

A Case Study For Using NeurOptimal® With Aphasia

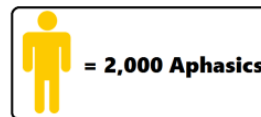
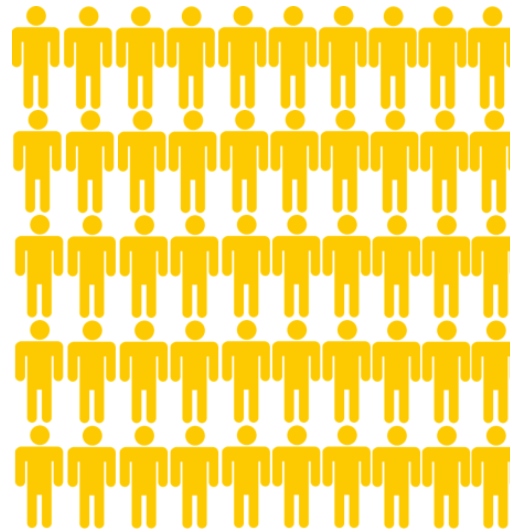
By Jules Ford

OptiMind Neurofeedback
Burbank, CA

Aphasia Basics



How Many Are Affected?

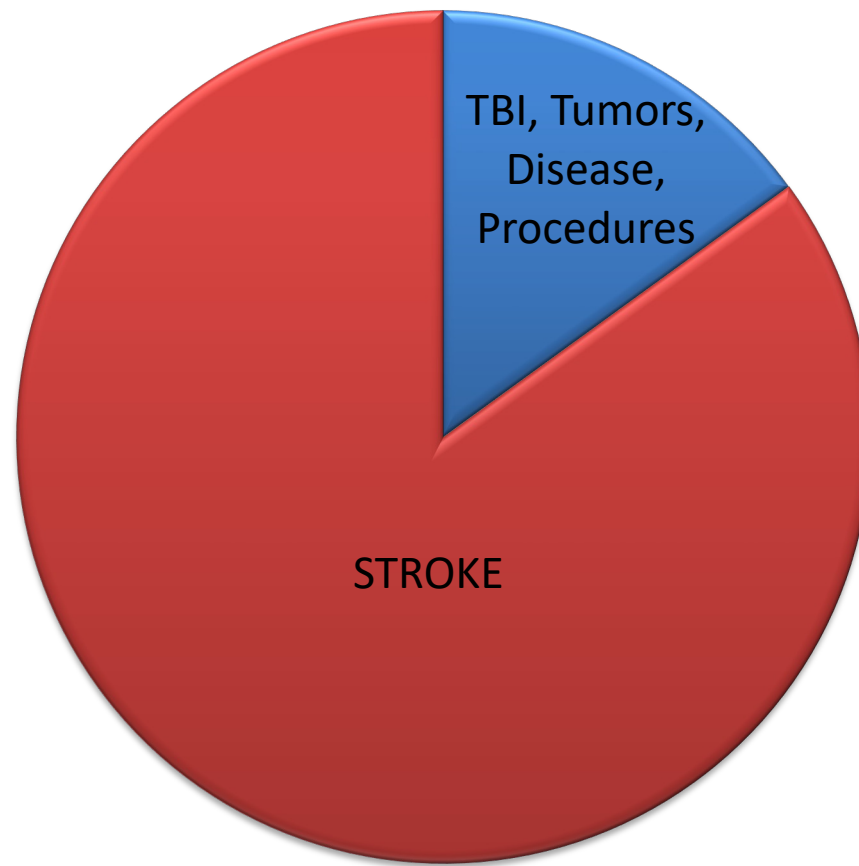


100,000+ New Aphasics Annually In The US

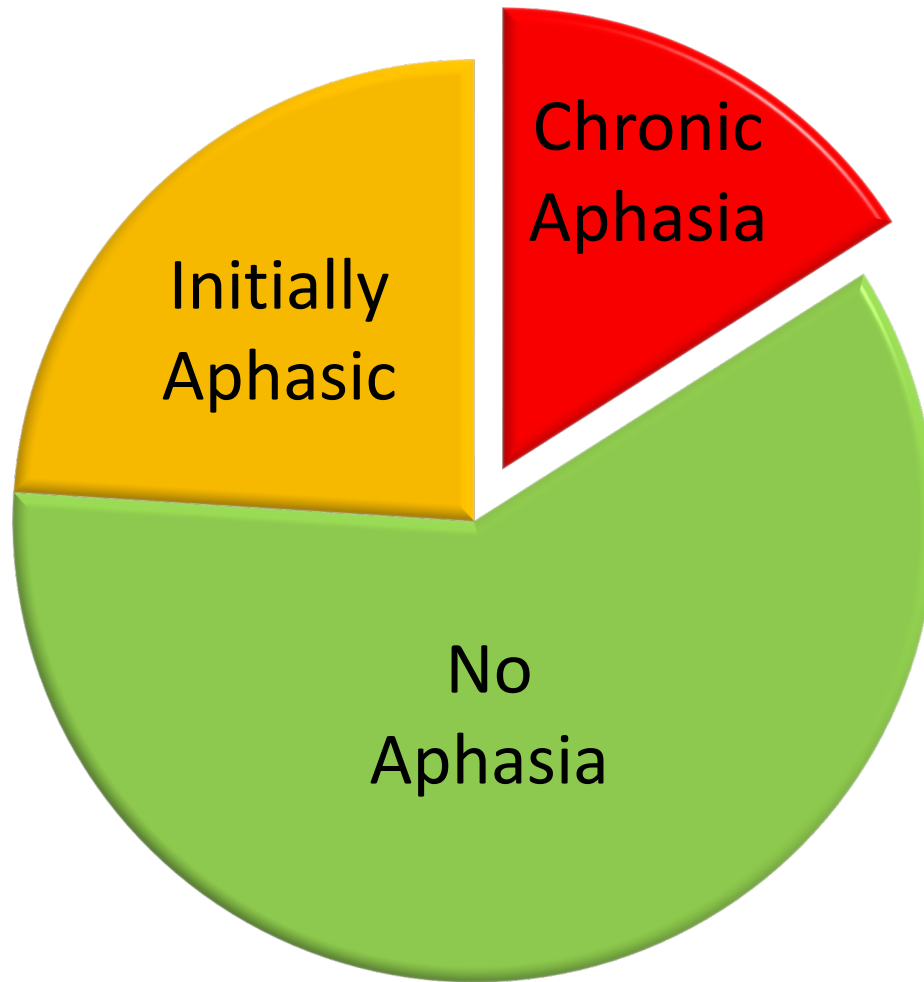


What Causes Aphasia?

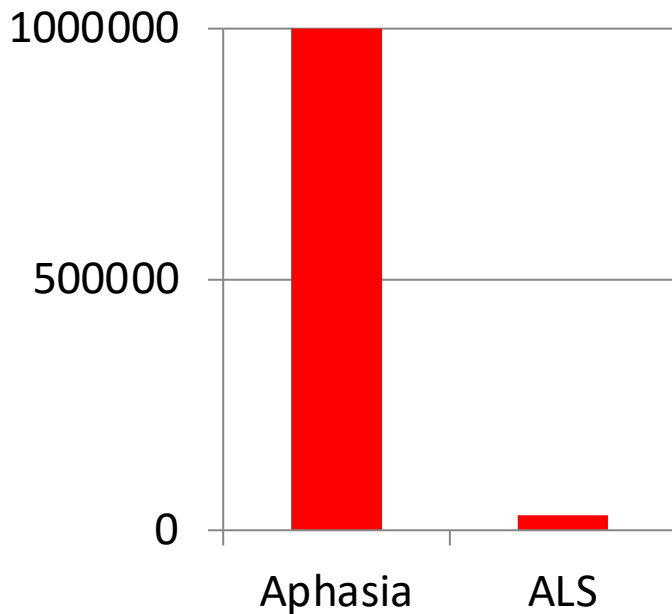
- 85% strokes / 15% other causes.



Is Stroke-Related Aphasia Permanent?



Suffering in Silence



■ Sufferers In
