

Center for Aphasia



and Related Disorders

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Aphasia News

Summertime at the VA

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Have you Heard?

The annual Summer Picnic is June 27th!

See page 6

Dear Friends,

Summer is approaching and we are excited to send you our latest newsletter, with information and updates on what's been going on here at the Center for Aphasia and Related Disorders.

We have been busy working on our various VA and NIH-funded research projects on aphasia, and that is going very well. As always, thanks to all of you who have graciously agreed to participate in our research Studies. Your time and interest are extremely valuable – thank you, from all of us!

Another exciting piece of news has been our recent publication tracing the study of the area in the brain known as Broca's area, discovered in 1861, by the French physician, Paul Broca. With another group of colleagues in France, we were able to use modern technology (MRI) to study the brains of two of Broca's first patients to understand more about the function of Broca's area and other regions important for speech. The publication of this article has received a lot of attention and is guiding some of our newest research.

Last, our long-time friend and colleague, Carl Ludy, has decided to retire. We are thrilled for him as we know he has great plans, but sad for us that we won't be seeing him as often. However, the good news is that Carl will continue to be an important member of our Center, and will still come once a week to work with us and the reading group! We are honored that he has chosen to spend this time with us, and we look forward to hearing about the exciting new things he'll be reading, the great wine he'll be making, and his latest perspectives on theories of language and the brain.

Sincerely,

Nina Dronkers, Ph.D., Director, Center for Aphasia & Related Disorders

Aphasia Treatments

by Janet Patterson, Ph.D., CCC

Chair, Department of Communicative Sciences and Disorders, Cal State East Bay

Aphasia studies have shown that treatment can be effective in improving language and communication skills past the point that might be expected from spontaneous recovery alone. During the period of spontaneous recovery, generally thought to be the first six months or so following a stroke, the brain is healing itself and many people believe that this is the optimum time for treatment. The combination of healing and treatment is thought to produce the greatest amount of learning or relearning of speech and language. However, some people believe that too much treatment early in the period of stroke recovery may hinder speech and language recovery. While neuroscience research addresses this question, speech-language pathologists continue to treat individuals in the chronic period of recovery from aphasia, six months or more after the stroke, and report great success at improving speech, language and communication skills of persons with aphasia.

A number of different treatment approaches have been used with persons with chronic aphasia. These include restorative treatments, substitutive treatments, compensatory treatments, general stimulation, cognitive approaches, pharmacological (or drug) treatments, and augmentative and alternative communicative systems (AAC). These are broad treatment approaches that are founded on specific theories. Within each of these categories of treatment are specific treatment techniques. Evidence from treatment studies has shown that many of these techniques are effective in improving speech, language, and communication skills in persons with aphasia. One aim of current research projects is to examine which treatment approach or technique will benefit particular aphasia symptoms in individuals with specific speech, language or communication deficits accompanying aphasia.

Restorative treatment approaches include techniques such as verbal plus gestural facilitation to assist a person in producing a response, modeling the desired behavior, and expansion and rehearsal of sentences. Constraint Induced Language Treatment (CILT), which forces the use of the impaired verbal modality in intensive treatment, is another example. CILT has gained recent attention in the aphasia literature as a method of en-

couraging speech production. The technique appears to have beneficial effects for some patients, but its general effectiveness has yet to be proven.

Substitutive treatment approaches include techniques such as Melodic Intonation Therapy (MIT) and Visual Action Therapy (VAT). The idea behind these treatment techniques is that neural systems not ordinarily thought to be involved in language production, are reorganized and recruited in order to support language production. For example, MIT applies an individual's sense of intonation and musicality to speech so that the person can speak short sentences to communicate. VAT is a non-vocal treatment technique which trains patients to produce symbolic gestures in order to communicate.

A variety of *compensatory treatments* exist which can be used at any stage of recovery to improve communication. Examples are a simple nonverbal system to indicate yes/no, Promoting Aphasics' Communicative Effectiveness (PACE), and training communication partners. Yes/ no questions, such as those used in the game of "Twenty Questions" are an easy way to communicate with a person with aphasia. In this technique, both the person with aphasia and his or her communication partner share in the exchange. The communication partner without aphasia assumes the majority of the responsibility for the exchange. PACE is a simple treatment technique where the speech-language pathologist and the person with aphasia participate in a conversation as equals, each taking turns sending and receiving messages. Finally, many treatment techniques focus on training the communication partners of persons with aphasia, so that they learn better ways to ask questions and elicit conversation.

General stimulation treatment is the most common aphasia treatment approach. It is typically used to improve deficits in auditory comprehension. Different aspects of speech (i.e. word length, frequency, presentation rate, and number of response choices) are manipulated during training, with the intent to promote generalized language recovery. A cueing hierarchy is a common stimulation technique. In a cueing hierarchy, an individual is asked to produce a response, such as naming a picture, and if he or she is unable to do that, a series of cues are presented to help. The cues might be (cont'd)

"Evidence from treatment studies has shown that many of these techniques are effective in improving speech, language, and communication skills in persons with aphasia."

semantic, such as the function of an item (for the target toothbrush, the cue might be, you use it to clean your teeth) or a sound cue (such as, it starts with “t”). *Cognitive approaches* to treatment target specific cognitive deficits underlying impaired language. For example, treatment techniques may focus on improving an individual’s phonetic awareness (their ability to discriminate different sounds), attention during competing tasks (such as listening to sentences while also listening for a tone), auditory perception (e.g., identifying environmental sounds), or problem solving abilities. In cognitive approaches, an individual undergoes extensive testing to determine their strengths and weaknesses before beginning treatment.

