***Appendix A, in- and exclusion criteria for the study selection process***

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| **Priority** | **Characteristic** | **Inclusion** | **Exclusion** | **Mark the reason for the exclusion** |
| 1 | Participants | A clinical diagnosis of congenital or acquired brain injury, respectively defined as cerebral palsy (Rosenbaum et al. definition [20]), stroke (World Health Organization (WHO) definition (2)), or brain injury caused by trauma including subdural hemorrhage.  ≥ 80% of the participants are at least six years of age | Progressive neurological disease (e.g., Multiple sclerosis, amyotrophic lateral sclerosis, cerebral tumors).  Spinal cord Injury at any level  Psychiatric disorders (e.g., Schizophrenia, depression)  < 80 % of participants are at least six years of age | **Wrong patient population** |
| 2 | Study design | Randomized controlled trials (RCTs), quazi-RCTs, and cluster randomization done on individual participant level, randomized cross-over trials, and clinically controlled trials (CCTs) | Cluster randomization done at other than participant level (e.g., clinical practices, dates, geographic regions)  Review, Cohort, case-control study, cross-sectional, Case report, Editorials | **Wrong study design** |
| 3 | Intervention | Extrinsic feedback is defined as an external signal or stimulus (visual, auditory, tactile) given in response to motor practice that provides the performer with knowledge of performance and/or knowledge of result at any time point (e.g., concurrently, terminally, delayed). Feedback can be success-related or error-related.  Studies are included if there is a minimum of 1 external stimulus given in response to motor practice. | Signal or stimulus-driven task (e.g., provision of rhythm).  A signal or stimulus is provided for priming before motor practice. | **Not extrinsic feedback** |
| 4 | Motor training | Active participant motor training targeting either the upper or lower extremities or both | Training targeting brain activity or mental practice, with no participant motor output.  Breathing exercises, training of vision or speech | **No motor training** |
| 5 | Comparator | Motor training without the use of feedback, motor training with a different type of feedback (e.g., success-related vs. error-related), or motor training with a different property of feedback (e.g., timing, duration, visual vs. auditive)  Controls were diagnosed with the same condition as the intervention group, and the type and intensity of prescribed motor training were the same between groups. | Prescribed motor training differs from the intervention group  Comparator interventions that are not or are poorly described  Interventions that are unrestricted by study protocol (e.g., usual care)  Healthy controls or controls that have a different diagnosis than the intervention group | **Wrong comparator** |
| 6 | Outcome measure | Objectively measured changes in movement behavior (motor learning and performance) relative to baseline. These can be activity-based measures of motor skill capacity or objectively measured improvements in physiological systems, e.g., on impairment level (WHO, International Classification of Functioning, disability, and Health (ICF)). | Outcomes are measured solely based on brain activity analysis techniques (e.g., EEG, fMRI), mental status (e.g., depression, motivation), or patient satisfaction. | **Wrong outcome** |