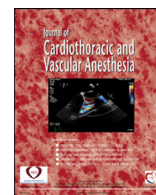


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Editorial

Point-of-Care Ultrasound (POCUS) Training for Anesthesiologists: Is it Time to Embrace and Attain Competency?



DIAGNOSTIC POINT-OF-CARE ULTRASOUND (POCUS) usage has grown broadly in recent years across multiple disciplines in the medical arena. It is now a clinical tool for all physicians, not just a modality limited to one specialty.¹⁻³ With the current coronavirus disease 2019 pandemic, the practice of POCUS increasingly has grown due to the added value, benefits, and reduction in other costly invasive imaging modalities.⁴⁻⁶

Anesthesiologists already are uniquely familiar with the use of ultrasound for the placement of invasive monitoring lines (eg, central venous and arterial lines) and regional anesthesia, possessing the superior capability of easily expanding various diagnostic POCUS skills into the realm of perioperative medicine.^{7,8} Various specialties, such as emergency medicine and critical care medicine, have developed curricula to train physicians in POCUS applications, but anesthesiologists have lacked robust training recommendations to obtain competency in this field.⁹⁻¹¹ The authors welcome the American Society of Anesthesiologists' (ASA) Ad Hoc Committee for enabling training recommendations for diagnostic POCUS.¹² Some subspecialty societies, such as the American Society of Regional Anesthesia (ASRA) and the Society for Critical Care Medicine, already have created POCUS guidelines to demonstrate physician competence.¹³⁻¹⁵ Numerous courses and resources currently are available to attain POCUS knowledge, but creating a unique system to attain POCUS competency is essential. The American Board of Anesthesiology (ABA) also has incorporated these POCUS skills into the board examination process, further increasing the need for formalized curricula and competency assessments for anesthesiology trainees.

In this editorial, the authors seek to answer the following questions: Is there a necessity to train anesthesiologists to gain competency and expertise in POCUS? Has the time come to embrace diagnostic POCUS in the perioperative setting? If so, how do anesthesiologists attain this competency? How does competence in POCUS relate to clinical care and billing in

anesthesiology practice? The ASA's Ad Hoc Committee on POCUS recently published an updated version of its Committee Work Product addressing these topics, creating guidance for training and attaining competencies in diagnostic POCUS.¹⁶ This product takes an important step toward establishing POCUS as an essential skill in the field of anesthesiology. It is critical all anesthesiologists recognize that a threshold has been crossed, as POCUS has moved from a niche field to a skill that defines the specialty. This Ad Hoc expert panel's recommendations address five areas pertaining to diagnostic POCUS.

The first recommendation supports the right for all anesthesiologists to practice diagnostic POCUS in accordance with the 1999 resolution from the American Medical Association, stating that ultrasound imaging is within the scope of practice of properly trained physicians, and hospitals should grant privileges to perform ultrasound imaging in accordance with specialty-specific guidelines. The adoption of POCUS in anesthesiology has, thus, tacitly received the approval of the American Medical Association. Anesthesiologists also may embrace diagnostic POCUS within the scope of practice defined in content outlines in accordance with the Accreditation Council for Graduate Medical education and ABA.

The second recommendation addresses the scope of practice regarding these diagnostic POCUS applications. The ASA committee has identified three primary applications (cardiac, lung, and abdominal ultrasound) and six secondary applications (airway, musculoskeletal/soft tissue, ocular, renal/genitourinary, transcranial Doppler, and ultrasound for deep venous thrombosis), according to the need and subspecialty practices, to guide POCUS training programs in structuring their guidelines with Accreditation Council for Graduate Medical education and ABA recommendations.¹⁷ Although committees should be commended for including these primary applications, the authors believe that airway ultrasound also should be included in the primary scope of practice. Presumably, these three primary applications have been selected because hypotension and respiratory insufficiency are the most

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frequently encountered scenarios in perioperative care.¹⁸⁻²⁰ Focused cardiac ultrasound, lung ultrasound, and abdominal ultrasound play key roles in identifying the cause of critical illness, leading to rapid guidance of clinical management.²¹⁻²⁶ It is true that anesthesiologists are extremely skilled in diagnosing and managing critical illness, but airway management is a vital component of this expertise, therefore highlighting the importance of adding airway ultrasound to the primary applications.

The third recommendation involves the minimum training required to achieve competence in diagnostic POCUS. There is clear evidence that training can increase the accuracy of diagnostic POCUS. The ASA Ad Hoc Committee's minimum training numbers are specified for each POCUS modality, which helps establish POCUS curricula for residents and fellows. Moving forward, there should be concrete plans to incorporate these recommendations into all anesthesiology training programs. There should be a digital system to log these examinations, enabling the tracking of progress toward these competencies, while also helping with future credentialing processes for obtaining hospital privileges. The ASA Ad Hoc Committee made recommendations for practicing anesthesiologists to attain a certificate of completion (CoC) program in diagnostic POCUS by two different pathways.²⁷ It is uncertain if this CoC program is sufficient, or whether board examinations will be necessary to accomplish the privileges or credentials to practice. The sample templates for POCUS documentation are extremely valuable in the systematic training process and to assess competency, along with documentation of POCUS results and billing. This CoC program is dependent largely on the availability of a local mentor pathway, which is the current challenge in most hospitals. It is critical that the ASA supports the local mentor program through expert guidance, training programs at the annual meeting, and engagement through opportunities geared specifically toward the local mentors.

The fourth recommendation relates to maximizing the safety and ethical practice of POCUS. There are several key practices to enhance the safety and practice of POCUS: (1) recognizing the limitations of POCUS, (2) obtaining appropriate consent, (3) maintaining secure image archiving, and (4) maintaining secure documentation. The most essential practice is the security of patient information. The increasing presence of handheld devices further reinforces the need for this practice. Most anesthesiologists are not experts in image archiving; anesthesiologists must, therefore, seek advice using archived images from other specialties or third-party vendors. There also is uncertainty if this POCUS CoC program will enable practicing anesthesiologists to attain the hospital credentials and privileges. The ASA must continue to monitor the success of this program by evaluating whether anesthesiologists successfully obtain new credentials.

The fifth recommendation is regarding billing, as current procedural terminology (CPT) codes do not appropriately identify diagnostic POCUS examinations, complicating the current billing practice. The ASA must take a leadership role with billing guidance for POCUS and should develop resources to guide physician groups who seek reasonable

revenue for the added value that POCUS brings to critical scenarios.

The authors strongly feel the ASA's expert panel recommendations on diagnostic POCUS will provide the framework for anesthesiology training programs to build upon core POCUS curricula. The POCUS CoC program will help practicing anesthesiologists build skills and competencies in POCUS. The ASA should continue its efforts to expand and enhance this POCUS arena through the recognition of an ASA board of directors and house of delegates. The ASA should use these recommendations to establish formal POCUS guidelines to address the uncertainties in credentialing and billing. Additionally, the ASA should stand as a front-runner in POCUS education, by building courses and resources, partnering with other subspecialties, and making collaborative efforts with other medical specialties (both nationally and internationally). Further audit and research to look at the outcomes of POCUS in anesthesiology practice should be encouraged and supported by the ASA.

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Conflict of Interest

None.

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