The US

Everybody's Talking About Ice Bucketing

ALS Ice Bucket Challenge by the numbers



Mentioned on Twitter:
2.2 million times



Videos posted on Facebook:
1.2 million



People commenting,
posting or liking
Ice Bucket Challenge
on Facebook:
15 million

Number of Americans
with amyotrophic
lateral sclerosis: **30,000**



\$11.4m



Donations
2014*

\$1.7m



Donations
2013*



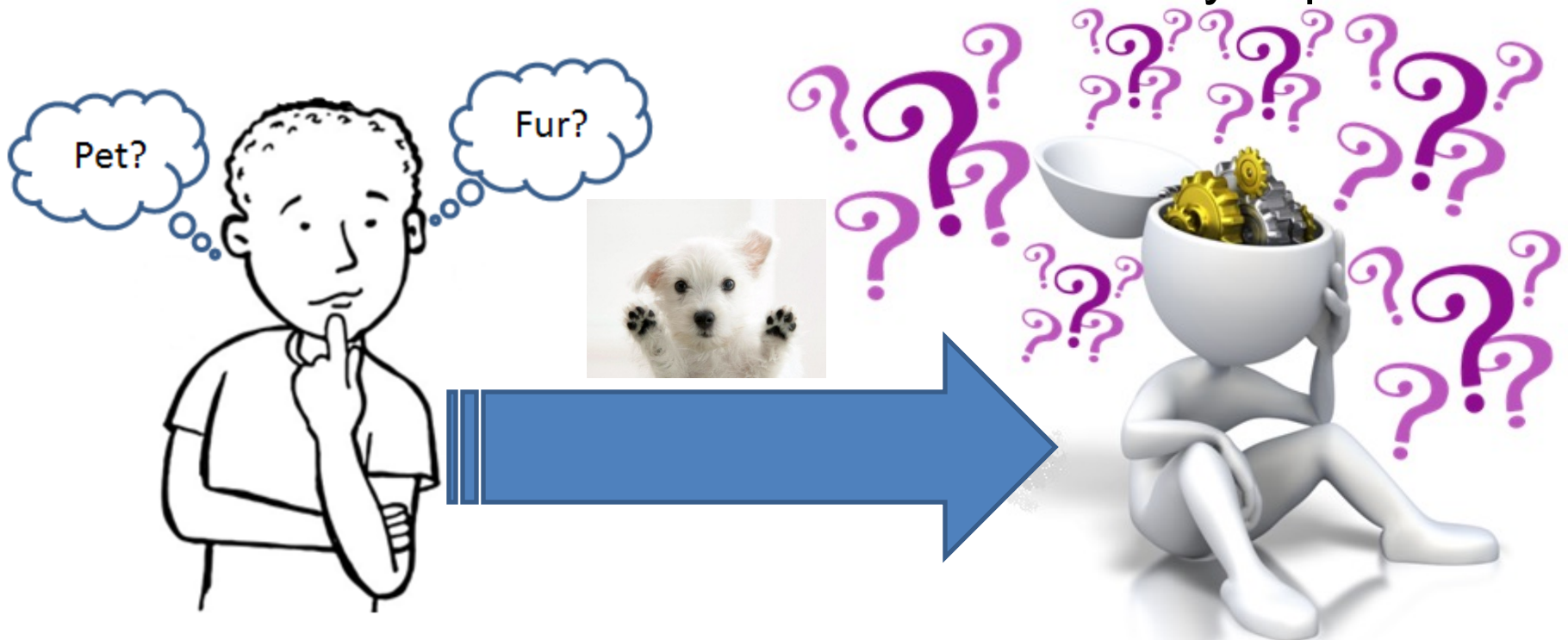
Between June 1 and August 13, 2014 * by August 16th
Sources: Twitter, Facebook, ALS Association

