Appendix (For electronic publication only):

The neuropsychological tests used in the current study have been discussed in detail previously and a reference is given for each test. Briefly six conventional and three computerised tests were given to all patients. These were:

Conventional tests

1. The Consortium to Establish a Registry for Alzheimer’s Disease (CERAD) Word Learning Test requires patients listen to a list of 10 words read to them by the examiner and then to immediately recall as many of those words as possible. This procedure is repeated 3 times with the same word list, with the order of word presentation changed on each occasion. After a 5 minute delay filled with other cognitive tasks, patients must recall as many words from the word list as possible. The number of words recalled at this point is measured.

2. The Sematic Fluency test requires patients to name as many words as possible from a predefined category (eg; animals, clothing, first names) within 60 seconds. The number of words correctly named from the relevant category is measured.

3. The Digit Symbol Subtest from the Weschler Adult Intelligence Scale–Revised requires patients to reproduce on paper, within 90 seconds, as many coded symbols as possible in blank boxes beneath randomly generated digits, according to a coding scheme for pairing digits with symbols. The number of boxes completed in 90 seconds is measured.

4. The Trail Making Test Part A requires patients to connect numbered circles in sequence as quickly as possible. The number of seconds required to complete the task is measured.

5. Trail Making Test Part B requires patients to connect a series of circles that contain a sequence of numbers and letters in the correct but alternating order (i.e. numeric and alphabetical). The number of seconds required to complete the task is measured.

6. The Grooved Pegboard Dominant Hand requires patients to place 25 keyed pegs in an array of holes with randomly oriented slots using only their dominant hand. The number of seconds required to complete the task is measured.

The National Adult Reading Test (NART) was given to all patients on the first assessment to provide an estimate of intelligence. The NART requires patients to read and pronounce a series of words of
increasing difficulty. The correct pronunciation is taken to indicate knowledge of the meaning of that word. The number of words pronounced correctly as well as the number of errors made is measured and provides a summary IQ score.

**Computerised tests**

The computerised test battery, a subset of tests from the CogState™ (Melbourne, Australia) battery\textsuperscript{14} was selected to be brief and to deliver the same number of performance measures as the conventional tests. The software is written in java and runs on either a Macintosh or windows Microsoft computer operating system. In the current study windows laptop computers were used. The test battery takes 10-15 min to complete. For each test within the computer battery, the stimuli consisted of images of playing-cards displayed on the computer. Incorrect responses, failures to respond or responses faster than 100msec were indicated by an audible signal and the data associated with these trials was omitted from analysis. Correct responses received no auditory feedback.

1. The simple detection task required patients to monitor a single card that was presented face-down on the computer screen. As soon as the card turned face-up they were required to press the spacebar as quickly as they could.

2. The simple identification task required patients to monitor a single card that was presented face-down on the computer screen. As soon as the card turned face-up they were required to indicate the colour of the card by pressing the “K” key to indicate “red” or the “D” key to indicate black.

3. The simple matching task matching required patients to monitor two cards that were presented face down on the computer screen. The two cards turned face-up simultaneously and as soon as this occurred the patient was required to indicate whether the colour of the two cards matched by pressing the “D” to indicate the cards were the “same” and the ‘K” to indicate that they were different.

For each of the three tasks, fifteen trials were presented with performance accuracy measured as the number of correct responses (expressed as a percentage of the total responses) and the reaction time of correct responses in milliseconds.