



For Release

## Hadasit Commences Phase II Trial of the Virtual Reality System for the Treatment of Chronic Pain and Stroke Rehabilitation at Hadassah University Hospital

Jerusalem, Israel, Wednesday, September 5, 2007 - Hadasit announced today the start of a Phase II Study of the Virtual Reality (VR) system for the treatment of chronic pain and stroke rehabilitation at Hadassah University Hospital.

The VR system employs a patent pending technology designed to utilize brain plasticity and enhance learning processes in patients who are unable to use their arms, hands or shoulders due to stroke or chronic pain. It does so by simulating a virtual environment where patients view themselves in real time, doing pain-free movements with an arm, a hand or a shoulder, which are otherwise chronically painful or paralyzed. A video camera is used to photograph patients and a computer simulates the functions based on the physical presence of each patient at that moment.

“Essentially, brain mirror neurons are activated when humans perform an action, or when they observe themselves or others perform the same actions. Recruiting mirror neurons for therapeutic goals is implemented by encouraging mimic activity, essentially monkey see, monkey do type behavior. For example, the patient sees himself moving his arm, even though he really is not. The virtual experience activates the mirror neurons and induces a therapeutic effect on the brain that reduces pain and increases function. By viewing the movement of the arm without pain, the brain undergoes a corrective learning process,” said Mr. Shimon Shiri, a rehabilitation psychologist at Hadassah and an inventor of the system.

The VR system is a product of multidisciplinary work in the Department of Physical Medicine and Rehabilitation at Hadassah Mount Scopus Hospital. The team includes Mr. Shiri, Uri Feintuch, PhD, a computational neuroscientist and Zeev Meiner, MD, a senior neurologist and physiatrist.

“The difference between this novel system and other VR systems for therapy of pain is that in our system the patient sees his own face and body in the virtual environment. This self-face recognition activates a unique combination of brain structures, which integrate emotional and associative brain centers,” said Mr. Shiri.

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The trial will recruit a total of 90 post stroke patients, who will be followed for one year. Early clinical data, generated from a study with a small number of patients, shows that the VR system helps patients suffer less pain in their weak arm and perform better than patients who are not treated by the system. The same system may be used for treatment of pain and disability caused by many other reasons beyond stroke. An f-MRI imaging will be used to monitor brain changes.

A pipeline of other products is currently under development at Hadassah based on the VR technology including a device that combines virtual reality and biofeedback to treat tension headaches and migraines.

### **About Hadasit**

Hadasit ([www.hadasit.co.il](http://www.hadasit.co.il)), the Technology Transfer Company of Hadassah Medical Organization (HMO) in Jerusalem, Israel, promotes and commercializes HMO's continuously generated intellectual property (IP) and R&D capabilities. IP generated by HMO has already gained global recognition due to Hadasit's successful enterprising of Hadassah's biomedical technology, including novel therapeutics, diagnostics and devices. For additional information or to schedule an interview, please contact Marjie Hadad, Media Liaison, Hadasit, at +972-54-536-5220 or e-mail [pr@marjihadad.com](mailto:pr@marjihadad.com) or [marjie@netvision.net.il](mailto:marjie@netvision.net.il).