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Quick Start Guide: Preclinical TBI Common Data Elements

The quick start guide provides a reference for each of the tests/outcomes for the preclinical TBI common data elements (CDEs). All CDEs (except the ones defined under general health – animal experiment CDEs) have been identified primarily for small (rodent) animal models.

- Round 1 of review (Table 1) includes a subset of outcomes broadly defined for behavior domains. Round 2 of review (Table 2) will include other domains and further subsets of behavior domains.
- Column 1, lists the domain of interest, Column 2 provides the tests that are used for that domain and Column 3 provides the impairment that can be researched by these tests.

Table 1: Available Round 1 – Public Review 06/13/17-08/13/17 (June-August, 2017)

DOMAIN	TEST/OUTCOME	IMPAIRMENT
GENERAL HEALTH		
(Animal Experiment CDEs – for Small and Large Animal Models)		
	1. All Tests Common CDEs	Common data elements used across all tests wherever applicable for data harmonization Refer File: AllTestsCommonCDEs_061217.xls
	2. Animal Assessments and Outcomes	Experimental descriptors commonly captured for animal assessments and outcomes. Refer File: AnimalAssessmentsOutcomes_061217.xls
	3. Animal Characteristics	Experimental descriptors commonly for animal characteristics. Refer File: AnimalCharacteristics_061217.xls
	4. Animal History	Experimental descriptors commonly captured for animal history. Refer File: AnimalHistory_061217.xls



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	5. Animal Injury Model	Experimental descriptors commonly captured for animal injury model Refer File: AnimalInjuryModel_061217.xls
	6. Main Group CDEs on all Forms	Data elements used on each form for commonly captured information Refer File: MainGroupCDEs_061217.xls
GENERAL HEALTH		
(General Health)		
	1. Body Conditioning Score	General impairment, Health status Refer File: BodyConditioning_061217.xls
	2. Change in Body Weight	General impairment, Health status, , Injury severity Refer File: ChangeBodyWeight_061217.xls
	3. Grooming and Coat Conditions	General impairment, Health Status Refer File: BodyConditioning_061217.xls
	4. Health and welfare	General Impairment, Health Status Refer File: BodyConditioning_061217.xls
	5. Morbidity/mortality	Injury severity, Health Status Refer File: MorbidityMortality_061217.xls
Affective Disturbance		
(Depression/Anxiety)		
	1. Elevated Plus Maze	Anxiety Refer File: ElevatedPlusMaze_061217.xls
	2. Elevated Zero Maze	Anxiety Refer File: ElevatedZeroMaze_061217.xls
	3. Learned Helplessness Paradigm (Inescapable Shock)	Depression, Helplessness, Despair (Despair-like), Affect Refer File: LearnedHelplessness_061217.xls
	4. Marble burying	Naturalistic, Anxiety, Repetitive-like behavior , Obsessive compulsive behavior (OCD) Refer File: MarbleBurying_061217.xls
	5. Open Field Test	Anxiety, Depression, Motor, Activity level Refer File: OpenField_061217.xls



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	6. Sucrose preference test	Depression, Despair (Despair-like), Affect, Anhedonia Refer File: SucrosePreference_061217.xls
	7. Tail Suspension	Depression, Helplessness, Despair (Despair-like), Affect Refer File: TailSuspension_061217.xls
Affective Disturbance		
(Social Interaction)		
	1. Resident Intruder Test (included in Social interaction)	Aggression, Impulsivity, Dominance , Impaired social interaction Refer File: SocialInteractionResIntruder_061217.xls
	2. Social Interaction	Aggression, Impulsivity, Dominance , Impaired social interaction Refer File: SocialInteractionResIntruder_061217.xls
	3. Three-chamber Test	Aggression, Impulsivity, Dominance , Impaired social interaction Refer File: ThreeChamber_061217.xls
	4. Tube Dominance Test	Aggression, Impulsivity, Dominance , Impaired social interaction Refer File: TubeDominance_061217.xls
Cognition & MOTOR		
(Learning/Memory)		
	1. Alternating (Attentional) Set Shift	Frontal lobe function, Attentional function Refer File: AttentionalSetShift_061217.xlsx
	2. Barnes Maze	Spatial learning and memory, Working memory Refer File: BarnesMaze_061217.xls
	3. Conditional Place Preference	Contextual learning, Addiction Refer File: ConditionalPlacePreference_061217.xls
	4. Contextual Fear Conditioning	Associative learning (cue and context) Refer File: ContextualFearConditioning_061217.xls
	5. Morris Water Maze	Spatial learning and memory, Working memory Refer File: MorrisWaterMaze_061217.xls
	6. Novel Object Recognition	Recognition memory, Working memory Refer File: NovelObjectRecognition_061217.xls



