Scene Evaluation Technique and Software for Treatment of Hemispatial Neglect

(VA Reference No. 08-156)

Novel software program designed to improve brain-injury patients' capacity to detect previously ignored information

Technology

Computer software program for patients with hemispatial neglect following brain-injury

Inventor

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Key Features

- Software program that could be used in most rehabilitation centers or bedside in hospitals
- Improvement occurs within days following therapy
- Involves straightforward approach to engage a cognitive process shown to improve capacity of detecting previously ignored information in patients

Stage of Development

Reduced to practice with working prototype software developed

Keywords

Rehabilitation Tool
- Software
- Hemispatial Neglect
- Stroke

Patent Status

Patent application filed

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Technology

The Department of Veterans Affairs has developed a computer software program designed to facilitate the location of relevant information in the environment of a brain-injury individual experiencing hemispatial neglect.

Description

A stroke in the right cerebral hemisphere often causes left hemiplegia (paralysis on the left side of the body). In addition, survivors of right-hemisphere strokes may also have problems with their spatial and perceptual abilities known as hemispatial neglect. Hemispatial neglect is defined as the failure to report, respond, or orient to novel or meaningful stimuli presented to the side opposite a brain lesion as a result of a stroke or brain injury.

This technology focuses on training non-spatial mechanisms of attention rather than on training the side of space subject to neglect. The program utilizes a computerized "game" in order to engage a cognitive process shown to improve a brain injured individual's capacity to detect previously ignored information as a result of hemispatial neglect.

A market need exists to address the common residual deficit following right hemisphere stroke, which affects an individual's ability to perform every day tasks such as dressing, eating, grooming, and driving. Remediation of the deficit is an important factor in the quality of life post stroke.

Competitive Advantages

Stroke rehabilitation involves two essential processes: restoration of functions that can be restored and learning how to do things differently when functions cannot be restored to pre-injury level. Current methods of rehabilitation typically involve physical or occupational therapy.

This invention:

- Results in improvement in individuals experiencing hemispatial neglect within days after therapy.
- Can be used with nearly all brain-injury patients experiencing hemispatial neglect due to straightforward approach of the software tool.
- Requires only the use of a laptop or desktop and could be used at the bedside in patients with more severe cases.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license, and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).