

WEBINAR

Second Trimester Obstetric Scans: Essential Point-of-Care Ultrasound Exams for Real-Time Answers

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Your Host



Dr. Oron Frenkel, MD, MS

Emergency Physician & POCUS Educator

Chairman, Clarius Medical Advisory Board

The Rise of POCUS in OB

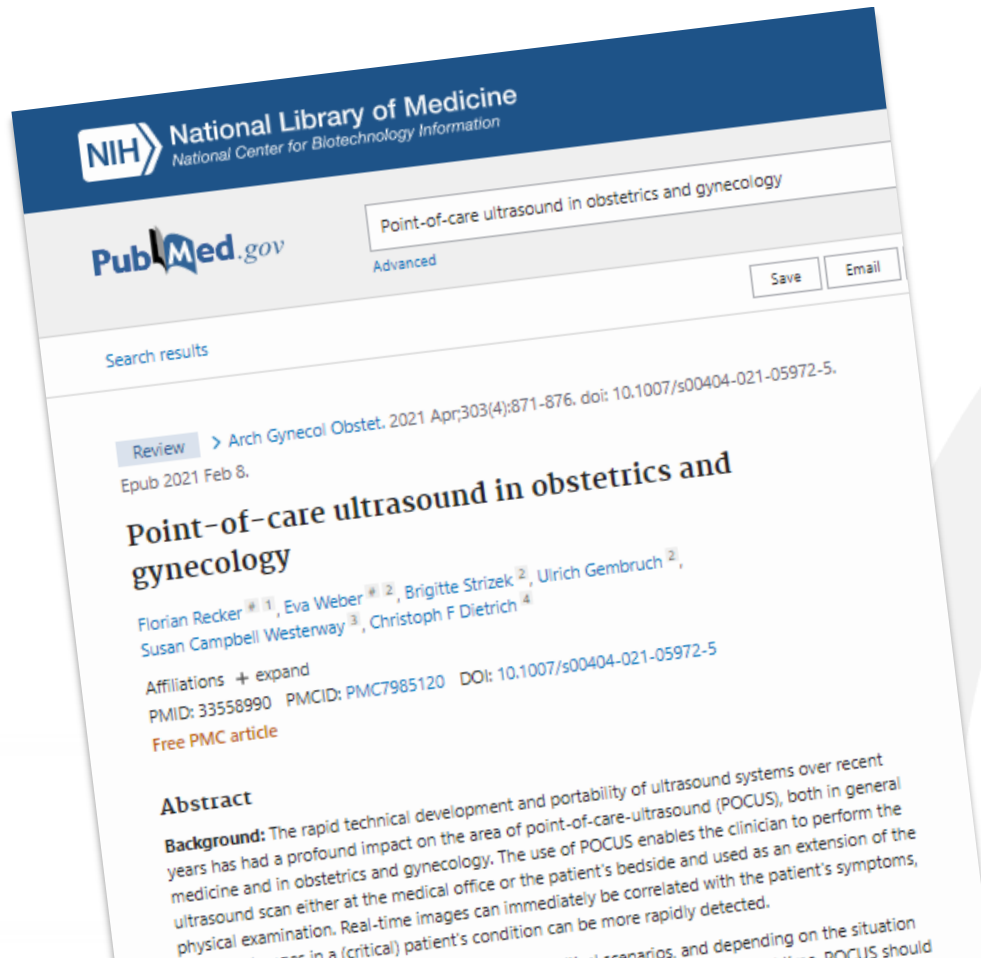
Point-of-Care Ultrasound in Obstetrics and Gynecology



*“The rapid **technical development and portability** of ultrasound systems over recent years has had a profound impact on the area of point-of-care-ultrasound (POCUS).”*

Recker F, Weber E, Strizek B, Gembruch U, Westerway SC, Dietrich CF. Point-of-care ultrasound in obstetrics and gynecology. Arch Gynecol Obstet. 2021 Apr;303(4):871-876. doi: 10.1007/s00404-021-05972-5. Epub 2021 Feb 8. PMID: 33558990; PMCID: PMC7985120. Source: <https://pubmed.ncbi.nlm.nih.gov/33558990/>