Augmentative and alternative communication systems (AAC) take many forms from low tech (e.g., a paper and pencil to draw or write) to high tech (e.g., complex computer systems that can be operated with the blink of an eye). AAC systems are useful in the acute period of recovery from aphasia. For example, an alphabet board that also contains pictures of family members which is placed by a patient’s bedside may make it easier for the individual to communicate basic needs to medical staff and family. Persons in the chronic period of recovery from aphasia may use augmentative communication systems to assist them when speech and language fails during communication exchange. For example a person may carry a small notebook with pictures of common items and turn to them to help convey a thought during a communication exchange. An alternative communication system is meant to be used in place of speech. Many alternative communication systems are complex and require communication partners to learn them as well as the person with aphasia. *Pharmacological or drug treatment* may stimulate recovery from aphasia. Many treatment techniques of this type are available for use immediately following a stroke. Some clinical trials have investigated the use of pharmacological treatment in combination with speech-language treatment in persons with chronic aphasia. Results are inconsistent, however, and this approach is not common.

A number of patient-specific factors must be considered when forming a treatment plan for aphasia. These include the types of symptoms, aphasia severity, coexisting deficits, cognitive ability, general health, motivation, psychosocial well-being, and family structure and support. Research is ongoing to determine the precise role these variables play in an individual’s treatment planning and road to recovery.

My Approaching Retirement

by Carl A. Ludy

As I approach the age of 62, I have decided to accept the offer of retirement made by our Social Security Administration. I know I can use more time in my garden, my library, and my workshop, let alone the winery! My first few years of leisure will no doubt be spent organizing my piles of stuff, along with other honeydew-type activities....

I’m not through learning, though, so I hope I can stay connected to the Aphasia Center as a volunteer. I also want to be regularly involved in the support groups. I continue to be very interested in therapeutic reading, so I want to see that the reading and discussion group keeps going. Now that Janet Paterson and her students from Cal State East Bay have stepped forward to participate, I think the groups are getting lots of good energy, so we old-timers can sit back a bit.

Our lab has really become a center for learning. In my 15 years with Dr. Nina Dronkers, I have seen the modest speech pathology research office blossom into a world-class aphasia center. It’s a sparkling collection of people, and Nina conducts it like an orchestra! Every day I’ve felt lucky to be here.

Now I guess this is my chance to say thanks, to every single person in our community. The stroke survivors make our studies possible. The scientists and students make them interesting. And all the people who run the infrastructure here at the VA are the ones who really make it happen, so special thanks to Luci Varian. My warmest thanks and appreciation to you all!

Finally, Nina, I get to thank you. I’ve grown as your student from being a linguist to thinking more like a neuroscientist with an interest in language. My intellectual horizons are rooted in your brilliant laboratory, and it gives me great pleasure to watch it succeed! So I hope I can reflect the thanks of all of us, expressed and unexpressed, in my profound gratitude.

Thanks to all of you for sharing with me this splendid endeavor! It has been wonderful.

Computer and Internet Programs

Resources for Select Computer Software Programs

There are *many* speech, language, and thinking software programs available for purchase. Software programs offer a way to practice various speech, language, and thinking skills as often as desired in the comforts of home. Since programs are expensive and not always appropriate for every person, it is best to download a free demo version or obtain a trial CD *prior* to purchase. These programs are listed here:

Bungalow Software

Software program with word retrieval, articulation, auditory and reading comprehension, and thinking exercises. Purchase software as a package, individual programs, or a trial CD (\$9.50). Download demos for free.

Contact information: <http://www.bungalowsoftware.com/> or 540-951-0623

Parrot Software

Software programs for communication, memory, attention, speech, and cognitive rehabilitation. Offers individual and packaged software programs, free demos, and an internet subscription to offered programs.

Contact information: <http://www.parrotsoftware.com/> or 800-727-7681

AphasiaMate

Software programs for auditory comprehension, time and money, semantics (word meaning), sentence processing, visual matching, reading, and spelling. Purchase the software programs individually or download free samples of the programs.

Contact information: <http://www.avaaz.com/> or 519-472-7944

WordWise

Practice seeing a picture, hearing a word, and repeating back what is said.

Contact information: <http://www.attainmentcompany.com/> or 800-327-4269

Captain's Log

Computerized activities addressing attention, concentration, memory, eye-hand coordination, numeric concepts, problem solving-reasoning skills, self-esteem and self-control.

