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Center for Aphasia and Related Disorders

Aphasia News

In the Good Ol' Summertime

Inside this issue:

Have you Heard?

The annual Summer Picnic is July 28th!

See page 5

Greetings Friends,

Well it's summertime once again, and we are looking forward to some new beginnings here at the Center for Aphasia and Related Disorders. As we announced in the last newsletter, our Center has moved to a new location in Admin Building 2, which has been remodeled specifically for the Center. We are anxious for you to come visit us in our new home. We will be having an open house this coming Fall.

In other news, our esteemed colleague, David Wilkins, has taken a faculty position in the Department of Speech and Communication Studies at San Francisco State University. Congratulations David! Luckily for us, he will still be collaborating with the Center and working here one day a week.

We would also like to welcome our new research associate, Chaitee Sengupta, who is spending the summer at the Center. She is studying to be a speech pathologist, and is also helping us out on the research front. Welcome Chaitee!

We are very excited about our new Center and hope that it will allow us to better serve our patients' needs, as well as facilitate our ongoing research. We sincerely hope you will be part of this new beginning.

Hope to see you at the annual summer picnic on July 28th!

Sincerely,

Nina Dronkers,
Director, Center for Aphasia and Related Disorders
VA Northern California Health Care System

Aphasia Profile: Global Aphasia

by Juliana Baldo

Over the last several newsletters, we have profiled various types of aphasia, including Broca's aphasia, Wernicke's aphasia, conduction aphasia, and anomic aphasia. In these aphasias, patients may lose the ability to speak well or to understand what they're hearing. Global aphasia, as its name suggests, affects many aspects of language, including both speaking and understanding. In this way, it can be a very difficult disorder to treat and can be heartbreaking for patients and caregivers alike. Here, we review various features of Global aphasia and discuss newer forms of treatment that offer hope to people who suffer from this severe form of aphasia.

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Overview of Language

Language is a very complex process indeed. We now know that there are separate brain circuits responsible for a whole host of sub-processes involved in language. The following is a simplified chart that lists just a few of the many processes involved in listening and responding to another person:

analysis of speech sounds from other speaker
↓
processing the meaning of the message
↓
formulating a response to what you just heard
↓
programming/coordinating your mouth and tongue muscles to speak
↓
monitoring your speech for mistakes

Unlike other forms of aphasia which may affect only one or two of these steps, Global aphasia affects many and sometimes all of these processes involved in normal speech and language comprehension.

Symptoms of Global Aphasia

Patients with Global aphasia have difficulties both in understanding what is being said to them, and are also unable to utter meaningful messages. They may even have difficulty responding to very simple yes/no questions (e.g., "Are we in Martinez?"). Some patients with Global aphasia may exhibit what are known as recurring utterances (e.g., "yes yes yes," "I do, I do, I do"). That is, they repeat the same word or phrase in response to most questions. Other patients with Global aphasia are only able to produce overlearned or automatic phrases (e.g., "How are you?") but not much more. Unfortunately, these automatic phrases are not meaningful, but rather may be uttered in response to a variety of questions (similar to recurring utterances).

Because aphasia is a disorder affecting all aspects of language, patients with Global aphasia are also unable to use writing or sign language as a way of getting around their difficulties. Thus, they often appear frustrated, as it is difficult for them to make their needs and desires understood.

Although this loss of speech and language makes it very difficult for Global patients to communicate, they are sometimes able to convey information by varying the intonation in their voice or by using simple gestures. Importantly, patients with Global aphasia can be shown to perform normally on non-verbal tasks (e.g., picture matching), demonstrating that they are not simply suffering from confusion or dementia.

