

## INTRODUCTION

The use of Point-of-Care Ultrasound (POCUS) in undergraduate medical education and its adoption by multiple specialties has significantly grown in the past decade.<sup>1</sup>

There are currently no Entrustable Professional Activities (EPA's) regarding ultrasound, and training across medical schools varies without a universally adopted curriculum.<sup>2</sup>

A high-yield specialty-focused ultrasound (US) curriculum targeted toward fourth-year students would allow students to hone ultrasound skills prior to residency while also combating the inherent challenges associated with an undergraduate ultrasound curriculum.<sup>3</sup>

This study aims to propose specialty-specific POCUS milestones defining the most relevant exams, procedures, and pathologies for fourth-year medical students to know before entering their intern year.

## METHODS

Resident directors were contacted by email at all accredited Emergency Medicine, Family Medicine, Internal Medicine, Surgery, Pediatrics, and Obstetrics and Gynecology programs.

A three-round Delphi method was utilized to achieve consensus for POCUS milestones.

### Delphi Round 1

List POCUS exams, pathologies, and procedures important for incoming residents in your respective specialty to be familiar with.

### Delphi Round 2

Rank the Round 1 results using a 5-point Likert scale of importance.

Topics with <25% agreement were excluded.

Topics with >75% agreement achieved consensus.

Topics with > 25% and < 75% agreement advanced to Round 3.

### Delphi Round 3

Re-rank topics on a 5-point Likert scale.

Topics with >75% agreement achieved consensus.

## RESULTS

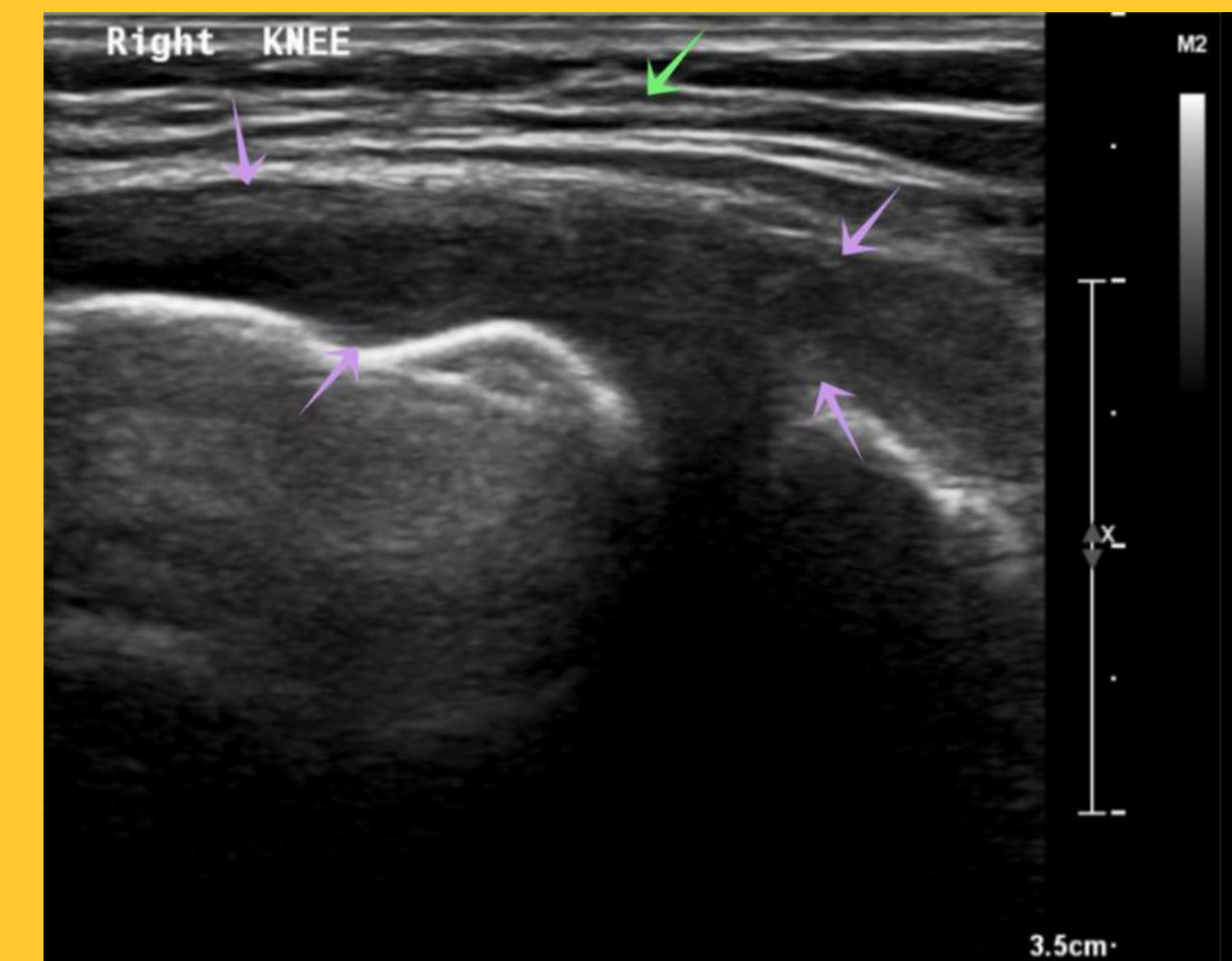
### Emergency Medicine



Focused Assessment for Sonography in Trauma – Right Upper Quadrant<sup>4</sup>

**5 Exams**  
**4 Pathologies**  
**3 US-guided Procedures**  
**2 US-assisted Procedures**

### Family Medicine



Knee Joint – Longitudinal View<sup>5</sup>

**14 Exams**  
**8 Pathologies**  
**2 US-guided Procedures**  
**2 US-assisted Procedures**

### Internal Medicine



Cardiac - Parasternal Long Axis<sup>6</sup>

**5 Exams**  
**12 Pathologies**  
**1 US-guided Procedures**  
**7 US-assisted Procedures**

### Obstetrics & Gynecology



Pelvic - Early Fetal Ultrasound<sup>7</sup>

**7 Exams**  
**8 Pathologies**  
**0 US-guided Procedures**  
**0 US-assisted Procedures**

Full list of exams, pathologies, and procedures available here:



**86%**

were aware of a POCUS curriculum for residents at their program.

**26%**

were aware of a POCUS curriculum for medical students at their program.

**97%**

believe that interns need a fundamental understanding of how to operate US machine.

**94%**

believe that interns need a fundamental understanding of image optimization.

**80%**

believe that interns need a fundamental understanding of US physics.

Round 1 yielded responses from 11 EM, 6 FM, 8 IM, and 10 OB-GYN residency directors. 5 EM, 2 FM, 2 IM, and 5 OB-GYN residency directors completed all 3 rounds of data collection.

Pediatrics and Surgery were excluded from the final data. Only 3 respondents for Pediatrics replied with limited input and no surgery residency directors responded.

All regions of the country were represented amongst the various specialties.

## DISCUSSION

This study identified specialty-focused POCUS milestones that residency directors believe are important for fourth-year medical students to know before entering their intern year.

These milestones can be incorporated within a transition to residency course, or a longitudinal POCUS course based upon the anticipated specialty to promote the standardization of POCUS education among fourth-year medical students.

To our knowledge, this is the first attempt to standardize a specialty -focused undergraduate medical education POCUS curriculum.

This study was limited by an initial small response rate and attrition during the Delphi rounds.

## REFERENCES & ACKNOWLEDGEMENTS



Scan for References

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