Appendix

Author	1. Did the article describe classifications of patients for one health condition or across health conditions?	2. Did the article describe one classification of patients or more than one?	3. Did the article describe a classification system related to a single task or could it be used for variety of tasks?	4. What is the theoretical framework used and/or purpose of the classification?	5. Are the included classifications related to impairments (I), activity limitations (AL), participation restrictions (PR)?	6. Have the authors provided labels for the categories? Do they use standard movement language?	7. Did the article provide a guide to clinical reasoning/decision making?	8. Was an examination process for identifying the patient classifications described? Does the clinical examination lead to movement system diagnoses?	9. Are the classifications linked to prognosis?	10. Do the classifications lead to evidence based interventions?	11. Does the classification system include a behavioral component?	12. Will the classifications be useful for research?	13. Have the concepts of the classification system been validated?
Behrman et al. [5]	Spinal Cord Injury (SCI)	More than one	Variety of tasks - Comprehensive lower extremity and trunk function; standing, stepping; sit up and reverse	Purpose: To classify functional motor recovery after incomplete SCI based on preinjury movement patterns. Goal is to decrease variability of the populations' level of function within each phase, (specifically for AIS C and D.)	I, AL	YES. Breakdown of AIS levels C and D into 4 specific phases; used labels specific to the NRS for motor incomplete SCI. Specific breakdown of AIS levels C and D into 4 specific phases characterized by performance on functional activities.	No	YES; Evaluations included the AIS, Berg Balance Scale, six minute and ten meter walk tests. Use of 11 functional tasks. Specific examination elements with specific descriptions of the tests and what to do with examination results; the examination emphasizes performance of tasks without compensatory strategies	YES; patients may or may not progress through the phases identified.	NO	NO	YES	YES; Scores compared with traditional outcome measures. Patients in different phases have different scores on traditional outcome measures.

Biering-Sorensen et al.[59]	SCI	More than one	Variety of tasks - UE tasks—grasp/release and reach	Purpose: To standardize the collection and reporting of a minimal amount of information about UE status in accordance with the general purpose and vision of the International SCI Data Sets. It classifies basic hand-UE function into one of 5 categories, and shoulder function into one of 4 categories.	AL	YES; but do not use movement language UE function; namely grasp/release and reach; then there are "axes" for use of assistive devices, UE complications, and surgeries	NO	NO	NO	NO	NO	YES	NO
Bland et al.[48]	stroke	More than one	Variety of tasks - upper extremity (UE) and lower extremity (LE) tasks	Purpose: To create meaningful groups based on initial sensorimotor, cognition, language and activity measures that may be used to predict patient discharge status	I, AL	NO	NO	NO	YES;-discharge disposition	NO	NO	YES	YES; There was a difference in percentage of discharge recommendations across the groups.

Author	Condition	#	Task	Purpose / Theoretical Framework									
Chinsongkram et al.[60]	Stroke, but can applied across other conditions	More than one	Variety of tasks that require balance	Purpose: To identify the primary components of balance that are impaired in people with balance dysfunction for the purpose of being able to target interventions Theoretical Framework: Based on a conceptual model of balance that includes several subconstructs	I	YES; In the BESTest several movement related labels are provided (biomechanical constraints, stability limits and verticality, anticipatory postural adjustments, automatic postural responses, sensory organization, and stability in gait)	YES; findings help therapist to understand which balance subsystems are involved and direct interventions accordingly	The proposed examination scheme for the BESTest in a previous publication[55]	NO	NO	NO	YES	YES; inter and intra rater reliability and concurrent validity in sub acute stroke population; applicable across range of abilities; no floor or ceiling effect.
Fasano et al.[49]	Across health conditions	More than one	One task - Gait	Purpose: To establish classifications/terminology for gait disorders in people with neurological conditions. Theoretical Framework: Pathophysiology and clinical phenomology	I, AL	YES; Of the 24 labels provided, 4 are movement-related (dyskinetic, freezing of gait, tremor, akinesia) and the others are health-condition-based.	YES; for medical management	YES; an exam process is described. Some classifications are movement system based, and some are pathokinesiologic.	NO	NO	NO	YES	NO
Giladi et al.[61]	Across health conditions	One	One task - gait	Purpose: To classify gait dysfunction based on the dominant observable gait disturbance.	AL	YES; Some of the language used is movement-related (e.g., ataxic, dyskinetic, bradykinetic).	NO	YES; Exam leads to classification as either continuous, episodic, or mixed gait disturbance.	NO	NO	YES; anxiety, fear of falling, depression and psychogenic factors are considered.	YES	NO
Hedman et al.[5]	Across health conditions	More than one	One task - locomotion	Purpose: To identify fundamental problems with	I, AL	YES; all labels use movement language (e.g., initiation,	YES; the authors suggest that the	NO	NO	NO	YES; Walking Confidence Purposeful	YES	YES; DELPHI survey. Full (58 experts) consensus