Forbes

statista

The Aphasia Continuum

The impairment depth is on a continuum, and may be so slight it's hardly noticeable as a sufferer grasps at words or so severe that all communication is nearly impossible.



Anomic Aphasia

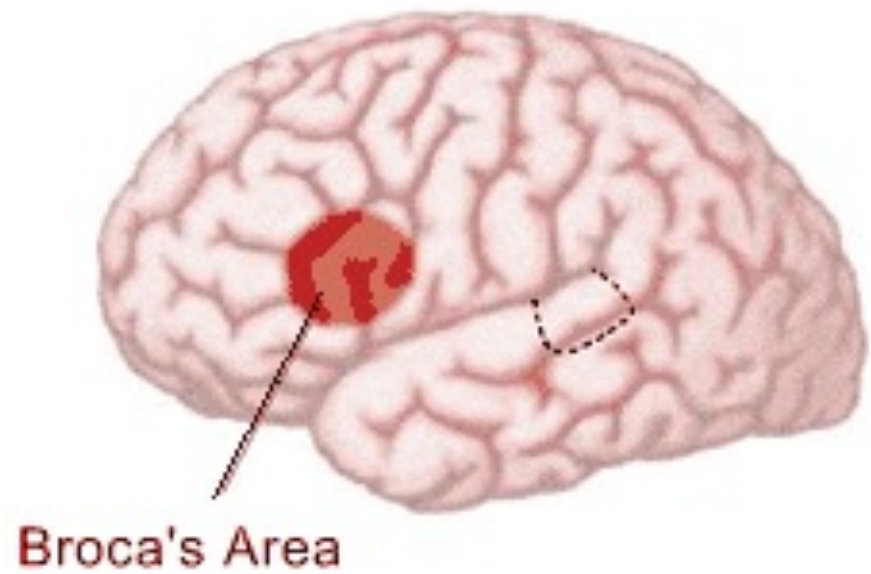
Uh....the....
people holder
car... to...
school...



Broca's Aphasia



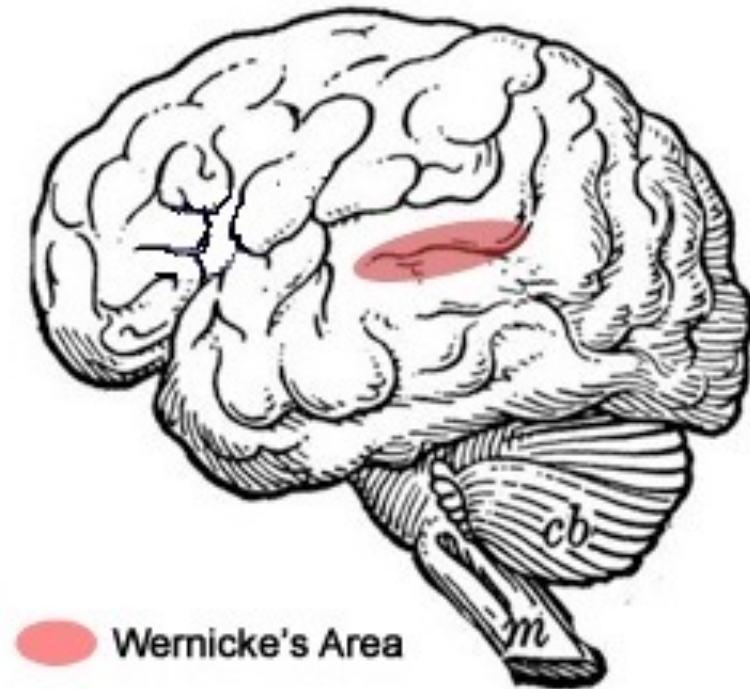
Pierre Paul Broca



Wernicke's Aphasia



Carl Wernicke



Primary Progressive Aphasia (PPA)

- Onset average 60 years old, but may begin as early or as late as 80
- Twice as common in men as in women
- Half of sufferers have a parent or sibling with dementia, suggesting a genetic component
- Half of those diagnosed progress to a more standard dementia in 5 years.
- Some may have only PPA symptoms for up to 15 years with no additional dementia issues.
- Eventually, almost all PPA sufferers become mute and unable to understand spoken or written language, even if their behavior seems otherwise normal

Global Aphasia

The most severe case, global aphasia means a person has difficulty understanding written and verbal communication and has very little ability to speak, write or read.



