



NIH Toolbox for Assessment of Neurological and Behavioral Function February, 2012

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:	<ul style="list-style-type: none">• 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	<p><i>Cognition:</i> Executive Function, Episodic Memory, Working Memory, Processing Speed, Language, Attention</p> <p><i>Emotion:</i> Negative Affect, Psychological Well-Being, Stress & Self-Efficacy, Social Relationships</p> <p><i>Motor:</i> Locomotion, Strength, Non-Vestibular Balance, Endurance, Dexterity</p> <p><i>Sensation:</i> Vision, Audition, Vestibular Balance, Somatosensation, Taste, Olfaction, Pain</p>
Testing Samples:	<ul style="list-style-type: none">• 300-600 per each of 47 instruments for validating instruments• Normed on 5,200 subjects English and Spanish, ages 3-85<ul style="list-style-type: none">• Stratified random sampling from recruitment lists maintained at ten geographically diverse market research firms• Single year age bands 3-17, 7 adult bands through 85• Census balanced by age, race, ethnicity and education• Separate English and Spanish samples
Languages:	English and Spanish
Current Status:	Current work includes final analyses of norming data, completion of technology, and development of manuals and training materials.
More Information:	To learn more about the Toolbox, please visit our website www.nihtoolbox.org
Funding Sources:	NIH Blueprint for Neuroscience Research (Contract HHS-N-260-2006 00007-C)
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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	Toolbox measure
	Processing Speed	Pattern Comparison Processing Speed	Toolbox measure
	Working Memory	List Sorting	Toolbox measure
	Language-Reading Decoding	Oral Reading Recognition	Toolbox measure
	Verbal Memory	Auditory Verbal Learning (Rey)	Supplemental measure
	Processing Speed	Oral Symbol Digit	Supplemental measure
	Emotion	Negative Affect	Age specific measures of Sadness, Fear, Anger
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 measure
Positive Affect		Age specific measure of domain-specific life satisfaction	Supplemental measure
Social Relationships		Age specific measures of Social Network Integration	Supplemental measure
Stress and Self-Efficacy		Age specific measures of coping strategies	Supplemental measure
Motor	Dexterity	9-hole Pegboard Dexterity	Toolbox measure
	Endurance	2-minute Walk Endurance	Toolbox measure
	Locomotion	4-meter Walk Gait Speed	Toolbox measure
	Strength-Upper Extremity	Grip Strength	Toolbox measure
	Vestibular Balance-Vestibulo Spinal Function	Standing Balance	Toolbox measure
	Strength-Lower Extremity	Knee Extension Strength	Experimental measure
Sensory	Audition-Hearing Threshold	Hearing Thresholds	Toolbox measure
	Olfaction-Identification	Odor Identification Test	Toolbox measure
	Pain	Self-Reported Pain	Toolbox measure
	Taste-Ability to Perceive Taste in Different Regions of Oral Cavity	Regional Taste	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 measure
	Audition-Speech Processing	Words-in-Noise	Supplemental measure
	Vision-Visual Function HRQOL	Vision-Related Quality of Life Survey	Supplemental measure
	Proprioception	Brief Kinesthesia	Experimental measure
	Somatosensation-Texture Discrimination	Brief Tactile Discrimination	Experimental measure
	Taste-Sweet Preference	Sucrose Preference	Experimental measure