## Outcome Domain:

Psychiatric and Psychological Status

## Domain Description and Relevance in TBI:

“Psychological issues associated with TBI that affect outcomes include adjustment problems, personality changes (e.g., impulsivity), or mood disturbances. In addition, substance use disorders (SUD) are prevalent among persons with TBI and can have a substantial impact on long-term outcomes.” – Wilde et al. 2010

“In the context of pediatric TBI, psychological/psychiatric variables are behavioral and emotional constructs related to positive or negative functioning. These variables may be premorbid or posttraumatic in occurrence. Etiologies are both biologic and environmental.” – McCauley et al. 2012

Table CDE Classification by Type of TBI Study and Relevant Population for Recommended Psychiatric and Psychological Status Outcome Measures

| Outcome Measure Name | Relevant TBI Population | Acute Hospitalized | Moderate/ Severe Rehabilitation | Concussion/ Mild TBI | Epidemiology |
| --- | --- | --- | --- | --- | --- |
| Alcohol Use Disorders Identification Test: Self-Report Version (AUDIT) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Alcohol, Smoking, and Substance Use Involvement Screening Test (ASSIST) | Adult TBI and Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Beck Depression Inventory - 2 (BDI-2) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Brief Symptom Inventory -- 18 Item (BSI-18) | Adult TBI | Basic | Basic | Basic | Supplemental |
| Center for Epidemiologic Studies Depression Scale (CES-D) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Child Behavior Checklist (CBCL) Problem Behaviors subscale | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Child Behavior Checklist (CBCL) Teacher Report Form | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Children’s Affective Lability Scale (CALS)  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Children’s Motivation Scale (CMS)  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Clinician-Administered PTSD Scale (CAPS) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Family Assessment Device (FAD) | Adult TBI  | Supplemental | Supplemental | Supplemental | Supplemental |
| Minnesota Multiphasic Personality Inventory – 2 – Restructured Form (MMPI-2-RF)  | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Modified Overt Aggression Scale (MOAS)  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Neuropsychiatric Rating Schedule (NPRS) | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| NIH Toolbox Emotional Battery  | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Patient Health Questionnaire (9 Item) (PHQ-9) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| PTSD Checklist –Civilian/Military/Stressor Specific (PCL- C/M/S) | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL) | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Screen for Child Anxiety Related Emotional Disorders (SCARED)  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Short Mood and Feelings Questionnaire (SMFQ)  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Strengths and Difficulties Questionnaire (SDQ) | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| Substance Abuse Questions from the TBI Model Systems Database | Adult TBI | Supplemental | Supplemental | Supplemental | Supplemental |
| UCLA PTSD Index for the DSM-IV  | Pediatric TBI | Supplemental | Supplemental | Supplemental | Supplemental |

### References

McCauley SR, Wilde EA, Anderson VA, Bedell G, Beers SR, Campbell TF, Chapman SB, Ewing-Cobbs L, Gerring JP, Gioia GA, Levin HS, Michaud LJ, Prasad MR, Swaine BR, Turkstra LS, Wade SL, Yeates KO. Recommendations for the Use of Common Outcome Measures in Pediatric Traumatic Brain Injury Research. J Neurotrauma. 2012 March; 29: 678-705. PubMed PMID: 21644810.

Wilde EA, Whiteneck GG, Bogner J, Bushnik T, Cifu DX, Dikmen S, French L, Giacino JT, Hart T, Malec JF, Millis SR, Novack TA, Sherer M, Tulsky DS, Vanderploeg RD, von Steinbuechel N. Recommendations for the use of common outcome measures in traumatic brain injury research. Arch Phys Med Rehabil. 2010 Nov;91(11):1650-1660.e17. [DOI: 10.1016/j.apmr.2010.06.033]

## Alcohol Use Disorders Identification Test: Self-Report Version (AUDIT)

### DESCRIPTION

Consists of 10 items assessing the extent of excessive drinking, signs of dependence and harmful use in the past year.

### PERMISSIBLE VALUES

Scores range from 0 to 40. A total score of 8 or more is used to suggest the possibility of harmful use. Higher scores indicate greater risk for an alcohol-related problems.

### PROCEDURE

Self-report measure that can be administered via interview or paper/pencil. Administration time is generally 2-4 minutes.

### COMMENTS

Has been used with a range of populations, including adults with TBI.

### RATIONALE

This measure was developed by the World Health Organization and validated on primary care patients in 6 countries. The AUDIT has been used successfully to evaluate the extent of excessive alcohol use in persons with TBI.