Brain Basis of Global aphasia

As with the other aphasias, Global aphasia is most commonly the result of a stroke in the middle cerebral artery that supplies blood to the lateral surface of the left hemisphere of the brain. Generally, the brain lesion involved in chronic Global aphasia is a rather large one that encompasses a significant portion of the left hemisphere of the brain. This large lesion is the culprit for the devastating loss of speech and language in Global aphasia, since a number of brain circuits are disrupted. Whereas other patients with smaller lesions may find ways of compensating for their language disabilities, patients with Global aphasia have less brain reserve with which to do so.

As described above, some patients with Global aphasia have a preserved ability to utter automatic phrases or repetitive utterances. What is the brain basis of these abilities, if much of the left (language) hemisphere is damaged? There is some evidence that these automatic and overlearned phrases are generated by regions within the

Aphasia Profile: Global Aphasia (cont'd)

intact right hemisphere of the brain. The right hemisphere is also capable of supporting intonation in speech, musical ability, and emotional expression. Again, these are abilities that are sometimes preserved in Global patients. For example, one interesting research finding is that Global patients are better able to read emotionally laden words (e.g., "love," "die") than neutral words (e.g., "table," "pencil").

Treatment of Global Aphasia

Earlier studies of Global aphasia concluded that speech therapy treatment was not very effective with this patient group. Unfortunately, such conclusions led to some patients not getting adequate treatment. As with other aphasias, most recovery occurs during the first year following stroke, and newer research has shown that improvements can be seen in Global patients as well.

> "Current thinking in the treatment of Global aphasia is to focus on non-verbal strategies, such as gesture and drawing"

Current thinking in the treatment of Global aphasia is to focus on non-verbal strategies, such as gesture and drawing, rather than trying to rehabilitate the speech/language system which is so severely disrupted. There is evidence that Global patients' communication abilities do indeed improve with training on the use of drawing and gestures. There are a number of standardized gestural systems that may be taught to Global patients by speech pathologists (e.g., Amer-Ind Code). By focusing on Global patients' preserved abilities, clinicians can help facilitate their ability to communicate with caregivers.

Other forms of treatment for Global aphasia include the use of Melodic Intonation Therapy (MIT). MIT involves training the patient to vary their intonation, pitch, and rhythm, while they utter a phrase. Because these processes (intonation, etc.) are associated with the right hemisphere, it is thought that MIT is making use of preserved abilities in the intact right hemisphere. Other treatments include communication boards, Visual-Action therapy (which involves matching pictures to actions), and computer-assisted devices. Research on the effectiveness of these treatments has shown them to be somewhat limited, however.

Suggestions for Communicating with Global Patients

Although it may seem difficult to communicate with a person who has Global aphasia, there are a few things you can do to help:

1. Use touch to gain the patient's attention and to show support.
2. Simplify your speech, using yes/no questions when possible. Be sure to first establish a reliable yes/no response (e.g., head nod, eye blink).
3. Use simple facial expressions and gestures, focusing on those used in the person's therapy.
4. Be patient and allow him/her time to respond to you, in whatever way they are able.

Concluding Remarks

Global aphasia can be a very difficult struggle for both the patient and caregivers alike. Emotional changes and depression are common in this group. Therefore, it is important for both the individual with aphasia and caregivers to seek out help and support when necessary. As more is learned about the brain basis of this disorder, it is hoped that more accurate prognoses can be made, along with improved therapeutic interventions.

For more information on global aphasia, go to *http://www.stroke-info.com/global_aphasia.htm*

If you have more questions about global aphasia, please contact Juliana Baldo at (925) 372-4649.

Face to Face

I recently had the chance to sit down and chat with Ramona who has been an extremely enthusiastic member of our Wednesday speech group. She graciously agreed to talk to me about her life before and after her stroke.