Point-of-Care Ultrasound in Obstetrics and Gynecology



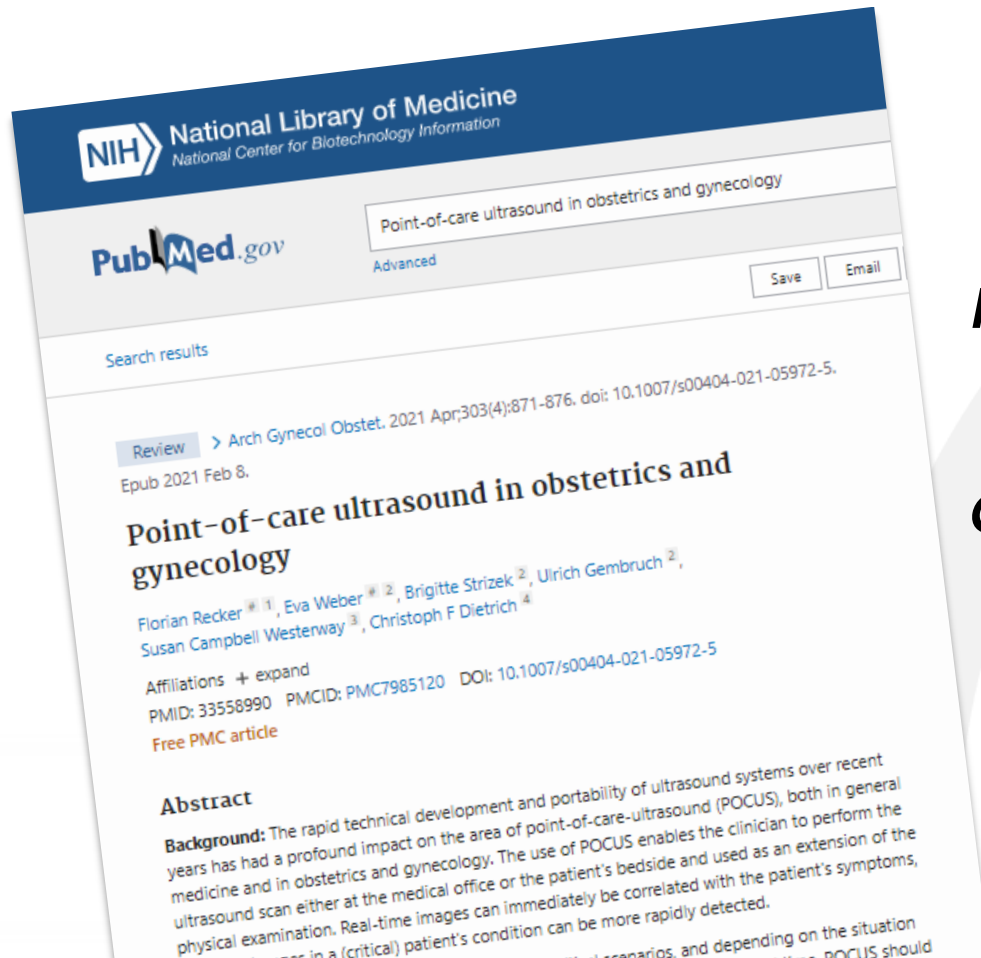
*“POCUS should be considered to be a **routine extension** of practice for most OB/GYN clinicians as it can give **immediate answers** to what could be **life-threatening situations** for the mother and/or baby.”*

Point-of-Care Ultrasound in Obstetrics and Gynecology



*“...in the second and third trimesters to assess fetal **lie**, fetal **growth** and fetal **well-being** as well as the **placental position**, measure the **cervical length** (Fig. 1) and determine the level of **amniotic fluid** ...”*

