Logistics of perioperative diagnostic point-of-care ultrasound: nomenclature, scope of practice, training, credentialing/ privileging, and billing

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Background

In modern health care, the performance of many bedside procedures and the evaluation of critically ill patients is facilitated by point-of-care ultrasound (PoCUS).[1] PoCUS has unique and evolving value to each specialty. Thus, the chronology of adoption of PoCUS has varied significantly across specialties. For instance, anesthesiologists were early to adopt PoCUS for regional anesthesia, vascular access, and transesophageal echocardiography, but slow to integrate other PoCUS applications that were more rapidly adopted by acute care specialties such as critical care and emergency medicine.[2] These latter 2 specialties have shown that PoCUS of the heart, lungs, abdomen, and/or lower extremity veins can be used to rapidly narrow the differential diagnosis of hypotension, respiratory failure, and other kinds of acute organ dysfunction.[1,3,4] Since acute organ dysfunction management is also part of the routine work of anesthesiologists, it is not surprising that anesthesiologists are now trying to integrate more diagnostic PoCUS into their work. Furthermore, separate from acute organ dysfunction, diagnostic PoCUS has relevance to anesthesiologists in nonacute settings, such as the preoperative evaluation clinic where the ultrasound data can help with risk stratification and the evaluation of chronic symptoms.

To use diagnostic PoCUS successfully, anesthesiologists will need to overcome, at minimum, the challenges that have historically hampered diagnostic PoCUS use in critical care and emergency medicine: variability in training and uncertainties in credentialing/privileging and billing. To address these challenges, anesthesiology departments will need to standardize training and work with hospital administrators to define locally appropriate credentialing/privileging and billing protocols.

The following review offers a roadmap on how these things could be accomplished by drawing on both the experiences of other specialties and on guidance recently published by anesthesiology-specific professional medical organizations. Specifically, the review covers the following diagnostic PoCUS topics: (i) nomenclature; (ii) anesthesiology-relevant scope of practice; (iii) minimum level of training needed to achieve competence; (iv) credentialing/privileging; and (v) billing.

Nomenclature

Before offering a roadmap for anesthesiology-relevant diagnostic PoCUS implementation, it is important to first define the relevant terminology. For purposes of this manuscript, PoCUS is the use of ultrasound by a primary treating provider to either guide a procedure or answer a clinical question.[2] These 2 applications will henceforth be referred to as procedural and diagnostic PoCUS, respectively. Except when procedural PoCUS is specifically invoked, the remainder of this manuscript will deal exclusively with diagnostic PoCUS.

Diagnostic PoCUS is one general category of diagnostic ultrasound, with the other being consultative ultrasound. Consultative ultrasound is an ultrasound exam requested by a primary treating provider but performed by a separate specialist team (eg, Radiology, Cardiology, a subspecialist team of Anesthesiologists, etc.). In contrast, diagnostic PoCUS is performed and interpreted by a patient's primary treating provider, whereas consultative ultrasound can be either comprehensive or focused, diagnostic PoCUS is, by definition, always focused and goal directed.[1,5–7]

Within the realm of diagnostic ultrasound of the heart specifically, the American Society of Echocardiography (ASE) and a consortium of 24 other professional medical organizations have established additional terms to differentiate 2 types of exams: "focused cardiac ultrasound" (FoCUS) and "transthoracic echocardiography" (TTE).[8–11]

FoCUS is a chest wall cardiac ultrasound exam intended to screen for a limited number of gross pathologies (principally gross systolic dysfunction, presence/absence of pericardial effusion, and extremes of volume status). FoCUS is a *qualitative* exam performed with grayscale imaging (2-D and/or M-mode) by someone with at least focused training in surface cardiac ultrasound image acquisition and interpretation. In contrast, TTE is a *quantitative* examination capable of identifying and quantifying the severity of all sonographically detectable cardiac pathologies. TTE uses grayscale ultrasound, has the capability to use advanced imaging modes (eg, color/spectral Doppler and EKG gating), and is performed/interpreted by providers with comprehensive training in cardiac ultrasound image acquisition and interpretation (ie, board certification or equivalent).[8–10,12]

