# American College of Physicians - Internal Medicine Meeting 2025
# New Orleans, LA

POCUS for Beginners

## Faculty Information


***Director:***

**Cameron Baston, MD, MSCE, FACP**

**Joseph Adler, MD**

**Rebecca Davis, MD, FACP**

**Brandon Fainstad, MD, Member**

**Roxanna Pourmirzaie, MD**

**Nilan Schnure, MD, Member**

**Ryan Sullivan, MD**

**Venkat Tondapu, Resident/Fellow Member**



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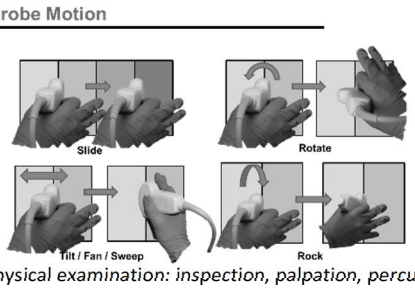
**POCUS for Beginners – ACP 2025 New Orleans**

# Resources Handout

## Ultrasound Basics




*Indications*

- Should be combined with **history and physical examination**
- Remember for every exam: **Probe, Presets, Patient Position**

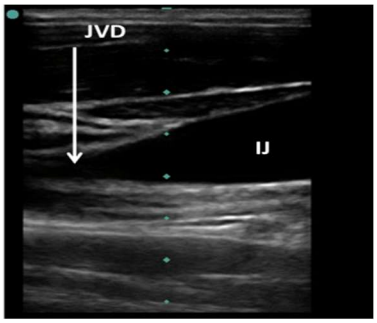
*Selected Resource for Physical Examination diagnostic performance:*

- McGee, Steven. Evidence-based physical diagnosis e-book. Elsevier Health Sciences, 2021.
- Narula, Jagat, Y. Chandrashekhar, and Eugene Braunwald. "Time to add a fifth pillar to bedside physical examination: inspection, palpation, percussion, auscultation, and insonation." JAMA cardiology 3.4 (2018): 346-350.

## POCUS JVD

- **Probe(s)**: linear probe, **Preset:** Venous, Superficial, **Position:** Patient upright or angled
- Using light pressure on the probe, identify the **internal jugular** in the **longitudinal plane** by finding the **internal jugular** in the **transverse plane** and then **rotating** the probe so the **indicator is cranial**
- Acquire an image in which the **internal jugular** narrows into a "**paintbrush**" appearance
- The height where the **internal jugular** tapers correlates with **jugular venous distention**

*Hand Position*




*Longitudinal View*

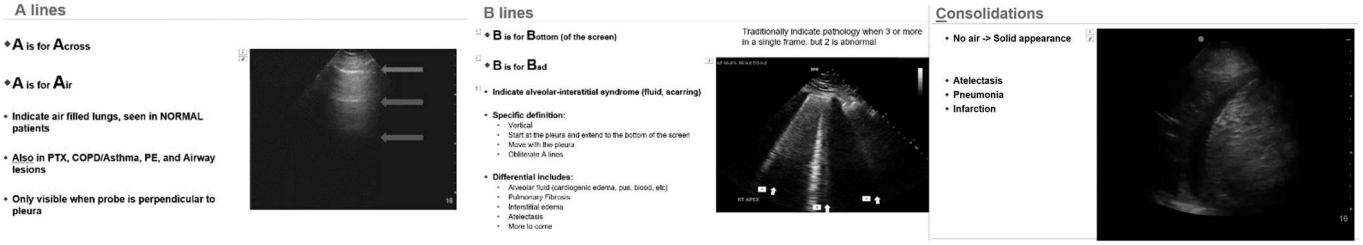
*Transverse view at different levels (JVD is 2nd)*

*Selected Resources:*

- Wang, Libo, et al. "Accuracy of Ultrasound Jugular Venous Pressure Height in Predicting Central Venous Congestion." Annals of internal medicine (2021).
- Brennan, J. Matthew, et al. "A comparison by medicine residents of physical examination versus hand-carried ultrasound for estimation of right atrial pressure." The American journal of cardiology 99.11 (2007): 1614-1616.

## Pulmonary POCUS

- **Indicated** for **dyspnea** or **respiratory failure**
- **Probe(s)**: Any, but body or curved, **Preset:** Lung, **Position:** Patient upright or supine
- Anchor hand on skin. Ensure perpendicularity to pleural. I**ndicator is cranial**
- Identify Anchoring anatomy: **Rib, Pleura Rib**
- Put together pattern of A, B, and C into clinical picture




*Selected Resources:*

- Volpicelli, Giovanni, et al. "International evidence-based recommendations for point-of-care lung ultrasound." Intensive care medicine 38.4 (2012):
- Tierney, David M., et al. "Comparative performance of pulmonary ultrasound, chest radiograph, and CT among patients with acute respiratory failure." Critical care medicine 48.2 (2020): 151-157.
- Gargani, Luna, and Giovanni Volpicelli. "How I do it: lung ultrasound." Cardiovascular ultrasound 12.1 (2014): 1-10.
- Baston, Cameron, and T. Eoin West. "Lung ultrasound in acute respiratory distress syndrome and beyond." Journal of Thoracic Disease 8.12 (2016): E1763.

