



Case Authors: Martin Demant, MD and Neil Wallace, MD

## Case Setup

### Ultrasound Preparation:

- Ensure phased array, linear, and curvilinear probes are present, functioning and clean.
- Ensure the ultrasound screen is easily visible to the examinee, either directly or via screen share.

### When Examinee Enters:

“Hello Doctor, I am Dr. \_ and will be assisting as your examiner for this ultrasound case. As a reminder, please ask me to change probes, change depth, gain, or mode of ultrasound to assist you with the case. Please ask for help to reposition the patient or bed. Do you have any questions?”

### Case vignette:

“As you have noted, the patient is presenting with lightheadedness, abdominal pain and mild vaginal bleeding.”

“I would like for you to now demonstrate how you would assess vaginal bleeding, diffuse abdominal pain and lightheadedness in a pregnant patient using ultrasound to evaluate for an uterine or adnexal pathology. For the purposes of this examination, an endocavitory probe is unavailable. Which probe would you like to use?”

Probe settings:

- Linear
  - Gain 10, depth 5cm
- Phased array
  - Gain 10, depth 2cm
- Curvilinear
  - Gain 10, depth 2cm

If asked to change probe settings:

- “Tell me when to stop adjusting [gain/depth]
  - Adjust the gain and depth slowly, allowing the examinee to stop you.

“When you find an acceptable image, please let me know.”

After examinee has selected their image:

“Thank you, I will take the probe from you now. Please direct your attention to the screen. Assume this video is the video you obtained from this patient. I would like you to point out any artifacts, anatomy, or pathology that would be important for this complaint.”

### Application:

“What would be the next steps in the patient’s clinical management?”

-Refer to the grading criteria if using it as an educational case.



THE UNIVERSITY  
OF ARIZONA

COLLEGE  
OF MEDICINE  
TUCSON

**End of case:**

“Thank you, that concludes your case.”

**Case Pearls & Pitfalls:**

- 1) For transabdominal pelvic views, imaging before the patient voids their bladder will help by improving windows to the pelvic structures.
- 2) The goals of POCUS in this patient with abdominal pain and vaginal bleeding are to find evidence of an intrauterine pregnancy (gestational sac + yolk sac), or to find signs that suggest ectopic pregnancy. The simplest of these findings (and both seen on this image) include:
  - a. Free fluid
  - b. Adnexal mass
- 3) An absent intrauterine pregnancy without definitive findings of ectopic is termed pregnancy of unknown location (PUL)