Supplementary Material A

Copy of the Subjective Reasons Questionnaire (SRQ) developed to assess whether individuals thought that the training helped them to cope with their impairment, and if so, why they think they got better and which aspect of training and/or assessment they found most beneficial.

Please rate the extent to which you agree with each of the following statements on a scale of 1 to 5. 1 means completely disagree and 5 means completely agree.

I got better after the training because…

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely Agree
…I use my eyes more effectively	1	2	3	4	5
…I am more aware of my condition	1	2	3	4	5
…I feel more confident about trying things	1	2	3	4	5
…I can concentrate for longer	1	2	3	4	5
…I feel more alert	1	2	3	4	5

I feel the following aspects of the study helped me most:

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely Agree
The training at home	1	2	3	4	5
If training at home, which aspects					
Visual search	1	2	3	4	5
Reading training	1	2	3	4	5
Talking to the researcher(s) involved in the study	1	2	3	4	5

The assessment	1	2	3	4	5
If assessment which aspects of the assessment?					
Assessment of reading	1	2	3	4	5
Assessment of visual field (perimetry)	1	2	3	4	5
Assessment of exploration /computer	1	2	3	4	5
Assessment of exploration/shelf task	1	2	3	4	5
Assessment of driving skills/video	1	2	3	4	5
Assessment of obstacle avoidance/walking	1	2	3	4	5

Supplementary Material B

Reading and Exploration Training

Visual search

In the visual search tasks participants had to detect one target letter amongst 15 distractor letters by pressing the left mouse button. If the target was absent they had to press the right mouse button. In each block the target letter could be detected by a difference in one of three features: the colour, the size or the type of the letter. For each block the level of difficulty was customised based on the patients' average accuracy level and response speed; patients would move up to a higher level of difficulty if they scored above 90% accuracy. If accuracy fell below 75% they moved down to a lower level. Patients remained, however, on the same level if they scored between 75 and 90% accuracy (parameters defined according to pilot data from four patients). Changes in difficulty were achieved by increasing the similarity of the target and distractors according to the definable feature of that block (colour, size, form). For example increasing the similarity about the type of letter meant using letters which looked similar (*i.e.* A amongst O's is easy, Y amongst X's is hard). Another parameter used to increase difficulty was the stimulus presentation time. This was directly proportional to the response speed of the patient: the faster the patients' mean target detection speed the shorter the subsequent stimulus presentation time. In addition, difficulty was adjusted according to the position of the target on the screen relative to the distractors. Namely, for the lower levels of difficulty the target appeared close to the centre of the screen and was easy to spot, whereas at the higher levels, the target appeared much farther from the centre of the screen and was therefore more difficult to detect.

Patients carried out in total 294 blocks (in a suggested three week period) and were asked to complete 14 blocks per day within one hour. Each block consisted of 120 trials and after completing a block the patients were allowed to take a break. After completing the daily 14 blocks the program did not allow the participants to continue any further until the next day. This restriction was embedded in the software in order to make sure every patient carried out exactly the same amount of exercises per day. After each block patients were provided with feedback about their accuracy score which helped them to monitor their performance.

Reading training

In this task patients had to identify using a mouse button press, if a non-word was present or absent in a string of words presented in the centre of a computer screen along a single horizontal line. Patients were asked to click the left button of the mouse to indicate that the non-word was present and the right button if it was absent. Difficulty was adjusted dynamically. One of the criteria for increase in difficulty was based on the same logic as for the visual search tasks relative to the accuracy described previously (accuracy > 90% up one level, accuracy < 75% down one level, and 75 % $\geq$ Acc $\leq$ 90 % same level). As the difficulty increased the number of words presented increased, up to a maximum of seven. The other factors that were manipulated to increase the difficulty level were word length and stimulus presentation time. The spacing between the words also varied across the different sessions: 50% of the times the words were presented close together or were located further apart from each other. The latter adjustment was made to encourage the patients to move their eyes all the way from the left to the right hand side of the screen, and read all of the words even if there were large gaps between them.

Patients were told that this strategy would enable them to keep a high level of accuracy and progress further.

For this training component patients completed 196 blocks of trials, over approximately two weeks. They were asked to complete 14 blocks per day in one hour. Again the patients were allowed to take breaks in between blocks and the program did not allowed them to carry out more blocks than required for each day. Feedback regarding performance was provided at the end of every block.

Control Attention training

The attention training consisted of four tasks: Go/No-Go task, visual search, Sternberg Task and the "rabbit hunting" task (detailed below). In these tasks all stimuli were presented at, or close to, fixation, thereby limiting the amount of visual exploration required. Patients had to perform the tasks for one hour per day and each session contained 10 blocks. Patients completed 350 blocks in total over a time window of approximately five weeks, depending on speed and motivation.

Go/No-Go task

In this task patients had to respond to a target letter presented on a computer screen. The target was presented centrally at the beginning of each block and the patients were asked to memorise it for as long as they needed. When ready the patients pressed either mouse button to start the task. Subsequently, a series of letters were presented sequentially in the centre of the screen. Patients were asked to click the left mouse button when they saw the target letter, otherwise no response was required. The level of difficulty increased depending on the accuracy of the participants according to the same criteria set for the experimental training (see

above). The difficulty level was manipulated by increasing the number of target letters to memorise and the stimulus presentation time.

Sequential search task

At the beginning of each block patients had to memorise a target letter presented in the centre of the screen. The task was then started by a mouse button press. Subsequently the patients were presented with a string of letters presented one at a time in the centre of the screen. They were asked to indicate via a left mouse button press when the target was present within the string of letters. In case they thought the target was absent they had to press the right mouse button. The target letter could be defined by the colour, the identity of the letter or a combination of these two features. Any increase in difficulty was related to the mean accuracy score reached by the patients on each block in the same way as for the other tasks. In the easiest trials patients had to remember only one feature, but as difficulty increased they had to attend to both the identity and the colour of the target letter. In addition, as the difficulty level increased so did the number of letters in the string and the stimulus presentation time decreased.

The Sternberg task

Patients were presented with a series of single stimulus items (pictures) presented against a green background in the centre of the screen, and were asked to memorise these. Subsequently, a further target picture was presented centrally against a red background. If this target picture matched one of the stimulus pictures memorised (the ones presented against the green background) the patient had to click the left mouse button. No match answers required a right mouse button click.

Accuracy was recorded in the same manner as other tasks and difficulty adjusted accordingly. As difficulty increased so too did the number of stimulus pictures to memorise (up to a maximum of six). Also for this task the stimulus presentation speed decreased with increasing difficulty.

The Rabbit hunting task

In this task patients were presented with a black circle representing a “rabbit hole” positioned in the centre of the screen. Whenever a rabbit appeared at the hole the patients were asked to 'hit' the rabbit by clicking the left mouse button. Patients were presented with a maximum of four rabbit holes (each approximately 3° of visual angle in diameter) arranged along a vertical line down the centre of the screen. Increase in accuracy was calculated in the same manner as for the other tasks. The speed with which the rabbit appeared inside the hole decreased as difficulty increased.