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Review

Effect of trunk-restraint training on function and compensatory trunk, shoulder and elbow patterns during post-stroke reach: a systematic review

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Purpose: of trunk restraint g functional reach, a ational Classific ases were searc aring the effect ult post-stroke p on/exclusion criteria, 0.05) were extracte defined within th nstrated significant between group differences ($p < 0.05$) for decreased compensatory trunk

displacement (4/5 RCTs), increased elbow extension (3/5 RCTs) and increased shoulder flexion (2/5 RCTs). All significant between-group differences fell within the Body Structure/Function domain of the ICF. Conclusions: Trunk restraint is a simple, cost-effective technique that may help to reduce compensatory trunk/shoulder/elbow movements in the post-stroke adult population. Synthesis of study outcomes also highlights applications of TR to clinical practice and areas for further research.

Implications for Rehabilitation

- The ability to use the shoulder and elbow to perform functional reach is a primary goal in post-stroke recovery; however, compensatory trunk movements are often used to achieve the reaching goal.
- Long-term use of compensatory strategies may contribute to secondary impairments, such as learned non-use, joint contractures and pain.
- Trunk restraint enables functional reach practice, while limiting compensatory strategies in the moderately to severely impaired stroke population.

Compensatory movement | constraint induced therapy | kinematics | postural control | stroke

Acknowledgements

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