

Hospital Privileging Practices for Bedside Procedures: A Survey of Hospitalist Experts

Trevor P. Jensen, MD, MS¹, Nilam J. Soni, MD, MS^{2,3}, David M. Tierney, MD⁴, Brian P. Lucas, MD, MS^{5,6}

¹Division of Hospital Medicine, Department of Medicine, University of California, San Francisco, San Francisco, California; ²Division of Hospital Medicine, Department of Medicine, University of Texas Health School of Medicine at San Antonio, San Antonio, Texas; ³Section of Hospital Medicine, South Texas Veterans Health Care System, San Antonio, Texas; ⁴Department of Medical Education, Abbott Northwestern Hospital, Minneapolis, Minnesota; ⁵Pathology and Laboratory Medicine Service, White River Junction Veterans Affairs Medical Center, White River Junction, Vermont; ⁶Geisel School of Medicine at Dartmouth College, Hanover, New Hampshire.

Many hospitalists are routinely granted hospital privileges to perform invasive bedside procedures, but criteria for privileging are not well described. We conducted a survey of 21 hospitalist procedure experts from the Society of Hospital Medicine Point-of-Care Ultrasound Task Force to better understand current privileging practices for bedside procedures and how those practices are perceived. Only half of all experts reported their hospitals require a minimum number of procedures performed to grant initial (48%) and ongoing (52%) privileg-

es for bedside procedures. Regardless, most experts thought minimums should be higher than those in current practice and should exist alongside direct observation of manual skills. Experts reported that the use of ultrasound guidance was nearly universal for paracentesis, thoracentesis, and central venous catheter placement, but only 10% of hospitals required the use of ultrasound for initial privileging of these procedures. *Journal of Hospital Medicine* 2017;12:836-839. Published online first September 6, 2017 © 2017 Society of Hospital Medicine

Performance of 6 bedside procedures (paracentesis, thoracentesis, lumbar puncture, arthrocentesis, central venous catheter [CVC] placement, and arterial line placement) are considered core competencies for hospitalists.¹ Yet, the American Board of Internal Medicine (ABIM) no longer requires demonstration of manual competency for bedside procedures, and graduates may enter the workforce with minimal or no experience performing such procedures.² As such, the burden falls on hospital privileging committees to ensure providers have the necessary training and experience to competently perform invasive procedures before granting institutional privileges to perform them.³ Although recommendations for privileging to perform certain surgical procedures have been proposed,^{4,5} there are no widely accepted guidelines for initial or ongoing privileging of common invasive bedside procedures performed by hospitalists, and current privileging practices vary significantly.

In 2015, the Society of Hospital Medicine (SHM) set up a Point-of-Care Ultrasound (POCUS) Task Force to draft evidence-based guidelines on the use of ultrasound to perform bedside procedures. The recommendations for certification of competency in ultrasound-guided procedures may guide institutional privileging. The purpose of this study was

to better understand current hospital privileging practices for invasive bedside procedures both with and without ultrasound guidance and how current practices are perceived by experts.

METHODS

Study Design, Setting, and Participants

After approval by the University of Texas Health Science Center at San Antonio Institutional Review Board, we conducted a survey of hospital privileging processes for bedside procedures from a convenience sample of hospitalist procedure experts on the SHM POCUS Task Force. All 21 hospitalists on the task force were invited to participate, including the authors of this article. These hospitalists represent 21 unique institutions, and all have clinical, educational, and/or research expertise in ultrasound-guided bedside procedures.

Survey Design

A 26-question, electronic survey on privileging for bedside procedures was conducted (Appendix A). Twenty questions addressed procedures in general, such as minimum numbers of procedures required and use of simulation. Six questions focused on the use of ultrasound guidance. To provide context, many questions were framed to assess a privileging process being drafted by the task force. Answers were either multiple choice or free text.

