Hi, just a reminder that you’re receiving this email because you have expressed an interest in The Aphasia Center of Innovative Treatment, Inc. Don’t forget to add bill@aphasiatoolbox.com to your address book so we’ll be sure to land in your inbox!

You may unsubscribe if you no longer wish to receive our emails.

**FEATURE: Neuroplasticity in Stroke and Aphasia Recovery**

"This is our neuroplastic mantra: Know it > think it > plan it > do it > feel/hear/process it > REMEMBER IT."

**Editor's Note:**
Neuroplasticity is the brain’s amazing capacity to change and adapt.

CLICK HERE to read our feature article on how neuroplasticity helps in stroke and aphasia recovery. Contact us if you want more information.

**FEATURE: Neuroplasticity and Neurogenesis**

**Editor's Note:**
The ability of the brain to regenerate neurons is called neurogenesis, which is stimulated by such factors as physical activity, mental exercise - such as spirituality or meditation, and brain exercise.

Greetings!

This is Sharon Rennhack, the chief editor for the aphasiatoolbox newsletter.

For the next two months, we are offering a special focus on neuroplasticity.

Neuroplasticity is the brain’s amazing capacity to change and...
Here we look at some of the benefits of physical and mental activity for your brain.

---

Why should I exercise?

1. Physical activity helps to enlarge your brain’s basal ganglia which controls your ability to focus.
2. Physical activity positively affects several vitally important areas of health.
3. Physical activity helps you sleep and improves your overall sleep quality.
4. Physical activity is a natural stress reliever.
5. Physical activity stimulates brain plasticity.

References:


Why should I meditate?

1) Meditation benefits your brain by improving mood and working memory - even under stress.
2) Meditation benefits your brain by alleviating adapt, and it is a factor in recovery from brain injury, stroke and aphasia. In fact, it is the basis of the Aphasia Toolbox philosophy for aphasia treatment and recovery, helping to rebuild and reconnect speech and related problems for people with aphasia.

The September 2014 edition focuses on the science of neuroplasticity; In the October 2014 edition, we will focus on the practical side of neuroplasticity.

October is also the "celebration" of the four-year anniversary of my stroke/aphasia. For those of you who have been reading this newsletter, you know my story. For those of you who have not, my aphasia problems were speech, cognition, memory and writing. I worked with Bill Connors for a year and a half to regain my speech, my thought process/memory and more importantly for me - my writing. I wanted to be have normal speech, a normal cognitive process and normal writing style. I think I accomplished that!

With that in mind, Bill and I will share with you in October some of the exercises that I and other ATB clients have done during recovery.

In this September edition of aphasia toolbox, we discuss:

> What is neuroplasticity?
> What is the science behind neuroplasticity and neurogenesis?
> How can neuroplasticity be used in stroke and aphasia recovery?
> In his video, Master Clinician Bill Connors shares with you his neuroplastic rehabilitation ideas.
> We also look the work of some of the "heroes" of neuroplasticity. in the feature section - Neuroplasticity - More Information.

Yes, aphasia recovery takes time and work; What do YOU want for your recovery?

Contact me if you want to receive my presentation on my recovery.

Contact Bill Connors if you want to receive his presentation.

Sharon Rennhack
Chief Editor
Aphasiatoolbox

| 5 QUESTIONS YOUR SPEECH PATHOLOGIST WOULD LOVE FOR YOU TO ASK HER! |

Is your aphasia therapy neuroplastic? Ask your therapist these questions:

1. How does my treatment program exploit my brain’s neuroplasticity?
2. How do I become the pilot of my own recovery?
3. How does working from my own memory and thought differ from imitation? Copying? Being cued?
4. How are we working on my different cognitive issues such as working memory, attention and problem solving?
5. How do I challenge myself by practicing independently with no one around?
mental distractions.

3) Meditation benefits your brain by increasing the size of your brain.

4) Meditation benefits your brain by enhancing the strength of your immune response.

5) Meditation benefits your brain by alleviating symptoms caused by sickness.

6) Meditation benefits your brain by decreasing fatigue.

7) Meditation benefits your brain by reducing the impact of physical and emotional pain.

References:

Current Articles/Research covering Neuroplasticity and Neurogenesis

**Neuron Tells Stem Cells to Grow New Neurons**

Summary:
Duke researchers have found a new type of neuron in the adult brain that is capable of telling stem cells to make more new neurons. Though the experiments are in their early stages, the finding opens the tantalizing possibility that the brain may be able to repair itself from within.

**New molecular target key to enhanced brain plasticity**

Summary:
As Alzheimer’s disease progresses, it kills brain cells mainly in the hippocampus and cortex, leading to impairments in 'neuroplasticity,' the mechanism that affects learning, memory, and thinking. Groundbreaking new research has discovered a new way to preserve the flexibility and resilience of the brain that offers a new target for drug design and an understanding of mechanisms of cognitive enhancement.

**Visualizing plastic changes to brain from magnetic stimulation**

Summary:
Tinnitus, migraine, epilepsy, depression, schizophrenia, Alzheimer’s: all these are examples of diseases with neurological causes, the treatment and study of which is more and more frequently being carried out by means of magnetic stimulation of the brain. However, the method’s precise mechanisms of action have not, as yet, been fully understood.

Contact Bill Connors at 724-494-2534 or at information@aphasiatoolbox.com if you have questions about therapy that truly exploits your neuroplasticity.

