Motor Function Recovery System for Stroke Patients

A method to stimulate certain areas of the body to improve motor function post-stroke

Georgia Tech researchers have developed a method to stimulate certain areas of the body to improve motor function post-stroke. The stimulation is delivered through an apparatus that can be worn or placed against the body (such as an arm rest). The vibration is non-focal, meaning it is not specific to a part of the body or muscle. Vibration motors are sewn into the fabric of a wearable device or mounted on the surface of a stationary device. The patient can either wear the device on their body or rest in contact with the tactile stimulation device—no further exercise is needed. Several specially engineered stimulation patterns provide even coverage. This device and method aid in the transition from hospital to full recovery, acting as an alternative to traditional methods of treatment.

Summary Bullets

- **Unconventional:** Passive stimulation unlike traditional therapy or rehabilitation
- **Tactile:** No electrostimulation, more comfortable to patients
- **Convenient:** Little to no effort/attention required

Solution Advantages

- **Unconventional:** Passive stimulation unlike traditional therapy or rehabilitation
- **Tactile:** No electrostimulation, more comfortable to patients
- **Convenient:** Little to no effort/attention required
- **Cheaper:** Mobile rehab outside of a clinic or hospital

Potential Commercial Applications

- Stroke recovery
- Mobile rehab devices

Background and More Information

A stroke occurs when blood flow to an area in the brain is cut off. Brain cells deprived of oxygen and glucose die and, in many cases, permanent brain damage can result. Strokes are the leading cause of serious, long-term disability in the United States. The ultimate goal of rehabilitation is to improve motor function so that the stroke survivor can become as independent as possible. This must be accomplished in a way that preserves dignity and

motivates the survivor to relearn basic skills that the stroke may have impaired - skills like bathing, eating, dressing and walking.

Inventors

- Dr. Thad Starner
  Professor – Georgia Tech College of Computing
- Dr. Caitlyn Seim
  Former Graduate Research Assistant – Georgia Tech College of Computing

IP Status

: 62/563,279

Publications

Good Vibrations: Passive Haptic Learning Could Be a Key to Rehabilitation, Georgia Tech School of Interactive Computing - September 20, 2018

Images

Visit the Technology here:
Motor Function Recovery System for Stroke Patients