Neurologic Condition Specific Resources for Exercise Prescription, Health and Wellness: Physical Therapist Resource

(MS, PD, TBI, SCI, CVA, Other: HD, ALS) Last updated October 2020.

Multiple Sclerosis:

Exercise Prescription Articles:

- Kalb R, Brown TR, Coote S, et al. Exercise and lifestyle physical activity recommendations for people with multiple sclerosis throughout the disease course. *Multiple sclerosis.* 2020:1352458520915629. https://pubmed.ncbi.nlm.nih.gov/32323606/

- Latimer-Cheung AE, Pilutti LA, Hicks AL, et al. Effects of exercise training on fitness, mobility, fatigue, and health-related quality of life among adults with multiple sclerosis: a systematic review to inform guideline development. *Archives of physical medicine and rehabilitation.* 2013;94(9):1800-1828.e1803. https://www.ncbi.nlm.nih.gov/pubmed/23669008

- Canadian Physical Activity Guidelines for MS: http://www.csep.ca/CMFiles/Guidelines/specialpops/CSEP_MS_PAGuidelines_adults_en.pdf

- Edwards T, Pilutti LA. The effect of exercise training in adults with multiple sclerosis with severe mobility disability: A systematic review and future research directions. *Multiple sclerosis and related disorders.* 2017; 16:31-39. https://www.ncbi.nlm.nih.gov/pubmed/28755682

Health Promotion and Wellness Articles:

- Venasse et al. Exploring Wellness Interventions in Progressive Multiple Sclerosis: An Evidence-Based Review. Curr Treat Options Neurol. 2018;20(5):13. https://pubmed.ncbi.nlm.nih.gov/29637453/

- Moss et al. Wellness and the Role of Comorbidities in Multiple Sclerosis. Neurotherapeutics 2017;14(4):999-1017. https://pubmed.ncbi.nlm.nih.gov/28785958/

Patient Advocacy Organizations with Health Promotion and Wellness Resources/Programs

- National Multiple Sclerosis Society https://www.nationalmssociety.org/Living-Well-With-MS

- Multiple Sclerosis Foundation https://msfocus.org

- CanDoMS https://www.cando-ms.org/

Parkinson's Disease:

Exercise Prescription Articles:

- Schenkman et al. Effect of High-Intensity Treadmill Exercise on Motor Symptoms in Patients with De Novo Parkinson Disease: A Phase 2 Randomized Clinical Trial. JAMA Neurol. 2018; 75(2):219-226 https://www.ncbi.nlm.nih.gov/pubmed/29228079

- Corcos et al. A two-year randomized controlled trial of progressive resistance exercise for Parkinson's disease. Mov Disord. 2013; 28(9):1230-40 https://www.ncbi.nlm.nih.gov/pubmed/23536417

Health Promotion and Wellness Articles:

- Speelman et al. Evaluation of implementation of the ParkFit program: A multifaceted intervention aimed to promote physical activity in patients with Parkinson's disease. Physiotherapy. 2014; 100(2):134-41. https://www.ncbi.nlm.nih.gov/pubmed/23972329

- Rabin et al. Complementary Therapies for Parkinson's Disease: What's Promoted, Rationale, Potential Risks and Benefits. Mov Disord Clin Practice. 2015; 2(3):205-212. https://www.ncbi.nlm.nih.gov/pubmed/30363487

- Advocat et al. The effects of a mindfulness-based lifestyle program for adults with Parkinson's disease: A mixed methods, wait list controlled randomized control study. BMC Neuro. 2016; 16:166. https://www.ncbi.nlm.nih.gov/pubmed/27608621

Patient Advocacy Organizations with Health Promotion and Wellness Resources:

- Parkinson's Foundation booklets on fitness, mood, and sleep: https://www.parkinson.org/pd-library

- Michael J. Fox Foundation (hover over "Understanding Parkinson's" for information on diet, exercise, sleep, anxiety, and fatigue): https://www.michaeljfox.org/

- American Parkinson's Disease Association Education and Support Page: https://www.apdaparkinson.org/resources-support/

- Davis Phinney Foundation - Living Well with Parkinson's Disease (exercise, sleep, etc.): https://www.davisphinneyfoundation.org/living-well/

- Brian Grant Foundation - Training for Exercise Professionals: https://briangrant.org/training-for-professionals/

Traumatic Brain Injury:

Exercise Prescription Articles:

- Mossberg K. 2010. Endurance Training and Cardiorespiratory Conditioning after Traumatic Brain Injury. Journal Head Trauma Rehabil 2010:25(3): 173-83. https://www.ncbi.nlm.nih.gov/pubmed/20473091