Point-of-Care Ultrasound in Obstetrics and Gynecology

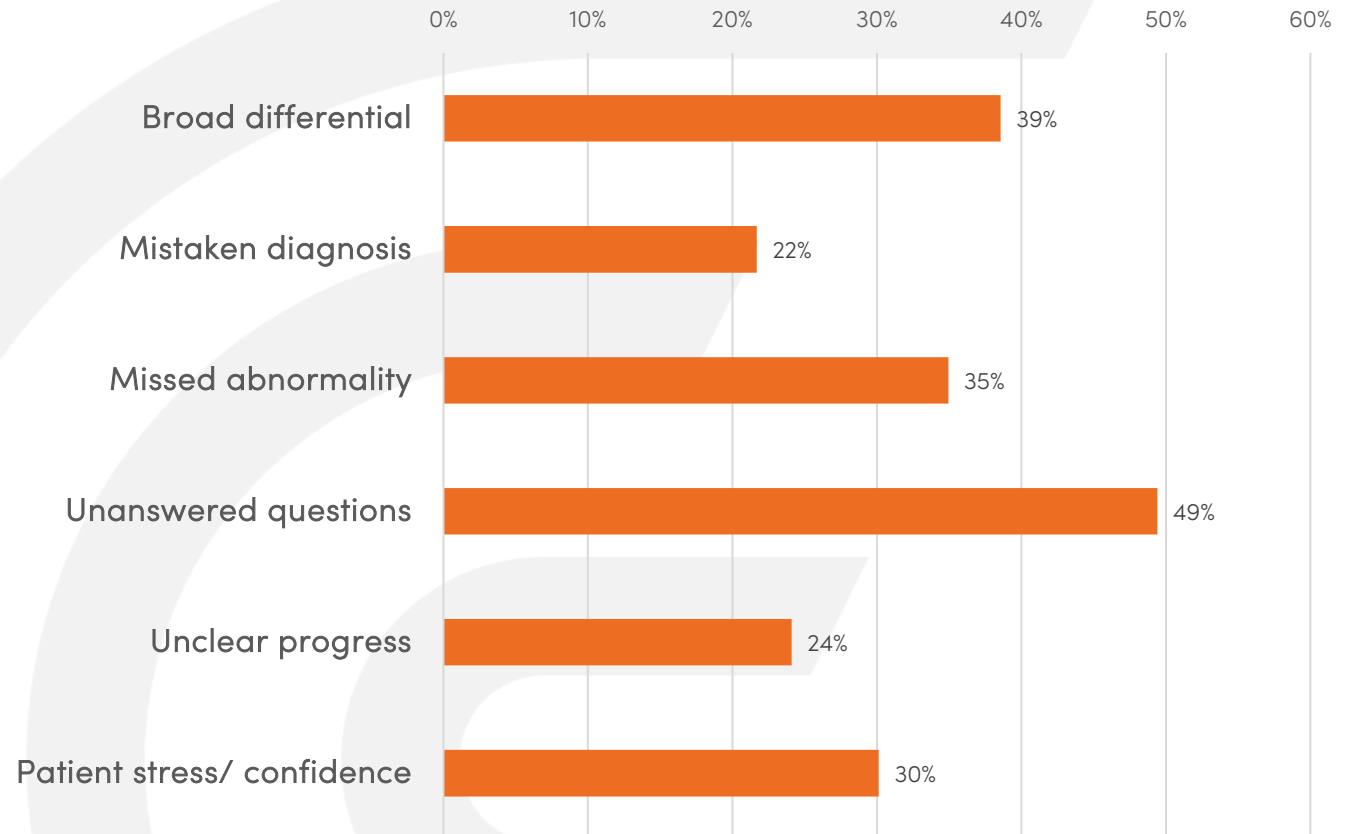


*“The introduction of **portable (and more affordable)** ultrasound machines (PUMs) **allows for access** of this imaging modality to more obstetric departments and potentially even in remote and rural regions...”*



Poll

Which challenges or limitations do you face with physical exams?



