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TBI STAC Procedures: Touchscreen Tablet-Based Cognitive Assessment versus Paper-Based Assessments for Traumatic Brain Injury

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Touchscreen Tablet-Based Cognitive Assessment versus Paper-Based Assessments for Traumatic Brain Injury

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TBI STAC PROCEDURES

Participant ID # _____

Participant ID # _____ Examiner _____ Date _____

Order of Assessments (CLQT, STAC, MoCA) - Check randomization sheet to determine what order the three main assessments should be given.

First: _____

Second: _____

Third: _____

Informed Consent: Provide participant with a consent form (one to read and one to keep). Review the consent form with the participant stopping after each section to answer any potential questions. If appropriate, ask legal guardian to review consent form and the participant complete the assent form. Then, sign and date the consent form.

____ Consent Form Only (if participant is his/her own legal guardian)

____ Assent (participant) & Consent Forms (legal guardian) (for person with a legal guardian)

____ Consent Form for proxy (regardless of guardianship)

Medical History/Demographics Form: Complete the medical history form below with the participant. Form should be completed in an interview style. If appropriate, review the medical history form with the legal guardian. The examiner should then complete the screening measures with the participant.

TBI STAC PROCEDURES

Participant ID # _____

STAC Participant Medical History Form (completed via interview)

For each question below, please mark the answer that best describes you or fill in the blank. You do not need to answer any questions you do not want to answer

Participant Information

Date of Birth: _____ Age: _____ Gender: ___ Male ___ Female

Date of Injury: _____ Time post onset (months): _____ (> 6 months post)

Cause of Injury: _____

History of language or neurological impairment: ___ Yes ___ No Describe: _____

History of drug or alcohol abuse: ___ Yes ___ No

History of depression requiring hospitalization (in past 6 months): ___ Yes ___ No

Primary Language: _____

Education Level: check all that apply and, if applicable, fill in number of years.

____ Less than High School: Number of Years of School Completed: _____

____ High School Diploma

____ Some College: Number of Years: _____

____ Associate’s Degree

____ Bachelor’s Degree

____ Master’s

____ Doctoral Degree

Length of coma (days): _____

Length of post traumatic amnesia (PTA) (hrs or days) _____ Length of hospitalization: _____

(Clinical Observation – see information below) *at least 5 required to participate

Current Rancho Los Amigos Level: _____ 8-point scale 10-point scale

Screening Information

Vision Screening: _____ Pass _____ Fail

Corrected vision: ___ Yes ___ No (corrected is okay) Describe: _____

Hearing Impairment ___ Yes ___ No (corrected is okay) Describe: _____

Motor Screening: _____ Pass _____ Fail Time to complete: _____ Within Norms Yes/No? (circle)

Language Screening _____ Pass _____ Fail (90% accuracy on naming subtest)

Additional Information

1. Racial / ethnic group:
 - American Indian / Alaskan Native
 - Asian
 - Native Hawaiian or other Pacific Islander
 - Black or African American
 - White (Caucasian)
 - Hispanic or Latino

2. What is your current work status? Check ALL that apply
 - Working full time for pay outside the home (at least 35 hours per week)
 - Working part time for pay outside the home
 - Working for pay in a home-based business
 - Working as a volunteer
 - Working at home as a homemaker, stay-at-home parent, or care provider for other family members
 - Attending school or job training
 - Retired, and retirement was NOT related to current medical diagnosis
 - Not working or retired early because of medical condition
 - Not working for other reasons. Please describe: _____

3. What is your occupation (or what was your occupation when you stopped working)?

4. With whom do you currently live?
 - I live alone
 - Family (spouse or domestic partner, children, parents, other relatives)
 - Friends / Roommate
 - Assisted Living or Adult Family Home
 - Other, Please describe: _____

5. What is your marital status?
 - Married / Committed relationship
 - Single
 - Divorced
 - Widowed

TBI STAC PROCEDURES

Participant ID # _____

6. Do you use a touch screen tablet (not including a cell phone)?
 No
 Yes
7. On average, how many hours per week do you use a touch screen tablet (not including a cell phone)?
 Less than 1 hour
 1-2 hours
 3-5 hours
 6-10 hours
 More than 10 hours
8. For how many months have you been using a touch screen tablet (not including a cell phone) for more than 5 hours per week?
 less than 1 month
 1 - 2 months
 3 - 6 months
 7 - 12 months
 1 - 2 years
 more than 2 years
9. Do you use a touch screen cell phone?
 No
 Yes
10. On average, how many hours per week do you use a touch screen cell phone? _____
 Less than 1 hour
 1-2 hours
 3-5 hours
 6-10 hours
 More than 10 hours
11. For how many months have you been using a touch screen cell phone for more than 5 hours per week?
 less than 1 month
 1 - 2 months
 3 - 6 months
 7 - 12 months
 1 - 2 years
 more than 2 years

Screening

____ **CLQT Confrontation Naming Subtest:** Examiner will show participant 10 line drawings of familiar objects and ask him/her to name the pictures. Participants must receive 90% accuracy (9/10) to be enrolled in the study.