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The definitions above have implications for the oft-misused term: "limited echocardiogram" (aka "limited echo"). A "limited echocardiogram" is an abbreviated exam, but one that nevertheless upholds the high standards that define the term "echocardiography" (quantitative assessment, advanced imaging modalities, and performed/interpreted by providers with comprehensive training in surface cardiac ultrasound). In other words, the terms FoCUS and "limited echo" refer to distinctly different exams performed/interpreted by providers with different minimum levels of training, using different imaging modes, answering a different range of questions, and when answering similar questions doing so with different levels of granularity (ie, qualitatively vs. quantitatively). This distinction has bearing on all aspects of the clinical use of transthoracic cardiac ultrasound including, but not limited to, training, credentialing/privileging, billing, interprovider communication, and ultimately patient safety. For instance, it would go entirely against ASE guidelines for members of an anesthesiology program to perform FoCUS, but advertise and bill for these services as "limited echocardiography" (please see the Billing section of this manuscript for further discussion).

Notably, it is certainly feasible for anesthesiologists to perform a "transthoracic echo" so long as what they are doing upholds the high standards expected of echocardiography. For instance, 2 forms of transthoracic echocardiography that fall under the umbrella concept of cardiac PoCUS are: (1) critical care echocardiography (CCE) and (2) perioperative transthoracic echocardiography (PTTE) (Fig. 1). CCE is the use of echocardiography by intensivists with advanced training (board certification or equivalent) in chest wall cardiac ultrasound to answer quantitative questions about cardiovascular function in critically ill patients.[11] Similarly, PTTE is the use of echocardiography by anesthesiologists with advanced training (board certification or equivalent) in chest wall cardiac ultrasound to answer quantitative questions about cardiovascular function in perioperative patients.[13] Whereas a CCE provider may be more interested in using echocardiography to titrate inotropic support, a PTTE provider may be more likely to use echocardiography to quantify the precise severity of aortic stenosis when evaluating a patient preoperatively. But in both cases, to qualify as an "echo," the exam must meet all 3 of the following criteria: (1) be performed/interpreted by providers with comprehensive training in image acquisition/interpretation (ie, board certification or equivalent); (2) include advanced imaging modes (eg, color and/or spectral Doppler); and (3) answer questions quantitatively.[2,8–10,12] In contrast, FoCUS exams require less intensive training, utilize grayscale imaging only, and address questions qualitatively. In the examples above, a FoCUS exam would identify the presence of severe ventricular dysfunction or severe aortic stenosis as "yes," "no," or "indeterminate."

The terminology surrounding transthoracic cardiac ultrasound can be understood through the taxonomy shown in Figure 1. As seen in the figure, point-of-care chest wall cardiac ultrasound could be correctly classified as either a FoCUS exam or a point-of-care TTE. A point-of-care TTE can be further categorized as limited or comprehensive. But notably, in our experience the vast majority of point-of-care TTEs performed in actual clinical practice are limited exams. So, while it is certainly possible for a patient's primary treating provider to perform a "comprehensive point-of-care TTE," in our experience, this is not usually practical. This is because a primary treating provider is inherently tasked with answering a targeted list of context-specific clinical questions, whereas a comprehensive TTE is designed to obtain a full set of cardiac measurements to screen for a broad list of possible