JB: Where were you born?
R: I was born in Manila, Philippines. I lived there until I was 12 years and we moved to Quezon City.
JB: How did you meet your husband, Howard?
R: My brother-in-law was married to my older sister. I just turned 20, and Howard swept me off my feet. He courted me, and after 6 months, my Dad gave the go ahead.
JB: How did you end up in California?
R: Howard was sent to California with the military. We only had $48! But we knew we would have a roof over our heads.
JB: What did you do for work?
R: I was gonna be a stewardess with a Philippines airline, but they ground you if you get married. [Later], I taught ESL [English as a second language] for 15 years. The school calls me for my expertise still.
JB: How many languages do you speak?
R: I speak 7 languages.
JB: Wow. You and Howard have children, right?
R: Yes, we have 3 boys—'64, '65, and '66.
JB: Do they live nearby?
R: One lives in Dixon, Vacaville, and the baby moved to Lake Havasu, Arizona.
JB: Do they have children?
R: I have 6 grandchildren—3 of each [boys and girls].
JB: So you finally got your girls. Do you see your family a lot?
R: Yes.
JB: When did you have your stroke?
R: In April 4, 1990, as I was at home, trying to get my puppy, a pug, a drink of water. I was going to the laundry room, and I told Howard to call 911 because my head was aching. Everything was blank in my vision.
JB: Did the ambulance come?
R: Yes. They talk to me, and I can't answer.
JB: Did you go to the hospital?
R: They took me to VacaValley Hospital. They took an MRI. After the aneurysm stopped bleeding, they did surgery at North Bay Hospital. The doctor told my husband that I might die. And that if I lived, I would be a vegetable.

"Never give up! Follow your body. When you're tired, lay down. But never give up."

JB: Well you sure proved them wrong!
R: I bit the anesthesiologist.
JB: You BIT the anesthesiologist?
R: [laughing] Yes, I don't remember it—it was during surgery. But later when he saw me again, he said, "Is this the lady who bit me?"
JB: Did you get speech therapy?
R: Yes. I was surprised I could not talk well. I could answer by writing. I wanted to get back to my normal flow of life.
JB: How long was it before you were talking again?
R: One and a half months before I made sense. I have to learn from A to Z all over again. I thought if I can help others [teaching ESL], then how can I help myself? I bought books to practice. And I had a pad nearby—I taught myself. Howard came every day [to the hospital] without fail. And whenever I feel distraught, I say a prayer.
JB: You help lead a stroke support group, right?
R: Yes, I lead a stroke group at VacaValley. I am so proud of it. I am listed with the American Heart Association and the American Stroke Association. What is hard is that I cannot talk loud. My vocal cords were affected.
JB: What advice would you give to someone who's had a stroke?
R: Never give up! Follow your body. When you're tired, lay down. But never give up.

