

Neuro-Eye Therapy (NeET)

Developed at the University of Aberdeen

Provided by Sight Science Ltd



About Neuro-Eye Therapy (NeET)

NeET uses a computer mediated medical device to help those who have suffered partial blindness as a result of brain injury, most often following a stroke.

The basic principles behind NeET are similar to those of physiotherapy and speech-therapy following a stroke:

Daily stimulation —————→ Improvement in function of surviving nerve network

How do we think visual abilities may be returned in a damage brain?

- ❖ Through visual processing to other areas of the brain, that haven't been damaged
- ❖ Through training of surviving functioning nerves with the damaged area

NeET encourages use of remaining nerve pathways to compensate for the damaged areas

How Neuro-Eye Therapy (NeET) works



John Henderson from Aberdeen with the Neuro-Eye Therapy equipment

Through an interactive computer based training task

- Used daily (for min of 5 days per week)
- Which takes approx 25min

After 3 months of using Neuro-Eye Therapy patients report an **improvement in visual sensitivity**

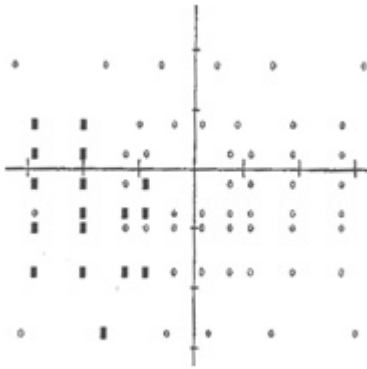
Over longer periods **further improvements** were reported.

Improvements Reported

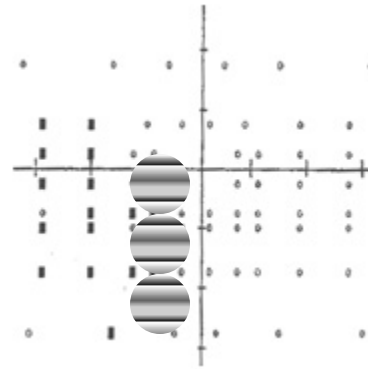
- ❖ Ability to locate moving, flickering objects within the blind field, such as moving traffic
- ❖ Increased navigation skills
- ❖ Improved reading ability
- ❖ Increased concentration span and visual attention
- ❖ Increased visual sensitivity
- ❖ Significant increases in quality of life

How the task works: **The Set up**

The computer presents images in the affected areas of the visual field



Example of left field vision loss



Example of where we might present targets on the screen

Three different locations are targeted during a session.

How the task works: **The user's guide**

The user is required to respond by pressing a key on the computer when they think they have seen an image.

It is a bit like doing a visual field test because you are focusing on a central point.

How the task works: Progress

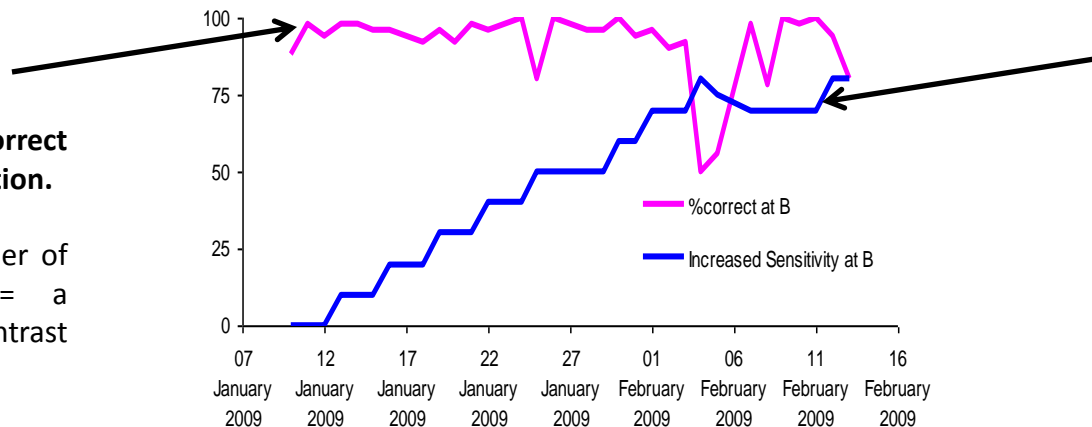
The computer program is interactive, so:

To start with targets are bright, as the number of correct responses increases, target brightness will reduce- This is a good sign!

This line represents the % number of correct responses at that location.

• Increase in the number of correct responses = a decrease in the contrast level of the target.

• If accuracy level is maintained then an increase in sensitivity is expressed through the blue line.



This line represents the % change sensitivity.

• If the line moves upwards there has been an increase in sensitivity within that area.

Example of data received over a month of therapy sessions

Neuro-Eye Therapy consists of the following three stages:

1) Evaluation of suitability

Based on visual fields and other criteria such as mental health.

2) Design of the Visual Rehabilitation Program

Based on visual fields.

3) Monitoring of progress and results

Progress is monitored on a monthly basis. Based on data we provide reports . During this period we also update the program as an when required to obtain optimal stimulation for progression.

All of the above is done remotely, so no one needs to come and see us