Expanding Access to Point of Care Ultrasound (POCUS) in Primary Care

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INTRO

In July 2016, the AAFP Congress of Delegates adopted a resolution to increase POCUS education in family medicine, citing the many benefits of ultrasound in clinical practice, and the goals of:

- 1. Having POCUS included in every FM residency
- 2. Increasing faculty professional development programs regarding POCUS training.

However, considerable barriers to comprehensive ultrasound education currently exist.

METHODS

- Electronic survey was distributed to residents (n=23) and faculty (n=4) at the UAFM Alvernon Residency.
- Questions assessed degree of interest in learning POCUS, perceived barriers to POCUS implementation, perceived benefits and downsides of POCUS, and identification of the ultrasound techniques respondents were most interested in incorporating into their clinical practice.

RESULTS

- 74% of respondents were moderately or very interested in learning POCUS.
- Respondents identified patient satisfaction, shortened time to diagnosis, cost savings, and decreased radiation as potential benefits of POCUS.
- Respondents identified time constraints, risk for improper use, liability, and lack of knowledge as downsides of POCUS.

DISCUSSION

- There is a high degree of interest in POCUS training at UAFM. Current efforts to expand POCUS curriculum are limited by lack of trained faculty and lack of adequate ultrasound equipment in the outpatient clinical setting.
- Based on these results, quarterly half-day POCUS workshops were incorporated into resident teaching day, with plans to continue this in the years to come.

74% of residents and faculty expressed a high degree of interest in learning POCUS.

The greatest barriers to expansion of ultrasound training at the University of Arizona include lack of trained faculty and lack of access to ultrasound machines.

Respondents identified OBGYN, soft tissue, DVT screening and procedural guidance as the highest yield POCUS skills.



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Interested

In the future. POCUS will be increasing common in primary care settings



Strongly Agree - Agree - Somewhat Agree - Somewhat Disagree - Disagree/Strongly Disagree

Use of POCUS in clinic can reduce the # of

ransfers to the ED. by ruling out condition

which require emergent intervention.

% OF RESPONDENTS WHO WOULD USE EACH **ULTRASOUND TECHNIQUE**

POCUS is within the scope

of Family Medicine physicians



Definitely Would Use Probably Would use Probably Won't Use Definitely Won't Use

Table 1: Demographics of Respondents (n=27)			
Gender	N (Percentage)	Age	N (Percentage)
Male	7 (26%)	25-34	20 (74%)
Female	20 (74%)	35-44	7 (26%)
Level of Training	N (Percentage)	Previous Experience with POCUS	N (Percentage)
R1	12 (44%)	None	8 (30%)
R2	5 (19%)	Informal training from colleague	13 (48%)
R3	6 (22%)	Have attended POCUS conferences or workshops	4 (15%)
Fellow/Attending	4 (15%)	Fellowship-trained / Certified to practice	0 (0%)
		Training in Medical School	2 (7%)



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Table 2:	Description of POCUS Techniques
DBGYN 1 st Frimester	Identify / Confirm IUD Detection / Measurement of fetal heart rate 1 st Trimester Gestational Age Assessment Detection of Free fluid in the pelvis Recognition of Molar Pregnancy
DBGYN 2 nd /3 rd Frimester	Determine Placental Location Detection / Measurement of fetal heart rate Determine fetal presentation Determine Amniotic Fluid Index (AFI) Identify chorionic hemorrhage Estimate fetal weight Assess for cervical insufficiency
SYN	Presence or absence of IUD in uterus Dysfunctional uterine bleeding Measurement of endometrial stripe Adnexal mass: simple vs complex cyst Breast Mass: simple vs solid/complex
Trauma / FAST	Focused assessment with sonography for trauma Assessment of free fluid in Abdomen / pelvis Assessment of pneumothorax, hemothorax Assessment of free fluid around the heart
Aorta	Screening for AAA Screening for aortic dissection
Cardiac	Detection of pericardial effusion Assessment of left ventricular contractility Assess for right heart strain IVC Measurement / Assess volume status Detection of regional wall motion abnormalities
Biliary	Identify presence of gallstone vs polyp Assess for acute cholecystitis Assess for common bile duct obstruction Assess for splenomegaly
Renal	Assess for hydronephrosis Assess for urinary retention Measure post-void residual
DVT	Assess for DVT in lower extremity Differentiate from cellulitis, Baker's cyst, etc
Soft Tissue / Musculoskeletal	Assess for cellulitis vs abscess vs air Screen for foreign body Detect joint effusion / bursitis Evaluate for tendon rupture vs tear Evaluate for tendonitis / tendinopathy
Thoracic	Assess for pneumothorax Differentiate between pneumonia vs atelectasis Assess for pleural effusion or CHF
Dcular	Assess for ocular pathology including detached retina, vitreous detachment, vitreous hemorrhage
RUSH	Rapid ultrasound for shock and hypotension
Procedural Guidance	Peripheral IV placement Thoracentesis Paracentesis Central Line Placement Foreign body identification / removal Knee aspiration / injection Shoulder, ankle, hip, wrist aspiration/injection