### REFERENCES

Saunders, J.B., Aasland, O.G., Babor, T.F., de la Fuente, J.R. and Grant, M. Development of the Alcohol Use Disorders Identification Test (AUDIT):WHO collaborative project on early detection of persons with harmful alcohol consumption. II. Addiction, 88,791-804, 1993.

## Alcohol, Smoking, and Substance Use Involvement Screening Test (ASSIST)

### DESCRIPTION

Eight questions query use of tobacco, alcohol, cannabis, cocaine, amphetamine-type stimulants, inhalants, sedatives, hallucinogens, opioids and other drugs. For most participants, the measure can be completed within 10 minutes.

### PERMISSIBLE VALUES

The following scores can be derived: Lifetime Substance Use (with alcohol and tobacco max score=10, without alcohol and tobacco max score=8); Global Continuum of Substance Risk (with alcohol and tobacco max=208, without alcohol/tobacco max=170); Specific Substance Involvement Score (tobacco max score=16; all others max=20); Current Frequency of Substance Use (including alcohol, excluding tobacco and unclassified drugs max score=32, frequency of illicit drug use, excluding alcohol, tobacco and unclassified drugs max score=28, frequency of each individual drug max score=4); Dependence (all substances max score =130, illicit drugs only max=104); and Abuse (all substances max=146; illicit drugs only max=120).

### PROCEDURE

The ASSIST was designed to be administered as a structured interview by healthcare workers. Response cards are available to assist with the interview process. A manual provides guidance in administration, scoring, and interpretation. The average administration time is 10 minutes.

### COMMENTS

The ASSIST has not been validated for self-administration.

### RATIONALE

The ASSIST provides a structured methodology for evaluating the level of risky use of the full range of substances. It has been validated in health care settings across the world, and has been translated into multiple languages. The ASSIST has been shown to be sensitive to change associated with a brief intervention. The ASSIST risk scores are linked to feedback that may be given to the client and to recommendations regarding level of intervention.

**REFERENCES**

WHO ASSIST Working Group (2002). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): development, reliability and feasibility. Addiction, 97 (9): 1183-1194. [World Health Organization ASSIST Project Link](http://www.who.int/substance_abuse/activities/assist/en/index.html)

## Beck Depression Inventory-II

### DESCRIPTION OF MEASURE

The Beck Depression Inventory-II (BDI-II) is a measure of self-reported depression severity, based on the DSM-IV classification of depression. It is self-administered and consists of 21 multiple choice items. Each answer is scored on a likert scale of 0-3.

### PERMISSIBLE VALUES

Possible scores range from 0 to 63 with 0-13 indicating minimal, 14-19 mild, 20-28 moderate and 29-63 indicating severe depression.

### PROCEDURE

This is a self-administered measure although it can also be read to and recoded for the subject. Minimal training required. The measure can be completed in 5-10 minutes.

### COMMENTS

This measure has been validated for ages 13-86 years. It can be used with TBI of all severities as long as the subject is sufficiently cognitively intact to understand and respond to the questions validly.

### RATIONALE

This is a widely used and well validated measure with good psychometric properties. It is congruent with DSM-IV classification of depression. It has been translated into multiple languages, and takes 5 to 10 minutes to administer.

### References:

Beck AT, Steer RA, Brown GK. 1996. Beck Depression Inventory (2nd Ed) San Antonio, TX: The Psychological Corporation.

## Brief Symptom Inventory – 18 Item (BSI-18)

### DESCRIPTION

BSI 18 is a shortened version of the SCL-90, 18 items rated on a 5-point rating scale; 3 clinical scales (Depression, Anxiety, and Somatization) and an overall Global Severity Index.

### PERMISSIBLE VALUES

Normalized T-scores for the 3 Symptom Dimensions (Depression, Anxiety, and Somatization) and the Global Severity Index. Normative comparison groups based on community dwelling adults (n = 1,122; 605 males and 517 females).

### PROCEDURE

Patient reads the items and answers on a 5-point rating scale. Interpretation requires doctoral level training in psychology. Computer scoring and interpretation available. Administration time is 4 minutes.

### COMMENTS

Proper administration requires that the test taker be able to respond meaningfully to the items. To provide meaningful results, the test taker must be able to see, read, and comprehend the items. Average reading difficulty is about the 6th-grade level. Computer software administrative and scoring is available.

### RATIONALE

The BSI 18 provides a very brief global assessment of psychological health and common psychological symptom complaints. Widely used measure with good normative data.

### REFERENCES

Derogatis, L.R. (2001). Brief Symptom Inventory 18 (BSI 18): Administration, Scoring and Procedures Manual. Minneapolis, MN : NCS Pearson, Inc.

