

# YURIY BRONSHTEYN, MD, FASE

Associate Professor of Anesthesiology & Critical Care | Duke University School of Medicine ·  
Intensivist, Anesthesiologist, & Echocardiographer | Duke University Health System and Durham VA  
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## SUMMARY

Intensivist, anesthesiologist, and echocardiography specialist with more than 10 years of frontline experience managing critically ill and high-risk perioperative patients at Duke University Health System. **National leader in diagnostic point-of-care ultrasound (POCUS), echocardiography, and perioperative critical care** with **60+ PubMed-indexed publications**, **10+ book chapters**, and multiple national/international guideline papers. Extensive experience teaching physicians diagnostic reasoning, ultrasound interpretation, crisis management, procedural safety, and standards of care across ICU, trauma, and perioperative environments. **Invited speaker at 60+ grand rounds and/or national/international CME events. Six active board certifications spanning 3 medical domains: critical care medicine, anesthesiology, and echocardiography.**

## EDUCATION & WORK HISTORY

Institution	Position / Degree	Years
Duke University School of Medicine / Duke University Health System	Associate Professor / Intensivist / Anesthesiologist	2022-present
Duke University School of Medicine / Duke University Health System	Assistant Professor / Intensivist / Anesthesiologist	2015-2022
Harvard Medical School / Massachusetts General Hospital	Critical Care Medicine Fellowship	2014-2015
Harvard Medical School / Massachusetts General Hospital	Anesthesiology Residency	2010-2014
Vanderbilt University School of Medicine	Doctorate of Medicine (M.D.)	2006-2010
University of Kentucky	Bachelors of Arts (B.A.)	2003-2006

## AREAS OF EXPERTISE

- AI/ML for critical care, anesthesiology, and diagnostic ultrasound
- Annotation standards, dataset design, and ground-truth labeling
- Perioperative complications and intraoperative crisis management
- Echocardiography (TTE and TEE)
- Multi-organ point-of-care ultrasound (cardiac, lung, FAST, renal-GU, DVT, and gastric)
- Ultrasound pitfalls/errors
- National/international curriculum development
- Multi-specialty national/international guideline development
- Hemodynamic instability, shock, and resuscitation
- Airway management and perioperative respiratory failure
- ECMO, mechanical circulatory support, and other advanced cardiopulmonary support
- Ultrasound-guided vascular access and procedural complications
- Aspiration risk assessment and gastric ultrasound
- Trauma ultrasound and FAST examination
- Physician training, credentialing, and standards of care

## LEADERSHIP & NATIONAL STANDARDS

- **Immediate past Editor-in-Chief and current Editor, American Society of Anesthesiologists' (ASA) Point-of-Care Ultrasound Editorial Board (2020-)**: chief architect of the ASA Diagnostic POCUS Certificate, a multi-step curriculum that standardizes POCUS training within the field of anesthesiology nationally/internationally. Led the creation,

implementation, and ongoing content refresh of all aspects of the Certificate's educational content.

- **Immediate past Chair, ASA Ad Hoc Committee on Point-of-Care Ultrasound (2019-2020):** first author of expert panel recommendations on diagnostic POCUS education, training, and standards for anesthesiologists.
- **Section Editor for Point-of-Care Ultrasound, OpenAnesthesia.org (2022-):** led development of web-based POCUS curriculum used by > 1,000 learners globally.

## REPRESENTATIVE PUBLICATIONS RELEVANT TO STANDARDS OF CARE & DIAGNOSTIC ULTRASOUND

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- **Bronshiteyn YS** et al. Diagnostic Point-of-Care Ultrasound: Recommendations from an Expert Panel. *Journal of Cardiothoracic and Vascular Anesthesia*. 2021.
- Haskins SC, **Bronshiteyn YS**, Perlas A, et al. American Society of Regional Anesthesia and Pain Medicine expert panel recommendations on point-of-care ultrasound education and training for regional anesthesiologists and pain physicians — Part I: Clinical indications. *Regional Anesthesia & Pain Medicine*. 2021.
- Haskins SC, **Bronshiteyn YS**, Perlas A, et al. American Society of Regional Anesthesia and Pain Medicine expert panel recommendations on point-of-care ultrasound education and training for regional anesthesiologists and pain physicians — Part II: Recommendations. *Regional Anesthesia & Pain Medicine*. 2021.
- Kirkpatrick JN, Panebianco N, Díaz-Gómez JL, et al. Recommendations for Cardiac Point-of-Care Ultrasound Nomenclature. *Journal of the American Society of Echocardiography*. 2024.
- **Bronshiteyn YS**, Blitz J, Hashmi N, Krishnan S. Logistics of perioperative diagnostic point-of-care ultrasound: nomenclature, scope of practice, training, credentialing/privileging, and billing. *International Anesthesiology Clinics*. 2022.
- Haskins SC, **Bronshiteyn YS**, Ledbetter L, et al. ASRA Pain Medicine narrative review and expert practice recommendations for gastric point-of-care ultrasound to assess aspiration risk in medically complex patients undergoing regional anesthesia and pain procedures. *Regional Anesthesia & Pain Medicine*. 2025.
- Qiao W, **Bronshiteyn YS**, Haskins S. Training, certification of proficiency and medical-legal concerns. In: *Practical Point of Care Ultrasound in Anesthesia and Critical Care*, 2nd ed. CRC Press (2025).

