

## Autonomic Dysfunction Post Concussion: Physical Therapy Evaluation and Treatment Approaches

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10:30 - 12:00noon

Neurology, Orthopedic, Manual Therapy, Sports Medicine

Concussion/mild traumatic brain injury (mTBI) is a complex neurologic disturbance secondary to mechanical forces transmitted to the brain. Symptoms may be variable, and have been classified into six concussion subtypes/profiles including cognitive-fatigue, vestibular, oculomotor, anxiety-mood, post-traumatic migraine, and cervical. An additional consideration post-concussion is autonomic dysfunction, also known as dysautonomia. Dysautonomia may include activity/exercise intolerance, orthostatic intolerance and postural orthostatic tachycardia syndrome (POTS,) and changes in heart rate variability. In this course the different types of autonomic dysfunction which may be seen post-concussion will be reviewed. Special attention, including a case study, will be taken examining and treating activity/exercise intolerance with common equipment found in rehabilitation clinics (treadmill, heart rate monitor, blood pressure cuff, RPE scale.) The presenters will frequently include the audience in the discussion of the patient case to further promote knowledge and carryover into clinical practice.

### Objectives

1. Gain an understanding of the role of the autonomic nervous system and the effects of mild traumatic brain injury on the autonomic nervous system
2. Identify key signs and symptoms of autonomic dysfunction post-mild traumatic brain injury.
3. Differentiate symptoms secondary to autonomic dysfunction vs. other subtypes of concussion (e.g. is dizziness due to vestibular, cervicogenic, or autonomic dysfunction.)
4. Implement treatment methods that are beneficial for patients with autonomic dysfunction, including physical therapy and interdisciplinary considerations.

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Kayla Gomes is a Neurological Clinical Specialist who has primarily worked in hospital-based outpatient settings. She has had the pleasure of working within interdisciplinary teams throughout her career, including when she successfully submitted a manuscript for publication in *The Journal of Neurological Physical Therapy*. She is an active member of the American Physical Therapy Association and was selected as the 2021 Centennial Scholar for the CT Chapter of the APTA. Her commitment to clinical education includes acting as a Credentialed Clinical Instructor as well as completing a project to address burnout and improve resilience for stakeholders in clinical education.

Lindsey Lucas is an outpatient Physical Therapist at Trinity Health of New England Rehabilitation for Mt. Sinai. She graduated from Sacred Heart University in May of 2021. She has a strong passion to work with individuals with neurological conditions and has ambitions to obtain her Neurological Clinical Specialist. During her clinicals, she had the opportunity to be on the Brain Injury Unit at Cardinal Hill in Lexington, Kentucky where she did an inservice on current evidence-based research on mild traumatic brain injury within the pediatric population. Recently, she has obtained her Lee Silverman Voice Treatment Big (LSVT big) certification.