- Gordon et al. The Benefits of Exercise in Individuals with Traumatic Brain Injury: A Retrospective Study. J Head Trauma Rehabil 1998;13(4):58-67. https://www.ncbi.nlm.nih.gov/pubmed/9651240

Health Promotion and Wellness Articles:

- Wise et al. Benefits of Exercise Maintenance after Traumatic Brain Injury. Arch Phys Med Rehabil 2012;93: 1319-23. https://www.ncbi.nlm.nih.gov/pubmed/22840829

- Bezner JR, Hunter DL. Wellness Perception in Persons with Traumatic Brain Injury and Its Relation to Functional Independence. Arch Phys Med Rehabi l 2001;82: 787-92. https://www.ncbi.nlm.nih.gov/pubmed/11387584

Patient Advocacy Organizations with Health Promotion and Wellness Resources:

- US Brain Injury Alliance: http://usbia.org/

- Brain Injury Association of America: https://www.biausa.org/

Spinal Cord Injury:

Exercise Prescription Articles:

- Martin-Ginis et al. Evidence-based scientific exercise guidelines for adults with spinal cord injury: an update and new guideline. Spinal Cord 2018; 56:308-321. https://www.nature.com/articles/s41393-017-0017-3

- Van Straaten, M, Cloud BA, Morrow MM et al. Effectiveness of Home Exercise on Pain, Function, and Strength of Manual Wheelchair Users with Spinal Cord Injury: A High Dose Shoulder Program with Telerehabilitation. APMR. 2014; 95(10):1810-1817. https://pubmed.ncbi.nlm.nih.gov/24887534/

- Cowan et al. Assessment of the talk test and rating of perceived exertion for exercise intensity prescription in persons with paraplegia. Top Spinal Cord Inj Rehabil. 2012;18(3):212-9. https://www.ncbi.nlm.nih.gov/pubmed/23459216

- Mulroy SJ, Thompson L, Kemp B, et al. Strengthening and optimal movements for painful shoulders (STOMPS) in chronic spinal cord injury: a randomized controlled trial. *Phys Ther.* 2011;91(3):305-324. https://www.ncbi.nlm.nih.gov/pubmed/21292803

- Preservation of Upper Limb Function Following Spinal Cord Injury: A Clinical Practice Guideline for Health-Care Professionals. (2005). The Journal of Spinal Cord Medicine, 28(5), pp.434-470. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1808273/

- Exercise and Sports Science Australia (ESSA): Position Statement on Exercise and Spinal Cord Injury: https://www.essa.org.au/wp-content/uploads/2015/10/ESSA-Position-Statement-on-Exercise-and-Spinal-Cord-Injury.pdf

- Model Systems Knowledge Translation Center**:** Fact sheet about SCI and Exercise: http://www.msktc.org/sci/factsheets/exercise

Health Promotion and Wellness Articles:

- Academy of Neurologic Physical Therapy SCI Special Interest Group Handout for physical therapists and people with SCI: http://neuropt.org/docs/default-source/sci-sig/white-paper/healthwellnesssci_final.pdf?sfvrsn=4

- Kern et al, 2019. Understanding the Changing Health Care Needs of Individuals Aging with SCI. Topics in Spinal Cord Injury Rehab; 25(1):62-73. https://www.ncbi.nlm.nih.gov/pubmed/30774290

- Model Systems Knowledge Translation Center: Fact sheet about SCI and Adaptive Sports and Recreation: http://www.msktc.org/sci/factsheets/adaptive_sports

Patient Advocacy Organizations with Health Promotion and Wellness Resources:

- NCHPAD: "Life on Wheels: A guide for living a healthy, active life with a spinal cord injury http://www.nchpad.org/1200/5830/Life~on~Wheels

- Spinal Cord Injury Essentials patient handouts: http://www.spinalcordessentials.ca/handouts/

- Paralyzed Veterans of America - Adapted Sports: https://www.pva.org/adaptive-sports

- Craig H Neilsen Foundation - Psychosocial Research (resource for clinical researchers): http://chnfoundation.org/psychosocial-research/

- Christopher and Dana Reeve Foundation: https://www.christopherreeve.org/living-with-paralysis

- SCI Action Canada Lab: https://sciactioncanada.ok.ubc.ca/resources/proactive-sci-toolkit/

Stroke/ Cerebral Vascular Accident (CVA):

Exercise Prescription Articles:

- Hornby, TG, Henderson E, Plawecki A. et al. Contributions of Stepping Intensity and Variability to Mobility in Individuals Post Stroke: A randomized control trial. Stroke. 2019; 50(9):2492-2499. https://www.ahajournals.org/doi/10.1161/STROKEAHA.119.026254