## Center for Epidemiologic Studies Depression Scale (CES-D)

### DESCRIPTION:

The Center for Epidemiologic Studies Depression Scale (CES-D) is a widely used screening scale for depression. It consists of six subscales of depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. The CES-D queries a patient’s depression symptoms in the last week, with each question is scored on a 4-point likert scale ranging from 0 (rarely/none of the time) to 3 (most/all of the time). Scores for items 4, 8, 12, and 16 are reversed before summing all items to yield a total score. A score of 16 or higher has been used to indicate highly depressive symptoms.

### PERMISSIBLE VALUES:

Score range from zero to 60

### PROCEDURE:

The scale can be completed in 5 minutes and can be self or interviewer-administered.

**COMMENTS:**

Validated for use in adult populations

### RATIONALE:

The CES-D has proven validity and reliability and has been used extensively to screen for symptoms of major depression. It is administered quickly and is free for use.

### REFERENCES:

Parikh, et al. (1988). The sensitivity and specificity of the Center for Epidemiologic Studies Depression Scale in screening for post-stroke depression. Int J Psychiatry Med. 18(2): 169-81.

Radloff, LS (1977). The CES-D Scale: A self-report depression scale for research in the general population. App Psychol Meas, 1, 385-401.

Ramasubbu, R., Robinson, R., Flint, A., Kosier, T., & Price, TR. (1998). Functional impairment associated with acute poststroke depression: The stroke data bank study. J Neuropsychiatry Clin Neurosci, 10, 26-33.

Sinar, D., Gross, CR, Price, TR, Banko, M, Bolduc, PL, & Robinson, RG (1986). Screening for depression in stroke patients: The reliability and validity of the CES-D scale.

Steffens, DC, Krishnan, KR., Crump, C., & Burke, GL. (2002). Cerebrovascular disease and evolution of depressive symptoms in the cardiovascular health study. Stroke, 2002, 33, 1636-44.

## Child Behavior Checklist (CBCL) Problem Behaviors subscale and Teacher Report Form

### DESCRIPTION

The Child Behavior Checklist measures a child’s competencies by using their parent’s perception of their performance on three scales, which include activities, social and school. Separate forms for ages 1.5 to 5 years and 6 to 18 years, as well as separate forms to be filled out by the parent/caregiver or teacher, are available. Scores for three competence scales and a total competence score can be computed.

### PERMISSIBLE VALUES

Raw scores, *t* scores (M=50, SD=10), and percentiles are given based on test results. The value of *t* scores for each range varies depending on the scale; in some scales higher *t* scores are associated with normal functioning and on others lower *t* scores are associated with normal functioning.

### PROCEDURES

The CBCL can be completed independently by the caregiver or administered by a professional familiar with the CBCL manual. Test can be completed by paper/pencil, online, or on a scannable form. The entire test, which includes the school competence scale, lasts approximately 25-30 minutes. Skills commensurate with at least a Master’s degree level in psychology, social work, or special education are recommended for interpretation.

### COMMENTS

The CBCL has two sets of forms, for ages 1.5 to 5 and ages 6 to 18.

### RATIONALE

“Subsets of items from the CBCL have also been analyzed to characterize sleep problems, post-traumatic stress symptoms, and ADHD.” - McCauley et al. 2012

**REFERENCES**

Achenbach, T. (1991). Manual for Child Behavior Checklist/ 4-18 and 1991 Profile. University of Vermont, Dept. of Psychiatry: Burlington, VT.

Ewing-Cobbs, L., Barnes, M., Fletcher, J., Levin, H., Swank, P., and Song, J. (2004). Modeling of longitudinal academic achievement scores after pediatric traumatic brain injury. Dev Neuropsychol 25(1-2), 107-133.

Fletcher, J., Ewing-Cobbs, L., Miner, M., Levin, H., and Eisenberg, H. (1990). Behavioral changes after closed head injury in children. J Consult Clin Psychol 58(1), 93-98.

Reynolds, CR., Fletcher-Janzen, E. (2007) *Encyclopedia of Special Education*. John Wiley & Sons: Inc. Hoboken, New Jersey.

## Children’s Affective Lability Scale (CALS)

### DESCRIPTION

The CALS contains twenty items and assesses affect regulation. It is completed by the child’s parent.

### PERMISSIBLE VALUES

Twenty items are answered on a five-level (0 to 4) scale for a total possible score ranging from 0 to 80. Lower scores indicate less affective lability.

### PROCEDURE

The CALS is completed by the child's parent. Format is paper-and-pencil and it can be completed in approximately five minutes.

### COMMENTS

The test is appropriate for children aged 6-16.

### REFERENCES

Gerson, A., Gerring, J., Freund, L., Joshi, P., Capozzoli, J., Brady, K., and Denckla, M. (1996). The Children's Affective Lability Scale: a psychometric evaluation of reliability. Psychiatry Res 65(3), 189-198.