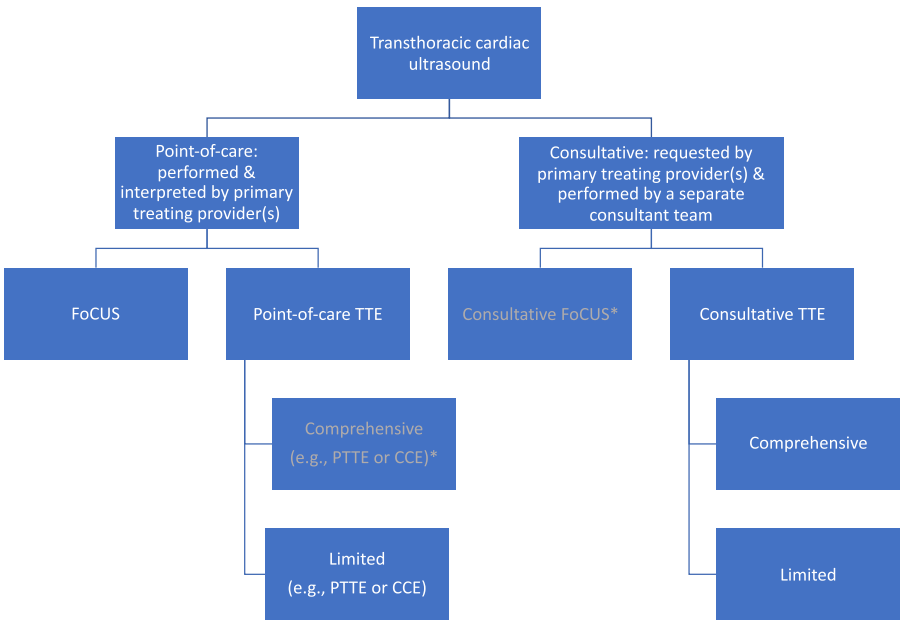

Figure 1. Taxonomy of surface cardiac ultrasound terminology. CCE indicates critical care echocardiogram; FoCUS, Focused Assessment with Sonography in Trauma; PTTE, perioperative transthoracic echocardiography; TTE, transthoracic echocardiography. Adapted from Krishnan and Bronshteyn[12] with permission from Wolters Kluwer Health Inc. Adaptations are themselves works protected by copyright. So in order to publish this adaptation, authorization must be obtained both from the owner of the copyright in the original work and from the owner of copyright in the translation or adaptation. *Refers to transthoracic cardiac ultrasound exams that, although theoretically possible, are in practice rarely performed. full color online

pathologies, many of which will have nothing to do with a given patient's presenting symptoms. The rigor and time commitment of the comprehensive TTE exam reflects the fact that this diagnostic test was designed to be performed by a sonographer and read by an echo-cardiologist, each with no other competing bedside responsibilities, whereas primary treating providers have a multitude of other concurrent clinical priorities in addition to ultrasound image acquisition and interpretation. Similarly, it is possible for a primary treating provider to request that a separate specialist team performs a FoCUS examination. In such a case, the FoCUS examination is technically no longer "point-of-care" but "consultative." However, in our experience, "consultative FoCUS" is needed very rarely (eg, in emergencies) and is likely to be needed less as FoCUS becomes more clearly integrated into the residency program curricula for specialties that provide bedside care (eg, internal medicine, anesthesiology, etc.).

Scope of practice

The anesthesiology-relevant scope of practice of diagnostic PoCUS has evolved over time. Over the past several years, the Accreditation Council for Graduate Medical Education (ACGME) and American Board of Anesthesiologists (ABA) have identified an increasingly larger list of diagnostic PoCUS applications as core competencies for anesthesiologists (Table 1).[14–17] In 2021, an American Society of Anesthesiologists (ASA) Expert Panel on PoCUS synthesized the ABA and ACGME statements with other published data to identify an anesthesiology-relevant diagnostic PoCUS scope of practice. Specifically, the ASA Expert Panel used the available data to sort the major applications of diagnostic PoCUS into 2 categories: (1) those of primary (daily) relevance to perioperative anesthesiologists and (2) those of secondary (occasional) relevance to perioperative anesthesiologists with potential primary relevance to anesthesiology subspecialties (Table 2). For the remainder of this manuscript, applications identified by the ASA Expert Panel as "primary" will be treated as the anesthesiology-relevant diagnostic PoCUS scope of practice.

Training

Minimum training recommendations for diagnostic PoCUS were recently published by 2 Expert Panels: one from the ASA and another from the American Society in Regional Anesthesia (ASRA).[2,18] The 2 panels collaboratively reviewed many anesthesiology-specific diagnostic PoCUS training curricula[19–21] and drew on their own experience to suggest that diagnostic PoCUS curricula should include, at minimum, training in the following things: (1) ultrasound basics; (2) image acquisition; and (3) image interpretation. The term "ultrasound basics" is a broad category that includes, at minimum, the topics shown in Table 3.

Both Expert Panels emphasized that the 3 required curricular elements lend themselves to computer-based learning to varying degrees.[2,18] For instance, training in ultrasound basics and image acquisition could, in theory, be accomplished entirely through interactive computer-based modules that provide learners with automated feedback. Similarly, the early phase of image acquisition training could be facilitated with ultrasound simulators. However, the Expert Panels concluded that image acquisition training cannot be achieved entirely through modern simulators: some amount of training on actual human beings is necessary to gain image acquisition proficiency.