The Loste Note Art Installation



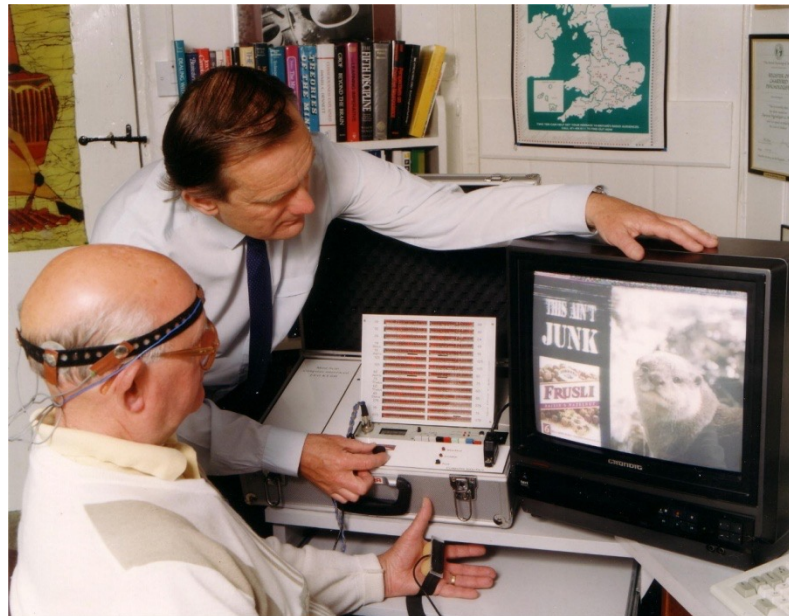
The Aphasia Poetry Club, 2015



by Kerry Tribe

A Seedling Is Planted

November, 2013, a professor came to speak to me about the feasibility of using NeurOptimal® to train aphasics.



It's On.



A Case Study Participant

- The Good Professor is tenured.
- He does not need to publish; he will not perish.
- He's very B-U-S-Y, but kept on the lookout for a good candidate for a single person case study.
- In April, 2015 The Good Professor introduced me to Dean.

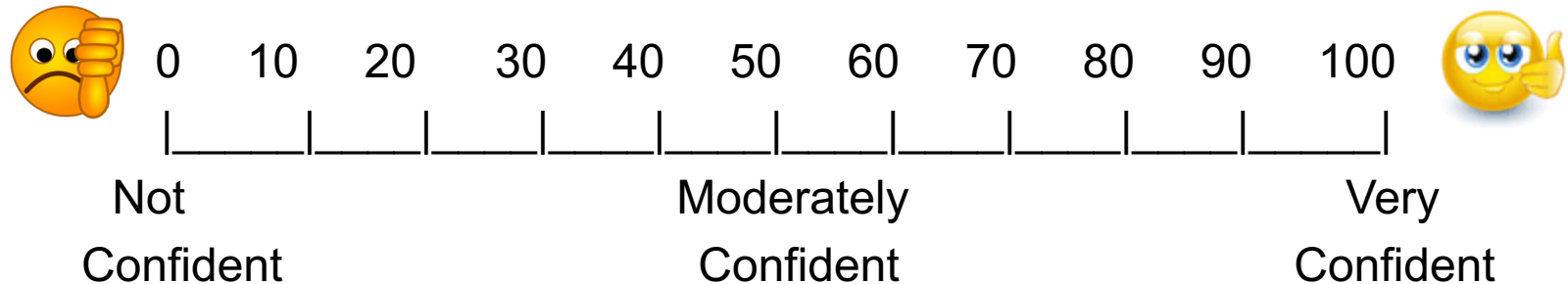


Communication Confidence Rating Scale for Aphasia

In-office, I did a simple confidence rating with Dean.

Example:

How confident do you feel about your ability to sing?



The Clinical Tests

- The Good Professor did three clinical tests on Dean pre- and post-training.
 - Story Retell Procedure (SRP)
 - Western Aphasia Battery - Revised (WAB-R)
 - Normal conversation

Cris and Dean Pre-Training

- The Good Professor thought taping Dean at all would be difficult for him, but Dean agreed. His portion is very brief.
- Thankfully, Dean's wife Cris also agreed to be filmed. She'll tell us about the stroke before we get to Dean.
 - Let's meet them.

**The Pasadena
Rose Parade
Was 1 Day Late
In 2012.**

Dean's Diagnosis

- Dean exemplified mild **Anomic Aphasia**



- Dean also had a severe sleep deficit.



