



Non-specialist emergency physician-performed point-of-care ultrasound (POCUS) for renal colic—No hocus POCUS!

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Health professions education is an evolving field where continuous advancement enriches knowledge [1, 2]. Three fundamental components are integral to systematic improvements in health professions education: understanding the local educational gap, considering the impact of educational enhancements on patients, families, communities, and the healthcare system, and ensuring the intervention's fidelity through successive iterations [2]. In this issue of the Canadian Journal of Emergency Medicine, Lee et al. present a study illustrating that after a concise training program, non-specialist emergency department (ED) physicians can effectively perform renal point-of-care ultrasound (POCUS) in renal colic patients to detect hydronephrosis [3]. While emergency physicians in well-resourced settings often have immediate access to computed tomography (CT) for this purpose, this convenience is not universal, particularly in resource-constrained EDs. The availability of CT and skilled personnel for POCUS may be limited, emphasizing the importance of training non-specialist ED physicians in POCUS.

The International Federation for Emergency Medicine (IFEM) advocates POCUS training curricula tailored to local needs rather than top-down mandates [4]. IFEM guidelines further emphasize that POCUS training and practice should reflect the unique demands of emergency medicine

in the respective region. The study by Lee et al. exemplifies emergency physicians innovatively adapting POCUS training and practice to their local context. This well-conducted cohort study demonstrated that even after relatively brief training, non-specialist ED physicians could effectively use renal POCUS in renal colic patients, significantly impacting patient care, especially in settings with limited resources or access to CT. The authors report that patients without hydronephrosis on POCUS rarely needed 30-day urological intervention and were unlikely to benefit from CT scanning of the kidneys, ureters and bladder [3]. There were significantly fewer ($P < 0.001$) 30-day urological procedures (the study's primary outcome) in patients without hydronephrosis (2.5%; 95% CI 1 to 6.3%) compared with patients with hydronephrosis (11.2%; 95% CI 8.7 to 14%). Patients with hydronephrosis needed further risk stratification.

Educators in health professions frequently employ systematic methods to evaluate and enhance their curricula and systems [2]. These enhancements typically adhere to cycles similar to improvement methodology: setting clear objectives, understanding the processes, designing interventions, evaluating their effectiveness, and refining them for subsequent iterations. When reporting such educational improvements, guidelines necessitate a formal theory to underpin the interventions, as personal intuition may be biased or limited [2, 5]. The theory should articulate why the intervention will likely be effective in the specific context and time. While significant, Lee et al.'s study does not explicitly state the theory driving their educational intervention, an aspect crucial for understanding and potentially replicating their results in other contexts.

Proper staffing in an ED, which extends beyond numbers to encompass staff skills acquired through health professions

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education, is vital for delivering high-quality, timely, and clinically effective care. POCUS training for non-specialist physicians may be unnecessary in some EDs, mainly where CT is readily available. However, in resource-constrained EDs, such training is beneficial and essential. Yet, for the training to be most effective and its outcomes to be transferable to other contexts, it should be underpinned by a formal theory. Underpinning the training with a formal theory ensures a robust foundation for learning and applying knowledge across various projects and contexts [5]. Thus, before replicating Lee et al.'s study elsewhere, it is imperative to understand and articulate the guiding theory behind the study's intervention.

In well-resourced ED settings, the incorporation of focused POCUS training, as elucidated by Lee et al., remains useful even with the availability of advanced imaging modalities such as CT. This relevance is not solely tied to the potential of POCUS to streamline diagnostic processes and patient throughput but also to its capacity to provide rapid, bedside diagnostic information, which can be particularly valuable in urgent care scenarios.

To conclude, the research presented by Lee et al. offers a nuanced understanding of the impact of limited and focused POCUS training in suspected renal colic, underscoring its significance in both resource-limited and resource-ample settings. The study's insights into the adaptability of POCUS training reflect the necessity for a tailored approach in health professions education that resonates with the unique characteristics and constraints of diverse clinical environments. While the advantages of implementing such training are

recognized, future research endeavors must anchor educational interventions in a robust theoretical framework to ensure their efficacy and reproducibility.

Data availability Data sharing does not apply to this article as no datasets were generated or analysed for the article.

Declarations

Conflict of interest The authors declare no conflict of interest.

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