## ACTIVE BOARD CERTIFICATIONS

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- Anesthesiology, American Board of Anesthesiology (ABA)
- Critical Care Medicine, ABA
- Neurocritical Care, ABA
- Advanced Transesophageal Echocardiography, National Board of Echocardiography (NBE)
- Critical Care Echocardiography, NBE
- Examination of Special Competence in Adult Echocardiography (Testamur), NBE

## ACTIVE CLINICAL PRACTICE

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- Associate Professor of Anesthesiology and Critical Care, Duke University School of Medicine
- Active attending physician in:
  - Adult critical care medicine including but not limited to the following:
    - Medical Critical Care
    - Surgical Critical Care
    - Cardiothoracic Surgical Critical Care
  - Perioperative anesthesiology
  - Multi-organ diagnostic ultrasound (e.g., basic & advanced cardiac; lung, gastric; renal-GU; proximal lower extremity DVT; and FAST exam)

DUKE UNIVERSITY SCHOOL OF MEDICINE

CURRICULUM VITAE

for the Permanent Record  
and the  
Appointment, Promotions and Tenure Committee

**Date CV prepared:** 06/01/2026

**Name (complete with degrees):** Yuriy Bronshteyn, M.D.

**Preferred familiar name:** Yuriy

**Primary academic rank:** Associate Professor

**Primary academic department:** Anesthesiology

**Secondary academic rank (if any):** n/a

**Secondary academic department (if any):** n/a

**Other titles (if any):** n/a

**Rank and date of first Duke Faculty appointment:** Assistant Professor 11/1/15

**NC Medical Board license certificate number:** North Carolina License: 212005

**Next renewal date (month / day / year):** 6/3/2027

**Specialty certification(s) and date(s):**

Board Certification in Anesthesiology (2/26/2015-)

Board Certification in Critical Care Medicine (8/8/2015-)

Board Certification in Neurocritical Care (10/10/2024-)

Board Certification (Diplomate) in Advanced Perioperative Transesophageal Echocardiography  
(Advanced PTEeXAM; 7/13/2015-)

Board Certification (Diplomate) in Critical Care Echocardiography (CCEeXAM; 03/04/2020-)

Testamur, Examination of Special Competence in Adult Echocardiography (ASCeXAM; 2016-)

ACCP/CHEST Certificate in ICU Point-of-care Ultrasound (5/2016-)

**Education:**

	<u>Institution (name, location)</u>	<u>Degree</u>	<u>Degree Date</u>
High School	<u>duPont Manual High School</u>	<u>2003</u>	<u>n/a</u>
College	<u>University of Kentucky</u>	<u>2006</u>	<u>B.A.</u>

Graduate or Professional School                      Vanderbilt University School of Medicine                      2010                      M.D.

**Professional training and academic career** (chronologically, beginning with first postgraduate position):

<u>Institution</u>	<u>Position/Title</u>	<u>Dates</u>
Massachusetts General/Harvard Medical School	Categorical Intern	06/2010-06/2011
Massachusetts General Hospital	Anesthesia Resident	09/2011-09/2014
Massachusetts General Hospital	Critical Care Medicine Fellow	10/2014-09/2015
Duke University School of Medicine	Assistant Professor	11/2015-12/2022
Duke University School of Medicine	Associate Professor	12/2022-present

## Scholarship

**A. Publications in refereed journals** (refereed journals are scientific publications that have active editorial boards and a system of critical review of all submissions): **63**

1. Yikilmaz E, Porta J, Grove LE, Vahedi-Faridi A, **Bronshteyn Y**, Brunold TC, Borgstahl GE, Miller AF. How can a single second sphere amino acid substitution cause reduction midpoint potential changes of hundreds of millivolts? *J Am Chem Soc.* **2007**;129(32):9927-40. Epub 2007/07/14. doi: 10.1021/ja069224t. PubMed PMID: 17628062.
2. **Bronshteyn YS**. Value-based healthcare. *Anesthesiology.* **2013**;119(6):1490-1. Epub 2013/05/25. doi: 10.1097/ALN.0b013e31829996d0. PubMed PMID: 23702816.
3. **Bronshteyn YS**, Alston TA. Help for the miffed heart. *Crit Care Med.* **2013**;41(7):1829-30. Epub 2013/06/19. doi: 10.1097/CCM.0b013e31828c252a. PubMed PMID: 23774356.
4. **Bronshteyn YS**, Alston TA. To breathe, or not to breathe? *Crit Care Med.* **2013**;41(1):346-8. Epub 2012/12/28. doi: 10.1097/CCM.0b013e31826a4687. PubMed PMID: 23269144.
5. **Bronshteyn YS**, Modest VE. Paravertebral block: the first procedure with "no contraindications" ... really? *Gen Thorac Cardiovasc Surg.* **2014**;62(4):266-7. Epub 2014/02/13. doi: 10.1007/s11748-014-0370-5. PubMed PMID: 24519351.
6. Al-Rawas NN, Quiñones QJ, Bartz RR, **Bronshteyn YS**. Wait! Wait! I Am Not Dead Yet! *Crit Care Med.* **2017**;45(5):e533. Epub 2017/04/15. doi: 10.1097/ccm.0000000000002300. PubMed PMID: 28410321.
7. **Bronshteyn YS**, Bittner EA. Images in Anesthesiology: Examining the Edges of Extravasation. *Anesthesiology.* **2017**;126(4):716. Epub 2017/03/16. doi: 10.1097/aln.0000000000001487. PubMed PMID: 28291087.
8. **Bronshteyn YS**, Lemm J, Malinzak E, Ghadimi N, Udani AD. Sepsis in the Operating Room: A Simulation Case for Perioperative Providers. *MedEdPORTAL.* **2017**;13:10563. Epub 2017/03/30. doi: 10.15766/mep\_2374-8265.10563. PubMed PMID: 30800765; PMCID: PMC6342055.
9. Thapa D, Dunne B, **Bronshteyn Y**. Can We Pull the Foley? Three Additional Concepts in Patients With Thoracic Epidurals Based on Neuroanatomy and Physiology. *Journal of*