## Children’s Motivation Scale (CMS)

### DESCRIPTION

The CMS is a sixteen-item scale that can be used to evaluate the level of motivation in children and adolescents ages 6 to 16.

### PERMISSIBLE VALUES

Sixteen items are answered on a five-level (0 to 4) scale for a total possible score ranging from 0 to 64. Lower scores indicate more apathy.

### PROCEDURE

The CMS is completed by the child's parent.

### COMMENTS

The test is appropriate for children aged 6-16.

### REFERENCES

Gerring, J., Freund, L., Gerson, A., Joshi, P., Capozzoli, J., Frosch, E., Brady, K., Marin, R., and Denckla, M. (1996). Psychometric characteristics of the Children's Motivation Scale. Psychiatry Res 63(2-3), 205-217.

## Clinician-Administered PTSD Scale (CAPS)

### DESCRIPTION:

The Clinician-Administered PTSD Scale (CAPS) is a widely used 30-question interview that queries for a current or lifetime diagnosis of PTSD according to the PTSD DSM-IV criteria. The 17-item Life Events Checklist identifies any traumatic events experienced by the patient in accordance with criterion A. Symptoms are counted as present if they have a frequency score of at least 1 (scale 0 = "none of the time" to 4 = "most or all of the time") and intensity of at least 2 (scale 0 = "none" to 4 = "extreme"). A diagnosis is made according to the symptoms present by the DSM-IV criteria. A severity score can be calculated for each symptom by adding the frequency and intensity scores; scores can similarly be calculated for the three symptom clusters and for the 17 symptoms overall. The CAPS can be administered to combat veterans or other populations that may have experienced traumatic events.

### PERMISSIBLE VALUES:

The overall severity score ranges from 0 to 136.

### PROCEDURE:

The CAPS is a structured interview that must be administered by a clinician or trained professional. It takes between 25 min to 1 hour to complete.

### COMMENTS:

The interview may used in patients 16 years and older. A version for children and adolescents is also available.

### RATIONALE:

The CAPS is widely used and is based on the DSM-IV criteria for PTSD. It has good psychometric properties and validity, and inter-rater reliability and test-retest reliability are high. It has been translated into several languages.

### REFERENCES:

Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). [The development of a clinician-administered PTSD scale](http://www.ptsd.va.gov/professional/articles/article-pdf/id12317.pdf). Journal of Traumatic Stress, 8, 75-90.

## Family Assessment Device (FAD)

### DESCRIPTION

FAD is a 60-item self-report instrument with responses rated on a 4-point likert scale from “Strongly agree to Strongly Disagree”. There is a General Functioning scale and six subscales -- Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, and Behavior Control.

### PERMISSIBLE VALUES

Total score ranges from 1 to 4, where higher scores indicate unhealthy functioning. Raw scores can be calculated for the six subscales (Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, and Behavior Control) and for the General Functioning scale. There is no commercially available manual or representative norms. Descriptive statistics are available for a variety of patient samples including healthy community dwelling controls.

### PROCEDURE

Patients and/or family members read. Interpretation requires doctoral level training in psychology. Administration time is 10-15 minutes.

### COMMENTS

Proper administration requires that the test taker be able to respond meaningfully to the items. The test taker must be able to see, read, and comprehend the items. Average reading difficulty is about the 6th-grade level.

### RATIONALE

The FAD assesses structural and organizational properties of families and the patterns of transactions among family members. It has been found to distinguish between healthy and unhealthy families, and has been used in TBI samples. The FAD-GF has been used to assess global family functioning in numerous studies of children with TBI and their families. It is brief (less than 5 minutes to complete) and available free of charge.

### REFERENCES

Epstein, N., Baldwin, L., and Bishop, D. (1983). The McMaster family assessment device. J Marital Fam Ther 9, 171-180.

Barney, M., and Max, J. (2005). The McMaster family assessment device and clinical rating scale: Questionnaire vs interview in childhood traumatic brain injury. Brain Inj 19, 801- 809.

Taylor, H., Yeates, K., Wade, S., Drotar, D., Klein, S., and Stancin, T. (1999). Influences on first-year recovery from traumatic brain injury in children. Neuropsychology 13, 76-89.

Yeates, K., Swift, E., Taylor, H., Wade, S., Drotar, D., Stancin, T., and Minich, N. (2004). Shortand long-term social outcomes following pediatric traumatic brain injury. J Int Neuropsychol Soc 10, 412-426."