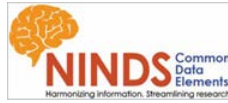
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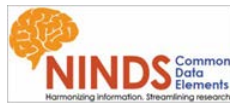
	7. Radial Arm Maze	Spatial learning and memory, Working memory Refer File: RadialArmMaze_061217.xls
Cognition & MOTOR		
(Sensory/Motor)		
	1. Angle Board/Inclined plane	Motor function, Balance Refer File: InclinedPlane_061217.xls
	2. Beam Walk	Gross motor function Refer File: BeamWalk_061217.xls
	3. Grip Strength	Sensorimotor Refer File: GripStrength_061217.xls
	4. Hole Poke Test	Implicit learning, Procedural learning, Spatial learning, Perseverance, Motor function Refer File: HolePoke_061217.xls
	5. Neurological Deficit Score	Neurological function. Neurological Severity Score (NSS) test variations CDEs will be defined in Round 2 Refer File: NeurologicalDeficitScore_061217.xls
	6. Righting Reflex	Vestibular motor, Assessment of consciousness; Also used for sensorimotor assessment Refer File: RightingReflex_061217.xls
	7. Rotor rod/ Rotarod	Motor coordination, Balance, Motor skill learning Refer File: Rotarod_061217.xls
	8. Sticky Paper Test	Sensorimotor, Proprioception. Refer File: StickyPaperTest_061217.xlsx

Table 2: Scheduled for Round 2 – Public Review (October-December, 2017)

DOMAIN	TEST/OUTCOME	IMPAIRMENT
GENERAL HEALTH		
(General Health and Animal Experiment CDEs)		



	1. Animal Injury Model	Experimental descriptors commonly captured for animal injury model
	2. Blast-induced Neurotrauma Model	Experimental descriptors commonly captured for animal injury model
	3. Controlled Cortical Injury Model	Experimental descriptors commonly captured for animal injury model
	4. Fluid Percussion Injury Model	Experimental descriptors commonly captured for animal injury model
	5. Increased Intracranial Pressure model	Experimental descriptors commonly captured for animal injury model
	6. Intracranial Hemorrhage and Subdural/subarachnoid Hemorrhage Model	Experimental descriptors commonly captured for animal injury model
	7. Penetrating Ballistic-like Brain Injury Model	Experimental descriptors commonly captured for animal injury model
	8. Projectile Concussive impact model	Experimental descriptors commonly captured for animal injury model
	9. Weight Drop Injury Model	Experimental descriptors commonly captured for animal injury model
Affective Disturbance		
(Depression/Anxiety)		
	1. Forced Swim Test	Depression
	2. Predatory Odor Test	Anxiety
	3. Startle Response	Anxiety, PTSD
Affective Disturbance		
(Social Interaction)		
	1. Partition Test	Aggression, Impulsivity, Dominance, Impaired social interaction



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	2. Urine open field test	Aggression, Dominance
Cognition & MOTOR		
(Sensory/Motor)		
	1. Cylinder Test	Motor skills
	2. Neurological Severity Score	Neurological function
	3. String Test	Motor skills, Balance
Imaging		
	1. Imaging (MRI, fMRI, CT)	
Pharmacology		
	1. Drug Metabolism, Toxicology	
Neurochemical		
	1. Neurochemical Assays	
Histopathology		
	1. Histopathology	
Physiological Measurements		
	1. Blood Gases, Blood Pressure, Heart Rate	
	2. EEG	
	3. Sleep Disorders	
Biomarkers		
	1. Biomarker Assays	