Your Expert Guest Speaker



Dr. Fred Ushakov, MD

Obstetrics and Fetal Medicine

CITY  ULTRASOUND





Second Trimester Obstetric Scans: Essential Point-of-Care Ultrasound Exams

*Fred
Ushakov, MD*

London, UK





Essential 2nd (3rd) Trimester Scan

PRACTICE GUIDELINES

Essential Point-of-Care
Ultrasound Exam POCUS is a
focused study at the patient's
bedside to rapidly obtain high-
quality images and real-time
clinically relevant information

AIUM–ACR–ACOG–SMFM–SRU
Practice Parameter for the
Performance of Standard Diagnostic
Obstetric Ultrasound Examinations

Essential 2nd Trimester Scan **DOES NOT**
represent Standard Diagnostic Obstetric
Ultrasound Examination

Standard Second- or Third-Trimester Ultrasound Examination

An obstetric ultrasound examination in the second or third trimester includes an evaluation of the fetal number, cardiac activity, presentation, amniotic fluid volume, placental position, fetal biometry, and an anatomic survey. The maternal cervix and adnexa should be examined.



POCUS vs AIUM Standard Obstetric Scan

US Parameters	Essential POCUS	AIUM Standard Scan
fetal number	✓	✓
cardiac activity	✓	✓
presentation	✓	✓
amniotic fluid volume	✓	✓
placental position	✓	✓
fetal biometry	✓	✓
anatomic survey		✓
maternal cervix		✓
adnexa		✓



Who will perform POCUS scan?

- Primary care medical professional
 - Ob&Gyn specialist
 - Midwife
 - GP (general practitioner)
 - A&E doctor
 - Paramedic
 - etc



Why to perform POCUS scan?

Acute diagnosis

- Bleeding
- Reduced fetal movements
- Premature contractions
- PPRROM
- Maternal trauma
- etc

