



NIA ADC Clinical Task Force

UDS Neuropsychology Work Group April 2012

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Work Group Recommendations

Stage 1. Paper- and pencil battery

Drop: Digit Symbol

Keep: Trail Making A and B

Fluency Animals and Vegetables

Replace: MMSE – MoCA

Digit Span (or PBAC Working Memory)

BNT – MINT

Logical Memory- Craft Stories

Add: Benson Complex Figure Test (Copy and Recall)



Work Group Recommendations

Stage 2. Investigate state-of-the-art computerized battery, to avoid ceiling effects in normal and preclinical cases

Evaluate NIH Toolbox, CogState, EXAMINER

Compile a UDS specific battery from several tests



DROP

CURRENT MEASURES	SCORES	PROPOSED
Digit Symbol	Number completed in 90 seconds	Drop



KEEP

CURRENT MEASURES	SCORES	PROPOSED
VERBAL FLUENCY ANIMALS VEGETABLES	Total unique items in 60 seconds	KEEP

CURRENT MEASURES	SCORES	PROPOSED
Trail Making Parts A and B	Time to complete Commission Omission errors	KEEP



REPLACE

**DOMAIN: GENERAL COGNITIVE MEASURE
CONSTRUCT: DEMENTIA SEVERITY**

CURRENT MEASURES	SCORES (Total score)	PROPOSED
MMSE	Total correct (30) Total orientation items (10)	Replace with MoCA Total items correct (30) (6 orientation items overlap)

*Discussed with Nasreddine
Long term contract for free use*



REPLACE

DOMAIN: ATTENTION

CONSTRUCT: SPAN, WORKING MEMORY

CURRENT MEASURES	SCORES (TOTAL)	PROPOSED
WMS-R DIGIT SPAN FORWARD (Holding)	Total correct trials (12) Span (8)	PBAC Executive Working Memory Or Alternate Strings
BACKWARD (Manipulating)	Total correct trials (12) Span (7)	

PBAC Working Memory Composite Score (Libon et al, 2011):
6 trials Digits F (3 to 8 digits); 6 trials Digits B (2 to 7 digits); F word list generation



REPLACE

SUBDOMAINS	Constructs	PROPOSED MEASURE	Scores
Episodic Memory Logical Memory A Immediate	Learning	Craft Stories Immediate Recall	Total correctly produced elements (44) (T) Verbatim (25) Gist
Episodic Memory Logical Memory A Delayed	Retention/Retrieval	Craft Stories Delayed Recall	Total correctly produced elements (44) (T) Verbatim (25) Gist

- Three stories have been identified by Saykin based on laboratory data from young and middle-aged participants.



Paragraph Recall, Story 21

ID:

Date:

“You are going to hear another short story played on a CD. Listen carefully because after the story has been played, I want you to tell the story back to me, just as you heard it. Do you understand? Listen now, here is the story.”

Maria's / child / Ricky / played / soccer / every / Monday / at 3:30. / He / liked / going / to the field / behind / their / house / and joining / the game. / One / day, / he / kicked / the ball / so / hard / that it / went / over / the neighbor's / fence / where three / large / dogs / lived. / The dogs' / owner / heard / loud / barking, / came / out, / and helped / them / retrieve / the ball.



REPLACE

CURRENT MEASURES	SCORES	PROPOSED
Boston Naming Test	Total correct (30)	Multilingual Naming Test (MINT) (32)

MINT: 32 items (Gollan, 2011); Mandarin, Hebrew, English, Spanish



ADD – 2 for the price of 1

PROPOSED SUBDOMAINS	Constructs	PROPOSED MEASURE	Scores
Visuospatial Processing	Constructions	Benson Complex Figure Test* - COPY	Total correctly produced elements (17) (T)
Episodic Memory	Nonverbal Learning/Retention	Benson Complex Figure Test *– Del Recall	Total correctly produced elements (17) (T)

* Incorporated into the NACC FTLD Module (Possin et al, 2011)



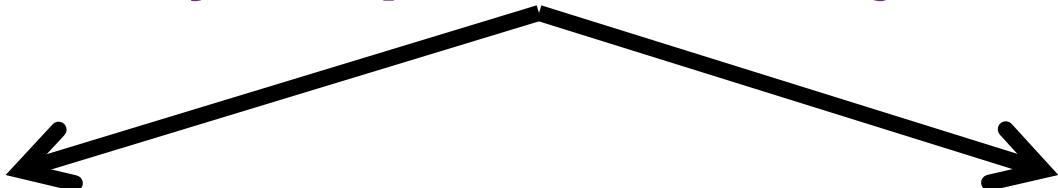
TWO OPTIONS

1) TASKS REGARDLESS OF OPTION

- Collect and assemble materials, instructions, scoring rules for new instruments
- Pilot test 5-6 subjects at 4-5 centers (volunteers?)
- Adjust materials based on pilot feedback
- Create test forms, instructions, scoring, materials
- ALL participants CDR 0, (.5) MCI due to AD, 1 (AD dementia)



Pilot Study 5-6 per center; adjustments



Option 1

Option 2

Test 15-20 per center, Both (4m)
Calculate AUC-evaluate (2m)
Make adjustments, create forms

Implement UDS 3.0

Administer Both To
15-20 New S's for
Cross-Walk Study

Implement UDS 3.0

Administer Old and 3.0
to 15-20 New S's: Cross-Walk (10m)

AUC evaluation on all S's



Eliminate old battery



2) OPTION 1:

Validation study:

- Any (return or initial) subjects (10-12 per center) (~4 mos)
- Administer UDS 3.0 first, current battery second.
- Analyze AUC, compare with those for current battery (~2 mos)
- Make needed adjustments
- Create final forms and database (Start admin new forms to all)
- Administer both batteries to volunteer participants:
 - Additional data from return participants will be used to more rigorously test sensitivity, specificity (AUC) (3-4mos)
 - Data from 15-20 NEW participants per center to provide data for crosswalk analysis- conversion score (10 mos)

3) ELIMINATE OLD BATTERY COMPLETELY



2) OPTION 2:

Validation study:

- Following initial pilot (5-6 per center), create all new forms and database for UDS Neuropsych 3.0
- **Start administering UDS Neuropsych 3.0 to all**
- Administer old and new batteries to volunteer participants:
 - Data from return participants (15-20 per center will be used to test sensitivity, specificity (AUC) (3~4 months)
 - Data from 15-20 NEW participants per center to provide data for crosswalk analysis- conversion score (~10 months)

3) ELIMINATE OLD BATTERY COMPLETELY