

POCUS for the CVP PT

Session Description: This 1.5-hour interactive education session is designed for physical therapists seeking to integrate point of care ultrasound (POCUS) into the assessment and management of patients with cardiovascular and pulmonary disorders. The session will combine didactic instruction with a hands-on laboratory, enabling participants to gain practical experience in ultrasound screening. Key anatomical regions covered will include the lungs and pleura, heart, diaphragm, and vascular system. Attendees will learn to identify normal and abnormal findings, understand the clinical relevance of POCUS in physical therapy, and apply basic scanning protocols. The hands-on component will allow participants to practice probe placement, image acquisition, and interpretation under expert guidance. By the end of the session, physical therapists will be equipped with foundational skills to enhance patient evaluation, facilitate early detection of pathology, and support interdisciplinary collaboration in acute and outpatient settings.

Teaching Method

Lecture

Lab

Objectives

1. Describe the principles and clinical applications of point of care ultrasound in cardiovascular and pulmonary physical therapy.
2. Demonstrate basic ultrasound scanning techniques for the lungs/pleura, heart, diaphragm, and vascular system.
3. Identify normal and abnormal sonographic findings relevant to physical therapy practice.
4. Apply POCUS skills to improve patient assessment and inform clinical decision-making.

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

- Basic knowledge of point of care ultrasound modes, controls, probes, and terminology in order to facilitate image acquisition
- Knowledge of standardized views for imaging the diaphragm, pleura/lungs, heart, and major vessels
- Assessing the thickness of the diaphragm
- Obtain sonographic images of the anterior lung fields and bilateral lung bases and identify the pleural line and lung sliding
- Understanding of the four basic sonographic views of transthoracic ultrasound

Recommended Content Level

Advanced

References (Minimum of 5 references, no more than 10 years old, 2013 or later):

Farrell C, Cooper K, Hayward S, Walker C. Exploring the Use of Lung Ultrasonography to Assess Cardiac Surgery Patients: A Scoping Review. *J Diagn Med Sonogr.* 2024;40(1):5-18. doi:10.1177/87564793231198521.

Hayward SA, Janssen J. Use of thoracic ultrasound by physiotherapists: a scoping review of the literature. *Physiotherapy.* 2018;104(4):367-375. doi:10.1016/j.physio.2018.01.001.

Hayward S, Cardinael C, Tait C, Reid M, McCarthy A. Exploring the adoption of diaphragm and lung ultrasound (DLUS) by physiotherapists, physical therapists, and respiratory therapists: an updated scoping review. *Ultrasound J.* 2025;17(1):9. doi:10.1186/s13089-025-00412-w.

Lockstone J, Brain M, Ntoumenopoulos G. The Implementation of Physiotherapist-Led Lung Ultrasound on Physiotherapy and Medical Clinical Decision-Making in Intensive Care Patients: A Retrospective Review.

Cardiopulmonary Physical Therapy Journal. 2024;35(2):50-55. doi:10.1097/CPT.0000000000000247.

Lockstone J, Ntoumenopoulos G. Physiotherapy-led lung ultrasound in acute cardiorespiratory physiotherapy. *Aust Health Rev.* 2025;49(4):AH25117. doi:10.1071/AH25117.

Ntoumenopoulos G, Pizimolas GA, Mani S, Hayward S, Lockstone J. Lung Point of Care Ultrasound (POCUS) in Cardiorespiratory Physiotherapy and Respiratory Therapy Practices: Current Status and Future Directions. *POCUS J.* 2024;9(2):9-11. doi:10.24908/pocus.v9i2.17854.

Speaker Biographical Information:

Stephen Ramsey graduated from the Medical College of Georgia's DPT program in 2014. He began work in the cardiac critical care units before completing the Cardiovascular and Pulmonary Residency program through Mercer University in July 2016 and achieved board certification in Cardiovascular and Pulmonary Physical therapy in 2017.

Stephen continues to work full time clinically in the cardiac ICUs, primarily with patients on temporary mechanical circulatory support devices. He is the Residency coordinator for the Mercer-Piedmont CVP Residency Program and serves as the clinical coordinator for ICU at Piedmont. He is adjunct faculty at Mercer University where he teaches the entry level DPT Cardiovascular and Pulmonary content and assists with Diagnostic Ultrasound Education for the Mercer Physician Assistant Program. His current areas of research include mobilizing patients with femorally placed mechanical circulatory support devices, and the use of diagnostic ultrasound in PT practice.

Rich Severin PT, DPT, PhD is a board-certified cardiovascular and pulmonary clinical specialist. Dr. Severin serves as clinical assistant professor in the Department of Physical Therapy at the University of Illinois at Chicago and is the program coordinator of the UIC/UIHealth bariatric surgery rehabilitation program. Additionally, he serves as a member of the APTA Science and Practice Affairs Committee, associate editor of *Cardiopulmonary Physical Therapy Journal* and Chief Delegate for the APTA Academy of Cardiovascular and Pulmonary Physical Therapy. He has published scholarly work and presented both nationally and internationally on the topics of respiratory muscle performance, ultrasonographic imaging, and medical screening in physical therapy practice.

Casey Farrell, PT, DPT, is an Acute Care Physical Therapist at HCA Florida Lake Monroe Hospital with expertise in critical care and cardiorespiratory physical therapy. Dr. Farrell possesses valuable experience in ultrasonography - while working for NHS Grampian in Aberdeen, Scotland she became one of only two physiotherapists in Scotland accredited to use lung ultrasound in practice. A committed educator, she has served as a Practice-Based Lecturer at Robert Gordon University. This unique blend of hands-on ultrasound accreditation, critical care practice, and educational development makes her an insightful and highly qualified speaker on integrating Point of Care Ultrasound (POCUS) into pulmonary and cardiorespiratory physical therapy.

Matthew Butler, PT, DPT, has been a practicing physical therapist for over 20 years. He received his Bachelor of Science degree in Psychology from Purdue University in 1997. He worked as a genetics laboratory manager at Rutgers University prior to getting his Doctorate in Physical Therapy from the University of Miami in 2005. Following his graduation, Dr.

Butler worked in outpatient orthopedic rehabilitation, specializing in sports and spine conditions. He received his board certification as an orthopedic clinical specialist in 2008 through the APTA. In 2010, he completed a Fellowship in the American Academy of Orthopaedic Manual Physical Therapists at the University of Illinois at Chicago. Dr. Butler was born in Chicago, IL, but currently lives with his family in South Florida where he is working on his Ph.D. in physical therapy at the University of Miami. His research areas of interest are in sarcopenia and respiratory sarcopenia.

Brady Anderson PT, DPT, is a practicing Physical Therapist at Jackson Memorial Hospital in Miami, FL, with a particular interest in Cardiovascular and Pulmonary Physical Therapy and Critical Care. He is a clinical mentor and lecturer in the UM-JRH Cardiovascular and Pulmonary PT Residency Program, as well as supplemental instructor in the entry-level DPT program at the University of Miami.