- cardiothoracic and vascular anesthesia. **2017**;31(6):e86-e7. Epub 2017/01/29. doi: 10.1053/j.jvca.2016.11.025. PubMed PMID: 28129941.
10. Gerstein NS, Sanders JC, McCunn M, Brierley JK, Gerstein WH, West SD, Tawil I, Kraai EP, Boyd NH, **Bronshiteyn YS**, Torgeson EL, Schulman PM. The Gun Violence Epidemic: Time for Perioperative Physicians to Act. *Journal of cardiothoracic and vascular anesthesia*. **2018**;32(3):1097-100. Epub 2018/04/01. doi: 10.1053/j.jvca.2018.03.002. PubMed PMID: 29602543.
  11. Privratsky JR, Schroder VT, Hashmi N, **Bronshiteyn YS**. Initial Evaluation for Low-Pressure Cardiac Tamponade Using Focused Cardiac Ultrasound. *A A Pract*. **2018**;11(12):356-8. Epub 2018/07/10. doi: 10.1213/xa.0000000000000822. PubMed PMID: 29985845.
  12. Acker LC, Jones RC, Rasouli MR, **Bronshiteyn YS**. Focused Cardiac Ultrasound during Amniotic Fluid Embolism. *Anesthesiology*. **2019**;130(6):1032-3. Epub 2019/02/15. doi: 10.1097/aln.0000000000002596. PubMed PMID: 30762592.
  13. Lenk T, Whittle J, Miller TE, Williams DGA, **Bronshiteyn YS**. Focused cardiac ultrasound in preoperative assessment: the perioperative provider's new stethoscope? *Perioper Med (Lond)*. **2019**;8:16. Epub 2019/12/14. doi: 10.1186/s13741-019-0129-8. PubMed PMID: 31832180; PMCID: PMC6873469.
  14. **Bronshiteyn YS**, Fox WC, Hashmi N, Krishnamoorthy V. Lung Ultrasound Training in the Critically Ill: Comment. *Anesthesiology*. **2020**;133(4):954-5. Epub 2020/08/11. doi: 10.1097/aln.0000000000003506. PubMed PMID: 32773688.
  15. **Bronshiteyn YS**, Hauck JN, Schroeder RA, Barbeito A. Not All Pericardial Fluid Is Pericardial: Ultrasound of Pericardial Effusion and Two of Its Mimics. *Anesthesiology*. **2020**;132(3):584-5. Epub 2019/11/20. doi: 10.1097/aln.0000000000003047. PubMed PMID: 31743139.
  16. Dominguez JE, Habib AS, **Bronshiteyn YS**. Assessment of point-of-care ultrasound training for obstetric anesthesiology Fellows in the USA and Canada: a survey of program directors. *Int J Obstet Anesth*. **2020**;41:126-7. Epub 2019/12/04. doi: 10.1016/j.ijoa.2019.11.002. PubMed PMID: 31787453.
  17. Fox WC, Krishnamoorthy V, Hashmi N, **Bronshiteyn YS**. Pneumonia: Hiding in Plain (Film) Sight. *Journal of cardiothoracic and vascular anesthesia*. **2020**;34(11):3154-7. Epub 2020/08/17. doi: 10.1053/j.jvca.2020.07.062. PubMed PMID: 32798171; PMCID: PMC7382342.
  18. La Colla L, **Bronshiteyn YS**, Mark JB. Respiratory Variation in Central Venous Pressure (CVP) to Guide Ventilatory Support in Coronavirus Disease 2019 (COVID-19)-Related Lung Injury. *Journal of cardiothoracic and vascular anesthesia*. **2020**. Epub 2020/08/01. doi: 10.1053/j.jvca.2020.06.043. PubMed PMID: 32732100; PMCID: PMC7298490.
  19. Ramsingh D, **Bronshiteyn YS**, Haskins S, Zimmerman J. Perioperative Point-of-Care Ultrasound: From Concept to Application. *Anesthesiology*. **2020**;132(4):908-16. Epub 2020/01/25. doi: 10.1097/aln.0000000000003113. PubMed PMID: 31977521.
  20. Acker L, Bova Campbell K, Naglee C, Taicher B, **Bronshiteyn YS**. Perioperative Management of Flecainide: A Problem-Based Learning Discussion. *A A Pract*. **2021**;15(4):e01443. Epub 2021/04/02. doi: 10.1213/xa.0000000000001443. PubMed PMID: 33793430.
  21. **Bronshiteyn YS**, Anderson TA, Badakhsh O, Boublik J, Brady MBW, Charnin JE, Coker BJ, Deriy LB, Hardman HD, Haskins SC, Hollon M, Hsia HJ, Neelankavil JP, Panzer OPF, Perlas A, Ramsingh D, Sharma A, Shore-Lesserson LJ, Zimmerman JM. Diagnostic Point-of-Care Ultrasound: Recommendations From an Expert Panel. *Journal of cardiothoracic and vascular anesthesia*. **2021**. Epub 2021/06/02. doi: 10.1053/j.jvca.2021.04.016. PubMed PMID: 34059438.