## Minnesota Multiphasic Personality Inventory – 2 – Restructured Form (MMPI-2-RF)

### DESCRIPTION

MPPI-2-RF is a revised, 338-item version of the MMPI-2. Items are answered true/false. There are 50 scales: Restructured Clinical Scales, Validity Scales, Specific Problem Scales, Interest Scales, and Personality Psychopathology Five (PSY-5) Scales.

### PERMISSIBLE VALUES

Uniform T scores for all scales except the Validity and Interest Scales (for which linear T scores were adopted).

### PROCEDURE

Patient reads the items and answers true/false on answer sheet. Interpretation requires doctoral level training in psychology. Computer scoring and interpretation available. Administration time is 35-50 minutes.

### COMMENTS

Proper administration requires that the test taker be able to respond meaningfully to the items. To provide meaningful results, the test taker must be able to see, read, and comprehend the items. Average reading difficulty is about the 6th-grade level. Audio administration via CD or computer software is available.

### RATIONALE

The MMPI-2 is the most extensively used and researched of the comprehensive personality assessment tools. The revised MMPI-2-RF provides a more time efficient approach to using the MMPI-2. It is psychometrically up-to-date and is linked to current models of psychopathology and personality.

### REFERENCES

Ben-Porath, Y & Tellegen, A. (2008). Minnesota Multiphasic Personality Inventory-2-Restructured Form: Manual for administration, scoring, and interpretation. Minneapolis: University of Minnesota Press.

## Modified Overt Aggression Scale (MOAS)

### DESCRIPTION

The Modified Overt Aggression Scale, was developed to assess four types of aggressive behavior: verbal aggression, aggression against property, autoaggression, physical aggression. The MOAS instructs the individual to rate the patient’s aggressive behaviors over the past week.

### PERMISSIBLE VALUES

Items are scored on a 5-point scale. Scores range from 0 to 40, with higher scores indicating more aggression.

### PROCEDURE

The MOAS is individually-administered. It is generally administered by nursing staff although no specific qualifications are required.

### COMMENTS

The Overt Aggression Scale is appropriate for ages 9 and up.

### REFERENCES

Kay, S., Wolkenfeld, F., and Murrill, L. (1988). Profiles of aggression among psychiatric patients. I. Nature and prevalence. J Nerv Ment Dis 176(9), 539-546.

Yudofsky, S., Silver, J., Jackson, W., Endicott, J., and Williams, D. (1986). The Overt Aggression Scale for the objective rating of verbal and physical aggression. Am J Psychiatry 143(1), 35-39.

## Neuropsychiatric Rating Schedule (NPRS)

### DESCRIPTION

The NPRS is a semi-structured psychiatric interview specifically developed to permit the recording of the presence or absence of the psychiatric diagnosis, personality change due to traumatic brain injury (formerly termed organic personality syndrome) and its subtypes. It was designed to complement the KSADS which is similarly administered to diagnose most other psychiatric disorders in the general population of children and adolescents.

### PERMISSIBLE VALUES

Categorical scores indicating the presence or absence of the diagnosis of personality change due to TBI are recorded. In addition, categorical scores indicating the presence or absence of specific subtypes of personality change due to TBI are recorded. These subtypes are the labile, aggressive, disinhibited, apathetic, and paranoid subtypes.

### PROCEDURE

The instrument is generally administered by a clinician or research assistant with sequential interviews of one parent of the pediatric patient and then with the child himself or herself. The final diagnostic ratings are the clinician’s summary diagnoses derived by integrating the data from available sources. Depending on the design of the study or in clinical practice, this may or may not involve information from a school teacher and medical data.

### COMMENTS

The interview is appropriate to capture the diagnosis of personality change due to TBI in children and adolescents. There is no reason the instrument could not be applied to the study of adults, but this has not yet occurred.

### RATIONALE

A reliability and validity study demonstrated that lability, aggression, and disinhibition were moderately to highly correlated, but apathy and paranoia could be discriminated from each of these subtypes. Interrater agreement for NPRS items was fair to excellent for all but one item (paranoia). Test-retest reliability was fair to good, and sensitivity to change was demonstrated.

**REFERENCES**

Max, J. E., Castillo, C. S., Lindgren, S. D. & Arndt, S. (1998). The Neuropsychiatric Rating Schedule: reliability and validity. *Journal of the American Academy of Child and Adolescent Psychiatry* 37, 297-304.

Max, J. E., Koele, S. L., Castillo, C. C., Lindgren, S. D., Arndt, S., Bokura, H., Robin, D. A., Smith, W. L., Jr. & Sato, Y. (2000). Personality change disorder in children and adolescents following traumatic brain injury. *Journal of the International Neuropsychological Society* 6, 279-289.