Data Collection and Analysis

All members of the task force were invited to complete the survey by e-mail during November 2016. A reminder e-mail was sent on the day after initial distribution. No compensation was offered, and participation was not required. Survey

*Address for correspondence and reprint requests: Trevor P. Jensen, MD, MS, Assistant Clinical Professor, UCSF Division of Hospital Medicine, 533 Parnassus Ave., UC Hall, San Francisco, CA 94143; Telephone: XXX-XXX-XXXX; Fax: XXX-XXX-XXXX; E-mail: Trevor.Jensen@ucsf.edu

Additional Supporting Information may be found in the online version of this article.

Received: February 1, 2017; Revised: April 18, 2017;

Accepted: April 22, 2017

2017 Society of Hospital Medicine DOI 10.12788/jhm.2837

results were compiled electronically through Research Electronic Data Capture, or “REDCap”™ (Nashville, Tennessee), and data analysis was performed with Stata version 14 (College Station, Texas). Means of current and recommended minimum thresholds were calculated by excluding responses of “I don’t know,” and responses of “no minimum number threshold” were coded as 0.

RESULTS

The survey response rate was 100% (21 of 21). All experts were hospitalists, but 2 also identified themselves as intensivists. Experts practiced in a variety of hospital settings, including private university hospitals (43%), public university hospitals (19%), Veterans Affairs teaching hospitals (14%), community teaching hospitals (14%), and community non-teaching hospitals (10%). Most hospitals (90%) were teaching hospitals for internal medicine trainees. All experts have personally performed bedside procedures on a regular basis, and most (86%) had leadership roles in teaching procedures to students, residents, fellows, physician assistants, nurse practitioners, and/or physicians. Approximately half (57%) were involved in granting privileges for bedside procedures at their institutions.

Most hospitals do not require the use of ultrasound guidance for the privileging of any procedure, but ultrasound guidance was reported to be routinely used for paracentesis (100%), thoracentesis (95%), and CVC placement (95%). Ultrasound guidance was less common for arterial line placement (57%), lumbar puncture (33%), and arthrocentesis (29%). There was strong agreement that ultrasound guidance ought to be required for initial and ongoing privileging of CVC placement, thoracentesis, and paracentesis. But there was less agreement for arterial line placement, arthrocentesis, and lumbar puncture (Figure 1).

Only half of the experts reported that their hospitals required a minimum number of procedures to earn initial (48%) or ongoing (52%) privileges to perform bedside procedures. Nevertheless, most experts thought there ought to be minimum numbers of procedures for initial (81%) and ongoing (81%) privileging, recommending higher minimums for both initial and ongoing privileging than are currently required at their hospitals (Figure 2).

The average difference between suggested and current minimum numbers of procedures required for initial privileging was 4.7 for paracentesis, 5.8 for thoracentesis, 5.8 for CVC catheter insertion, 5.4 for lumbar puncture, 4.8 for arterial line insertion, and 3.6 for arthrocentesis. The average difference between suggested and current minimum numbers of yearly procedures required for ongoing privileging was 2.0 for paracentesis, 2.8 for thoracentesis, 2.9 for CVC catheter insertion, 1.9 for lumbar puncture, 2.1 for arterial line insertion, and 2.5 for arthrocentesis (Appendix B).

Most hospitalist procedure experts thought that simulation training (67%) and direct observation of procedural skills (71%) should be core components of an initial privileging process. Many of the experts who did not agree with direct