The panels also provided joint recommendations for the minimum number of supervised diagnostic PoCUS training studies needed to achieve competence.[2,18] To reach these recommendations, the panels reviewed 2 types of published data: (1) recommendations for minimum training numbers issued by other professional medical societies and (2) learning curve data of actual ultrasound use by PoCUS-naive trainees. Both sets of data were evaluated because published studies and the Expert Panel members' own clinical experiences suggested that the minimum training numbers recommended by other professional medical societies have sometimes underestimated the minimum number of training studies needed for "real world" learners to achieve competence. To address this, the Expert Panels evaluated both the guidelines from other specialties and the learning curve data and, when conflicts arose between the 2, the Panels selected the higher of the 2 for their minimum training recommendations.

Notably, the resulting Expert Panel recommendations (Table 4) draw a distinction between (1) *studies performed and interpreted* (Level 1 studies) and (2) studies interpreted but not necessarily performed (Level 2 studies).[2,18] The separation of training studies into these 2 categories emphasizes that *image acquisition* and *image interpretation* are distinct skillsets that can be taught somewhat independently. For instance, building a log of *studies interpreted but not performed* (Level 2) can be achieved

Table 1

Chronology of recent recommendations identifying an anesthesiology-relevant diagnostic PoCUS scope of practice.

Year	Organization	Category	Development
2018	ACGME	Core competency for anesthesiology residents	Addition of diagnostic ultrasound of the heart and lungs "to evaluate organ function and pathology as related to anesthesia, critical care, and resuscitation"[14]
2019	ABA	Written portion of the anesthesiology board exam	Inclusion of the following diagnostic PoCUS applications in content outline: cardiac, lung, bladder, and gastric[15]
2021	ACGME	Milestones for anesthesiology residents	Creation of a new milestone requiring anesthesiology residents to achieve proficiency in focused cardiac, lung, gastric, and airway ultrasound[16]
2021	ABA	Practical portion of the anesthesiology board exam	Inclusion of the following diagnostic PoCUS applications in content outline: focused cardiac, lung, and abdominal (ie, gastric and abdominal fluid screening)[17]
2021	ASA Expert Panel on PoCUS	Recommendations for diagnostic PoCUS use by anesthesiologists	Synthesis of the ABA and ACGME statements with other published data to sort the major applications of diagnostic PoCUS into 2 categories: (1) those of primary (daily) relevance to perioperative anesthesiologists and (2) those of secondary (occasional) relevance to perioperative anesthesiologists with potential primary relevance to anesthesiology subspecialties[2]

ABA indicates American Board of Anesthesiologists; ACGME, Accreditation Council for Graduate Medical Education; ASA, American Society of Anesthesiologists; PoCUS, point-of-care ultrasound

Table 2

American Society of Anesthesiologists Expert Panel-suggested categorization of the relevance to perioperative anesthesiologists of common diagnostic point-of-care ultrasound modalities.[2]

Primary (Daily) Relevance to Perioperative Anesthesiologists	Secondary (Occasional) Relevance to Perioperative Anesthesiologists
Focused cardiac ultrasound	Focused airway ultrasound
Focused pleural-pulmonary (lung) ultrasound	Focused musculoskeletal/soft tissue ultrasound
Gastric ultrasound	Focused ocular ultrasound
Focused Assessment with Sonography in Trauma (FAST) exam	Focused renal/genitourinary ultrasound
	Focused transcranial Doppler ultrasound
	Focused ultrasound for deep venous thrombosis

through computer-based modules containing automated, targeted feedback. Whereas for *studies both interpreted and performed* (Level 1 studies), some degree of in-person supervision is essential. Specifically, for these "Level 1" studies, the Expert Panels suggested that learners should be supervised in-person for at least their first 5 to 10 training studies. If after these initial studies the learner demonstrates competence in basic image acquisition, supervision for subsequent studies can be done remotely.

In 2021, these Expert Panel recommendations were used by the ASA to create a Diagnostic PoCUS Certificate Program.[22] The Program was designed primarily to offer structured diagnostic PoCUS training to anesthesiology residencies and/or departments who lack local mentors with expertise in diagnostic PoCUS and willingness to supervise others. However, the Certificate Program may also be of value to other groups, such as to individuals who are somewhat familiar with diagnostic PoCUS but desire additional training to solidify their skills or to those already proficient in diagnostic PoCUS who desire external credentials to present to local credentialing/privileging committees (see also the Credentialing/privileging section). The Certificate Program consists of the following components: (i) providing evidence of 12 hours of relevant training in diagnostic PoCUS external to the certificate (eg, during residency/fellowship and/or from continuing medical education), (ii) completion of a series of online case-based image interpretation exercises, (iii) submission of a log of studies performed, a subset (10%) of which has been over-read by a qualified mentor; and (iv) achieving a passing score on a web-based final exam.

