Additional information on neuropsychological tools and tests

Aims of neuropsychological evaluations

The aims of neuropsychological evaluations in people living with HIV include:¹

- identifying neurocognitive impairment that is directly attributable to HIV
- determining if neurocognitive impairment is associated with co-morbid factors, such as psychiatric illness, nutritional deficiencies or co-infections
- finding any relationship between cognitive impairment and HIV disease variables, such as CD4 count and viral load
- determining when to start treatment to protect the CNS from damage and which drugs to use
- providing feedback to patients on their disease progress and treatment

The screening algorithm developed by Cysique et al.²,³ provides a quick tool to help identify patients with HIV who are at risk of HAND:

- it is recommended for use in HIV-infected Caucasian men with advanced disease
- refer back to the diagnostic tools section for more details

In addition to the screening test already mentioned in the diagnostic tools section, several other tests are available that may be useful in evaluating neuropsychological function at baseline and at follow up visits.

- **Trail Making Tests** (Parts A and B) ask the participant to connect a series of numbers and/or letters as quickly as possible.
- **Wechsler Adult Intelligence Scale Revised (WAIS-R) Digit Symbol Subtest** is a test of memory and speed. The participant is asked to learn a code in which each digit is represented by a symbol and then substitute the correct symbols for a series of digits as quickly and accurately as possible.
- **CogState tools** supply computerised tests that provide a quantitative, validated, rapid and accurate measure of cognitive function.
- The HIV Dementia Motor Scale is a 20-point scale that measures neurological function in five domains – strength, tone, reflexes, co-ordination and gait.⁴ However; this may not be sensitive enough to detect mild HAND.
- Grooved Pegboard is a dexterity test that requires complex visual–motor coordination.⁵
- **Action (Verb) Fluency** is a verbal fluency task that requires rapid generation of as many verbs as possible within one minute.⁶
Figure 1. Cysique algorithm: a suggested approach for the detection of cognitive impairment in HIV-infected individuals\textsuperscript{2}

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