

## Session Title: "Rehab in the Age of Immunotherapy: The PT's Guide to Modern Medications and Better Outcomes"

### Session Description

Following an overview of the adaptive immune system, this session provides the latest in immunopharmacotherapy for cardiovascular and pulmonary disorders. Case-based application will highlight potential exercise interactions and other physical therapy management strategies. Interactions of the immune system and pathophysiologies of conditions including pulmonary hypertension, interstitial lung disease, non small cell lung cancer, asthma, and dyslipidemia will be explored and linked to medication mechanisms of action and biotransformation. Presenters will delve into the interactions of these medications and activity, including differential analysis of patient symptoms exploring the role of pathophysiology versus medication

### Teaching Method

Lecture

Discussion

#### Objectives:

Discuss the components of the adaptive immune system, emphasizing aspects related to immunopharmacology Define and describe the interactions of the immune system and the pathophysiology of pulmonary hypertension, interstitial lung disease, non small cell lung cancer, asthma and dyslipidemia

Discuss the newest FDA-approved immunopharmacotherapy medications to treat these conditions, their adverse reactions, and the effects on physical activity

Analyze patient presenting symptoms and differentiate effects of pathophysiology versus medication effects Apply sample patient cases to devise physical therapy management that address both disease and immunopharmacotherapy

What will be the clinician/educator takeaways/skills that can be utilized immediately?

Clinical Reasoning when reading charts and assessing patients who are taking these medications, especially the new immunotherapy medications, and the newer pulmonary hypertension and ILD medications.

Knowing the effects of the medications and the effects of these meds on activity as well as the major side effects can help therapists problem solve with symptoms and abnormal responses.

#### Recommended Content Level

Intermediate

#### References:

2022 ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension: Developed by the task force for the diagnosis and treatment of pulmonary hypertension of the European Society of Cardiology (ESC) and the European Respiratory Society (ERS). Endorsed by the International Society for Heart and Lung Transplantation (ISHLT) and the European Reference Network on rare respiratory diseases (ERN-LUNG). Free

Marc Humbert, Gabor Kovacs, Marius M Hoeper, Roberto Badagliacca, Rolf M F Berger, Margarita Bida, Jørn Carlsen, Andrew J S Coats, Pilar Escibano-Subias, Pisana Ferrari ... Show more  
Author Notes

European Heart Journal, Volume 43, Issue 38, 7 October 2022, Pages 3618–3731,  
<https://doi.org/10.1093/eurheartj/ehac237>

Cureus. 2023 Oct 31;15(10):e48016. doi:  
10.7759/cureus.48016 Recent Advances in the

Treatment of Interstitial Lung Diseases

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## Article notes

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<https://www.cancer.gov/about-cancer/treatment/drugs/lung> : Drugs approved for lung cancer ( Drugs Approved for Non-Small Cell Lung Cancer Drug Combinations Used to Treat Non-Small Cell Lung Cancer Drugs Approved for Small Cell Lung Cancer) updated 2025

Abbasi, Asghar, et al. "Immune system benefits of pulmonary rehabilitation in chronic obstructive pulmonary disease." *Experimental Physiology* (2024).

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Ma, Xiaojie, et al. "Physical exercise: a promising treatment against organ fibrosis." *International Journal of Molecular Sciences* 26.1 (2025): 343.

### Speaker Bios:

Dr. Ellen Hillegass is a nationally recognized physical therapist with APTA board certification in cardiovascular and pulmonary clinical specialty. A Catherine Worthingham Fellow of the American Physical Therapy Association—the highest honor in the field—Dr. Hillegass is President and CEO of PT Cardiopulmonary Educators, a pioneering company delivering advanced education and residency training for DPT programs nationwide. She also founded the Clinical Residency in Cardiopulmonary Physical Therapy at Mercer University in partnership with Piedmont Hospital.

In 2024, Dr. Hillegass was honored as the Keynote Lecturer by the Academy of Cardiovascular and Pulmonary Physical Therapy, reflecting her enduring impact on the profession.

A leading authority in clinical guidelines, Dr. Hillegass chaired the APTA's Clinical Practice Guidelines Revision Committee on Venous Thromboembolism (VTE), overseeing the 2022 publication of both the revised and initial guidelines. She currently chairs the Oxygen Consensus Guidelines Task Force for the Academy of Cardiovascular and Pulmonary PT. As the Editor of *Essentials in Cardiopulmonary Physical Therapy*—now in its fifth edition—and the acclaimed *PT Clinical Notes*, Dr. Hillegass has set the standard for clinical education in her specialty.

Her career is marked by groundbreaking contributions in education, research, and clinical practice, making her a true leader in cardiopulmonary physical therapy

Dr. Angela Campbell is the immediate past-president of the Academy of Cardiovascular & Pulmonary Physical Therapy of the APTA (APTA CVP), current member of the APTA CVP Critical Care Consensus Expert Group, and a professor of physical therapy and department co-chair at Springfield College. Recent activities include: organizing and implementing the inaugural stand-alone CVP Academy conference; co-creating the Guidelines for Vital Signs in Adults in Acute Care; and serving on the leadership team to develop the updated Entry-Level Competencies for Cardiovascular & Pulmonary Physical Therapy. Dr. Campbell received her DPT from Creighton University in 1996 and received her initial ABPTS Board-Certified Cardiovascular & Pulmonary Clinical Specialist (CCS) credential in 2001. She has been a part of the past two clinical teams leading the revalidation and determination of specialist cardiovascular and pulmonary (CVP) practice (ABPTS Description of Specialty Practice). She has clinical experience as a program director of outpatient pulmonary rehabilitation and as a clinician on heart and lung transplant teams, as well as decades of experience in critical care. Dr. Campbell has served the APTA CVP and the profession in many ways, such as the ABPTS Cardiovascular & Pulmonary Specialty Council, ABPTRFE Residency Credentialing Site Team, APTA CVP Advocacy Chair, and ABPTS CVP Clinical Content Expert and specialty examination item writer.