

## PN research update

### Electrical Impact

**An experimental medical device that uses electric current to rebuild nerves after acute spinal-cord injury could offer new hope to thousands of patients every year. In clinical studies, people regained function—in some cases to near-normal levels. Some individuals regained the ability to move, feel sensation, walk with assistance, and maintain bladder control and sexual function.**

The device—the Andara™ Oscillating Field Stimulator (OFS™) System—is under regulatory review and may be approved later this year. The technology was developed by researchers at Purdue University.

One of the first patients treated with the Andara OFS is Brandon Ingram, 27, of Indianapolis, who sustained severe spinal-cord damage in a car accident in 2002. Once active and athletic, Ingram learned about a research study involving the Andara OFS and received an implantation within days of his injury.

After three months the device was removed, and Ingram continued physical therapy. He is reportedly now able to stand and walk with the help of a walker, and he has also regained bladder sensation, sexual function, and the ability to move his legs and toes when he concentrates.

Ingram's progress has made a significant impact on his quality of life. He is better able to care for himself. He married and now has a job, in the customer service department of a local cable company. He also is taking

computer training courses and regularly plays wheelchair basketball—one of his favorite activities. He is using his experience in order to help others by speaking to young people at schools, juvenile facilities, churches, and community centers.

Ingram was one of the first patients enrolled in a clinical trial to study the Andara OFS. He was one of 14 participants with severe SCI who were part of the project, conducted at the Indiana University

School of Medicine.

Cyberkinetics' Andara OFS System is designed to be implanted in patients within 18 days following SCI. The device applies an oscillating field of low-voltage, direct electrical current to the area surrounding the spinal cord to stimulate the regrowth of nerve tissue across the area of injury and restore sensory and motor function.

Published data from randomized, controlled pre-clinical studies indicate the

Andara OFS System aided in restoring sensation and some motor function in naturally injured dogs. Results of the first ten patients enrolled in a clinical study of the system were published in the *Journal of Neurosurgery: Spine* in January 2005. Subsequently, four additional patients enrolled in the clinical study.

**Contact:** [www.cyberkineticsinc.com](http://www.cyberkineticsinc.com).

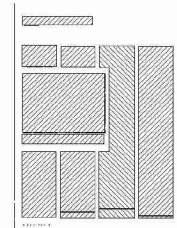
### SCI Research Network Receives Grant

#### A grant from the U.S.

Department of Defense (DOD) will allow six hospitals to expand a spinal-cord-injury (SCI) research network created by the Christopher Reeve Foundation (CRF).

CRF organized the North American Clinical Trials Network (NACTN) to bring promising therapies for SCI from the laboratory to clinical trials in an effective manner with maximum safety to patients undergoing treatment for SCI. A \$2.5 million grant will enable NACTN's expansion to include military and additional civilian hospitals and, eventually, Department of Veterans Affairs (VA) medical facilities.

Myriad data, from time of injury through a year postinjury, is collected from the acute SCI patients who consent to be enrolled in the NACTN data registry. This information concerns management and immediate and long-term functional



outcomes. Approximately 135 individuals have enrolled in the registry.

“For decades, we’ve medically managed SCI, but we need effective therapies and new surgical approaches,” says Dr. Robert Grossman, neurosurgery chief at The Methodist Hospital and cofounder and director of the Methodist Neurological Institute, of

Houston, Tex. “We know SCI therapies are on the horizon, and our goal is to bring those treatments to our patients.”

NACTN consists of major North American hospital centers, including Methodist NI, University of Texas Health Science Center (Houston), Northwestern University–Rehabilitation Institution of Chicago, University of Toronto (Canada),

and University of Virginia (Charlottesville). As a result of the DOD award, the immediate new NACTN sites will be Walter Reed Army Medical Center (Washington, D.C.), University of Louisville (Ken.), and University of Maryland Medical System (Baltimore).

**Contact:** [www.methodistneuroinstitute.com](http://www.methodistneuroinstitute.com) / [www.ChristopherReeve.org](http://www.ChristopherReeve.org). ■



An experimental medical device implanted in Brandon Ingram (#32) has helped him regain some function in many areas—but his favorite pastime is still wheelchair basketball.