Credentialing and privileging

Because the terms surrounding credentialing and privileging are frequently misused in colloquial health care conversation, it is important to define them here.

Table 3

Sample list of "ultrasound basics" topics that should be included in diagnostic point-of-care ultrasound training curricula, as per American Society in Regional Anesthesia Expert Panel recommendations.[18]

Ultrasound physics and artifacts
Transducer selection
Ergonomics
Knobology
Image optimization
Indications/contraindications

- Credentialing: the process whereby an applicant supplies documentation of relevant qualifications and those qualifications are verified by hospital administrators.[23]
- Privileging: the granting of a scope of practice to clinicians after the verification of credentials.[23]
- Competency: the observable ability of a provider to perform a certain task.[23]
- Certificates/certifications: a process by which "an association grants recognition to a provider who has met certain predetermined qualifications specified by the association."[23] Notably, there are important conceptual differences between certificates and certifications. Certificates have, among other things, the following features: (i) indicate the completion of a course and (ii) do not require continuing education/training.[24] In contrast, certifications have, among other things, the following features: (i) indicate mastery measured against an industry-wide standard (eg, an exam) and (ii) require continuing education/training and/or recertification.[24] Despite these differences, both certificates and certifications can be thought of as "the process by which competence is recognized by an external agency."[23] So for the sake of simplicity, the 2 are treated as one category henceforth in this manuscript.

All of these terms are interrelated. Applicants provide evidence of competency to hospitals through relevant certificates/certifications or other credentials. Then hospital administrators verify these credentials (ie, perform the process of credentialing) and (if warranted) grant relevant privileges (ie, privileging). Also notably, some hospitals have a "Credentialing Committee" whose roles include both the verifications of credentials and the granting of privileges.

Whereas the granting of certificates and certifications is usually performed by professional medical associations, in the United States the acts of credentialing and privileging happen exclusively at the local level of hospitals, clinics, and/or departments. Given the diversity of these local settings in the United States, it is unlikely that a single diagnostic PoCUS credentialing policy crafted nationally would work equally well for all anesthesiologists in all contexts. So the suggestions that follow are simply one example of a path that some anesthesiology departments could pursue for diagnostic PoCUS credentialing and privileging. However, it is worth noting that regardless of local norms, all properly trained anesthesiologists seeking hospital privileges to perform diagnostic PoCUS are supported by the American Medical Association (AMA). Since 1999, the AMA has endorsed a resolution that affirms both of the following principles[25]:

- Ultrasound imaging is within the scope of properly trained physicians.

Table 4

American Society of Anesthesiologists/American Society in Regional Anesthesia Expert Panel-recommended minimum numbers of supervised studies needed to achieve competence in specific diagnostic PoCUS domains.

PoCUS Application	Minimum Number of Supervised Studies Personally Performed and Interpreted ("Level 1" Studies)	Minimum Number of Additional Supervised Studies Interpreted but Need not be Personally Performed ("Level 2" Studies)
Focused cardiac ultrasound	50	100
Focused lung ultrasound	30	20
Focused Assessment with Sonography in Trauma (FAST)	30	20
Focused gastric ultrasound	30	20

PoCUS indicates point-of-care ultrasound.

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- Hospitals should grant privileges to perform ultrasound imaging in accordance with specialty-specific credentialing requirements.

Building on this guidance from the AMA, the precedent set by other specialties,[23] and recommendations from the ASA Expert Panel,[2] one reasonable approach to diagnostic PoCUS credentialing/privileging for anesthesiologists begins with the appointment of a qualified Local Director of POCUS. That individual can then be tasked with helping to develop each of the following steps of the credentialing/privileging process: (a) verification of competency, (b) granting of provisional privileges during a period of focused peer review, (c) granting of full privileges, (d) regular quality improvement, and (e) maintenance of competence.