---

**FEATURE: What is Neuroplasticity?**

**Editor's Note:**

According to the Webster’s New World Medical Dictionary [1], neuroplasticity, also called brain plasticity or brain malleability, refers to the "brain's ability to reorganize itself by forming new neural connections throughout life. Neuroplasticity allows the neurons (nerve cells) in the brain to compensate for injury and disease and to adjust their activities in response to new situations or to changes in their environment."

The dictionary goes on to say:

"Brain reorganization takes place by mechanisms such as ‘axonal sprouting’ in which undamaged axons grow new nerve endings to reconnect neurons whose links were injured or severed. Undamaged axons can also sprout nerve endings and connect with other undamaged nerve cells, forming new neural pathways to accomplish a needed function. For example, if one hemisphere of the brain is damaged, the intact hemisphere may take over some of its functions. The brain compensates for damage in effect by reorganizing and forming new connections between intact neurons. In order to reconnect, the neurons need to be stimulated through activity."

An adult brain can retain the ability to grow new neurons from neural stem cells in a process known as neurogenesis. Neurotrophins are chemicals that help to stimulate and control neurogenesis. Brain derived neurotrophic factor (BDNF) is a "central driver of neural plasticity". [2]

In summary, the brain, once considered to be a fixed and stable organ, is now viewed as dynamic, flexible, and adaptive. [3]

**References:**

3. Train Your Brain, Neurology Now, By Tom Valeo, July - August 2007
Self-Repairing Mechanism Can Help to Preserve Brain Function in Neurodegenerative Diseases

Summary:
Neurogenesis, the self-repairing mechanism of the adult brain, can help to preserve brain function in neurodegenerative diseases such as Alzheimer's, Prion or Parkinson's, research shows. The brain has some self-repairing potential that accounts for the renewal of certain neuronal populations living in the dentate gyrus, a simple cortical region that is part of the larger functional brain system controlling learning and memory, the hippocampus. This process is known as neurogenesis.

Specific gene linked to adult growth of brain cells, learning, memory

Summary:
Stimulating a specific gene could prompt growth - in adults - of new neurons in this critical region, leading to faster learning and better memories, researchers report. Understanding the link between this gene and the growth of new neurons - or neurogenesis - is an important step in developing therapies to address impaired learning and memory associated with neurodegenerative diseases and aging.

Wii Balance Board induces changes in brains of people with multiple sclerosis

Summary:
A balance board accessory for a popular video game console can help people with multiple sclerosis (MS) reduce their risk of accidental falls, according to new research. Magnetic resonance imaging scans showed that use of the Nintendo Wii Balance Board system appears to induce favorable changes in brain connections associated with balance and movement.

Nurture the Miracle of Neuroplasticity

Summary:
If you were stranded in cyberspace with access to only one TEDTalk, I hope it would be Dr. Jill Bolte Taylor's "My Stroke of Insight."

See the TedTalk that inspired this post.

VIDEO: Master Clinician Bill Connors discusses Neuroplasticity

Bill Connors, master Clinician and owner of AphasiaToolbox.com, discusses the principles of neuroplastic rehabilitation in aphasia recovery.

FEATURE: Neuroplasticity - More Information

Editor's Notes:
Clinicians and researchers have recognized that neuroplasticity is the brain's amazing capacity to change and adapt.

Aphasia Toolbox has collected information on such leaders as Paul Bach-y-Rita, Norman Doige and others; Click here to read our information on the heroes of neuroplasticity.

In addition, to selected articles, books and videos, we are including information on the

FEATURE: Neuroplastic Rehabilitation Principles

Editor's Notes:
These are the key principles of neuroplasticity, as identified by Bill Connors, in his presentation "Exploiting Neuroplasticity in Aphasia Rehabilitation":

1. Know it > think it > plan it > do it > feel/hear/process it >>>REMEMBER IT.

2. Keep the activity simple and the program robust. Tell
The Brain Science Podcast features the latest books about neuroscience as well as interviews with leading scientists from around the world. It has been one of the top-ranking podcasts in Medicine on iTunes. The most 25 recent episodes are free to stream or download. Premium subscribers have unlimited access to all episodes and transcripts -See more here.

**Quote of the Month**

If it doesn't challenge you, it won't change you.

---

3. Address the cognitive underpinnings for speech and language.

4. Have the client work from his/her own memory starting propositionally.

5. Sometimes you BLINK IT and sometimes you THINK IT. Facilitate rhythm and faith.

6. Emphasize InterPersonal Communication (IPC) issues early and consistently.

7. Focus on verbs, not nouns, on vowels not consonants.

8. Make every activity truly therapeutic (MEATT) for the PRA.

9. Turn the person with aphasia (PWA) into a person recovering from aphasia (PRA).

10. Address concomitant problems: asymbolia; initiation difficulties; abulia; adynamic aphasia; maladaptive habits; struggle

11. Be prepared for the digitally native PWA.

12. Take the leap. Commit to and become a neuroplastic SLP. Prime the client.

**For a copy of Bill's presentation, contact him or call him at 724-494-2534.**

---

The Aphasia Center of Innovative Treatment, Inc | bill@aphasiatoolbox.com | http://www.aphasiatoolbox.com
800 Vinial Street, B408
Pittsburgh, PA 15212

Copyright © 2012. All Rights Reserved.