

Symposium

Introduction

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Point-of-Care Ultrasonography in Critical Care: Part 2

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Welcome to part 2 of the symposium on point-of-care ultrasonography (POCUS) in the critical care setting. Point-of-care ultrasonography has proven to be an effective diagnostic tool for a variety of medical and surgical conditions and has increased in importance over the past 50 years. In addition, POCUS can be performed more quickly and is more cost effective than other radiologic studies, uses no radiation, is easily reproducible and noninvasive, and can be performed at the patient's bedside.

The first part of this series focused on how ultrasonography works,¹ its role in diagnosing and treating cardiac² and pulmonary³ conditions, and the use of POCUS in trauma patients through the Focused Assessment with Sonography for Trauma (FAST) and extended FAST (eFAST).⁴ Part 2 of this POCUS symposium will focus on its role in ultrasound-guided procedures, its use in caring for critically ill obstetrical patients, and its utility in diagnosing and treating abdominal and skin and soft tissue conditions. Each article in this symposium will enhance your knowledge in an additional aspect of POCUS.

Many providers use bedside ultrasonography to provide guidance for procedures. Cruz and Edelstein describe the use of POCUS for precise needle and catheter placement to sample fluid, as well as to provide access for medications and other procedures such as thoracentesis and pericardiocentesis. Ultrasonography can make these procedures safer and more effective for patients in the intensive care unit.

Obstetrics as a medical specialty has been using ultrasonography for decades. Millions of expectant parents have seen firsthand the advancements of POCUS. Only thirty years ago expectant parents saw a 1-dimensional photograph that was difficult for an untrained eye to decipher. Now with the advancement in technology, high-quality 4-dimensional views provide soon-to-be parents with vivid images of their unborn child. The high-quality resolution is important not only to parents but to health care providers. Lammers and Dolin describe how POCUS is used in the critically ill pregnant patient in a way similar to its use in nonpregnant patients; in addition, they discuss its use for assessing fetal

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status, gestational age, and placental location. This information can be critical in guiding maternal and fetal assessments and interventions.

Boling and Solis describe a number of applications for the use of POCUS in abdominal imaging. Information gathered using this bedside procedure can be valuable for evaluating the function of abdominal organs, assessing the differentiation of shock states, and identifying sources of sepsis.

The final article in the second part of this symposium series highlights the role of POCUS as an expanding field in evaluating integumentary system conditions. Craven and colleagues provide evidence-based recommendations for POCUS use in the differential diagnosis of skin and soft tissue conditions, assessing foreign bodies, and burn depth assessment.

The importance of ultrasonography continues to increase. With the constant advances in technology, there is no doubt even more uses for POCUS will evolve in the future. Point-of-care ultrasonography is an ever-changing field and its growth and expansion will only continue. We hope you enjoy reading and learning further about POCUS in part 2 of this symposium series.

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