22. Castro AL, Chen C, **Bronshhteyn Y**, Ray N, Gadsden J. A Case Report of Bilateral Phrenic Nerve Dysfunction After Unilateral Supraclavicular Brachial Plexus Block: Unveiling Preexisting Diaphragmatic Dysfunction. *A A Pract.* **2021**;15(4):e01430. Epub 2021/03/31. doi: 10.1213/xxa.0000000000001430. PubMed PMID: 33783377.
23. Haskins SC, **Bronshhteyn Y**, Perlas A, El-Boghdadly K, Zimmerman J, Silva M, Boretsky K, Chan V, Kruisselbrink R, Byrne M, Hernandez N, Boublik J, Manson WC, Hogg R, Wilkinson JN, Kalagara H, Nejjim J, Ramsingh D, Shankar H, Nader A, Souza D, Narouze S. American Society of Regional Anesthesia and Pain Medicine expert panel recommendations on point-of-care ultrasound education and training for regional anesthesiologists and pain physicians-part I: clinical indications. *Reg Anesth Pain Med.* **2021**. Epub 2021/02/27. doi: 10.1136/rapm-2021-102560. PubMed PMID: 33632778.
24. Haskins SC, **Bronshhteyn Y**, Perlas A, El-Boghdadly K, Zimmerman J, Silva M, Boretsky K, Chan V, Kruisselbrink R, Byrne M, Hernandez N, Boublik J, Manson WC, Hogg R, Wilkinson JN, Kalagara H, Nejjim J, Ramsingh D, Shankar H, Nader A, Souza D, Narouze S. American Society of Regional Anesthesia and Pain Medicine expert panel recommendations on point-of-care ultrasound education and training for regional anesthesiologists and pain physicians-part II: recommendations. *Reg Anesth Pain Med.* **2021**. Epub 2021/02/27. doi: 10.1136/rapm-2021-102561. PubMed PMID: 33632777.
25. Khoche S, Hashmi N, **Bronshhteyn YS**, Choi C, Poorsattar S, Maus TM. The Year in Perioperative Echocardiography: Selected Highlights from 2020. *Journal of cardiothoracic and vascular anesthesia.* **2021**. Epub 2021/05/04. doi: 10.1053/j.jvca.2021.03.038. PubMed PMID: 33934985.
26. Krishnan S, **Bronshhteyn YS**. Role of diagnostic point-of-care ultrasound in preoperative optimization: a narrative review. *Int Anesthesiol Clin.* **2021**. Epub 2021/10/24. doi: 10.1097/aia.0000000000000343. PubMed PMID: 34686645.
27. **Bronshhteyn YS**, Blitz J, Hashmi N, Krishnan S. Logistics of perioperative diagnostic point-of-care ultrasound: nomenclature, scope of practice, training, credentialing/privileging, and billing. *Int Anesthesiol Clin.* **2022**;60(3):1-7. Epub 20220518. doi: 10.1097/aia.0000000000000369. PubMed PMID: 35582953.
28. Garrigan E, McCarthy G, Krom RJ, **Bronshhteyn YS**. Focused Cardiac Ultrasound Identification of Dynamic Left Ventricular Outflow Tract Obstruction. *Anesthesiology.* **2023**. Epub 20230919. doi: 10.1097/aln.0000000000004697. PubMed PMID: 37721860.
29. Heinz ER, Al-Qudsi O, Convissar DL, David MD, Dominguez JE, Haskins S, Jelly C, Perlas A, Vincent AN, **Bronshhteyn YS**. Gastric Point of Care Ultrasound in Adults: Image Acquisition and Interpretation. *J Vis Exp.* **2023**(199). Epub 20230922. doi: 10.3791/65707. PubMed PMID: 37811946.
30. Hoffman M, Convissar DL, Meng ML, Montgomery S, **Bronshhteyn YS**. Image Acquisition Method for the Sonographic Assessment of the Inferior Vena Cava. *J Vis Exp.* **2023**(191). Epub 20230113. doi: 10.3791/64790. PubMed PMID: 36715419.
31. Malone D, Costin BN, MacElroy D, Al-Hegelan M, Thompson J, **Bronshhteyn Y**. Phenobarbital versus benzodiazepines in alcohol withdrawal syndrome. *Neuropsychopharmacol Rep.* **2023**. Epub 20230627. doi: 10.1002/npr2.12347. PubMed PMID: 37368937.
32. Montgomery SP, Moore B, Hampton SM, Macy G, Li W, **Bronshhteyn YS**. Optic Nerve Sheath Point of Care Ultrasound: Image Acquisition. *J Vis Exp.* **2023**(198). Epub 20230818. doi: 10.3791/64929. PubMed PMID: 37607087.

33. Pereira ROL, Convissar DL, Montgomery S, Herbert JT, Reed CR, Tang HJ, **Bronshiteyn YS**. Point-of-Care Lung Ultrasound in Adults: Image Acquisition. *J Vis Exp*. **2023**(193). Epub 20230303. doi: 10.3791/64722. PubMed PMID: 36939233.
34. Ritchie JD, Trujillo CN, Convissar DL, Lao WS, Montgomery S, **Bronshiteyn YS**. Focused Assessment with Sonography for Trauma (FAST) Exam: Image Acquisition. *J Vis Exp*. **2023**(199). Epub 20230922. doi: 10.3791/65066. PubMed PMID: 37811958.
35. Theophanous RG, Chow VW, Convissar DL, Haskins SC, Jones RA, HK PK, **Bronshiteyn YS**. Point-Of-Care Ultrasound Screening for Proximal Lower Extremity Deep Venous Thrombosis. *J Vis Exp*. **2023**(192). Epub 20230210. doi: 10.3791/64601. PubMed PMID: 36847361.
36. Abramson L, Perfect C, Cantrell S, **Bronshiteyn YS**, Yanamadala M, Buhr GT. Point-of-Care Ultrasound in Post-acute and Long-Term Care: A Scoping Review. *J Am Med Dir Assoc*. **2024**;26(1):105320. Epub 20241019. doi: 10.1016/j.jamda.2024.105320. PubMed PMID: 39437986.
37. **Bronshiteyn YS**, Hashmi N, Privratsky JR, Barbeito A. Blood or Fat? Differentiating Hemopericardium versus Epicardial Fat Using Focused Cardiac Ultrasound. *Diagnostics (Basel)*. **2024**;14(8). Epub 20240415. doi: 10.3390/diagnostics14080818. PubMed PMID: 38667464; PMCID: PMC11049036.
38. **Bronshiteyn YS**, Krishnan S, Abramson L, Al-Qudsi O. Scan That Barcode Carefully- Limitations of "M-Mode" Ultrasound When Screening for Pneumothorax. *A A Pract*. **2024**;18(12):e01854. Epub 20241212. doi: 10.1213/xxa.0000000000001854. PubMed PMID: 39665472.
39. **Bronshiteyn YS**, Krishnan S, Al-Qudsi O, Montgomery S. Not so FAST: Pearls and Pitfalls of the Left Upper Quadrant Window during the Focused Assessment with Sonography in Trauma. *Anesthesiology*. **2024**. Epub 20240705. doi: 10.1097/aln.0000000000005094. PubMed PMID: 38968390.
40. Heinz ER, Bernardo R, Birk SE, Manson W, MacLeod DB, Molinger J, Vincent A, **Bronshiteyn YS**. Identifying Frailty Using Point-of-Care Ultrasonography: Image Acquisition and Assessment. *J Vis Exp*. **2024**(209). Epub 20240726. doi: 10.3791/66803. PubMed PMID: 39141561.
41. Johnson S, Feldman S, Gessouroun R, Fuller M, Stafford-Smith M, **Bronshiteyn YS**, Meng ML. AI-augmented vs. conventional cardiac POCUS training: a pilot study among obstetric anesthesiologists. *Int J Obstet Anesth*. **2024**:104238. Epub 20240723. doi: 10.1016/j.ijoa.2024.104238. PubMed PMID: 39261197.
42. Kirkpatrick JN, Panebianco N, Díaz-Gómez JL, Adhikari S, Bremer ML, **Bronshiteyn YS**, Damewood S, Jankowski M, Johri A, Kaplan JRH, Kimura BJ, Kort S, Labovitz A, Lu JC, Ma IWY, Mayo PH, Mulvagh SL, Nikravan S, Cole SP, Picard MH, Sorrell VL, Stainback R, Thamman R, Tucay ES, Via G, West FM. Recommendations for Cardiac Point-of-Care Ultrasound Nomenclature. *J Am Soc Echocardiogr*. **2024**. Epub 20240711. doi: 10.1016/j.echo.2024.05.001. PubMed PMID: 39230540.
43. Schwartz EA, Chow B, **Bronshiteyn YS**, Young CC. Ventilator Stress Index: An Intensive Care Unit Tool That Anesthesiologists Should Know. *Journal of cardiothoracic and vascular anesthesia*. **2024**. Epub 20240521. doi: 10.1053/j.jvca.2024.05.021. PubMed PMID: 38918098.
44. Tarzi FP, Bulic S, Ho S, Saini P, Alexandrov A, **Bronshiteyn YS**. Point of Care Transcranial Color-Coded Duplex Ultrasound of the Middle Cerebral Artery. *J Vis Exp*. **2024**(210). Epub 20240809. doi: 10.3791/67288. PubMed PMID: 39185862.