- Crozier, Roig, Eng, et al. High-Intensity Interval Training After Stroke: An Opportunity to Promote Functional Recovery, Cardiovascular Health, and Neuroplasticity, Neurorehabilitation and Neural Repair 2018, Vol. 32(6-7) 543 –556. https://www.ncbi.nlm.nih.gov/pubmed/29676956

- Wist et al, Muscle Strengthening for hemiparesis after stroke: meta-analysis. Annals of Phys Rehabil Med, 59:114-124; 2016. https://www.ncbi.nlm.nih.gov/pubmed/26969343

- Boyne, P., Dunning, K, Carl, D. High-Intensity Interval Training and Moderate Intensity Continuous Training in Ambulatory Chronic Stroke: Feasibility study. 2016. Phys Ther. 2016 Oct; 96(10): 1533–1544. https://www.ncbi.nlm.nih.gov/pubmed/27103222

- Billinger et al. Does aerobic exercise and the FITT principle fit into stroke recovery? Curr Neurol Neurosci Rep. 2015;15(2):519. https://www.ncbi.nlm.nih.gov/pubmed/25475494

- Billinger et al. Physical activity and exercise recommendations for stroke survivors: a statement for healthcare professionals from the American Heart Association/American Stroke Association. Stroke. 2014;45(8):2532- 53. https://www.ncbi.nlm.nih.gov/pubmed/24846875

- Severinsen, Jakobsen, Pedersen et al. Effects of resistance training & aerobic training on ambulation in Chronic Stroke. Am J Phys Med Rehabil. 2014; 93:29-42. https://www.ncbi.nlm.nih.gov/pubmed/24355995

- Billinger et al., Recumbent Stepper Submaximal Exercise test to Predict Peak Oxygen Uptake. Med Sci Sports Exer. August 2012; 44(8): 1539–1544. https://www.ncbi.nlm.nih.gov/pubmed/22382170 How to video example: https://www.youtube.com/watch?v=wZe9TJQVc1Q

Health Promotion and Wellness Articles:

- Khot and Morgenstern. Sleep and Stroke. *Stroke*. 2019. 50:1612-1617. DOI: 10.1161/STROKEAHA.118.023553. https://www.ahajournals.org/doi/10.1161/STROKEAHA.118.023553

- Van Wijck F, et al Bernahrdt J, Billinger SA. 2019 Improving life after stroke needs global efforts to implement evidence-based physical activity pathways. J of Stroke. April 2019. https://journals.sagepub.com/doi/10.1177/1747493019840930

- Ezeugwu, Manns. Sleep Duration, Sedentary Behavior, Physical Activity, and Quality of Life after Inpatient Stroke Rehabilitation. J Stroke Cerebrovasc Dis. 2017;26(9):2004-2012. https://www.ncbi.nlm.nih.gov/pubmed/28669653

- Rose DK, Schafer J, Conroy C. Extending the Continuum of Care Post Stroke: Creating a Partnership to Provide a Community-based Wellness Program. JNPT. 2013;37(2):78-84. https://www.ncbi.nlm.nih.gov/pubmed/23703370

Patient Advocacy Organizations with Health Promotion and Wellness Resources:

- National Stroke Association http://www.stroke.org/
- Heart and Stroke Foundation of Canada http://www.heartandstroke.ca/heart
- American Heart/Stroke Association http://www.strokeassociation.org/STROKEORG/
- Dr. Janice Eng's Post-Stroke Community Fitness Program. https://fameexercise.com/

Other Conditions:

Huntington's Disease

Exercise Prescription Articles:

- Quinn L, Kegelmeyer D, Kloos A, Rao AK, Busse M, Fritz NE. Clinical recommendations to guide physical therapy practice for Huntington disease. *Neurology.* 2020;94(5):217-228. https://pubmed.ncbi.nlm.nih.gov/31907286/

- Fritz et al. Physical therapy and exercise interventions in Huntington's disease: A mixed methods systematic review. J Huntington's Dis. 2017;6(3):217-235. https://www.ncbi.nlm.nih.gov/pubmed/28968244

Patient Advocacy Organizations with Health Promotion and Wellness Resources

- Huntington's Disease Society of America https://hdsa.org/

Amyotrophic Lateral Sclerosis

Exercise Prescription Articles:

- Bello-Haas VD. Physical therapy for individuals with amyotrophic lateral sclerosis: current insights. *Degenerative neurological and neuromuscular disease.* 2018; 8:45-54. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6065609/

Patient Advocacy Organizations with Health Promotion and Wellness Resources

- Amyotrophic Lateral Sclerosis Association http://www.alsa.org/

- Muscular Dystrophy Association https://www.mda.org/