Max, J. E., Levin, H. S., Landis, J., Schachar, R., Saunders, A., Ewing-Cobbs, L., Chapman, S. B. & Dennis, M. (2005). Predictors of personality change due to traumatic brain injury in children and adolescents in the first six months after injury. *J Am Acad Child Adolesc Psychiatry* 44, 434-42.

Max, J. E., Levin, H. S., Schachar, R. J., Landis, J., Saunders, A. E., Ewing-Cobbs, L., Chapman, S. B. & Dennis, M. (2006). Predictors of personality change due to traumatic brain injury in children and adolescents six to twenty-four months after injury. *J Neuropsychiatry Clin Neurosci* 18, 21-32.

Max, J. E., Robertson, B. A. M. & Lansing, A. E. (2001). The phenomenology of personality change due to traumatic brain injury in children and adolescents. *Journal of Neuropsychiatry & Clinical Neurosciences* 13, 161-170.

## NIH Toolbox Emotional Battery

### DESCRIPTION

Contains calibrated item banks with likert style items. Constructs measured include negative affect, positive affect, stress & coping, and social relationships. Being developed as a computer adaptive test (CAT) to keep assessments brief.

### PERMISSIBLE VALUES

Under development - Likely will have T scores for all scales

### PROCEDURE

Patient reads Likert items on computer screen and responds. Computer scored. Administration time is < 5 minutes per subdomain (total time for short form across all domains is about 20 minutes).

### COMMENTS

General scale designed to be used in large epidemiological studies and will serve as baseline data in longitudinal studies. Will be tested in large samples of individuals from the general population. Drawing items from calibrated PROMIS item banks suggesting that it will be a useful test for individuals at different functional levels. However, validation data is still pending and at the present time, it has not been validated in TBI.

### RATIONALE

Designed as part of the NIH Blueprint initiative for use in NIH research involving epidemiological studies and clinical trials. Will be brief, apply to broad age range, low cost, will have English and Spanish versions. Large standardization is being planned.

### REFERENCES

[NIH Toolbox Instruments Link](http://www.nihtoolbox.org/) Principal Investigator: Richard Gershon PhD e-mail -mail: gershon@northwestern.edu

## Patient Health Questionnaire-9 (PHQ-9)

**DESCRIPTION**

PHQ-9 provides a reliable and valid measure of depression severity and also yields a DSM-IV criteria based diagnosis of a depressive disorder.This 9 item measure asks subjects whether and how often they have been bothered by depression related symptoms over the last two weeks, ranging from not at all (0) to nearly every day (3). Based on total score, depression severity ranges from minimal symptoms (5-9) to greater than 20 indicating severe major depression.

### PERMISSIBLE VALUES

Scores range from 0-27.

### PROCEDURE

This is a self-administered measurethat can be completed in under 5 minutes.

### COMMENTS

Validated for use in adults

### RATIONALE

The PHQ-9, in addition to possessing good psychometric properties, has proven to be a responsive and reliable measure of treatment outcomes for depression (Lowe et al., 2004), and has been validated for patients with traumatic brain injury (Fann et al., 2005).  The combination of it’s brevity (it takes about 5 minutes) its responsiveness to treatment change, and the ease with which it can be administered by telephone makes this measure highly attractive.

### REFERENCES

Kroenke K, Spitzer RL, Williams JBW. The PHQ-9 Validity of a brief depression severity measure. J. General Intern Med 2001;16:606-613

Lowe, B., et al. (2004) Monitoring depression-treatment outcomes with the patient health questionnaire-9.Med Care, 42, 1194-201

Fann, J.R., Bombardier, C.H., Dikmen, S., Esselman, P., Warms, C.A., Pelzer, E., Rau, H., & Temkin, N. (2005). Validity of the Patient Health Questionnaire-9 in assessing depression following traumatic brain injury. *J Head Trauma Rehabil, 20*(6), 501 – 511.

## PTSD Checklist –Civilian/Military/Stressor Specific (PCL- C/M/S)

### DESCRIPTION

The PCL is a 17-item self-report measure of the DSM-IV symptoms of PTSD. Respondents rate how much they were “bothered by a symptom” on a 5-point scale ranging from 1 (“not at all”) to 5 (“extremely”).

### PERMISSIBLE VALUES

The PCL can be scored in two ways:

1. A total score (range 17-85),
2. Using differential symptom response to follow the DSM-IV criteria.

In the latter approach item ratings of 3–5 (Moderately or above) are considered symptomatic and DSM criteria are used for a diagnosis:

* Symptomatic response to at least 1 “B” item (Questions 1–5),
* Symptomatic response to at least 3 “C” items (Questions 6–12),
* Symptomatic response to at least 2 “D” items (Questions 13–17)

### PROCEDURE

Patient reads the items and answers on a 5-point rating scale. Interpretation requires doctoral level training in psychology. Administration time is 5 minutes.

