Supplemental Table 2. Testing domains and testing paradigms recommended for the characterization of cognitive impairment in ALS.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Executive Domain |  | Test | Level I | Level II | Level III |
| Executive function |  |  |  |  |  |
|  | Screening | ALS-CBS (1) | X | X | X |
|  | Screening & assessment | ECAS (2) | X | X | X |
|  | Fluency | Verbal Fluency Index | X | X | X |
|  | Concept formation | Wisconsin Card Sorting Test (3) |  | X | X |
|  |  | Card Sort from the Delis Kaplan Executive Function System (4) |  | X | X |
|  | Divided Attention | Trail Making Test (comparison between Trails B and A) (5) |  | X | X |
|  | Attention-inhibition | Stroop Test (comparison between interference and control conditions) (6) |  | X | X |
|  |  | Hayling Sentence Completion Test (7) |  | X | X |
| Social Cognition |  |  |  |  |  |
|  |  | Faux Pas (8) |  | X | X |
|  |  | Reading Mind in the Eyes (9) |  | X | X |
|  |  | Facial Emotional Expression (10)Test |  | X | X |
|  |  | Judgement of Preference Test (11) |  |  | X |
| Language |  |  |  |  |  |
|  |  | Assessment of Pragmatic Abilities and Cognitive Substrates (APACS) (12) |  |  | X |
|  |  | Picture description ([a] Picnic Scene Western Aphasia Battery; [b] 6-picture sequence (13) |  | X | X |
|  | Naming  (pick one – select tests evaluate nouns + verbs) | Boston Naming Test – Second edition  \*Full (14) or short-forms (15) | X | X | X |
|  |  | An Object and Action Naming Battery (16) |  |  | X |
|  |  | Graded Naming Test (17) |  | X | X |
|  |  | Expressive One-Word Picture Vocabulary Test – 4: Spanish-Bilingual Edition (co-normed with Receptive One-Word Vocabulary Test – 4/English and Spanish) (18) |  | X | X |
|  |  | Expressive Vocabulary Test -2 (can be compared with PPVT IV scores) (19) |  | X | X |
|  |  | Northwestern Naming Battery (nouns and verbs) (20) |  |  | X |
|  |  | Test of Adolescent/Adult Word Finding (TAWF-2; nouns and verbs) (21) |  | X | X |
|  | Naming - Verbs only | Action Naming Test  http://www.bu.edu/lab/action-naming-test/ |  |  | X |
|  | Semantic/Concepts | Pyramids and Palm Trees (association task - objects) (22) |  | X | X |
|  |  | Kissing and Dancing Test  (association task – actions) (23) |  | X | X |
|  | Single word comprehension | Peabody Picture Vocabulary Test IV  (24) | X | X | X |
|  |  | Receptive One-Word Picture Vocabulary Test – 4 (co-normed with Expressive One Word Vocabulary Test/English and Spanish) (18) |  | X | X |
|  |  | Northwestern Naming Battery (25) |  |  | X |
|  | Receptive Grammar | Test for Reception of Grammar – 2 (26) | X | X | X |
|  |  | Northwestern Assessment of Verbs and Sentences (25) |  | X | X |
|  | Syntax production | Northwestern Assessment of Verbs and Sentences\* (English; Spanish and Chinese versions in progress) (25) |  | X | X |
|  |  | Northwestern Anagram Test  Non-verbal measure of syntax production (27) |  | X | X |
|  | Pragmatic/Social Language | Pragmatic Protocol\* (English)  (28) |  |  | X |
|  |  | Lille Communication Test (French) (29) |  |  |  |
|  |  | Assessment of Pragmatic Abilities and Cognitive Substrates (APACS) (12) |  |  | X |
|  |  | Picture description ([a] Picnic Scene Western Aphasia Battery; [b] 6-picture sequences (13;30) |  | X | X |
|  | Spoken Language | Topic Directed Interview (31) |  |  | X |
|  |  | Assessment of Pragmatic Abilities and Cognitive Substrates (APACS) (12) |  |  | X |
| Memory |  |  |  |  |  |
|  | Comprehensive testing | Pick one of:   * Repeatable Battery for the Assessment of Neuropsychological Status (RBANS) (32), * Rey Auditory Verbal Learning test (33) * California Verbal Learning test-II,(34) * Wechsler Memory Scale-IV, (35) * Rivermead Behavioural Memory test (36) |  | X | X |
| Behaviour |  |  |  |  |  |
|  | Screening | Edinburgh Cognitive and Behavioural ALS Screen (Behavioural Screen) | X | X |  |
|  |  | ALS-CBS (Behavioural Screen) | X | X |  |
|  |  | MiND-B |  | X | X |
|  |  | ALSFTD-Q |  | X | X |
|  |  | FBI-ALS (37;38) |  | X | X |

Note that while this listing contains a selection of tests which have been previously shown to be sensitive to ALS, the list is far from exhaustive. As greater validation and experience in the use of domain-specific tests for the evaluation of FTSD occurs, it is expected that the testing paradigms recommended within each domain will be updated.

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