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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 hematuria."

<u>For diagnostic ultrasound:</u>

"I would like for you to now demonstrate how you would assess hematuria using ultrasound to evaluate the bladder. Which probe would you like to use?"

Probe settings:

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

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, **using their own clip/image**:

"Thank you, I will take the probe from you now. Please direct your attention to the screen. Please point out any artifacts, anatomy, or pathology that would be important for this complaint."

Then show the examinee the pathology clip/image:

"Now assume this image/clip is the image obtained of this patient. Please point out any pathology you see on this image/clip."

<u>Application</u>:

"What would your immediate next steps be for this patient?"

-Refer to the grading criteria for next steps, if using as educational case.

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End of case:

"Thank you, that concludes your case."

Case Pearls & Pitfalls:

1) In patients who have just voided, the bladder may be entirely decompressed and unable to be seen.
2) Consider using color doppler to evaluate a bladder hematoma, as color doppler signal is concerning for blood flow to a neoplasm.
3) Consider evaluating the kidneys for hydronephrosis which may be seen with cases of severe obstruction.