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				walking in order to guide examination and intervention. Theoretical Framework: motor control framework of bipedal locomotion		progression during stance, anticipatory dynamic balance)	requirements could help therapist identify issues not seen in traditional gait analysis and guide examination and intervention					ness	on 5 locomotor requirements and partial consensus for 7 other requirements
Herman et al.[62]	Parkinson's Disease (PD)	More than one	Variety of tasks - Walking, balance, functional mobility	Purpose: To subdivide PD population by primary presenting symptoms. Theoretical Framework: Different clinical signs and symptoms may represent different underlying pathophysiologic mechanisms	I, AL	YES; Tremor dominant (TD), predominately TD (p-TD) postural instability gait difficulty (PIGD) and predominately PIGD (t-PIGD)	NO	NO	YES; the original TD and PIGD groups have different prognoses	NO	NO	YES	NO
Martin et al.[63]	Hypotonia	One	No tasks - impairment based	Purpose: To identify characteristics of hypotonia for the purpose of determining a clinical definition	I	N/A	NO	YES; Describes assessment of hypotonia in terms of strength, posture against gravity, and ability to reach developmental milestones, but does not provide any objective criteria for	NO	NO	NO	YES	NO

									quantifying hypotonia;				
Quinn et al.[64]	Huntington's Disease	More than one	Variety of tasks – e.g. functional tasks, ambulation, balance	Purpose: To sort patients with HD into groups to guide selection of intervention strategies	I, AL, PR	YES; planning and sequencing of tasks, mobility, balance falls risk, abnormal posturing	YES; authors propose the classification can be used as a guide to selecting appropriate evaluation measures and intervention strategies	NO	YES; each classification is linked to stage of disease	YES; developed as a treatment based classification and treatment options are presented for each classification	NO	YES	Not addressed in this paper, but authors have examined validity in a follow-up paper.[54]
Scheets et al.[25]	Across health conditions	More than one	Variety of tasks – e.g. sit to stand, ambulation, balance	Purpose: To classify patients with neuromuscular conditions on the basis on their primary movement system problem for the purpose of guiding selection of interventions, decreasing variability in PT practice, and creating homogeneous groups of patients for research	I, AL	YES; three labels for movement system problems were described: force production deficit, fractionated movement deficit, and perceptual deficit	YES; examination findings, impairments, and analysis of critical tasks guide clinical reasoning	YES; standardized clinical examination in concert with definitions for diagnoses	YES; for the 3 movement system problems, prognosis was discussed in each case	NO	NO	YES	NO

Scheets et al.[56]	Backward disequilibrium	One	Variety of tasks - e.g. sit to stand, ambulation, balance	Purpose: To describe the signs, symptoms and exam findings for a patient classified with Backward Disequilibrium	I, AL	YES; Backward disequilibrium defined as posterior bias in perception of postural vertical, and used other terminology in the differential diagnosis including force production deficit and sensory detection deficit	YES – the authors provide a detailed examination to diagnose backward disequilibrium to assist physical therapists in identifying this clinical condition and employing the proposed intervention	YES - a detailed exam was provided and findings associated with backward disequilibrium were described	NO	YES – a detailed intervention plan was proposed however it is unclear if there is sufficient evidence to supports its efficacy	NO	YES; It may be be useful to identify this specific balance condition and to specifically test interventions.	NO
Snijders et al.[50]	Across health conditions	More than one	One task - Walking	Purpose: To differentiate/classify gait disorders in a manner easy to use in clinical practice/based on clinical examination. Theoretical Framework: All parts of the nervous system are needed for normal walking. Older individuals tend to have complex gait disorders with multifactorial origin from the affects of aging and underlying disease processes.	I, AL	YES; several movement and behaviorally based labels are provided such as antalgic, spastic, dyskinetic and cautious gait	NO	YES; a 3-step process is described: Step 1: clinical gait observation, gait or balance tests, associated symptoms and signs. Step 2: specialized tests, response to treatment/meds data, and disease progression info. Step 3: post-mortem exam to validate specific neuropathologic etiology	YES; certain gait disturbances may predict disease or mortality	NO	YES; authors consider gait disorders due to decreased confidence and other psychogenic origins	YES	NO

Staab et al.[65]	Chronic dizziness	More than one	Variety of tasks related balance	Purpose: To sort patients with dizziness into discreet groups to better understand the causative factors.. Theoretical Framework: Medical model: physiological signs and symptoms that make up a syndrome associated with dizziness	I	YES; presented as sub- types of chronic dizziness	NO	YES; otologic exam and history	NO	NO	YES; includes chronic subjective dizziness and anxiety	YES	NO
Stebbins et al.[66]	PD	More than one	Variety of tasks e.g. ambulation and balance tasks	Purpose: To define sub forms of PD using the Movement Disorder Society Unified Parkinson's Disease Rating Scale (MDS-UPDRS)	I, AL	YES; Tremor dominant (TD) and postural instability/gait difficulty (PIGD) .	YES; Definitions, examination findings, guide clinical reasoning	YES; Used definitions of PD movement problems (TD and PGID) that have been traditionally used in research and literature. Validated revisions to the original UPDRS that addressed critical deficits	NO	NO	NO	YES	YES; Validates measure for calibrating UPDRS to MDS-UPDRS Widely accepted UPDRS to differen-tiate TD vs. PIGD PD; correlating scores with revised MDS-UPDRS.

Williams et al.[67]	Traumatic Brain Injury	More than one	One task - gait	Purpose: To classify gait disorders commonly seen in people with brain injury Theoretical Framework: Taxonomy was developed from a framework previously used in cerebral palsy.	I, AL	YES; 6 categories 1) Spastic hemipareis, 2) nonspastic hemiparesis; 3) ataxia/dyspraxia/unilateral; 4) spastic bilateral paresis; 5) nonspastic bilateral paresis;) ataxia/dyspraxia - bilateral	NO	YES; motion analysis used in study; authors suggest clinicians could categorize patients, by clinical judgment	NO	NO	NO	NO	YES; Classifications derived from motion analysis matched the clinically derived classifications 82% of the time (n = 102)