45. Turk M, Catanese B, Lefler B, Sparks MA, **Bronshteyn YS**, Bowman A. Point-of-Care Kidney and Genitourinary Ultrasound in Adults: Image Acquisition. *J Vis Exp.* **2024**(208). Epub 20240621. doi: 10.3791/66802. PubMed PMID: 38975755.
46. Zimmerman J, Morrissey C, Bughrara N, **Bronshteyn YS**. Mistaken Identity: Misidentification of Other Vascular Structures as the Inferior Vena Cava and How to Avoid It. *Diagnostics (Basel).* **2024**;14(19). Epub 20241004. doi: 10.3390/diagnostics14192218. PubMed PMID: 39410622.
47. Bhowmik S, **Bronshteyn YS**, Balakrishna A, Bryant JM, Chang MG, Convissar D, Grecu L, Jones M, Jelly C. Point-of-Care Ultrasound for Peripheral Venous-Arterial Extracorporeal Membrane Oxygenation Without Left Ventricular Venting. *J Vis Exp.* **2025**(215). Epub 20250117. doi: 10.3791/67712. PubMed PMID: 39895621.
48. **Bronshteyn YS**, Hsu D, Vincent A, Dunworth S. Discordance between Chest Radiography and Lung Ultrasound in the Evaluation of Intraoperative Hypoxemia. *Anesthesiology.* **2025**. Epub 20250310. doi: 10.1097/aln.0000000000005378. PubMed PMID: 40062827.
49. Ghabach M, **Bronshteyn YS**. Pro: Use of Sterile Technique for Ultrasound-guided Noncentral Line Vascular Access Procedures. *Journal of cardiothoracic and vascular anesthesia.* **2025**. Epub 20250315. doi: 10.1053/j.jvca.2025.03.018. PubMed PMID: 40169311.
50. Haskins SC, **Bronshteyn YS**, Ledbetter L, Arzola C, Kalagara H, Hardman D, Panzer O, Weber MM, Heinz ER, Boublik J, Cubillos J, Hernandez N, Zimmerman J, Perlas A. ASRA pain medicine narrative review and expert practice recommendations for gastric point-of-care ultrasound to assess aspiration risk in medically complex patients undergoing regional anesthesia and pain procedures. *Reg Anesth Pain Med.* **2025**. Epub 20250418. doi: 10.1136/rapm-2024-106346. PubMed PMID: 40250977.
51. Prinzbach A, Bullock WM, Kumar AH, Convissar D, Dooley J, Heinz E, Manning E, Gadsden J, **Bronshteyn Y**. Diaphragmatic Ultrasound in Adults: Image Acquisition and Interpretation. *J Vis Exp.* **2025**(215). Epub 20250131. doi: 10.3791/67684. PubMed PMID: 39960175.
52. Howell-Clark JR, **Bronshteyn YS**, Pustavoitau A, Convissar D, Bughrara N. Echocardiographic Assessment Using Subxiphoid-Only Examination for Hypotensive Patients. *J Vis Exp.* **2025**(218). Epub 20250418. doi: 10.3791/67531. PubMed PMID: 40323893.
53. Turk M, Koratala A, Robertson T, Kalagara HKP, **Bronshteyn YS**. Demystifying Venous Excess Ultrasound (VExUS): Image Acquisition and Interpretation. *J Vis Exp.* **2025**(219). Epub 20250516. doi: 10.3791/68107. PubMed PMID: 40455675.
54. Tanabe KJ, Fiza B, **Bronshteyn YS**, Fernandez-Bustamante A. Assessment of Perioperative Lung Expansion with Point-of-care Ultrasound. *Anesthesiology.* **2025**;142(6):1140-9. Epub 20250513. doi: 10.1097/aln.0000000000005424. PubMed PMID: 40358338.
55. Olive JK, Yapor M, Al-Qudsi O, Cutrone M, Abramson L, Ledbetter L, Alvin A, Vatsaas CJ, Milano CA, **Bronshteyn YS**. A Scoping Review of Validated Echocardiographic Methods for Grading Right Ventricular Dysfunction: Proposal for an Evidence-Based Multiparametric Framework. *Journal of cardiothoracic and vascular anesthesia.* **2025**. Epub 20250606. doi: 10.1053/j.jvca.2025.06.009. PubMed PMID: 40592612.
56. Haskins SC, Kalagara H, **Bronshteyn YS**, Perlas A. ASRA pain medicine narrative review and expert practice recommendations for gastric point-of-care ultrasound to assess aspiration risk in medically complex patients undergoing regional anesthesia and pain procedures: infographic. *Reg Anesth Pain Med.* **2025**. Epub 20250715. doi: 10.1136/rapm-2025-106926. PubMed PMID: 40664402.