(a) *Verification of competency*
Competency in diagnostic PoCUS can be demonstrated through any of the following: (i) completing a relevant training program during residency/fellowship; (ii) obtaining a relevant National Certificate or certification (eg, the ASA Certificate Program); or (iii) providing letters of attestation from attending physicians with relevant expertise. Reasonable minimum requirements for a residency/fellowship or certificate/certification claiming to provide appropriate training in diagnostic PoCUS are detailed in the Training section of this manuscript.

(b) *Granting of provisional privileges during a period of focused peer review*
After the verification of relevant credentials (step "a" above), it is reasonable to subject anesthesiologists seeking diagnostic PoCUS privileges to a brief period of focused peer review. During this period, the anesthesiologist would perform diagnostic PoCUS independently, but have their first 5 to 10 exams overread by a qualified peer (eg, the Local Director of PoCUS).

(c) *Granting of full privileges*
The granting of full diagnostic PoCUS privileges would be expected to occur after the anesthesiologist completes the period of focused peer review.

(d) *Regular quality improvement (QI)*
After a department grants full diagnostic PoCUS privileges to anesthesiologists, the Local Director of PoCUS should be expected to lead a process of QI whereby a subset of all providers' diagnostic PoCUS studies are reviewed regularly (eg, 10% of all studies could be reviewed annually). Naturally, any QI process will require durable and retrievable image archiving of diagnostic PoCUS studies (see also the Billing section).

(e) *Maintenance of competence*
Retention of diagnostic PoCUS competency, like retention of all cognitive skills, requires regular practice. For instance, a study of 30 internal-medicine physicians found that cardiac PoCUS skills diminish significantly within 2 years of nonuse.[26] To attempt to address this, the ASA Expert Panel offers a sample policy: "for institutions that renew clinical privileges every two years, a provider could be asked to do both of the following every two years: (i) perform a minimum of 10 PoCUS diagnostic studies and (ii) complete 5 of hours of CME dedicated to diagnostic PoCUS."[2]

Billing

The creation and maintenance of a diagnostic PoCUS program involves significant upfront costs for equipment and training and ongoing costs for maintenance, image archiving, QI, etc. Anesthesiology departments wishing to recoup some of these costs and to be compensated in general for their diagnostic PoCUS work can attempt by billing through Current Procedural Terminology (CPT) codes. To bill through CPT codes successfully, anesthesiology

Table 5

Center for Medicare and Medicaid minimum requirements for an authenticated order in the medical record necessary for Current Procedural Terminology–based billing.[28]

Patient name
Medical record number
Requested service(s)
Medical necessity for ordering the requested service(s)
Timeframe of service (when applicable)
Frequency and duration of services (for repetitive studies)
Date and time of order
Provider's legible handwritten or electronic signature, including the provider's credentials

Table 6

Center for Medicare and Medicaid minimum requirements for documentation of diagnostic findings in the medical record necessary for Current Procedural Terminology–based billing.[28]

Indication for exam
Operator name
Type of examination
Findings
Interpretation of findings

Table 7

CPT codes and work RVU for select anesthesiology-relevant diagnostic PoCUS applications.[29]

CPT Code	Clinical Application(s)	Full Description	Work RVU (2021)
76604	(1) Focused cardiac ultrasound and/or (2) lung ultrasound	Ultrasound, chest (includes mediastinum), real time with image documentation	0.59
76705	(1) Abdominal screening for free fluid (ie, FAST exam) or (2) focused gastric ultrasound	Ultrasound, abdominal, real time with image documentation; limited (eg, single organ, quadrant, follow-up)	0.59
76775	Renal/genitourinary ultrasound	Ultrasound, retroperitoneal (eg, renal, aorta, nodes) real time with image documentation (AAA)	0.58
76536	Airway ultrasound	Ultrasound, soft tissues of head and neck, real time with image documentation	0.56
93971	Lower extremity venous compression ultrasound	Duplex scan of extremity veins including responses to compression and other maneuvers; unilateral or limited study	0.45
93308	Limited point-of-care TTE (eg, CCE or PTTE)	Echocardiography, transthoracic, real time with image documentation (2D), includes M-mode recording, when performed; follow-up or limited study	0.53
93306	Comprehensive point-of-care TTE (eg, CCE or PTTE)*	Echocardiography, transthoracic, real time with image documentation (2D), includes M-mode recording, when performed, complete with spectral Doppler echocardiography, and with color flow Doppler echocardiography	1.46

*Rarely performed in clinical practice.