**COMMENTS**

Proper administration requires that the test taker be able to respond meaningfully to the items. The test taker must be able to see, read, and comprehend the items. Average reading difficulty is about the 6th-grade level.

### RATIONALE

The PCL provides a brief assessment of PTSD symptoms, can be used for diagnostic and severity purposes, and can be used to monitor change in response to treatment. Public domain and widely used measure.

**REFERENCES**

Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (October 1993). The PTSD Checklist (PCL): Reliability, Validity, and Diagnostic Utility. Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX.

Public domain available from: [Department of Vetran Affairs PTSD Checklist Instrument Link](http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp)

## Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL)

### DESCRIPTION

The K-SADS-PL was adapted from the K-SADS-P (Present Episode Version) and is designed to assess current and past episodes of psychopathology in children according to the DSM-III-R and DSM-IV criteria. The K-SADS-PL is administered by interviewing the parent(s) and the child involved, and summary ratings which include all sources of information (parent, child, school, chart and other). The probes in the interview do not need to be repeated by the interviewer verbatim, but rather serve as a guide as to how to obtain information from the child in order to accurately and appropriately score each item.

### PERMISSIBLE VALUES

Most items are scored on a scale from 0 - 3, with some scored on a 0 to 2 point scale.

### PROCEDURE

The parent and child interviews may take from 35 minutes in asymptomatic patients to 1.25 hours in psychiatric patients.

### COMMENTS

It is administered to children ages 6 to 18 years.

### REFERENCES

Kaufman, J., Birmaher, B., Brent, D., Rao, U., Flynn, C., Williamson, D., and Ryan, N. (1997). Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL): initial reliability and validity data. J Am Acad Child Adolesc Psychiatry 36, 980-988.

## Screen for Child Anxiety Related Emotional Disorders (SCARED)

### DESCRIPTION

The SCARED is a child and parent self-report measure used to screen for anxiety disorders and symptoms related to school phobias. The measure has 41 items and 5 factors that parallel the DSM-IV classifications of anxiety disorders.

### PERMISSIBLE VALUES

Symptom severity for each of 41 items is rated using a 0 to 2-point rating scale, where 0= not true or hardly ever true, 1= sometimes true and 2= true or often true. Total anxiety is the sum of all the items (maximum score of 82). The cut-off for discriminating anxious and non-anxious children is 25 on the child self-report form.

### PROCEDURE

The test is completed by parent or child in approximately 10 minutes via paper and pencil. Results can be interpreted by trained clinicians and psychiatrists.

### COMMENTS

The test is appropriate for children ages 8-18 years.

### RATIONALE

“It is available in multiple languages and has been used in different cultures.” – McCauley et al. 2012

### REFERENCES

Birmaher, B., Brent, D., Chiappetta, L., Bridge, J., Monga, S., and Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. J Am Acad Child Adolesc Psychiatry 38(10), 1230-1236.

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Hale, W. r., Raaijmakers, Q., Muris, P., and Meeus, W. (2005). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in the general adolescent population. J Am Acad Child Adolesc Psychiatry 44(3), 283-290.

Monga, S., Birmaher, B., Chiappetta, L., Brent, D., Kaufman, J., Bridge, J., and Cully, M. (2000). Screen for Child Anxiety-Related Emotional Disorders (SCARED): convergent and divergent validity. Depress Anxiety 12(2), 85-91.

Weitkamp, K., Romer, G., Rosenthal, S., Wiegand-Grefe, S., and Daniels, J. (2010). German Screen for Child Anxiety Related Emotional Disorders (SCARED): Reliability, Validity,and Cross-informant Agreement in a Clinical Sample. Child Adolesc Psychiatry Ment Health 4, 19.

Su, L., Wang, K., Fan, F., Su, Y., and Gao, X. (2008). Reliability and validity of the screen for child anxiety related emotional disorders (SCARED) in Chinese children. J Anxiety Disord 22(4), 612-621.

## Short Mood and Feelings Questionnaire (SMFQ)

The SMFQ uses child and parent forms to assess and screen for symptoms of depressive disorders. The SMFQ is 13 items and asks about the child/ adolescent’s feelings and actions over the past two weeks.

### PERMISSIBLE VALUES

Thirteen items are rated on a 3-point scale (0-2) for a total possible score of 26. Scores above 8 indicate possible depression.

### PROCEDURE

The SMFQ takes under 5 minutes to administer with forms for child and parent.

### COMMENTS

The SMFQ is appropriate for children ages 6-17.

### REFERENCES

Angold, A., Costello, E., Messer, S., Pickles, A., Winder, F., and Silver, D. (1995). Development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. Int J Methods Psychiatr Res 5, 237-249.

