous treatment session. He was observed to self-correct productions made in error (ex: target word leg, 1<sup>st</sup> attempt: egg, 2<sup>nd</sup> attempt: leg). Mr. Holm is benefitting from word level interventions. This therapy period will continue to focus on reading words. Word targets this treatment period will be functional to Mr. Holm's everyday life.

**D. Probe CIUs in connected speech.**

Correct information units (CIUs) are a measure of speech efficiency, or the ability to quickly convey an idea or information to a communication partner. CIUs assess intelligibility, relevancy of words to the topic, and amount of non-repeated words.

A picture description task was used to probe Mr. Holm's use of CIUs in the presence of a visual cue. Mr. Holm was presented with the "Cookie Theft" picture from the Boston Diagnostic Aphasia Examination (BDAAE). He was asked to describe what he saw. No prompting or cueing was given during assessment.

**a. Picture description**

14/40 CIUs = 35%

15.38 wpm

5.38 CIU wpm

14 of the 40 words produced were relevant to the picture. Of those 14 words only 2 words were a verb. The verb used was "is". The majority of the words used were nouns. The other 26 words produced were repetitions or irrelevant to the context.

**b. Descriptive task - To assess his CIU use in spontaneous speech without a visual cue Mr. Holm was asked to describe what a typical work day was for him. There was no visual or verbal prompting or cueing given during assessment**

**1<sup>st</sup> task:**

81/145 total words = 55% accuracy

56.49 wpm

31.5 CIU wpm

81 of the 145 words produced were relevant to the question asked. Filler words *um* and *uh* were frequently used, decreasing the fluency of Mr. Holm's message. Mr. Holm used the word "generally" out of context frequently. Verbs, adjectives, and nouns were used in this sample. Verbs were used 11 times out of the 81 words produced. The verbs consisted of "do", "does", "did", "go", "going", "get", and "is". The majority of words used were nouns. The other 64 words produced were repetitions or irrelevant to the context and did not contribute to the understanding of the listener.