____ **Nine-Hole Peg Test (Motor Screening):** Determines the presence or absence of severe fine motor or dexterity impairment. For the purpose of this screening the participant should complete the task using their dominant hand, only one trial will be conducted. The participant must pick up nine pegs from the table, individually, and place them into a hole in any order. Then, he or she must take the pegs out of the holes one at a time. The participant may stabilize the container using untested hand. This test is timed. Record the time to determine how long the participant takes with this task. Administration and scoring guidelines appear below. The participant passes the screening if he or she can complete the task, regardless of the amount of time it takes.

____ **Vision Screening:** Ask participants to indicate which direction an “E” is pointing to determine if vision is adequate. They can point in the direction or verbalize the direction of the prongs. To screen for adequate near vision, you should hold the “E” sheet 14 inches from the participant’s face using the attached string. Use the largest “E”s on the top line as a practice. Then, ask the participants to complete the smallest “E”s on the lowest line. They need to correctly identify the direction of the “E”s on the last line with 100% to participate in the study.

____ **Rancho Los Amigos Scale of Cognitive Functioning:** The researcher should observe the participant during screening tasks and determine if the participant reaches at least a RLA Level V. RLA Level V the participants should be alert, able to follow simple commands appropriately, and able to converse at an automatic level when provided with cues or support. Please indicate the level of each participant (see descriptions below).

TBI STAC PROCEDURES

Participant ID # _____

Nine Hole Peg Test R / L Dominant* (Circle One)

*Only test the dominant hand, this could be the different from the client's dominant hand prior to injury.

The standardized protocol for this test was used.

**Check randomization sheet to determine what order the three main assessments (STAC, CLQT & MOCA) should be given.

___ CLQT – used standardized test protocol

Subtest	Score	Cognitive Domain
Personal Facts	/8	Memory; Language
Symbol Cancellation	/12	Attention; Executive Function
Confrontation Naming	/10	Language
Clock Drawing	/13	Attention; Memory; Executive Function; Language; Visuospatial Skills
Story Retelling	/8	Attention; Memory; Language
Symbol Trials	/10	Attention; Executive Function; Visuospatial Skills
Generative Naming	/9	Memory; Executive Function; Language
Design Memory	/6	Attention; Memory Visuospatial Skills
Mazes	/8	Attention; Executive Function; Visuospatial Skills
Design Generation	/13	Attention; Executive Function; Visuospatial Skills

___ MOCA – used standardized test protocol

Visuospatial/Executive	/5
Naming	/3
Memory	NA
Attention	/6
Language	/3
Abstraction	/2
Delayed Recall	/5
Orientation	/6
TOTAL SCORE	

TBI STAC PROCEDURES

Participant ID # _____

____STAC

Instructions:

Turn on iPad, open STAC application and click New Test. Examiner should set up STAC by first entering her own information on the first screen. On the next screen enter the participant's demographic information (excluding first and last name). In the box titled First Name: enter "subject". In the box titled Last Name: enter the Participant ID #. In the box titled participant ID enter their Participant ID # again. When prompted select Test A to administer.

Review the iPad rating scale and help participant select the appropriate choice. Once the demographics section is completed click the next button on the top right hand corner of the screen.

Give the iPad to the participant so they can view the short training video regarding how to use the touchscreen keyboard for this assessment. Then, the participant should follow auditory instructions to complete each task using the touch-screen keyboard. Have participant complete all subtests of the STAC using the iPad. Once the assessment has been completed the participant will be instructed to hand the iPad back to the examiner. Enter the four-digit password when prompted on the screen (7890). Next, mark items correct such as name and location, which were not entered on the demographic screen. Then, select the amount of assistance required by this particular participant (options given at bottom of screen). The application will then ask if you would like to e-mail results, select yes. Type in your email address.

* Do not use participants first or last name on any of the testing forms. Participant number should be used only.

____ PSSUQ – Should be complete via interview

POST ASSESSMENT USER SATISFACTION QUESTIONNAIRE

1. I felt comfortable doing this assessment using the iPad.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

2. The quality and clarity of the pictures was acceptable.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

3. The quality and clarity of the audio (sound) was acceptable.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

4. Being assessed using the iPad provides a true picture of how I am able to do things.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

5. There were things I was unable to do/say because of the iPad that I was able to do/say using the pencil paper assessments.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

6. If I had to have assessments or tests in the future, I would be willing to do them using an iPad.

Strongly Agree 1 2 3 4 5 6 7 *Strongly Disagree*

Comments:

7. Which type of administration did you prefer?

- Greatly prefer pencil and paper
- Slightly prefer pencil and paper
- No preference
- Slightly prefer iPad
- Greatly prefer iPad

Other Comments:

CHART-SF Rating Form**WHAT ASSISTANCE DO YOU NEED?**

People with disabilities often need assistance. We would like to differentiate between personal care for physical disabilities and supervision for cognitive problems. First, focus on physical "hands on" assistance: This includes help with eating, grooming, bathing, dressing, management of a ventilator or other equipment, transfers etc. Keeping in mind these daily activities...

