

The Road to Hope

By Laura A. Burns, MBA

Hope, by definition, is the feeling that what is wanted can be achieved. Brain injury patients and their families are hopeful for recovery—and they believe that such recovery is possible. Spaulding Rehabilitation Hospital in Boston is one of a number of facilities currently working to contribute new knowledge and improved treatment approaches for brain injury through research and outcome studies.

There is promising, cutting-edge research in the field of brain injury treatment and rehabilitation through the use of robotics, virtual reality and gaming, data analysis, and Functional MRIs. With invaluable help from brain injury patients, researchers are making progress to improve patients' quality of life. Below are just a few examples of progress along the "Road to Hope" at Spaulding.

New MRI Techniques

Functional Magnetic Resonance Imaging (fMRI) is a specialized MRI scan that measures the change in blood flow related to neural activity in the brain or spinal cord of humans. Gary Strangman, Ph.D., Director, Neural Systems Group at Massachusetts General Hospital in Boston, believes that this in-depth imaging can identify individual differences in patients who have sustained a brain injury more easily than the traditional MRI. According to Strangman, "fMRI scanning, while an individual performs a task, can be used to identify the brain regions that are functioning normally, as well as those that have been altered by injury or disease... fMRI holds considerable promise for identifying the mechanisms underlying the behavioral changes and can also help predict outcomes from rehabilitation."

Gaming as Therapy

Gaming is rapidly emerging as a highly effective therapy, especially for individuals with diseases of the brain and brain injury. Dr. Paolo Bonato, Director of the Motion Analysis Lab in the Department of Physical Medicine and Rehabilitation at Spaulding Rehabilitation Hospital, reports, "Off-the-shelf, interactive gaming systems have been adopted in recreational therapy with growing interest for beneficial rehabilitation

outcomes associated with playing such games. The Wii Fit is probably the most popular of such systems. While positive results have been shown in preliminary studies, researchers are currently focusing on modifying such games in ways that make them more suitable to achieving rehabilitation goals."



A Spaulding patient and physical therapist during a session of Wii-hab

For more information about brain injury research at Spaulding, contact Laura Burns, Research Enrollment Coordinator, Traumatic Brain Injury Research, Spaulding Rehabilitation Hospital at 617-573-2237 or via e-mail at lburns2@partners.org.

Study Opportunity

*Do you experience mood swings or irritability?
Have you had a traumatic brain injury?*

You may be eligible to participate in a research study conducted by Dr. Ross Zafonte at Spaulding Rehabilitation Hospital.

To potentially qualify, you must:

- Be between the ages of 18 and 65
- Have sustained your brain injury at least 6 months ago
- Experienced irritability since your injury

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