Dean's Brain Training Plan

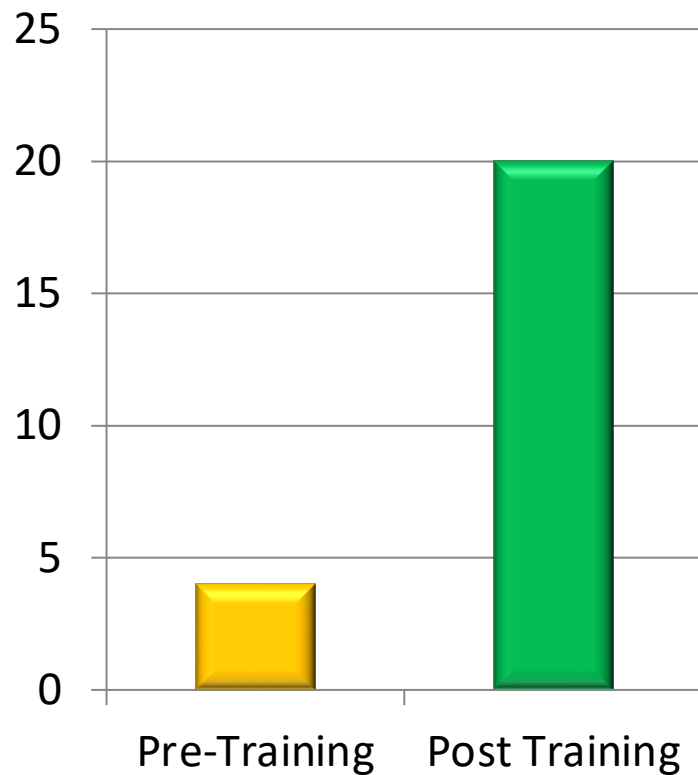
- Initially, we spoke of doing 20 sessions, once a week.



- We soon moved to twice a week, and trained a total of 40 sessions

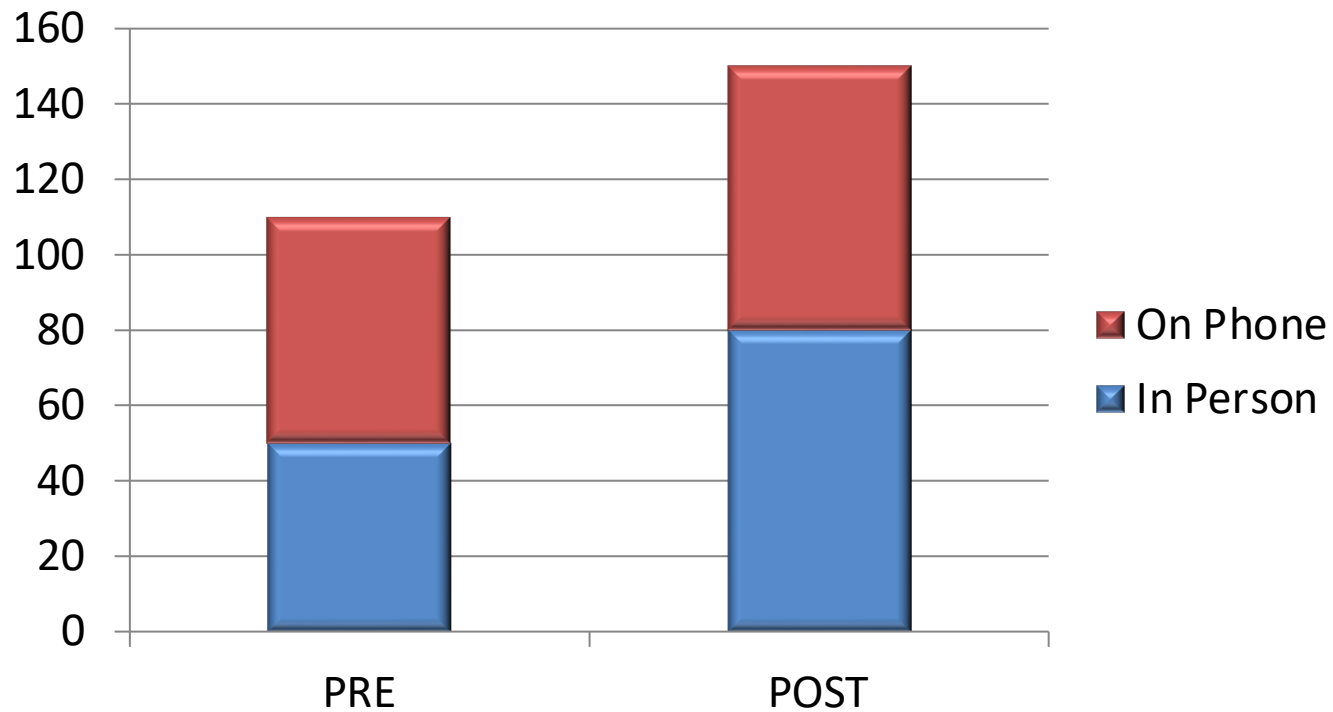
Dean's Clinical Test Results

**F/A/S Phonemic
Fluency Task**



RIC-CCRSA

Dean's Communication Confidence



Story Retell Procedure (SRP)