Contact information: <http://www.biof.com/captainslog.html> or 212-222-5665

Computer and Internet Programs (cont'd)

Select resources for Free Internet Based Speech, Language, and Thinking Exercises

There are many websites offering *free* speech, language, and thinking exercises. Below is a small sample of free activities available online.

Puzzles

<http://www1.tpgi.com.au/users/puzzles/page2.html>

<http://www.crossword-puzzles.co.uk/>

The [Instant Online Crossword Puzzle Maker](http://www.puzzle-maker.com/CW/) (www.puzzle-maker.com/CW/) make your own crosswords

Geography Crossword puzzles <http://www.armoredpenguin.com/crossword/Data/best/geography/>

Jigsaw puzzles: www.thinks.com/jigsaw/index.htm

Word puzzles <http://www.randomhouse.com/features/rhwebsters/game.html>

Logic Puzzles: <http://www.allstarpuzzles.com/logic/>

Other puzzles: www.jigzone.com

Memory Exercises

Memory Solitaire: http://www.exploratorium.edu/memory/dont_forget/

Concentration games: <http://www.allstarpuzzles.com/memory/00007E.html>

Memory Gym: <http://www.memorise.org/> for free memory exercises

Memory test and tips: <http://www.bbc.co.uk/sn/tvradio/programmes/memory/programme.shtml>

Face Memory game: <http://faculty.washington.edu/chudler/java/facemem.html>

Geography

National Geographic: www.nationalgeographic.com

Geography Trivia: <http://www.triviaplaza.com/trivia.php?quiz=geography-world>

Mystery State questionnaires: http://www.education-world.com/a_lesson/archives/state.shtml

Where in the World? http://www.education-world.com/a_lesson/archives/state.shtml

Reading

News For You: http://www.educationworld.com/a_lesson/archives/newsforyou.shtml

Speech and Language

Word/Language games: <http://www.quia.com/pages/havefun.html>

Sequencing games: www.quia.com/pages/sequencingfun.html

Links to other speech and language games: <http://www.mnsu.edu/comdis/kuster2/sptherapy.html>

developed by SLP Judith Kuster, activities for adults with stroke and head injury (links listed under "Aphasia/TBI")

Food!

Friends!

Singing!

Fun!

Stroke Support Group Annual Summer Picnic!

When: Wednesday, June 27th, 12:30-3:00 p.m.

Where: Nancy Boyd Park in Martinez

(directions below)

What to bring: a dish or drink to share if you can

Questions: Call Juliana (925) 372-4649

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.

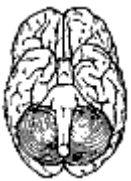
Go left on Truitt Ave.

Make first left on Valley Ave.

You will see park in front of you once you hit Church St.

Game Zone

Brain Crossword: find and circle all the brain structures:



K	T	F	D	F	O	R	E	B	R	A	I	N	U	C	HYPOTHALAMUS
H	G	C	S	W	J	E	T	U	W	D	S	B	X	W	THALAMUS
I	K	A	L	L	U	D	E	M	E	B	U	O	L	Z	FOREBRAIN
P	B	S	Q	M	K	Z	V	Y	M	F	Y	R	S	O	MIDBRAIN
P	R	W	S	V	U	S	R	Z	X	P	C	X	A	S	HINDBRAIN
O	A	H	F	U	S	L	M	U	R	B	E	R	E	C	DURA
C	I	I	S	U	M	A	L	A	H	T	O	P	Y	H	BRAIN
A	N	N	L	S	M	A	R	E	R	C	L	W	N	G	CEREBRUM
M	S	D	S	L	S	T	L	O	B	A	R	I	A	N	CEREBELLUM
P	T	B	N	V	T	S	C	A	E	E	A	Y	U	I	CORTEX
U	E	R	O	A	P	G	C	N	H	R	R	Y	O	A	BRAINSTEM
S	M	A	P	T	G	G	I	U	B	T	F	E	K	R	HEMISPHERE
J	X	I	J	D	V	P	P	D	C	V	P	A	C	B	HIPPOCAMPUS
G	R	N	J	H	E	M	I	S	P	H	E	R	E	K	PINEAL
W	O	L	U	A	K	M	V	G	T	V	D	K	E	E	MEDULLA
															PONS

There are approximately 100 billion nerve cells in the brain! They communicate by passing special chemicals called neurotransmitters across a gap that separates the cells. Follow the lines and re-write the letters to find the name of the gap that separates nerve cells:



e p s a y n s

Some BRAIN jokes:

1. What happens if you break the brain scanner? _____
2. What kind of fish performs brain operations? _____
3. When does the brain get afraid? _____
4. What did the frontal cortex say to the temporal cortex? _____

Answers: 1. It's a CATastrophe. 2. a neurosurgeon 3. when it loses its nerve 4. I love you!

Aphasia News

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Thanks to:

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We would also like to thank the members of the Stroke Support Group and their families, the Speech Pathology staff, and the East Bay Institute for Research and Education.

Newsletter Information

If you would like to receive this newsletter or you have comments/suggestions, e-mail Juliana at juliana@ebire.org or call her at (925) 372-4649 or write to:

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We welcome your comments and questions!

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