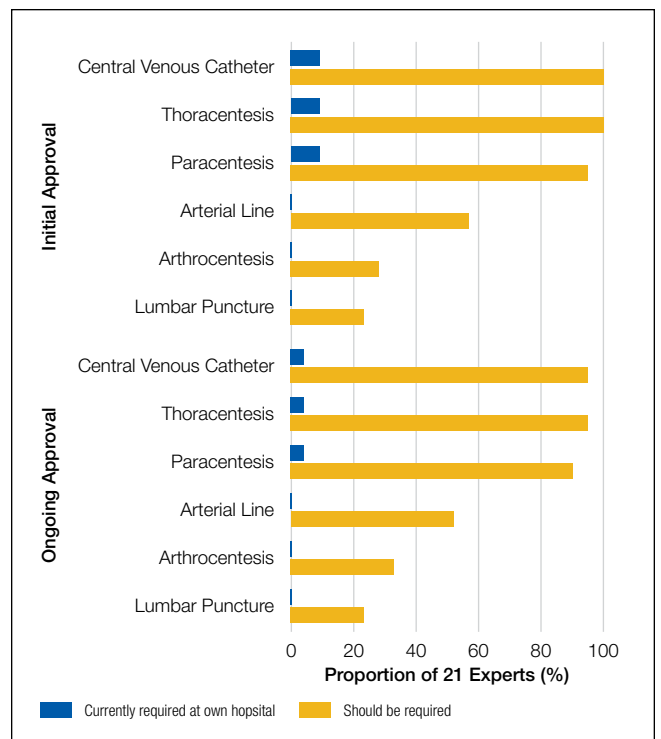


FIG 1. Hospitals that currently require use of ultrasound guidance versus should be required for approval to perform bedside procedures per hospitalist procedure experts.

observation or simulation training as core components of initial privileging had concerns about feasibility with respect to manpower, availability of simulation equipment, and costs. In contrast, the majority (67%) did not think it was necessary to directly observe providers for ongoing privileging when routine monitoring was in place for peri-procedural complications, which all experts (100%) agreed should be in place.

DISCUSSION

Our survey identified 3 distinct differences between hospitalist procedure experts’ recommendations and their own hospitals’ current privileging practices. First, whereas experts recommended ultrasound guidance for thoracentesis, paracentesis, and CVC placement, it is rarely a current requirement. Second, experts recommend requiring minimum numbers of procedures for both initial and ongoing privileging even though such minimums are not currently required at half of their hospitals. Third, recommended minimum numbers were generally higher than those currently in place.

The routine use of ultrasound guidance for thoracentesis, paracentesis, and CVC placement is likely a result of increased adoption based on the literature showing clinical benefits.⁶⁻⁹ Thus, the expert recommendations for required use of ultrasound guidance for these procedures seems both appropriate and feasible. The procedure minimums identified in our study are similar to prior ABIM guidelines when manual competency was required for board certification in internal medicine and are comparable to recent minimums