Subject name: _____ Page Totals: 1: _____
 2: _____
 ID number: _____ 3: _____

GRAND TOTAL

TOTAL IUs POSSIBLE **151**

SANDWICH (B)

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

One day last spring, Sam Swenson took the bus downtown. First he
afternoon *got on* *town* *Sam*
WENT *GOING* *riding* *caught*

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

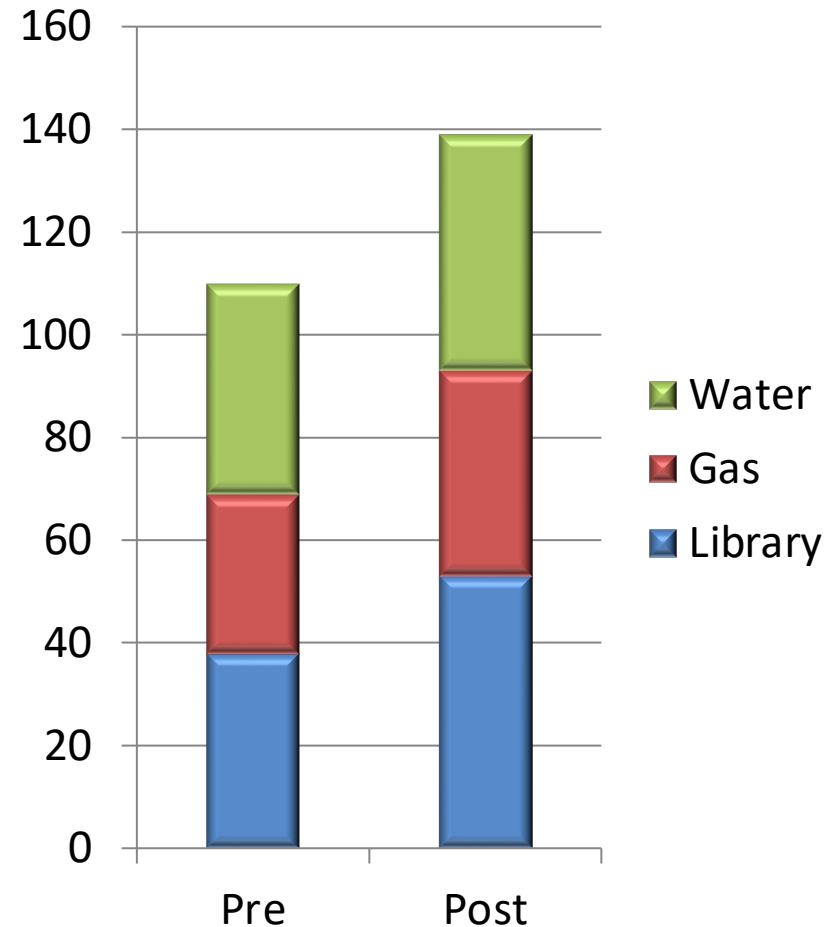
stopped at the bank to cash a couple of checks. Then he went to the jeweler
WENT *to* *two* *after* *at* *jeweler(s)*
in *some* *next* *by*
for *afterwards* *into* *from*
is

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

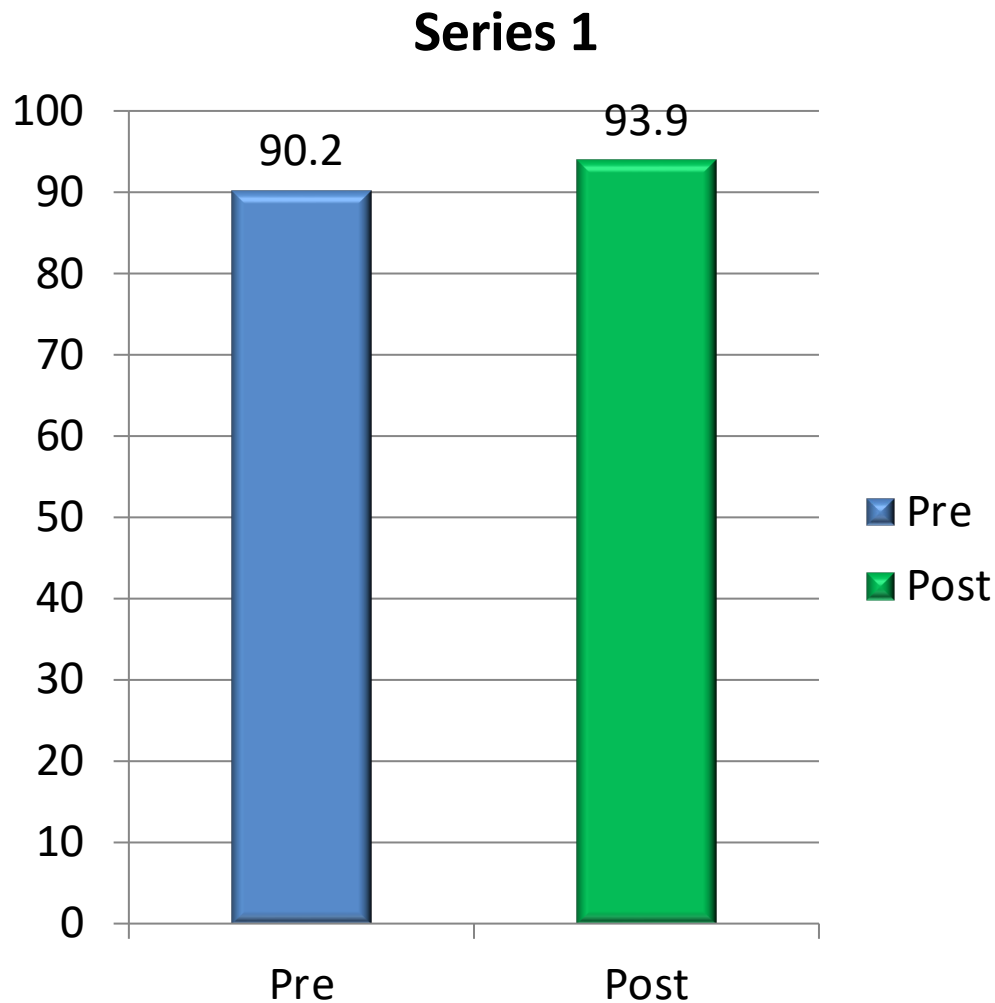
store to pick up his watch that the jeweler had repaired. After
shop *to get* *jewelry* *which* *they* *fixed* *then*
retrieve *piece* *jewelry store* *worked* *when*