Costello, E., and Angold, A. (1988). Scales to assess child and adolescent depression: Checklists, screens and nets. J Am Acad Child Adolesc Psychiatry 27, 726-737.

## Strengths and Difficulties Questionnaire (SDQ)

The SDQ is a screening measure for detecting behavior problems. There are multiple versions of the SDQ, depending on the age of the child, and the specific person completing the form (e.g. teacher/ parent, self-completion). The forms have between one and three of the following components:

1. All versions of the SDQ include 25-items pertaining to attributes and are divided into five sub-scales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and pro-social behavior.
2. Extended versions of the SDQ have questions pertaining to whether the respondent thinks the child has a problem and further questions about chronicity, distress, social impairment and burden to others.
3. There are two follow-up questions for us after an intervention. The follow-up questions of the SDQ ask about the past one month, as opposed to the past six months or this school year, which is the reference period for the standard versions.

### PERMISSIBLE VALUES

Questions are answered on a 3-point Likert scale. The score for each scale is the sum of item scores, generating a scale score from 0-10. A total difficulties score (from scores for hyperactivity, emotional symptoms, conduct problems and peer problems) ranges from 0-40.

### PROCEDURE

May be completed by children 11-16, or by parents or teachers of children 4-16. It can be completed in about 5 minutes using paper and pencil.

### COMMENTS

For children ages 4 through 16 (11 through 16 for self-report).

### RATIONALE

“The SDQ is increasingly used in studies of TBI outside of the U.S., considerably shorter than the CBCL, and available without cost. Thus, it may afford a useful alternative for those seeking a less intensive and costly measure.” – McCauley et al. 2012

**REFERENCES**

Goodman, R., and Scott, S. (1999). Comparing the Strengths and Difficulties Questionnaire and the Child Behavior Checklist: Is small beautiful? J Abnor Child Psychol 25, 17-24.

Gale, E. and Holling, A. (2000). Young people and stigma, YoungMinds Magazine, 49-50.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A Research Note.

Journal of Child Psychology and Psychiatry, 38, 5, 581-586.

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## Substance Abuse Questions from the TBI Model Systems Database

### DESCRIPTION

One item queries use of non-prescription or illicit drugs within past year. Two optional items ask for the specific drugs used, and the frequency of use of each drug. Four items assess quantity and frequency of alcohol use in past month, and extent of binge drinking.

### PERMISSIBLE VALUES

The frequency of drug use, drinks/week, and binges/month can be determined. A dichotomous variable can be derived to indicate presence of "Problem Use" (use of any illicit drugs, binge drinking, or excessive drinking per the Dietary Guidelines for Americans).

### PROCEDURE

Self-report measure that can be administered via interview or paper/pencil. Administration time is generally 1-3 minutes.

### COMMENTS

Has been used with adolescents and adults with TBI.

### RATIONALE

These items were based on items in population-based surveys, including the Behavioral Risk Factor Surveillance System and the National Household Survey on Drug Abuse. The items are intended to provide a preliminary indication of problematic substance use. See recommendations of the Substance Use Disorders Work Group for a more complete evaluation of substance use disorders.

### REFERENCES

Corrigan, J.D., Bogner, J., Lamb-Hart, G., & Sivak-Sears, N. Technical report on problematic substance use identified in the TBI Model Systems National Dataset. The Center for Outcome Measurement in Brain Injury. [The Center for Outcome Measurement in Brain Injury Substance Abuse Questions from the TBI Model Systems Database Link](http://www.tbims.org/combi/subst/index.html)

## UCLA PTSD Index for the DSM-IV

### DESCRIPTION

The UCLA PTSD Index for DSM-IV is a semi-structured interview that assesses a child’s exposure to 26 types of traumatic events and assesses DSM-IV PTSD diagnostic criteria. It assesses symptoms of PTSD and associated symptoms of guilt and fear of the event reoccurring.

A parent-report version is also available. These instruments provide brief (20 minute) screening generating information about trauma exposure and resulting PTSD symptoms.

### PERMISSIBLE VALUES

The child version has 20 items, adolescent version has 22 items and the parent version has 21 questions. The index score is the sum of all items rated on a 5-point Likert scale (0-4).

### PROCEDURE

Individual or group administration with self- and parent-report forms. Administration time is 20 minutes.

### COMMENTS

The test is appropriate for children aged 7-12 and adolescents 13 and up.

### REFERENCES

Steinberg, A., Brymer, M., Decker, K., and Pynoos, R. (2004). The University of California at Los Angeles Post-traumatic Stress Disorder Reaction Index. Curr Psychiatry Rep 6, 96- 100.