CCE indicates critical care echocardiogram; CPT, Current Procedural Terminology; FAST, Focused Assessment with Sonography in Trauma; PTTE, perioperative transthoracic echocardiography; RVU, relative value unit; TTE, transthoracic echocardiography.

departments will need to be aware of and in compliance with requirements from the Center for Medicare and Medicaid (CMS). Although CMS is certainly not the only payor in the United States, it is the most influential one and other insurance companies tend to mirror CMS policies on general reimbursement issues.[27]

For CPT-based billing, CMS requires that clinicians do all three of the following: (1) place an order in the medical record, (2) appropriately document the sonographic findings, and (3) archive the relevant images in a durable and retrievable way.[27,28] First, regarding ultrasound exam ordering, CMS specifies that the order must include all of the elements shown in Table 5. Second, for proper documentation of findings, CMS requires all of the elements shown in Table 6. Third, CMS requires retrievable archiving of ultrasound images for at least 5 years.[27] However, local Medicare contractors may require longer periods, so each hospital should check with their local contractors and state regulations to determine the locally required duration of image storage.[27]

Beyond these core requirements for CPT-based billing, there are additional practices that, although optional for billing, are still desirable for various reasons. First, CME permits documentation of diagnostic PoCUS findings to be embedded into progress notes, and it is more logical to present the findings in a separate, standalone procedure note, as this will facilitate retrieval by other providers and evaluation by coders/payors. Second, although still images are currently a method of image storage permitted by CMS, for reasons unrelated to billing, most diagnostic PoCUS applications are better suited for archiving in the form of video clips. Video clips permit later review of the exam findings by other providers and thus are indispensable to meaningful QI and clinical education. Third, although not required by CMS, it is sensible for medicolegal and compliance reasons for anesthesiologists wishing to bill for diagnostic PoCUS through CPT codes to have explicit hospital privileges to perform diagnostic PoCUS.

Some additional commentary is warranted regarding potential billing pitfalls (Table 7[29]). First, as per guidelines published by the ASE and endorsed by multiple professional medical societies, it is not appropriate to bill for FoCUS using the CPT codes designated for comprehensive or limited transthoracic echocardiography (93306 and 93308, respectively).[9,10] Instead, providers can consider billing for FoCUS using the following code: chest ultrasound, including the mediastinum (CPT 76604).[2] Second, when anesthesiologists bill for diagnostic PoCUS using CPT codes and a consultative ultrasound with the exact same CPT code is performed on the same patient within 24 hours, insurers will often reject 1 of the 2 codes.[23] To decrease the chance of denial of payment for appropriate services, anesthesiologists may wish to engage with hospital administrators and the specialties at their hospital that perform consultative ultrasound to develop protocols that preemptively address potential billing conflicts. In situations like this, it will be especially important to avoid the CPT codes for TTE (93306 and 93308) when performing FoCUS and to instead use the CPT code for "thoracic ultrasound" (76604) if indeed a FoCUS exam was performed. Not only is the 76604 CPT code a more appropriate one to describe the FoCUS exam, but it also avoids a head-on conflict with consultative TTEs billed within 24 hours of the FoCUS exam. However, if the same CPT code must be used for 2 ultrasound exams on the same patient within 24 hours, it may help to use billing modifiers that communicate to payors that the same code is being charged twice intentionally. For instance, an exam repeated by the same provider within 24 hours can utilize the -76 modifier.[30] And an exam repeated by a different provider can utilize the -77 modifier. To increase the chances of appropriate reimbursement, the providers who performed the exams will need to clearly document why each exam was a medical necessity. However, even such precautions do not ensure that payment will be rendered for all ultrasound services performed.

Conclusion

The AMA supports the right of all specialties to practice diagnostic PoCUS based on specialty-specific recommendations. Such specialty-specific recommendations have finally emerged for anesthesiologists from the ACGME, ABA, and Expert Panels from ASA and ASRA. These recommendations can be used by anesthesiology departments to develop locally appropriate diagnostic PoCUS training and credentialing/privileging policies. To further bill for diagnostic PoCUS through CPT codes, anesthesiologists and anesthesia departments, in collaboration with hospital administrators, will need to take additional steps, as outlined in this document.

Conflict of interest disclosure

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