57. Abramson L, Olive JK, Lefler B, L. Wu, A. Bowman, T. Simpson, C. Vatsaas, M. Yanamadala, **Bronshiteyn YS.** Point-of-care Ultrasound to Screen for Gastrointestinal Dysfunction: Image Acquisition and Interpretation. *J Vis Exp.* Jul 3 **2025**;(221)doi:10.3791/68603. PubMed PMID: 40690387
58. Abramson L, Theophanous RG, Lefler B, Wu B, Bowman AL, Olive JK, **Bronshiteyn YS.** Echoes from Within: Mapping Gastrointestinal Obstruction with Ultrasound. *Diagnostics (Basel).* Oct 2 **2025**;15(19)doi:10.3390/diagnostics15192511. PubMed PMID: 41095730.
59. Olive JK, Yapor M, Al-Qudsi O, Cutrone M, Abramson L, Vatsaas C, and **Bronshiteyn YS.** An Evidence-Based Echocardiographic Image Acquisition Protocol for Evaluating Right Ventricular Function. *J Vis Exp.* Jul 22, **2025**;(221) doi:10.3791/68252. PubMed PMID: 40788880
60. Theophanous RG, Abramson L, **Bronshiteyn YS.** Identifying Gastrointestinal Pathologies Using Point-of-Care Ultrasound. *Diagnostics (Basel).* 16 (3), doi:10.3390/diagnostics16030418, Feb 1, **2026.** PMID: 41681736.
61. Hashmi N, Krishnan S, Al-Qudsi O, Olive JK, **Bronshiteyn YS.** Diagnostic Point-of-Care Ultrasound for the Cardiac Surgical Patient, From Head-to-Toe. *J Vis Exp.* **2026**(228). PubMed PMID: 41770669.
62. Theophanous RG, Abramson L, **Bronshiteyn YS.** Identifying Gastrointestinal Pathologies Using Point-of-Care Ultrasound. *Diagnostics (Basel).* **2026**;16(3). PubMed PMID: 41681736; PMCID: PMC12896783.
63. Theophanous AG, Angeles N, Elizondo D, **Bronshiteyn YS,** Theophanous RG. Point-of-Care Ultrasound Use in Cardiac Arrest Patients. *Diagnostics (Basel).* **2026**;16(10). PubMed PMID: 42196880; PMCID: PMC13205991.

## **B. Book chapters: 10**

- 1) **Bronshiteyn YS.** “Renal/Genitourinary.” *First Aid Cases for the USMLE Step 2 CK.* Eds: Le T, Halvorson E. New York: McGraw-Hill; **2009.**
- 2) **Bronshiteyn YS.** “Endocrinology.” *First Aid Cases for the USMLE Step 2 CK.* Eds: Le T, Halvorson E. New York: McGraw-Hill; **2009.**
- 3) Cotter K, Daimyo S, Kasten J, **Bronshiteyn YS,** Chen L. "Social Responsibility as a Career." *Do Good Well: Your Guide to Leadership, Action, and Social Innovation.* Eds. Nina Vasan and Jennifer Przybylo. San Francisco: Jossey-Bass; **2013.**
- 4) **Bronshiteyn YS,** Bittner E. “Airway Management.” *Lippincott's Anesthesia Review: 1001 Questions and Answers.* Eds: Sikka P, Bittner EA, Halaszynski T, Pham T, & Sinha A. Philadelphia: Walters Kluwer; **2014.**
- 5) **Bronshiteyn YS,** Schoenfeld, W. “PACU Admission and Discharge Criteria.” Berg SM, Bittner EA (eds). *Postoperative Care Handbook of the Massachusetts General Hospital, 1<sup>st</sup> ed.* Philadelphia, Walters Kluwer; **2017.**
- 6) Ehieli E, **Bronshiteyn YS.** “VA/NIH Acute Renal Failure Trial Network. Intensity of renal support in critically ill patients with acute kidney injury.” In: Bittner E, ed. *50 Studies Every Intensivist Should Know.* New York, NY: Oxford University Press; **2017.**
- 7) **Bronshiteyn YS,** Mark, J. “Pulmonary Artery Pressure Monitoring.” Fleisher LA, Rosenbaum S (eds). *Complications in Anesthesia, 3<sup>rd</sup> ed.* Philadelphia: Elsevier; **2018.**
- 8) Luu D, Lenk T, McLean D, Jia S, Rasouli MR, **Bronshiteyn YS.** “Pericardial Disease.” Bittner EA, Berg SM (eds). *Critical Care Echocardiography: 1000 Questions and Answers.* Wolters Kluwer; **2022.**

- 9) **Bronshiteyn Y**, Mamoun N. “Hemodynamic Assessment in ICU Using Echocardiography.” Nicoara A (ed). Savage & Aronson Comprehensive Textbook of Perioperative Transesophageal Echocardiography. Wolters Kluwer; **2023**.
- 10) Qiao, W. **Bronshiteyn, YS**. Haskins. S. “Chapter 14 - Training, certification of proficiency and medical-legal concerns”. *Practical Point of Care Ultrasound in Anesthesia and Critical Care 2E*. CRC Press **2025**.

