TITLE: **"COVID 19 Long-Haulers: Potential Long-Term Physical Problems"**

FORMAT: **Live Interactive Online Lecture (via Zoom)**

SPEAKER: **Mary Massery, PT, DPT, DSc**

DATE/TIME: **Wednesday, April 14, 2021**

- 8:00 pm - 10:30 pm EDT
- 7:00 pm – 9:30 pm CDT
- 6:00 pm – 8:30 pm MDT
- 5:00 pm – 7:30 pm PDT

APTA New Mexico
A Chapter of the American Physical Therapy Association

INSTRUCTIONAL LEVEL: All levels

SPONSORS: MasseryPT LLC, Glenview, IL and APTA New Mexico

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$20 FOR STUDENTS

EASTERN TIME 7:45 pm	Zoom	Zoom waiting room opens
8:00 pm	CLASS STARTS	
8:00 – 9:30 pm	Lecture	COVID-19 pathophysiology, physical symptoms, and multi-system assessment of long-term problems
9:30 – 10:30 pm	Lecture	Case: Young adult COVID-19 long-hauler
Throughout!	Ongoing discussion	Q&A and robust interactive discussions encouraged during/after class regarding management of long-hauler cases
10:30 pm	CLASS ENDS	**Bonus time Q&A for those participants who can stay after class!**

SPEAKER'S BIOGRAPHY: Mary Massery, PT, DPT, DSc

Dr. Massery received her BS (Bachelor of Science) in Physical Therapy from Northwestern University in 1977, her DPT (Doctor of Physical Therapy) from the University of the Pacific in 2004, and her DSc (Doctor of Science) from Rocky Mountain University in 2011. She has been invited to give over 900 professional presentations in all 50 US states and in 18 countries worldwide on topics linking motor behaviors to breathing and postural mechanics. Mary's research pioneered the concept of managing trunk pressures as a new way to visualize core stabilization. Dr. Massery received the **American Physical Therapy Association's** highest clinical award, ***The Florence Kendall Practice Award***, for "outstanding and enduring contributions to the practice of physical therapy." She has been named **Outstanding Alumnus of the Year** by each of her 3 universities, and she received ***Northwestern University's Alumnae Research Achievement Award***. Mary continues to maintain a private practice in Chicago, specializing in breathing and postural dysfunction.

COURSE DESCRIPTION: Survivors of moderate/severe COVID report a myriad of symptoms that persist for weeks and months after recovery. These patients are called "long-haulers" (Chronic COVID Syndrome (CCS)). This webinar will focus on COVID survivors who are medically stable, but surprisingly not returning quickly to their pre-morbid health status and/or pre-morbid activity levels. The speaker will present a multi-system approach to determine these patients short-term and potential long-term physical problems especially as they relate to core stability and breathing mechanics. The speaker will present a contextual model of postural control (soda-pop can model) to assist therapists in anticipating potential problems of long-haulers' trajectory of recovery. Suggested treatment and robust discussions will be included throughout the course.

COURSE OBJECTIVES:
Upon completion of this course participants will be able to:

1. Present a brief overview of COVID-19 and indicate how the disease might adversely affect physical function in the post-acute phase.
2. Describe the framework of a multi-system differential diagnosis of CCS patients (Chronic COVID syndrome), otherwise known as long-haulers, to determine possible underlying causes of persistent physical problems.
3. Suggest early and late rehabilitation ideas looking at possible multi-system reactions to the disease: cardiopulmonary, musculoskeletal, neuromuscular, integumentary, internal organs.
4. Demonstrate how breathing and moving can be intentionally used together to improve breathing efficiency especially for COVID survivors who have residual pulmonary problems and fatigue.

KEY WORDS: COVID, long-haulers, persistent physical deficits

REFERENCES (10 selected references. New literature added to classes as research becomes available)

1. Alwaqfi, N. R. and K. S. Ibrahim (2020). "COVID-19: an update and cardiac involvement." J Cardiothorac Surg **15**(1): 239.
2. Baig, A. M. (2020). "Deleterious Outcomes in Long-Hauler COVID-19: The Effects of SARS-CoV-2 on the CNS in Chronic COVID Syndrome." ACS Chem Neurosci **11**(24): 4017-4020.
3. Dhawan, R. T., et al. (2021). "Beyond the clot: perfusion imaging of the pulmonary vasculature after COVID-19." Lancet Respir Med **9**(1): 107-116.
4. Dres, M. and A. Demoule (2020). "Monitoring diaphragm function in the ICU." Curr Opin Crit Care **26**(1): 18-25.
5. Grant, M. C., L. Geoghegan, M. Arbyn, Z. Mohammed, L. McGuinness, E. L. Clarke and R. G. Wade (2020). "The prevalence of symptoms in 24,410 adults infected by the novel coronavirus (SARS-CoV-2; COVID-19): A systematic review and meta-analysis of 148 studies from 9 countries." PLoS One **15**(6): e0234765.
6. Janiri D, Carfì A, Kotzalidis GD, et al. Posttraumatic Stress Disorder in Patients After Severe COVID-19 Infection. JAMA Psychiatry. Published online February 18, 2021. doi:10.1001/jamapsychiatry.2021.0109
7. Massery, M. (2005). "Musculoskeletal and neuromuscular interventions: a physical approach to cystic fibrosis." Journal of the Royal Society of Medicine **98**(Supplement 45): 55-66.
8. Massery, M., M. Hagins, R. Stafford, V. Moerchen and P. W. Hodges (2013). "Effect of airway control by glottal structures on postural stability." J Appl Physiol **115**(4): 483-490.
9. Moffa, A., G. Oliveto, F. D. Matteo, P. Baptista, A. Cardenas, M. Cassano and M. Casale (2020). "Modified inspiratory muscle training (m-IMT) as promising treatment for gastro-oesophageal reflux disease (GERD)." Acta Otorrinolaringol Esp **71**(2): 65-69.
10. Vink, M. and A. Vink-Niese (2020). "Could Cognitive Behavioural Therapy Be an Effective Treatment for Long COVID and Post COVID-19 Fatigue Syndrome? Lessons from the Qure Study for Q-Fever Fatigue Syndrome." Healthcare (Basel) **8**(4).

ASSESSMENT OF LEARNING OBJECTIVES:

- Q&A session
- Course evaluation form

CEU APPROVAL: > The **Illinois** Chapter Continuing Education Committee has certified that this course meets the criteria for approval of Continuing Education offerings established by The Illinois Physical Therapy Association (Course # 898-8031, 2.5 contact hours (0.25 CEUs). Per Illinois Physical Therapy Association (IPTA): "This course content is not intended for use by any participants outside the scope of their license or regulation."

- **APTA New Mexico** approves this learning activity for 2.5 contact hours.