

Ground breaking eye therapy for stroke victims developed

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(PhysOrg.com) -- A new computer-based therapy for stroke victims who have suffered partial vision loss has been developed by Scottish scientists.

Researchers at the University of Aberdeen have designed an interactive program that can help sufferers of partial vision loss (hemianopia), which is caused by damage to the visual pathways in the brain after a stroke.

Their Neuro-Eye Therapy (NeET) uses a medical device called the Vision Rehabilitation Program™ to repeatedly stimulate blind areas of vision using on-screen patterns.

Clinical trials have shown that the benefits of the treatment, which mimics the principals of physiotherapy, include:

- Improved detection of moving/flickering objects in the blind areas
- Increased navigation skills
- Improved reading ability
- Increased concentration span

The program is available now from the Sight Science unit at the University of Aberdeen.

Dr Arash Sahraie, Reader in Visual Neuroscience at the University of Aberdeen, explained: "The basic principles behind Neuro-Eye Therapy are similar to those of physiotherapy following a stroke. If muscles are affected following brain injury, patients are asked to repeat a pattern of limb movements in order to improve their mobility.

"In the same way, after daily use of the Vision Rehabilitation ProgramTM over a six month period, patients have reported an improvement in their sight as well as a range of other benefits, including being able to get about more easily, both inside and outside their homes, and finding reading much less of a struggle."

Those that stand to benefit from the therapy include the 7,500 people in the UK and 55,000 in Europe that suffer partial loss of sight every year after a stroke, as well as the tens of thousands of pre-existing cases of those with vision loss caused by brain damage.

"The device used in Neuro-Eye Therapy is simple to set up in the home or office and requires no prior expertise or experience of computer use," said Dr Sahraie.

"The daily task involves looking at a computer screen and deciding

whether or not an image is presented within the blind area by pressing a button. Initially patients can only guess whether the image was presented, but over time patients experience an improvement in their vision."

As a result of his work, Dr Sahraie has been short-listed for the The Gannochy Trust Innovation Award of the Royal Society of Edinburgh – Scotland's top award for innovation. The winner takes home a cash prize of £50,000 and will be announced in October.

Further information regarding the therapy can be found at www.abdn.ac.uk/sightscience

Provided by University of Aberdeen

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