Routine check-up

- Reassurance
- Fetal growth
- Fetal wellbeing
- In low-resource setting

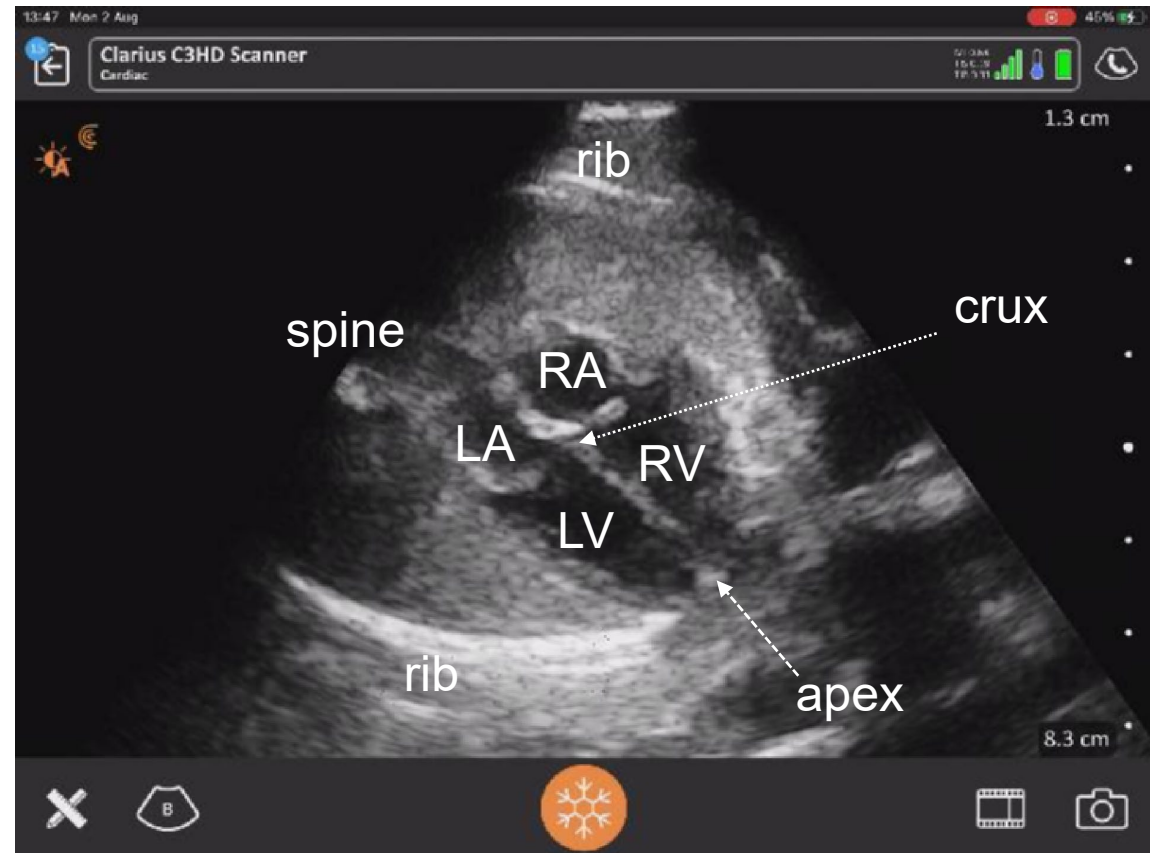


Fetal Viability / Heart Health

- Fetal heart activity is the MOST important target of POCUS scan
- You must start the scan from detection of heart activity
- Absence of the fetal heartbeat → intrauterine fetal death (IUD)
- Normal fetal heart rate: 110-160 bpm
- 2nd trimester fetus can have short episodes of bradycardia
- 4 chamber view is good starting point for learning of heart anatomy

Heart Health Basic: Four Chamber View (4CV)

Subcostal 4CV





Fetal Viability / Heart Health





Position of the Fetus / Number of Fetuses

- Position and presentation of the fetus are important for delivery only
- 2nd trimester baby can have variety of presentations, however it usually lies longitudinally
 - Cephalic
 - Breech
- Diagnosis of multiple pregnancy is extremely important

Position of the Fetus





Position of Placenta

- Important: Low-lying placenta or placenta previa
 - TVS scan for confirmation
- Not important: anterior-posterior
- Placental “migration”

Position of Placenta





Amniotic Fluid Assessment

Amniotic fluid volume:

- Qualitatively estimate (subjective) - fast
- Semiquantitative methods
 - deepest vertical pocket (DVP)
 - amniotic fluid index (AFI) – not practical for POCUS

Amniotic Fluid Assessment is important:

- Oligohydramnios (DVP < 2cm)
- Polyhydramnios (DVP > 8cm)

Amniotic Fluid Assessment





Amniotic Fluid Assessment

Oligohydramnios (DVP < 2cm)

- PPRROM
- Severe renal anomaly
- Severe FGR (fetal growth restriction)

Poor US resolution

Polyhydramnios (DVP > 8cm)

- Diabetes mellitus
- Fetal malformations
- Fetal hydrops
- Other pathological causes
- Idiopathic

Unstable fetal lie



Biparietal Diameter (BPD) Measurements

Opinion:

- Fetometry is the most difficult part of essential POCUS training

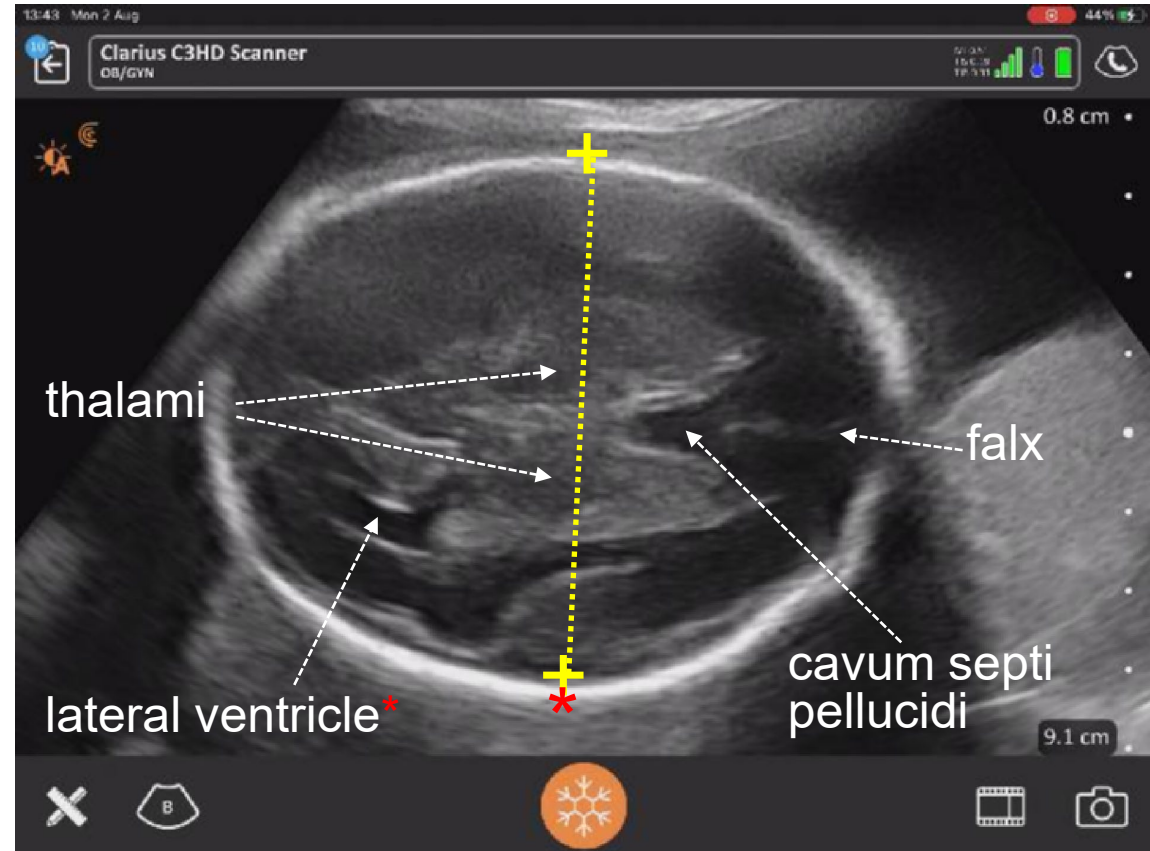
The biparietal diameter (BPD) is measured:

- at the level of the thalami & cavum septi pellucidi (CSP)
- cerebellar hemispheres should not be visible
- typically taken from the outer edge of the proximal skull to the inner edge of the distal skull

(AIUM, 2018)

BPD Measurements

Correct BPD plane



* used in UK

BPD Measurements





Why to use hand hold ultrasound device?

1. Mobile
2. Compact
3. Wireless connection
4. No need for external power supply
5. Good quality imaging
6. Biometry packages
7. Secure cloud storage
8. Telemedicine option - fast 2nd opinion



Conclusions:

- Super portable ultrasound scanners are powerful tool for primary care medical professionals
- Current ultrasound devices are capable to cover wide range of obstetric diagnostic tasks
- Special education pathways are needed for professional training



“LIVE DEMO

5 Ways POCUS Can Help Your Practice

1. *Improved mother / fetus safety with more regular screenings.*
2. *Real-time answers for sudden, unexplained symptoms.*
3. *More rapid detection of changes in a mother / fetus condition.*
4. *Increased patient confidence with high-definition imaging.*
5. *Increased revenue and referrals.*



Shaunie Keys, MD

Unified Center for Women's Health in Kirkland, Washington

“ One of the best things about Clarius ultrasound is the imaging, which is super crisp and clear. It's beautiful and really amazing, especially compared to our other portable systems. It's like night and day. ”

Poll

What additional
information would
like?





Clarius C3 & EC7

Comprehensive OB Reporting

High-Definition Imaging

Easy App for iOS & Android

Affordable Scanner

No Subscription Fees

Wireless Freedom

Free Clarius Cloud

Unlimited Users

ACT ONE™



Patient Benefits

High Quality Animated Videos

Simple Social Media Sharing

Original Ultrasound Imaging

Physician Benefits

Simple Email Sharing

Fast & Free (~~CDs, USB, Printing~~)

Enhanced Patient Satisfaction

HIPAA / GDPR Compliant

Questions



Dr. Ushakov



Dr. Frenkel



Thank you!