1. How many hours in a typical 24-hour day do you have someone with you to provide physical assistance for personal care activities such as eating, bathing, dressing, toileting and mobility?

_____ hours paid assistance _____ hours unpaid (family, others)

Now, focus on supervision for cognitive problems instead of physical assistance. This includes remembering, decision making, judgment, etc.

2. How much time is someone with you in your home to assist you with activities that require remembering, decision making, or judgment?

1. [1] _____ Someone else is always with me to observe or supervise.
2. [2] _____ Someone else is always around, but they only check on me now and then.
3. [3] _____ Sometimes I am left alone for an hour or two.
4. [4] _____ Sometimes I am left alone for most of the day
5. [5] _____ I have been left alone all day and all night, but someone checks in on me.
6. [6] _____ I am left alone without anyone checking on me.

3. How much when you go away from your home?

1. [1] _____ I am restricted from leaving, even with someone else.
2. [2] _____ Someone is always with me to help with remembering, decision making or judgment when I go anywhere.
3. [3] _____ I go to places on my own as long as they are familiar.
4. [4] _____ I do not need help going anywhere.

Now, I have a series of questions about your typical activities.

TBI STAC PROCEDURES

Participant ID # _____

ARE YOU UP AND ABOUT REGULARLY?

4. On a typical day, how many hours are you out of bed? _____ hours
5. In a typical week, how many days do you get out of your house and go somewhere? _____ days
6. In the last year, how many nights have you spent away from your home (excluding hospitalizations?)
[0] _____ none [1] _____ 1-2 [3] _____ 3-4 [5] _____ 5 or more

HOW DO YOU SPEND YOUR TIME?

7. How many hours per week do you spend working in a job for which you get paid? hours _____
(occupation:)
8. How many hours per week do you spend in school working toward a degree or in an accredited technical training program (including hours in class and studying)? _____ Hours
9. How many hours per week do you spend in active homemaking including parenting, housekeeping, and food preparation? _____ Hours
10. How many hours per week do you spend in home maintenance activities such as gardening, house repairs or home improvement? _____ Hours
11. How many hours per week do you spend in recreational activities such as sports, exercise, playing cards, or going to movies? Please do not include time spent watching TV or listening to the radio.
_____ Hours

WITH WHOM DO YOU SPEND TIME?

12. How many people do you live with? _____
13. Is one of them your spouse or significant other? [1] _____ Yes [0] _____ No [9] _____ Not applicable (subject lives alone)
14. Of the people you live with how many are relatives? _____
15. How many business or organizational associates do you visit, phone, or write to at least once a month?
_____ associates
16. How many friends (non-relatives contacted outside business or organizational settings) do you visit, phone, or write to at least once a month? _____ friends
17. With how many strangers have you initiated a conversation in the last month (for example, to ask information or place an order)?

[0] none [1] 1-2 [3] 3-5 [6] 6 or more

WHAT FINANCIAL RESOURCES DO YOU HAVE?

18. Approximately what was the combined annual income, in the last year, of all family members in your household? (consider all sources including wages and earnings, disability benefits, pensions and retirement income, income from court settlements, investments and trust funds, child support and alimony, contributions from relatives, and any other source.)

a. Less than 25,000 - If no ask e; if yes ask b
b. Less than 20,000 - If no code 22500; if yes ask c
c. Less than 15,000 - If no code 17500; if yes ask d
d. Less than 10,000 - If no code 12500; if yes code 5000

TBI STAC PROCEDURES

Participant ID # _____

- e. Less than 35,000 - If no ask f; if yes code 30000
- f. Less than 50,000 - If no ask g; if yes code 42500
- g. Less than 75,000 - If no code h; if yes code 62500
- h. 75,000 or more code 80000

19. Approximately how much did you pay last year for medical care expenses? (Consider any amounts paid by yourself or the family members in your household and not reimbursed by insurance or benefits.)

"Would you say your unreimbursed medical expenses are...."

- a. Less than 1000 if "no" ask b if "yes" code 500.
- b. Less than 2500 if "no" ask c if "yes" code 1750.
- c. Less than 5000 if "no" ask d if "yes" code 3750.
- d. Less than 10000 if "no" code e if "yes" code 7500. e. 10000 or more code 15000