The Current

Helping people regain life thru neurotechnology

Summer 2013

Collection of Short Stories to be Released

The neurotechnology industry, along with researchers arefamiliar with the "last resort" nature of neurotechnology interventions. Because of perceived risks, surgical complications, and up-front costs associated with implanted stimulation devices, clinicians generally do not recommend neurostimulation therapy until patients have exhausted all other available interventions. Because of this, neurotech devices approved by regulatory agencies often carry a label restricting their use to refractory, or treatment-resistant patients.

But the availability of deep brain stimulation (DBS) systems for treatment of Parkinson's Disease may soon challenge this line of reasoning. A number of investigators have put forth the idea that DBS therapy should be used at an earlier stage in the progression of the disease, rather than waiting until the patient stops benefiting from drugs such as L-dopa. Considerable support for this notion emerged after publication of a clinical study in the *New England Journal of Medicine* earlier this year that showed that patients treated with DBS and conventional medical practice did much better than those treated with conventional medical practice alone

While the example of DBS for Parkinson's Disease may not apply to all neurotechnology interventions, it is in our interest to do all we can to educate clinicians, consumers, and the public of the economic and therapeutic viability of neurotechnology. Jennifer French, whose book *On My Feet Again* tells a convincing story of the viability of FES for treating paralysis, is beginning work on a new book titled L*ast Resort: Short Stories of Becoming Bionic,* which will feature individuals using several different types of neurotechnology therapies. Proceeds from both books benefit Neurotech Network.
- Story courtesy of James Cavuoto, Neurotech Reports

More Outreach Activities

Look for us and our partners at these events and educational sessions,

- PVA Summit & Expo, Orlando, FL, August 26-30, 2013
- Neurotechnix, International Congress on Neurotechnology, Electronics and Informatics, September 18-20 , 2013
- The New York Academy of Sciences: *Accelerating Translational Neurotechnology, 4th Annual Aspen Brain Forum,* Aspen Meadow Resort, Aspen, CO, September 18-20, 2013

- Abilities Expo in Boston, MA, September 20-22, 2013
- United Spinal Association Webinar, *Becoming a Lab Rat: Experiences of being a clinical trial participant*, September 25, 2013
- Neurotech Leaders Forum, Radisson Hotel, San Francisco, CA, October 14-15, 2013
- American Congress of Rehabilitation Medicine, Disney's Contemporary Resort, Orlando, FL, November 12-16, 2013 Neurotech Network is hosting 2 sessions: *Rehab is over, Now What? Innovative Outpatient Programs for SCI* and *The Role of Research in Reimbursement*

Learn more about our outreach activities and upcoming events on our Upcoming Conferences Page.

Returning to the Family

Our family of sponsors help to support our mission to improve the education of and advocacy to access neurotechnology devices, therapies and treatments for people with impairments. We would like to welcome two returning sponsors to our family.

Bioness LiveOn

Bioness offers award-winning medical devices designed to benefit people with stroke, multiple sclerosis, traumatic brain injury, cerebral palsy and spinal cord injury. These products use Functional Electrical Stimulation (FES) to help people regain mobility and independence to improve quality of life and productivity. - See more at: http://www.bioness.com/

ARDIEM MEDICAL, INC.

Ardiem Medical, Inc. is a full-service medical device design and manufacturing company specializing in small run and prototype builds. Ardiem Medical also specializes in manufacturing custom neuromodulation devices including various electrodes, stimulators, and control units. They are one of the only companies with research data on human testing to back up their electrode reliability and function. Learn more at: http://www.ardiemmedical.com/

Corporate sponsorship is an annual commitment to support our educational efforts. Click here for more details.

**Neurotech Network of the Society to Increase Mobility is a 501(c)(3) non-profit organization, FIN: 02-0692279*

News & Headlines of Interest

- A blogger from New Zealand, Andrew Johnson, demonstrates the impact of Deep Brain Stimulation to control his symptoms of Parkinson's Disease. Medical Daily

reported this story and the video is posted on YouTube. Read the article and view the video by clicking here.

- FESAir will be hosting a clinically focused course for Physiotherapists & Occupational Therapists on Oct 4-5, 2013 in Toronto Canada. It is titled Functional Electrical Stimulation: Applications in Rehabilitation (upper & lower limb). For more details visit www.fesair.ca.
- Medtronic recently introduced a Spinal Cord Stimulation (SCS) system for the treatment of chronic pain designed with full-body MRI safety under specific conditions. Read more here.
- Treatment resistant depression is on the rise. Transcranial electrical stimulation was recently featured as a cover story in *New Scientist* titled Fixing Broken Brains: a New Understanding of Depression. Read the full article here. Note: registration is required to view this article for free.
- The NeuroMuscular Electrical Stimulation-assisted Gait Meeting will be held at the 67th American Academy for Cerebral Palsy and Developmental Medicine Conference in Milwaukee, Wisconsin from October 16-19. Learn more about the conference here.
- For the treatment of complex regional pain syndrome (CRPS), spinal cord stimulation should be considered earlier than a last resort for treating this rare but debilitating chronic pain condition . This research analysis was reported in *Neuromodulation: Technology at the Neural Interface*, the journal of the International Neuromodulation Society. Read more here.
- Recordings from 3 implanted electrodes to restore speech for a person living with Locked-In Syndrome was achieved in May 2013. Erik Ramsey had an accident many years ago and has participated in this clinical trial to allow him to communicate. Follow the progress here.
- Studies out of the University of Auckland report that a combination of brain stimulation and video games may be the key to speeding up treatment for tinnitus sufferers. Read more here.
- The U.S. Food and Drug Administration Medwatch issued Consumer Safety Notifications for the SynchroMed Implantable Infusion System Devices. Read the report and understand the details here.
- Results from the Stimulation Therapy for Apnea Reduction (The STAR Trial) were recently released showing a significant reduction in the Apnea Hypopnea Index (AHI) and Oxygen Desaturation Index. This multi-center study had 126 participants for treatment of obstructive sleep apnea. Learn more here.
- GyroStim spinning chair may help concussion recovery. FDA approval is pending. Read more here.
- The U.S. Food and Drug Administration granted clearance to a new device that could be of considerable aid to stroke victims or people with partial spinal cord injuries. The AMES device robotically moves a paralyzed limbs, while vibrating the muscle receptors that would be involved in that movement if it was initiated by the user. Learn more about this development here.
- A 16-year-old stroke survivor gains recovery of movement in upper and lower extremities by using Functional Electrical Stimulation. Read more here.
- A new implanted device may help predict seizures in people living with epilepsy who do not respond to pharmaceuticals. Published in *Lancet Neurology*, a study conducted by Neurovista used electrodes implanted between the skull and brain

to detect abnormal activity. Learn more here.

- Wearable exoskeletons are allowing people with paralysis the ability to stand and walk while providing social and medical benefits. The rehabilitation effect is still being discovered. Read more here.

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