

UC Irvine

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health

Title

Perceived Barriers to Emergency Physicians' Adoption of Point-of-Care Ultrasound: A Survey Analysis

Permalink

<https://escholarship.org/uc/item/35m3z2qx>

Journal

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 27(3.1)

ISSN

1936-900X

Authors

Wasmund, Joshua

Nashu, Madison

Guy, Megan

[et al.](#)

Publication Date

2026-06-12

DOI

10.5811/westjem.66234

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Tebipenem and then Ertapenem. With complicated urinary tract infections having high rates of sepsis, prolonged hospitalization, and kidney damage, it is important to choose an initial antibiotic that has statistically high clinical success rates.

11 A Reliable β -hCG Threshold to Identify Fetal Non-Viability in the Absence of Sonographic Cardiac Activity Does Not Exist

Brent Lorenzen, MD, Tom Hauck, Roree Phillips, MD

Background: Women frequently present to the Emergency Department in early pregnancy seeking prognostic guidance. Serum beta-human chorionic gonadotropin (β -hCG) levels are widely used in conjunction with transvaginal ultrasound (TVUS) to assess early pregnancy viability. Previous studies have proposed various β -hCG thresholds for the reliable detection of fetal cardiac activity (FCA), ranging from approximately 6,600 to 47,000 mIU/mL. Despite technological advances in ultrasound, no definitive or updated β -hCG cutoff has subsequently been established. To determine whether a β -hCG level exists, above which fetal cardiac activity should be visualized on ultrasound in viable early pregnancies.

Methods: Retrospective chart review was conducted using the Kaiser Permanente (KP) electronic health record (Epic). The study population included all patients presenting to two KP community Emergency Departments between January 1 and December 31, 2023 with a documented β -hCG level, a radiologic interpretation of a first trimester pelvic ultrasound, and documented pregnancy outcome in the Obstetrical History section (N=579). β -hCG level at the time of ultrasound and the presence or absence of FCA was recorded and data analyzed.

Results: Among viable pregnancies, FCA was not uniformly visualized at any specific β -hCG level. In cases where FCA was absent, but the pregnancy was ultimately viable, β -hCG values ranged from 41 to 173,776 mIU/mL. These findings indicate substantial overlap and variability, challenging the utility of a strict β -hCG threshold for predicting FCA visualization.

Conclusion: These findings indicate that there is no reliable β -hCG threshold at which fetal cardiac activity can reliably be seen in the first trimester of viable pregnancies. In comparison to previous literature, this study showed a much wider variation in β -hCG levels at which FCA may not be seen in an ultimately viable pregnancy. This variability persists even with more modern imaging and a larger patient cohort. This study showed a significantly higher upper level of β -hCG at which FCA was not yet noted on TVUS in an ultimately viable pregnancy. Results indicate that clinicians should be

cautious in providing prognostic guidance to patients based solely on β -hCG levels and sonographic findings from a single ED encounter. Further research may be warranted to develop more nuanced, evidence-based guidelines.

12 Perceived Barriers to Emergency Physicians' Adoption of Point-of-Care Ultrasound: A Survey Analysis

Joshua Wasmund, MD, Madison Nashu, MD, Megan Guy, MD, Edmund Hsu, MD, Cecilia Chiou, BS, Ryan Le, BS, Soheil Saadat, MD, MPH, PhD, John Fox, MD

Background: Point-of-care ultrasound (POCUS) has become a core competency in emergency medicine, but despite widespread training and robust evidence supporting its efficacy, substantial variability exists in the extent of its integration as a clinical and diagnostic tool. This study attempts to identify POCUS implementation barriers through the real-world experiences of formally trained emergency physicians to identify practical solutions for improving institutional integration.

Methods: An anonymous electronic survey was distributed nationally to emergency physicians at institutions with EM ultrasound fellowships. The survey assessed the frequency and utility of POCUS use, perceived implementation barriers, and perceived peer proficiency across clinical applications.

Results: Among 278 participants, 75.6% practiced in academic emergency departments, 42.4% completed formal ultrasound fellowship training, and 54.3% reported using POCUS frequently or almost every time in the past year. Consultant skepticism of POCUS validity despite relevant POCUS findings emerged as the highest-scored barrier, followed by time constraints. Confidence in peer proficiency varied by application, with high trust in cardiac POCUS and procedural guidance compared to much lower confidence levels for bowel, hepatobiliary, and testicular modalities. Regarding diagnostic accuracy, 61.7% of respondents believed there was no difference in the performance of goal-directed ultrasounds between emergency physicians and ultrasound technicians. This belief was significantly associated with ultrasound fellowship completion, academic practice, and frequent POCUS use.

Conclusion: POCUS implementation strategies should address both internal barriers of peer confidence through standardized training, and external barriers of consultant acceptance through interdisciplinary education and formal protocol integration. Amidst a boarding crisis and radiology shortage, supporting the integration of POCUS imaging can ease departmental strain and improve diagnostic efficiency.