**C. Digital output, other forms of public dissemination** (other than publications / presentations):

- 1) **American Society of Anesthesiologists’ Diagnostic POCUS Certificate**  
([www.asahq.org/POCUS](http://www.asahq.org/POCUS)): as Chair of an *Ad Hoc* Committee (2019-2020), Editor-in-Chief (2020-2022), and then Editor (2022-present) on the ASA POCUS Editorial Board, I have been the chief architect behind the creation of the ASA’s Diagnostic POCUS Certificate, a novel curriculum that standardizes the training of diagnostic POCUS within the field of anesthesiology. Specifically, for this Certificate Program, I have led the creation, implementation, and ongoing content refresh of all aspects of the Certificate’s educational content, including but not limited to the creation and ongoing maintenance of all the following: 160 interactive cases covering ultrasound image interpretation of 4 organ systems; a novel platform for remote mentorship of POCUS image acquisition, and a multi-organ system final exam that arises from a bank of 300 questions that have been both peer reviewed and subject to psychometrician standardization. Since the Certificate’s launch in 2020, it has enrolled over 3,000 physician learners globally.
- 2) **Open Anesthesia Point-of-Care Ultrasound Curriculum**  
(<https://www.openanesthesia.org/sections/point-of-care-ultrasound/>): as Section Editor for POCUS for Open Anesthesia (international non-profit dedicated to teaching anesthesiology fundamentals freely to learners across the world), developed a multi-modal curriculum for teaching diagnostic POCUS using a combination of written primers on ABA Keywords (29 pages, 6,607 words) and a POCUS Case of the Month Series (9 educational videos; 4+ hours content; as of April 2025, majority of videos have each been viewed > 1,000 times by learners globally). Supervised 3 junior faculty Associate Editors and multiple anesthesiology residents/fellows in the development of this content.
- 3) **Duke Web-based POCUS Curriculum**  
([www.tinyURL.com/DukePOCUS2025](http://www.tinyURL.com/DukePOCUS2025)) Developed a set of 13 interactive, web-based modules to teach multi-organ POCUS image acquisition and interpretation skills to frontline clinicians across a wide range of specialties. In 2018, conducted an IRB-exempt pilot, randomized controlled study comparing the teaching efficacy of these interactive modules to conventional didactic slide sets and presented preliminary data at the 2018 annual meeting of the Society of Critical Care Anesthesiologists. In 2022, used these modules to conduct an IRB-approved, randomized-controlled trial of adding automated image acquisition and interpretation feedback to a standard POCUS curriculum for obstetric anesthesiology attendings and fellows (PMID: 39261197). Further, these modules are approved for 12 hours of CME from Duke’s continuing education office; satisfy the Part 2 requirement of the ASA Diagnostic POCUS Certificate (“Preliminary Training in POCUS”); and form the core pre-course work for the Annual Duke Internal Medicine-Anesthesiology CME Workshop. In total, these modules enrolled over 500 learners from Duke and multiple local, national, and international institutions spanning a wide range of training levels (including medical students, residents, fellows, attendings, and advanced practice providers) and specialties (including but not limited to: internal medicine,

anesthesiology, emergency medicine, critical care, pulmonology, nephrology, trauma surgery, etc.).

**D. Abstracts** (list up to 10 of your most impactful abstracts):

- 1) Miller, AF, Yikilmaz E, Porta J, Grove LE, **Bronshiteyn Y**, Xie J, Vahedi-Faridi A, Rodgers DW, Brunold TC, and Borgstahl GE. “[CATL 40-Redox tuning over 100s of mV via H-bonding and control of redox-coupled protons, in superoxide dismutase.](#)” In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY*, Vol. 234. AMER CHEMICAL SOC, 2007.
- 2) Donegan B, **Bronshiteyn Y**, Jenkins C, Miller K, Kudriavtsev V, Polyshchuk V, Storrow A. (2009). Maximizing Interpretable Heart Sounds in the Emergency Department Using Digital Auscultation and Computerized Analysis. *Acad Emerg Med*. April 16(S1):S133.
- 3) Reskallah A, Quinones Q, Jiang Y, Crowley AL, Peethumnongsin E, **Bronshiteyn Y**. Pilot prospective randomized trial comparing methods of teaching point-of-care ultrasound image interpretation skills to medical trainees. Poster presented at: Society of Critical Care Anesthesiologists Annual Meeting; 2018 Apr 27; Chicago, IL.
- 4) Olive J, Vatsaas C, Al-Qudsi O, Abramson L, Yapor M, Cutrone M, Leidbetter L, **Bronshiteyn Y**. An evidence-based image acquisition protocol for grading the severity of RV systolic dysfunction. *Critical Care Medicine* 53(1), January 2025. | DOI: 10.1097/01.ccm.0001099648.44147.b7
- 5) Abramson L, Viqas Z, **Bronshiteyn Y**, Heflin MT, Yanamadala M. Feasibility and Utility of Geriatrician Performed Point-of-Care Ultrasound in Postoperative Care of Older Adults. American Geriatrics Society Annual Meeting. May 8, 2025. Chicago, IL.
- 6) Hieromnimon, H. Wang, A. Coston, K. Houghtaling, J. **Bronshiteyn Y**. Predicting Need for Post-Operative Mechanical Ventilation Using Pre-Op Data and Machine Learning. Society of Critical Care Medicine Annual Meeting, March 22, 2026. Chicago, IL.
- 7) Hieromnimon, H. Wang, A. Coston, K. Houghtaling, J. **Bronshiteyn Y**. Pre-Op Clues: Machine Learning Models for Postoperative Ventilation R. IARS & SOCCA Annual Meeting, May 2, 2026. Montreal, Ca.

**E. Non-refereed publications** (non-refereed publications refer to published manuscripts which are not subject to a system of critical review – articles are often solicited by the publisher): **none**

**F. Other forms of scholarship dissemination** (not included above):

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**Appointments and Recognition:**

**A. Scientific reviewer** (e.g., editorial boards, study section review group):

a. Editorial Boards:

- (i) Editor, American Society of Anesthesiologists’ Editorial Board on Point-of-Care Ultrasound (2022-present)
- (ii) Editor-in-Chief, American Society of Anesthesiologists’ Editorial Board on Point-of-Care Ultrasound (2020-2022)

b. Ad Hoc reviewer, Pubmed-indexed journals:

- (i) Ad hoc reviewer, BMC Anesthesiology (2014-present)

- (ii) Ad hoc reviewer, *Anesthesiology* (2016-present)
- (iii) Ad hoc reviewer, *Journal of Ultrasound in Medicine* (2018-present)
- (iv) Ad hoc reviewer, *A&A Practice* (2019-present)
- (v) Ad hoc reviewer, *Diagnostics* (2022-present)
- (vi) Ad hoc reviewer, *IJERPH* (2022-present)
- (vii) Ad hoc reviewer, *Applied Sciences* (2022-present)
- (viii) Ad hoc reviewer, *JCM* (2023-present)
- (ix) Ad hoc reviewer, *Sensors* (2023-present)
- (x) Ad hoc reviewer, *Regional Anesthesia & Pain Medicine* (2022-present)
- (xi) Ad hoc reviewer, *Life* (2023-present)
- (xii) Ad hoc reviewer, *Tomography* (2024-present)