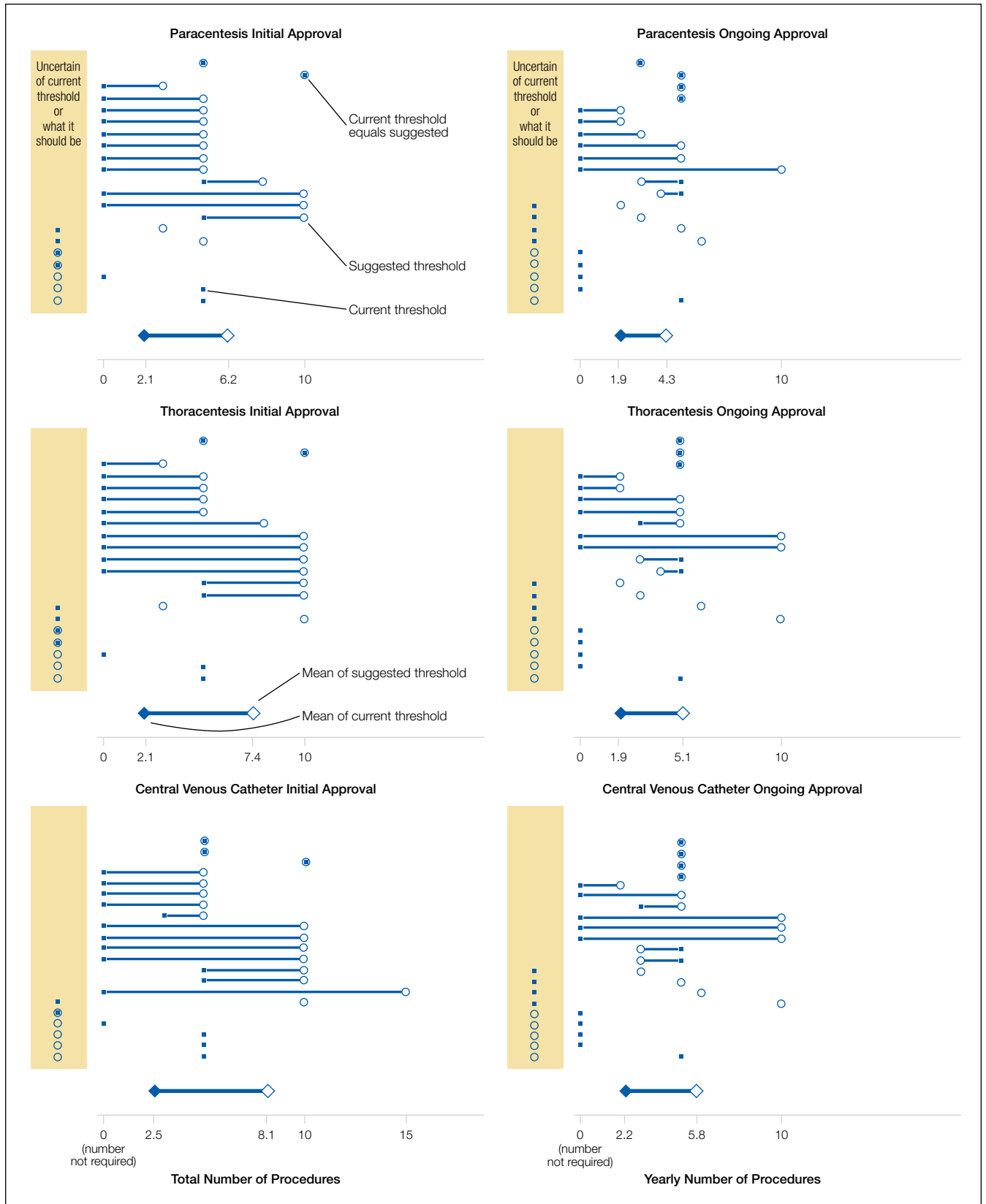


FIG 2. Approval to perform bedside procedures: current minimum thresholds versus what experts suggest. Each row represents an expert's paired responses (N = 21). Solid squares represent current minimum thresholds, and hollow circles represent what experts suggest they should be. The tan column indicates when experts answered, "I don't know." Hollow circles encircle solid squares when the 2 types of thresholds were equal, whereas lines connect them when they were not equal but known. Solid and hollow diamonds at the bottom of each panel represent the means of current and suggested minimum thresholds, respectively.

proposed by the Society of Critical Care Medicine, both of which recommended a minimum of 5 to 10 per procedure.^{10,11} Nevertheless, no commonly agreed-upon minimum number of procedures currently exists for certification of competency, and the variability seen in the experts' responses further supports the idea that no specific number will guarantee competence. Thus, while requiring minimum numbers of procedures was generally considered necessary by our experts, minimums alone were also considered insufficient for initial privileging because most recommended that direct observation and simulation should be part of an initial privileging process.

These findings encourage more rigorous requirements for both initial and ongoing privileging of procedures. Nevertheless, our findings were rarely unanimous. The most frequently cited reason for disagreement on our findings was feasibility and capacity for direct observation, and the absence of ultrasound equipment or simulators, particularly in resource-limited clinical environments.

Our study has several strengths and limitations. One strength is the recruitment of study experts specifically composed of hospitalist procedure experts from diverse geographic and hospital settings. Yet, we acknowledge that our findings may not be generalizable to other specialties. Another strength is we obtained 100% participation from the experts surveyed. Weaknesses of this study include the relatively small number of experts who are likely to be biased in favor of both the use of ultrasound guidance and higher standards for privileging. We also relied on self-reported data about privileging processes rather than direct observation of

those practices. Finally, questions were framed in the context of only 1 possible privileging pathway, and experts may respond differently to a different framing.