Center for Aphasia & Related Disorders

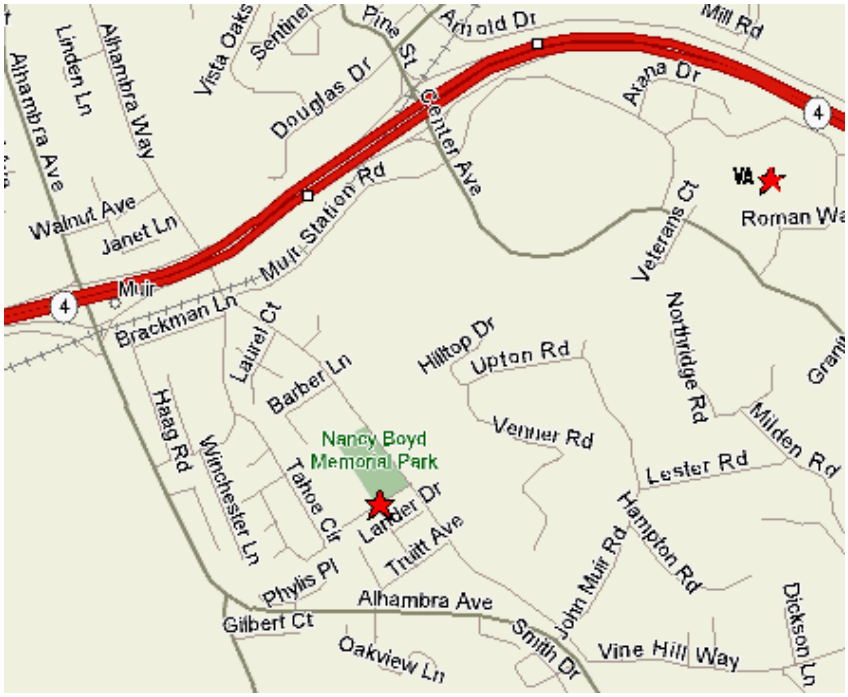
Annual Summer Picnic

When: Wednesday, July 28th 12:30-3:00 p.m.
Where: Nancy Boyd Park in Martinez
What to bring: a dish or drink to share

Questions: call Juliana (925) 372-4649

Map & Directions to Nancy Boyd Park:

From Highway 4
-Take the Alhambra Ave. exit
-Go South on Alhambra Ave. for 3/4 mile to Truitt Ave.
-Go left on Truitt Ave.
-Make first left on Valley Ave.



Current Brain News

How the Brain and Mind Mature
by BBC.co.uk

Scientists have discovered that the brain's center of reasoning is among the last areas to mature. The finding, by a team at the US National Institute of Mental Health, may help to explain why teenagers often seem to be so unreasonable. Researchers used imaging techniques to show "higher order" brain areas do not develop fully until young adulthood.

The research is published in the journal Proceedings of the National Academy of Sciences. The decade-long study used magnetic resonance imaging to follow the development of the brains of 13 health children every two years as they grew up. The aim was to get a better picture of how the brain develops so that it would be easy to pin down abnormalities that occur in conditions such as schizophrenia.

Teeth and Parkinson's Disease
by TulsaWorld.com

Cells derived from the inside of a tooth might someday prove an effective way to treat the brains of people suffering from Parkinson's disease.

A study in the May 1 issue of the European Journal of Neuroscience shows dental pulp cells provide great support for nerve cells lost in Parkinson's disease and could be transplanted directly into the affected parts of the brain.

Using dental pulp has other advantages besides its availability. The cells produce a host of beneficial "neurotrophic" factors, which promote nerve cell survival.

Sleeping is Good for Your Memory
by Tanguy Chouard

A good night's rest is hard work for parts of your brain, say US neuroscientists. Regions related to learning show increased activity in sleepers who spent their evening mastering a new skill, they say.

The discovery shows that sleep is valuable for consolidating new information and is not a simple 'standby' mode. Local brain processing during the night led to new skills being more firmly cemented, the research indicates.

Gambling and the Brain
by ScienCentral

What goes on in the brain of a gambler? David Zald, psychology professor at Vanderbilt University, and his team used positron emission topography (PET) to observe the brain activity in people who were given gambling-like activities to perform.

They found that the feeling of excitement might be linked to the release in the brain of dopamine, a chemical associated with the pleasure people get from eating, sex, and drugs.

Game Zone

Unscramble the President's name,
using the clues to help you (answers below):

1. He was known as "Dutch" and he loved jelly beans: nlaodr **gaearn** _____
2. He was from Georgia and grew peanuts: **mymji treacr** _____
3. He helped bring about the end of World War II: **rarhy mutnar** _____
4. He was disabled, and he helped end the Great Depression: **krnlniaf sorveetlo** _____
5. He made the Emancipation Proclamation that freed the slaves: **hbraaam ncinoll** _____
6. He was an important General in the Revolutionary War: **egreog snghitnoaw**

Answers: 1.Ronald Reagan 2.Jimmy Carter 3.Harry Truman 4.Franklin Roosevelt 5.Abraham Lincoln 6.George Washington

Aphasia News

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We would also like to thank the members of the Stroke Support Group and their families
&
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Newsletter Information

If you would like to receive this newsletter or you have comments/suggestions, e-mail Jenny at jenny.ogar@med.va.gov
or write to:

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We welcome your comments and questions!