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

starting at the drugstore, he begin to look for a place to have
left *on to* *pharmacy* *Sam* *started* *wanted* *where* *to eat*
WENT *decided* *to find* *somewhere* *buy*

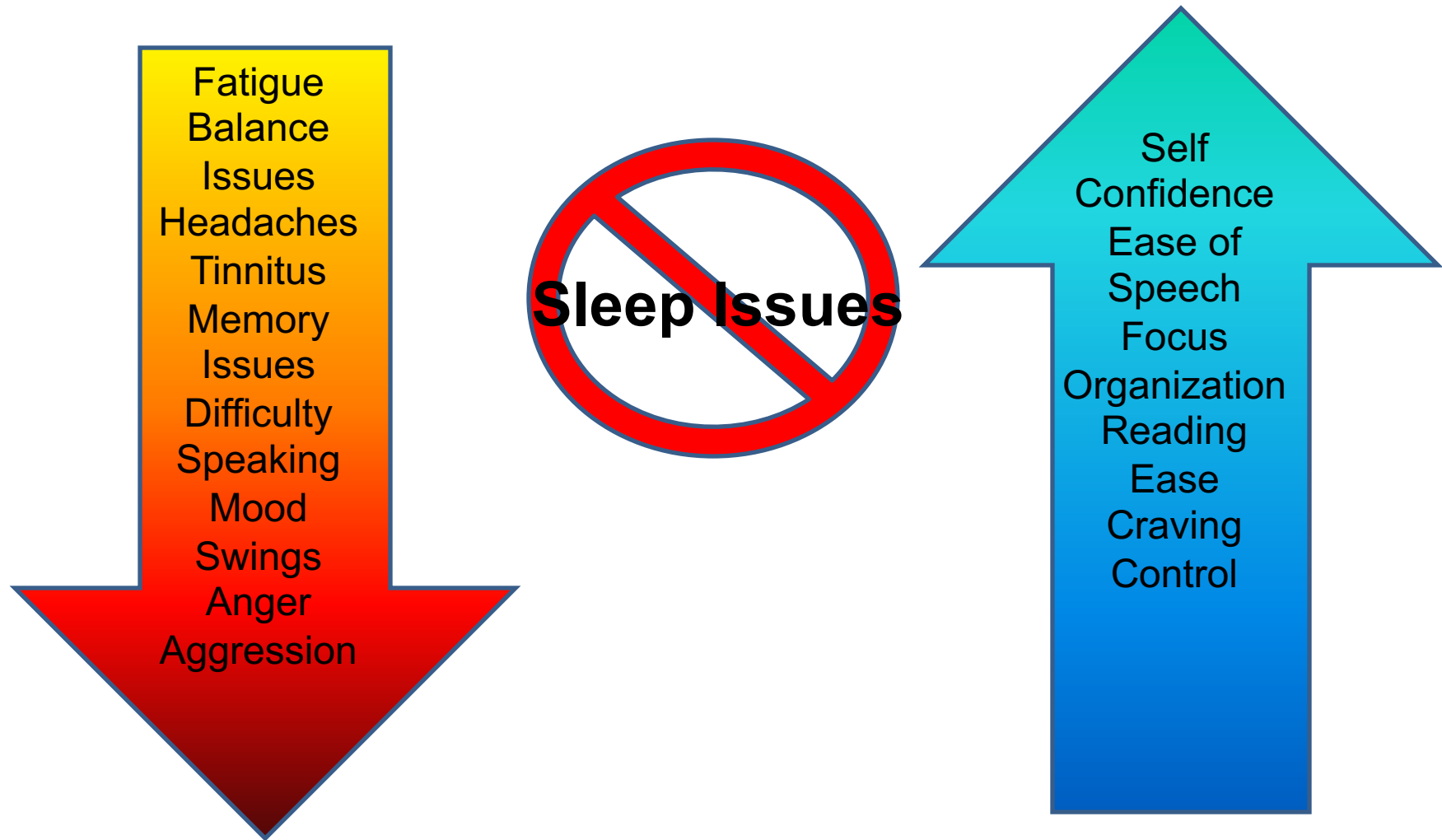


WAB-AQ



Tested speech fluency, auditory comprehension, naming, repetition, reading, and writing.

