

DD SIG Episode 46: Post-Polio Syndrome with Carolyn Da Silva

In this installment of our series on rare neurologic diseases, Ken Vinacco talks with Carolyn Da Silva about post-polio syndrome (PPS), which can occur in up to half of polio survivors 15-20 years after their initial poliomyelitis infection. The constellation of symptoms include new or worsening weakness, pain, and fatigue. Ken and Carolyn discuss all facets of treating this unique population, including considerations for conducting a thorough examination, bracing solutions, and exercise recommendations.

The Degenerative Diseases Special Interest Group is part of the Academy of Neurologic Physical Therapy – www.neuroPT.org

Guest Information

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Key Moments:

9:09 – Carolyn talks about the presentation of post-polio syndrome including the hallmark symptom of PPS and the broader cluster of symptoms in PPS; the predictors of PPS; and research shedding new light on the etiology of PPS.

17:42 – Ken asks Carolyn about the nuances of performing an examination on patients with PPS, and the particular importance of history taking, patient education, and patient buy-in in this population.

27:42 – Carolyn discusses bracing solutions, exciting technological advancements in bracing, and why custom bracing is so important for patients with PPS.

45:34 – Ken asks Carolyn to share the one thing she wants every therapist to know about treating patients with PPS.

For More Information on PPS:

National Institutes of Health (NIH): <https://www.ninds.nih.gov/health-information/disorders/post-polio-syndrome>

National Organization for Rare Disorders (NORD): <https://rarediseases.org/rare-diseases/post-polio-syndrome/>

Related resources:

Post-Polio Health International: <https://post-polio.org/>

Bruno, R. L., HD, PhD (2003). *The Polio Paradox*. Grand Central Publishing. <https://www.hachettebookgroup.com/titles/richard-l-bruno-hd-phd/the-polio-paradox/9780446690690/?lens=grand-central-publishing>

Referenced articles:

Voorn EL, Koopman FS, Nollet F, Brehm MA. Individualized Aerobic Exercise in Neuromuscular Diseases: A Pilot Study on the Feasibility and Preliminary Effectiveness to Improve Physical Fitness. *Phys Ther*. 2021 Mar 3;101(3):pzaa213. doi: 10.1093/ptj/pzaa213. PMID: 33332538; PMCID: PMC7940713.

Related articles:

Agre J. C. (1995). The role of exercise in the patient with post-polio syndrome. *Annals of the New York Academy of Sciences*, 753, 321–334. <https://doi.org/10.1111/j.1749-6632.1995.tb27558.x>

Brehm MA, Beelen A, Doorenbosch CA, Harlaar J, Nollet F. Effect of carbon-composite knee-ankle-foot orthoses on walking efficiency and gait in former polio patients. *J Rehabil Med*. 2007 Oct;39(8):651-7. doi: 10.2340/16501977-0110. PMID: 17896058.

Cup, E. H., Pieterse, A. J., Ten Broek-Pastoor, J. M., Munneke, M., van Engelen, B. G., Hendricks, H. T., van der Wilt, G. J., & Oostendorp, R. A. (2007). Exercise therapy and other types of physical therapy for patients with neuromuscular diseases: a systematic review. *Archives of physical medicine and rehabilitation*, 88(11), 1452–1464. <https://doi.org/10.1016/j.apmr.2007.07.024>

Da Silva, C. P., Pt DSc Ncs, Zuckerman, B., Dpt, & Olkin, R., PhD (2017). Relationship of depression and medications on incidence of falls among people with late effects of polio. *Physiotherapy theory and practice*, 33(5), 370–375. <https://doi.org/10.1080/09593985.2017.1307889>

de Lira, C.A.B., Minozzo, F.C., Costa, T.G. et al. Functional exercise capacity in maximal and submaximal activities of individuals with polio sequelae. *Eur J Appl Physiol* 123, 711–719 (2023). <https://doi.org/10.1007/s00421-022-05095-y>

Koopman FS, Voorn EL, Beelen A, et al. No Reduction of Severe Fatigue in Patients With Postpolio Syndrome by Exercise Therapy or Cognitive Behavioral Therapy: Results of an RCT. *Neurorehabilitation and Neural Repair*. 2016;30(5):402-410. doi:10.1177/1545968315600271

Ofran, Y., Schwartz, I., Shabat, S., Seyres, M., Karniel, N., & Portnoy, S. (2021). Falls in Post-Polio Patients: Prevalence and Risk Factors. *Biology*, 10(11), 1110. <https://doi.org/10.3390/biology10111110>

Ramachandran AK, Goodman SPJ, Jackson MJ, Lathlean TJH. Effects of muscle strengthening and cardiovascular fitness activities for poliomyelitis survivors: A systematic review and meta-analysis. *J Rehabil Med*. 2021 Apr 27;53(4):jrm00184. doi: 10.2340/16501977-2832. PMID: 33876251; PMCID: PMC8814870.