CONCLUSION

Our findings may guide the development of more standardized frameworks for initial and ongoing privileging of hospitalists for invasive bedside procedures. In particular, additional privileging requirements may include the routine use of ultrasound guidance for paracentesis, thoracentesis, and CVC insertion; simulation preceding direct observation of manual skills if possible; and higher required minimums of procedures for both initial and ongoing privileging. The goal of a standardized framework for privileging should be directed at improving the quality and safety of bedside procedures but must consider feasibility in diverse clinical settings where hospitalists work.

Acknowledgments

The authors thank the hospitalists on the SHM POCUS Task Force who provided data about their institutions' privileging processes and requirements. They are also grateful to Loretta M. Grikis, MLS, AHIP, at the White River Junction Veterans Affairs Medical Center for her assistance as a medical librarian.

Disclosure: Brian P. Lucas (U.S. Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Dartmouth SYNERGY, and the National Institutes of Health National Center for Advancing Translational Sciences [UL1TR001086]). Nilam Soni (U.S. Department of Veterans Affairs and Quality Enhancement Research Initiative Partnered Evaluation Initiative grant [HX002263-01A1]). The contents of this publication do not represent the views of the U.S. Department of Veterans Affairs or the U.S. Government.

References

- Nichani S, Jonathan Crocker, MD, Nick Fitterman, MD, Michael Lukela, MD, Updating the core competencies in hospital medicine—2017 revision: Introduction and methodology. *J Hosp Med* 2017;12(4):283-287.
- American Board of Internal Medicine. Policies and Procedures for Certification. <http://www.abim.org/certification/policies/imss/im.aspx> - procedures. Published July 2016. Accessed on November 8, 2016.
- Department of Health & Human Services. Centers for Medicare & Medicaid Services (CMS) Requirements for Hospital Medical Staff Privileging. Centers for Medicare and Medicaid Services website. <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/downloads/SCLetter05-04.pdf>. Published November 12, 2004. Accessed on November 8, 2016.
- Blackmon SH, Cooke DT, Whyte R, et al. The Society of Thoracic Surgeons Expert Consensus Statement: A tool kit to assist thoracic surgeons seeking privileging to use new technology and perform advanced procedures in general thoracic surgery. *Ann Thorac Surg*. 2016;101(3):1230-1237.
- Bhora FY, Al-Ayoubi AM, Rehmani SS, Forleiter CM, Raad WN, Belsley SG. Robotically assisted thoracic surgery: proposed guidelines for privileging and credentialing. *Innovations (Phila)*. 2016;11(6):386-389.
- Mercaldi CJ, Lanes SF. Ultrasound guidance decreases complications and improves the cost of care among patients undergoing thoracentesis and paracentesis. *Chest*. 2013;143:532-538.
- Patel PA, Ernst FR, Gunnarsson CL. Ultrasonography guidance reduces complications and costs associated with thoracentesis procedures. *J Clin Ultrasound*. 2012;40:135-141.
- Brass P, Hellmich M, Kolodziej L, Schick G, Smith AF. Ultrasound guidance versus anatomical landmarks for internal jugular vein catheterization. *Cochrane Database Syst Rev*. 2015;1:CD006962. DOI: 10.1002/14651858.CD006962.pub2.
- Brass P, Hellmich M, Kolodziej L, Schick G, Smith AF. Ultrasound guidance versus anatomical landmarks for subclavian or femoral vein catheterization. *Cochrane Database Syst Rev*. 2015;1:CD011447. DOI: 10.1002/14651858.CD011447.
- American Board of Internal Medicine. *Policies and Procedures*. Philadelphia, PA; July 1990.
- Society of Critical Care Medicine Ultrasound Certification Task Force. Recommendations for Achieving and Maintaining Competence and Credentialing in Critical Care Ultrasound with Focused Cardiac Ultrasound and Advanced Critical Care Echocardiography. <http://journals.lww.com/ccmjournals/Documents/Critical%20Care%20Ultrasound.pdf>. Published 2013. Accessed November 8, 2016.