Dean's Client Concerns Results



**Exactly 6 Months After
The First Video
Dean Was Ready To
Talk About His Progress.**

“It Can’t Hurt”



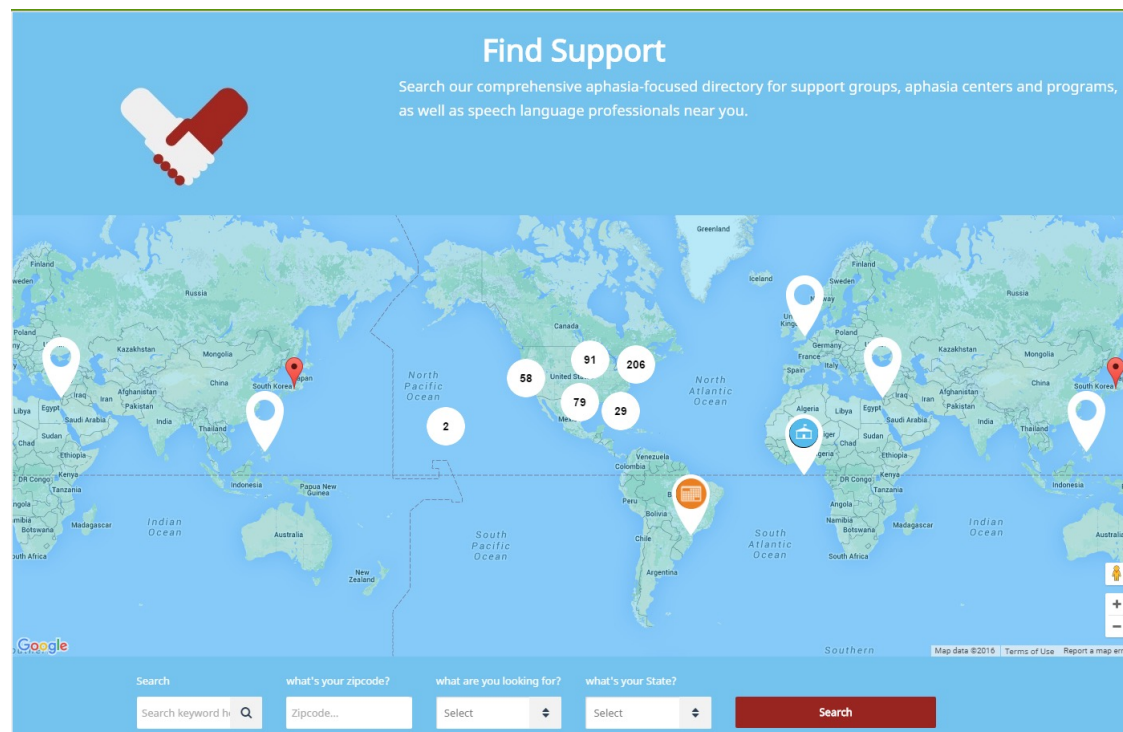
NeurOptimal® And Aphasia – It Deserves Another Study



Calming the CNS is good for everyone. The sudden loss of language with no loss of intellect has got to be the sort of alarming that “goes to 11”. Calming that alarm can only help to speed recovery for anyone facing this enormous setback in life.

Reaching Out To Aphasics Near You

If you're ready for the challenge, to find an aphasia group near you to gather study participants, go to www.aphasia.org. The bottom of the homepage has an interactive Find Support map – just enter your state, region or zip code and results will come up.



One Last Note

Research: “It Can’t Hurt”



Learn More About Aphasia

The following resources were invaluable as I put this presentation together:

www.aphasia.org

<http://www.canadadrugcenter.com/images/ScienceofAphasia.jpg>

www.aphasia.com

<http://www.aphasia.org/stories/primary-progressive-aphasia-is-not-alzheimers/>

<http://live-naa.pantheon.io/wp-content/uploads/2014/12/Diagnosing-PPA.pdf>

<http://www.strokeassociation.org/>

<http://www.strokecenter.org/patients/caregiver-and-patient-resources/aphasia-information/>

<http://www.als.net/>

<http://356mission.tumblr.com/post/118396209790/kerry-tribe-the-loste-note-at-356-mission-on>

<https://www.youtube.com/watch?v=TaxolktuxRY>

Cherney, L.R. & Babbitt, E.M. RIC – CCRSA Communication Confidence Rating Scale for Aphasia, 2011 Rehabilitation Institute of Chicago

Doyle, McNeil, Park, Spencer, Goda, Cottrell & Lustig, Story Retell Procedure, 1998

Shewan & Kertesz, The Western Aphasia Battery-Revised and Aphasia Quotient, 1980

My deepest thanks to
Dean & Cris
The Good Professor
Kerry Tribe
and Videographer Bob Hayes.