CLAIMS

1. A computer-implemented method for determining a subject's neurological status by calculating a score indicative of the subject's neurological status, the method comprising steps of:

(a) performing an encoding phase , in which the subject is presented with a plurality of items to be recalled in a retrieval phase;

(b) obtaining, from the subject, a metacognitive judgement score, and/or performing an intermediate task phase, in which the subject is presented with a task to perform and which results in an intermediate task score;

(c) performing the retrieval phase, in which the subject is asked to recall the plurality of items presented in the encoding phase, and which results in a retrieval phase score; and

(d) calculating the score indicative of the subject's neurological status based on the retrieval phase score and one or both of: the metacognitive judgement score and the intermediate task score.

2. The computer-implemented method of claim 1, wherein the metacognitive judgement score, intermediate task score, and retrieval phase scores are independently weighted when used to calculate the score.

3. The computer-implemented method of claim 1 or claim 2, wherein the score is calculated based on an equation selected on the basis of the subject's sex.

4. The computer-implemented method of any preceding claim, wherein components of the retrieval phase score are weighted based on ordinal position and/or location of each item to be recalled.

5. The computer-implemented method of any preceding claim, wherein the neurological status is a cognitive status of the subject, and/or wherein the metacognitive judgement score is an indication of how the subject believes they will perform during the retrieval phase.

6. The computer-implemented method of any preceding claim, wherein the score is further calculated based on the age of the subject.

7. The computer-implemented method of any preceding claim, wherein the intermediate task is a reaction speed test.

8. The computer-implemented method of any preceding claim, further comprising a step of calculating a predicted MMSE or ADAS-Cog value from the score.

9. The computer-implemented method of any preceding claim, wherein the method further includes repeating steps (a), (c), and (d) for a plurality of testing cycles; and optionally wherein step (a) in each testing cycle is modified to only show the subject the items missed in the step (d) of the preceding cycle.

10. The computer-implemented method of claim 9, wherein, after repeating steps (a), (c), and (d) for the plurality of testing cycles, the method further comprises obtaining a further metacognitive judgment score indicative of how the subject believes they will perform during a delayed retrieval phase.

11. The computer-implemented method of claim 10, further comprising performing the delayed retrieval phase after obtaining the further metacognitive judgement score; and optionally performing one or more filler tasks after obtaining the further metacognitive judgement score and before the delayed retrieval phase.

12. The computer-implemented method of any preceding claim, where in the score is calculated either according to equation (1):

$$Score_{male} = 0.606 \cdot (10 \cdot (-0.0738 \cdot (70 - \text{age}) + \Sigma_{\text{correct items}} L \cdot P) + 2 \cdot (15 - [0.00196 \cdot (70 - \text{age}) + |3 + \text{jol} - \Sigma_{\text{correct items}} 1|]) + 1 \cdot (15 + 6 \cdot \left(-0.00828 \cdot (70 - \text{age}) + 0.5 - \frac{\text{RT}}{1000}\right)))$$

or according to equation (2):

$$Score_{NOTmale} = 0.606 \cdot (10 \cdot (-0.0296 \cdot (70 - \text{age}) - 1.05 + \Sigma_{\text{correct items}} L \cdot P) + 2 \cdot (15 - [-0.00767 \cdot (70 - \text{age}) + 0.0907 + |3 + \text{jol} - \Sigma_{\text{correct items}} 1|]) + 1 \cdot (15 + 6 \cdot \left(-0.00797 \cdot (70 - \text{age}) + 0.00177 + 0.5 - \frac{\text{RT}}{100}\right)));$$

wherein equation (1) is used when the subject is male, and equation (2) is used when the subject is not male, and where age is the age of the subject, L is a weighting for the location in which a given item was presented during the encoding phase, P is a weighting for the order in which a given item was presented during the encoding phase, jol is the metacognitive judgment score, and RT is an average reaction time which is the intermediate task score.

13. A device for determining a subject's neurological status by calculating a score indicative of the subject's neurological status, the device including a display, a processor, and a user input component; wherein the device further includes memory containing machine-executable instructions which, when executed on the processor, cause the device to:

(a) perform an encoding phase, in which a plurality of items to be recalled by the subject in a later phase are displayed via the display;

(b) obtain from the subject, via the user input component, a metacognitive judgement score, and/or perform an intermediate task phase using the display and the user input component, in which the user is presented with a task to perform and which results in an intermediate task score;

(c) perform the retrieval phase using the display and the user input component, in which the subject is asked to recall the plurality of items presented in the encoding phase, and which results in a retrieval phase score; and

(d) calculate the score indicative of the subject's neurological status based on the retrieval phase score and one or both of : the metacognitive judgement score and the intermediate task score.

14. A system for determining a subject's neurological status by calculating a score indicative of the subject's neurological status, the system comprising one or more processors, a display, and a user input component, wherein the system further includes memory containing machine-executable instructions which, when executed on the one or more of the processors, causes the system to:

(a) perform an encoding phase, in which a plurality of items to be recalled by the subject in a later phase a displayed via the display;

(b) obtain from the subject, via the user input component, a metacognitive judgement score, and/or perform an intermediate phase using the display and the user input component, in which the user is presented with a task to perform and which results in an intermediate task score;

(c) perform a retrieval phase using the display and the user input component, in which the subject is asked to recall the plurality of items presented in the encoding phase, and which results in a retrieval phase score; and

(d) calculate the score indicative of the subject's neurological status based on the retrieval phase score and one or both of: the metacognitive judgement score and the intermediate task score.

15. The system of claim 14, wherein the processor performing steps (a) – (c) is a different processor to the processor performing step (d), and/or wherein the memory contains machine readable-instructions which, when executed on the one or more processors, cause the system to perform the computer-implemented method according to any of claims 1 – 13.