

## Session Title: The Weight of Breath: Understanding Obesity Hypoventilation Syndrome in Physical Therapy Practice

### Session Description

Obesity Hypoventilation Syndrome (OHS) is an underrecognized cause of chronic hypercapnia and functional limitation increasingly encountered across inpatient and outpatient settings. Although physical therapists routinely manage individuals with chronic lung and cardiovascular disease, few clinicians receive formal training in the evaluation and management of OHS. This session will review current understanding of OHS pathophysiology, diagnostic criteria, and its overlap with obstructive sleep apnea, pulmonary hypertension, and heart failure. Emphasis will be placed on the physiologic mechanisms driving ventilatory failure and exercise intolerance, safety considerations during mobility and exercise, and the role of the physical therapist within an interdisciplinary team. Participants will gain practical strategies to optimize aerobic and resistance training, apply individualized monitoring techniques (including oximetry, dyspnea scales, and blood gas indicators), and recognize red flags requiring medical referral. Case examples will illustrate translation of evidence-based guidelines into real-world rehabilitation practice. Attendees will leave with the knowledge and tools to confidently screen, treat, and advocate for this growing patient population whose needs extend far beyond traditional COPD management.

### Teaching Method

Lecture

Discussion

### Objectives:

1. Describe the pathophysiologic mechanisms and diagnostic criteria of obesity hypoventilation syndrome (OHS), and differentiate it from obstructive sleep apnea and chronic obstructive pulmonary disease.
2. Identify common cardiopulmonary impairments and functional limitations associated with OHS that impact mobility, exercise tolerance, and patient safety.
3. Apply evidence-based strategies for exercise prescription, activity monitoring, and patient education in individuals with OHS across inpatient and outpatient rehabilitation settings.
4. Integrate interprofessional communication and clinical decision-making frameworks to support early recognition, referral, and management of patients with suspected OHS.

What will be the clinician/educator takeaways/skills that can be utilized immediately?  
Rapid screening approach to differentiate OHS from COPD or simple

OSA in clinical practice. Safe exercise prescription parameters (SpO<sub>2</sub>

thresholds, dyspnea scales, HR response).

Practical oxygen titration and activity-monitoring strategies for obese, hypoventilating patients.

Interprofessional communication tools for medical co-management and referral.  
Evidence-based patient education tips to promote adherence to non-invasive ventilation and exercise programs.

### Recommended Content Level

Intermediate

### References:

Borel, J. C., Borel, J., & Pépin, J. L. (2020). Obesity hypoventilation syndrome: From pathophysiology to clinical management. *European Respiratory Review*, 29(155), 200025. <https://doi.org/10.1183/16000617.0025-2020>

Castro-Angulo, T., Hernández, M. E., & Mora, M. (2022). Physical activity and rehabilitation in patients with obesity hypoventilation syndrome: A narrative review. *Pulmonology*, 28(6), 465–475. <https://doi.org/10.1016/j.pulmoe.2022.02.001>

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Kaw, R., et al. (2018). Obesity hypoventilation syndrome and postoperative complications: Current evidence and clinical implications. *Chest*, 154(2), 491–500. <https://doi.org/10.1016/j.chest.2018.03.003>

Killen, J. C., et al. (2017). Exercise and physical therapy considerations in obesity-related respiratory disorders. *Cardiopulmonary Physical Therapy Journal*, 28(2), 43–51. <https://doi.org/10.1097/CPT.000000000000064>

Masa, J. F., et al. (2016). Effect of noninvasive ventilation on mortality in obesity hypoventilation syndrome: A multicenter randomized trial. *American Journal of Respiratory and Critical Care Medicine*, 194(1), 86–95. <https://doi.org/10.1164/rccm.201510-1942OC>

McNicholas, W. T. (2023). Obstructive sleep apnoea and obesity hypoventilation syndrome: Pathophysiology and patient management. *Current Opinion in Pulmonary Medicine*, 29(6), 485–493. <https://doi.org/10.1097/MCP.0000000000000968>

Piper, A. J., & Grunstein, R. R. (2019). Obesity hypoventilation syndrome: Current perspectives. *Therapeutic Advances in Respiratory Disease*, 13, 1–14. <https://doi.org/10.1177/1753466619878128>

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#### Speaker Bio:

Dr. Amanda Fields serves as an Assistant Clinical Professor in the Doctor of Physical Therapy program at Auburn University. Dr. Fields received her Bachelor of Science in Fitness and Health Promotion from Samford University in 2010. She then received her Doctor of Physical Therapy degree from the University of Alabama at Birmingham in 2013, and her Doctor of Philosophy in Health Administration and Education from William Carey university in 2025. Dr. Fields' primary area of clinical practice has been in acute care with an emphasis on the early mobilization of medically complex and critically ill patients. She holds board certification as a Cardiovascular and Pulmonary Clinical Specialist (CCS) from the American Board of Physical Therapy Specialties (ABPTS).



