NIH Toolbox for the Assessment of Neurological and Behavioral Function
July, 2011

Purpose:

The NIH Toolbox, part of the NIH Neuroscience Blueprint initiative, seeks to develop brief yet comprehensive assessment tools measuring motor, cognitive, sensory, and emotional function. Upon completion, the Toolbox will be available for use in longitudinal epidemiologic studies and prevention or intervention trials for people ages 3-85.

Additional Objectives:

- Enable cross-study comparisons and integration of data from multiple studies by providing a standard set of brief, well-validated measures
- Dynamic/adaptable over time
- Utilize state-of-the-art psychometric and technological approaches including computerized adaptive testing (CAT) and computer assisted evaluation
- Cover the full range of normal function (not disease states)
- Be used as the basis for detecting at-risk populations
- Be minimally burdensome to subjects and investigators

Domains:
*instrument list follows

Cognition:	Executive Function, Episodic Memory, Working Memory, Processing Speed, Language, Attention
Emotion:	Negative Affect, Psychological Well-Being, Stress & Self-Efficacy, Social Relationships
Motor:	Locomotion, Strength, Non-Vestibular Balance, Endurance, Dexterity
Sensation:	Vision, Audition, Vestibular Balance, Somatosensation, Taste, Olfaction

Testing Samples:

- 300-600 per each of 47 instruments for validating instruments
- Norming to include pediatric and adult, Spanish and English speaking participants

Languages:

English and Spanish

Current Status:

Current work includes developing new and modifying existing measures, and validating measures. Subsequent goals include translating into Spanish, establishing norms and further evaluating psychometric properties, and developing a user manual and training materials.

More Information:

To learn more about the Toolbox, please visit our website www.nihtoolbox.org

Funding Sources:

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	Subdomain	Instrument	Status
Cognition	Episodic Memory-Visual	Picture Sequence Memory	Toolbox measure
	Executive Function-Cognitive Flexibility	Dimensional Change Card Sort	Toolbox measure
	Executive Function-Inhibitory Control and Attention	Flanker Inhibitory Control and Attention	Toolbox measure
	Language-Vocabulary Comprehension	Picture Vocabulary Computer Adaptive Test	Toolbox measure
	Processing Speed	Pattern Comparison Processing Speed	Toolbox measure
	Working Memory	List Sorting	Toolbox measure
	Language-Reading Decoding	Oral Reading Recognition	Supplemental instrument
Emotion	Negative Affect	Age specific measures of Sadness, Fear, Anger	Toolbox measure
	Psychological Well-Being	Age specific measures of Positive Affect, Life Satisfaction, Meaning and Purpose	Toolbox measure
	Social Relationships	Age specific measures of Social Support, Companionship, Social Distress, Positive Social Development	Toolbox measure
	Stress and Self-Efficacy	Age specific measures of Perceived Stress, Self-Efficacy	Toolbox measure
	Negative Affect	Age specific measure of Apathy	Supplemental instrument
	Positive Affect	Age specific measure of domain-specific life satisfaction	Supplemental instrument
	Social Relationships	Age specific measures of Social Network Integration	Supplemental instrument
	Stress and Self-Efficacy	Age specific measures of coping strategies	Supplemental instrument
Motor	Dexterity	9-hole Pegboard	Toolbox measure
	Endurance	2-minute Walk Test	Toolbox measure
	Locomotion	4-meter Walk Test	Toolbox measure
	Strength-Lower Extremity	Knee Extension Dynamometry	Toolbox measure
	Strength-Upper Extremity	Grip Strength Dynamometry	Toolbox measure
	Vestibular Balance-Vestibulo Spinal Function	Balance Accelerometry Measure -BAM	Toolbox measure
	Dexterity	25-hole Grooved Pegboard	Supplemental instrument
Sensory	Audition-Hearing Threshold	Hearing Thresholds	Toolbox measure
	Olfaction-Identification	Odor Identification Test	Toolbox measure
	Somatosensation-Texture Discrimination	Tactile Discrimination Test	Toolbox measure
	Taste-Ability to Perceive Taste in Different Regions of Oral Cavity	Regional Taste Test	Toolbox measure
	Taste-Sweet Preference	Sucrose Preference Test	Toolbox measure
	Vestibular Balance-Vestibular Ocular Reflex	Dynamic Visual Acuity	Toolbox measure
	Vision-Acuity	Visual Acuity	Toolbox measure
	Audition-Hearing Loss	Hearing Handicap Inventory for Adults - Short Form	Supplemental instrument
	Audition-Speech Processing	Words-in-Noise	Supplemental instrument
	Audition-Middle Ear Function	Tympanometry	Supplemental instrument
	Somatosensation - Pain	Self-Reported Pain	Supplemental instrument
	Proprioception	Brief Kinesthesia Test	Supplemental instrument
	Taste-Perceived Strength of the Four Basic Tastes	Taste Intensity Test	Supplemental instrument
	PROP Taste Blindness	PROP Taste Test	Supplemental instrument
	Vision-Visual Function HRQOL	Vision Health-Related Quality of Life Survey	Supplemental instrument