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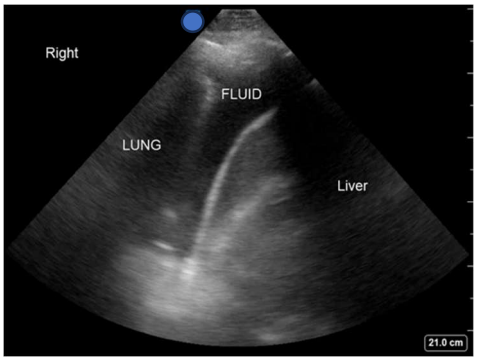
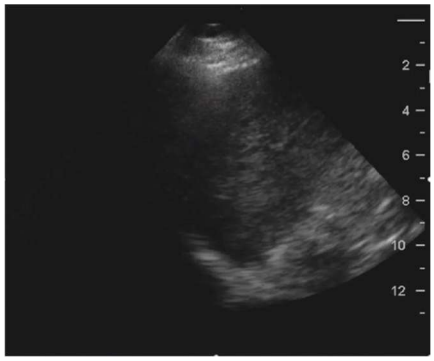
# Resources Handout

## Pleural Ultrasound for Effusion

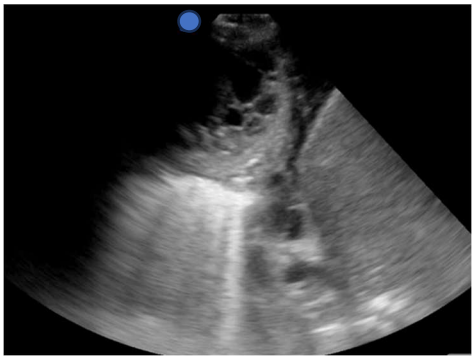

- **Indicated** for **dyspnea** or **respiratory failure**
- **Probe(s)**: Phased or curved, **Preset:** Abdomen, **Position:** Patient upright or supine
- Anchor hand on skin. Place at Zone 4 / Base of lung. I**ndicator is cranial**
- Identify Anchoring anatomy: **Diaphragm, Liver or Spleen, Lung**
- Identify **Lung Curtain** or **Effusion**
- Look for **Loculations**




*Labeled Anatomy Small Effusion*




*Lung Curtain (no Effusion)*



*Loculated effusion*

*Selected Resources:*


- Cotton, Darrel William, et al. "Point of Care Ultrasound for the General Internist: Pleural Effusions." Canadian Journal of General Internal Medicine 13.2 (2018).
- Liu, Rachel B., et al. "The practice and implications of finding fluid during point-of-care ultrasonography: a review." JAMA internal medicine 177.12 (2017)
- Shkolnik, Boris, et al. "Diagnostic accuracy of thoracic ultrasonography to differentiate transudative from exudative pleural effusion." Chest 158.2 (2020)


## Pulling it all together

- POCUS requires knowledge of **Indications, Image Acquisition, Image Interpretation, and Clinical Integration**
- Diagnostic performance in isolation is superior to physical exam and chest radiograph, but the strength of POCUS is that it is **never used in isolation of other clinical findings**
- People serious about POCUS **save their images for portfolio review**
- Combining multiple POCUS exams is essential for high quality information

| JVD | Lungs | Pleura | Diagnoses |
|---|---|---|---|
| - | A lines | Lung Curtain | Normal<br>COPD<br>Asthma |
| **+** | **B lines** | **+/- Effusion** | CHF |
| **+** | A lines | Lung Curtain | DVT<br>PE<br>Tamponade |
| - | **A / B or Consolidation** | **+/- Effusion** | Pneumonia |
| -/+ | **A lines / Consolidation** | **Large Effusion** | Pleural effusion |

*Example of combining multiple examination*

*Selected Resources:*


- Díaz-Gómez, José L., Paul H. Mayo, and Seth J. Koenig. "Point-of-care ultrasonography." New England Journal of Medicine 385.17 (2021): 1593-1602.
- Qaseem, Amir, et al. "Appropriate use of point-of-care ultrasonography in patients with acute dyspnea in emergency department or inpatient settings: a clinical guideline from the American College of Physicians." Annals of internal medicine 174.7 (2021): 985-993.
- Wagner, Mike, Keith R. Barron, and Renee Dversdal. "Internal Medicine Point of Care Ultrasound: Indicators It's Here to Stay." Journal of general internal medicine 34.10 (2019): 1956-1958.
- Bhagra, Anjali, et al. "Point-of-care ultrasonography for primary care physicians and general internists." Mayo Clinic Proceedings. Vol. 91. No. 12. Elsevier, 2016.
- Soni, Nilam J., et al. "Point-of-care ultrasound for hospitalists: a position statement of the Society of Hospital Medicine." Journal of hospital medicine 14 (2019): E1.


Cameron Baston, MD