

Aphasia Insights!

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“The patient whose system is characterized by information capacity deficit apparently cannot receive and process at the same time, and can retain and process smaller-than-normal units of incoming messages. (pg. 85).”

An Introduction to Aphasia (1978).

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Stroke Educator, Inc. is committed to educating the wider public about stroke and the 50 state *“Aim High for Aphasia!”* Aphasia Awareness Campaign.

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Another Auditory Function Deficit: Information Capacity Deficit.

By Tom Broussard, Ph.D.

Information capacity deficit is an auditory problem such that you cannot receive (hear) and process (understand) messages at the same time. It is a deficit for people with aphasia (and other brain-related problems) but rarely cited. I am a stroke survivor and experienced the symptoms of information capacity deficit to a tee.

If patients receive a series of letters, words or a sentence, they tend to “hear” (and understand) the first and last elements but leave out or make errors in the middle. These patients can improve if short intervals (such as “blank” time or pauses) are inserted within the message. These pauses allow the patients to process each unit as it occurs, while the patient is still processing the previous unit.

I have been a transporter volunteer at a local hospital for several years. Our job is to move patients (by

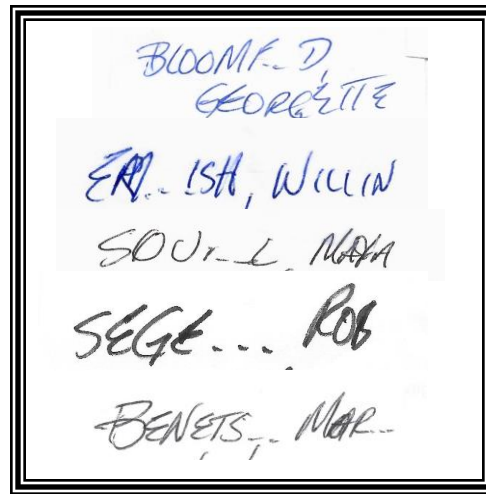
wheelchair) from their rooms to be discharged at the front door. We have an office with a desk, a phone, two chairs, two computer screens, paper call chits and a pager for each transporter. The pager “beeps” for the transporter to call the switchboard for a message. We receive a voice recording telling us the name and room number for the patient. The pager

will beep again in a minute or two and provide the same information by text.

The voice recording states (using my name as an example), “last name...B-R-O-

U-S-S-A-R-D... first name...T-H-O-M-A-S. The full names of “Broussard” and “Thomas” aren’t verbally spoken but spelled out, one letter at a time.

We record the patient’s info with the paper call chits. I knew I was having problems. I wrote the first two or three letters on the chit, but after that I couldn’t “hear” the subsequent ones. I could hear something but I couldn’t understand the letters buried in the swooshing sound in my mind. I started using dashes instead of the letters themselves. I knew there was something wrong and used the dashes to indicate that there was



the sound of a letter, but too amorphous and difficult to understand.

At the end of the string, I would write the first 2-3 letters of a name and often, the *last* 1-2 letters as well. Those images look a lot like Morse code; letter-letter-dash-dash or letter-letter-dash-dash-dash-letter-letter.

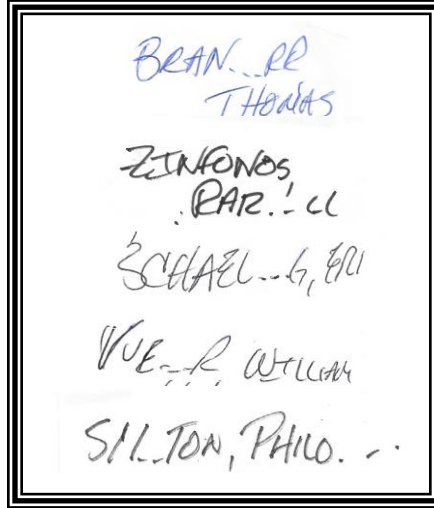
As I learned later, I didn't have the capacity to both receive and process a message (a letter or number) at the same time. The letters appeared too fast for me to be able to process and hear the next letter, all within the short time allowed at normal conversational speed.

The dashes helped with the problem. It seemed that processing and writing a letter takes longer than a dash. When I used the dashes, I found myself with more "time" (and more understanding) to process the next letter. Apparently, it created a pause that allowed me to "hear" a letter or two again. The dashes engendered extra time and restarted the processing window to see (and write) another letter or two before the auditory confusion descended again.

The pause after the last and first name was another indicator of the extra time needed to "hear" the letters in the fog. The pause after hearing "first name" allowed me to process the next 2-3 letters before it too fell apart again.

I realized that I couldn't operate both hearing and processing at conversational speed. The time

required by a person with aphasia with this kind of deficit cannot keep up with the process. However, the pauses (or the dashes) helped restart the process again.



While I was still working through the problem, I still had to be able to do my transporter job properly. But there was an immediate workaround for it. I still had the pager. When it beeped, I could see the text and copied it next to my botched attempt to write the patient's info.

I could have just used the pager without using the paper call chits at all. But once I knew that this was a real problem, I wanted to know if I could get better by listening "hard" and practicing the letters. To this day, I still use the paper call chits and the pager to confirm (and usually correct) my entries. Part of the process of getting better requires the physical day-to-day evidence (call chits) and feedback that allowed me to assess whether the information capacity deficit had improved beyond the few letters that I could understand.

After years as a person with aphasia (PWA), I had no idea that there were other parts of my language that still didn't work. It was only after I had been put into a new environment (and quite by accident) that allowed me to see what I hadn't seen (or heard) before, this thing (likely) called informational capacity deficit.

Signed: *The Johnny Appleseed of Aphasia Awareness.*