**B. Professional societies, service organizations** (list membership status, leadership positions, committee membership, etc.):

- 1) Content Developer for National Certificates in Point-of-Care Ultrasound, Alliance for Physician Certification and Advancement (APCA; 2016-2019)
- 2) Member, Veterans Administration National Writing Group on POCUS Training and Credentialing Standards (2016-2018)
- 3) Member, Point-of-Care Ultrasound Assessment Committee, APCA (2017-2019)
- 4) Member, National Needle Guidance Taskforce, APCA (2018-2019)
- 5) Chair, Ad Hoc Committee on Point-of-Care Ultrasound, American Society of Anesthesiologists (2018-2019)
- 6) Editor, American Society of Anesthesiologists' Editorial Board on Point-of-Care Ultrasound (2019-2020)
- 7) Team Lead, DUHS Alcohol Withdrawal Care Redesign Taskforce (2019-2021)
- 8) Co-Chair, Point-of-Care Ultrasound Taskforce, Duke University Health System (2019-present)
- 9) Editor-in-Chief, American Society of Anesthesiologists' Editorial Board on Point-of-Care Ultrasound (2020-2022)
- 10) Editor, American Society of Anesthesiologists' Editorial Board on Point-of-Care Ultrasound (2022-present)
- 11) Section Editor for Point-of-Care Ultrasound, OpenAnesthesia.org (2022-present)
- 12) Expert Panelist and ASA Representative, 2<sup>nd</sup> International Consensus Conference for Point-of-Care Lung Ultrasound (2024-present)
- 13) ASA Representative, National Board of Echocardiography Working Group on Point-of-Care Ultrasound Board Certification (2025-present)

**C. Advisory and consultant appointments** (include government, non-government organizations, life science companies, private organizations, etc.): None

**D. Scholarly societies** (Alpha Omega Alpha, Sigma Xi, Phi Beta Kappa, etc.): None

**E. Professional awards and recognition:**

- 1) 1<sup>st</sup> Place, MIT Critical Care Hackathon (9/21/2014): "Predicting Elderly Patient Mortality in the ICU"
- 2) Critical Care Fellows' Teaching Award (1st Annual), Duke Anesthesiology Department (2017)

- 3) Fellow of the American Society of Echocardiography (2018-)
  - 4) National Award for Excellence in Point-of-Care Ultrasound Education, Alliance for Physician Certification and Advancement (2019)
  - 5) Critical Care Fellows' Teaching Award (2022), Duke Anesthesiology Department
  - 6) Nominated for Master Clinical Teacher (2023), Duke University School of Medicine
  - 7) Nominated for SEA Duke Award for Excellence and Innovation in Anesthesia Education (2024), Society for Education in Anesthesia
  - 8) 1<sup>st</sup> Place, Duke Critical Care Datathon (4/27/25): "Can Machine Learning Identify Pre-operative Factors that Predict Post-operative Mechanical Ventilation?"
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## Research support

**Current: None**

**Completed:**

**Project title:** Deidentifying images for Anatomic Reconstruction for Multi-Task POCUS Automated Interpretation

**Grant number:** 2835031

**PI:** Sean Montgomery

**Your role:** Co-PI

**Your % effort:** 65%

**Funding source:** DARPA

**Funding amount:** \$30,000

**Duration:** 10/2021-6/2022

**Project synopsis:** Developed and validated a machine learning algorithm to identify clinically-relevant findings (e.g., pneumothorax, optic nerve sheath dilation, needle proximity to arteries and nerves) based on single ultrasound clips.

**Project title:** Treatment of Alcohol Withdrawal Syndrome in a System of Hospitals Across a Large Academic Medical System

**Grant number:** n/a

**PI:** Blair Costin

**Your role:** Co-PI

**Your % effort:** n/a

**Funding source:** American Society of Anesthesiologists (ASA)

**Funding amount:** \$1,500

**Duration:** 8/2022-8/2023

**Project synopsis:** ASA funding supported planning and execution of an IRB-approved, grant-funded retrospective study comparing phenobarbital versus benzodiazepines for treatment of alcohol withdrawal in the Duke Regional Hospital ICU. Published the findings (PMID: 37368937) and used them to lead Duke University Health System Alcohol Withdrawal Care Redesign Taskforce, which culminated in a new care pathway that facilitates use of phenobarbital as the preferred first-line agent for treatment of alcohol withdrawal at all Duke

inpatient sites (prior to this taskforce, benzodiazepines were the only option at the vast majority of Duke clinical locations).

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**Mentoring activities** (for each mentee list the duration of mentor-mentee relationship and any resulting scholarship (e.g., abstract, manuscript, presentation, award, grant, academic appointment)):

- i. Faculty:
  - a. ASA Diagnostic POCUS Certificate Local Mentor for each of the following faculty:
    1. Sundar Krishnan (2022)
    2. Annemarie Thompson (2023)
    3. Jeanna Blitz (2023)
    4. Marie-Louise Meng (2023)
    5. Nitin Mehdiratta (2023)
    6. Lauriane Guichard (2023)
    7. Angella Pollak (2023)
    8. Grace McCarthy (2023)
    9. Vijay Krishnamoorthy (2024)
    10. Mary Ellingboe (2024)
    11. Angela Pierre (2025)
  - b. Mentor for Critical Care Echocardiography Board Exam log supervision for each of the following faculty:
    1. Matthew Read (2020)
    2. Christopher Cox (2021)
    3. Lauriane Guichard (2022)
- ii. Fellows, doctoral, post docs:
  - a. Alex Reskallah, Duke ICU fellow (2017-18): mentored ICU fellow in planning and execution of an IRB-exempt research project comparing conventional versus interactive methods of teaching ICU-relevant diagnostic point-of-care ultrasound. Findings presented at SOCCA Annual Meeting 2018.
  - b. ASA Diagnostic POCUS Certificate Local Mentor for each of the following Duke fellows (Critical Care Medicine, Cardiac Anesthesiology, Obstetric Anesthesiology, and Regional Anesthesia/Acute Pain fellowships):
    1. Jonathan Curley (2020-2021)
    2. Ingrid Moreno Duarte (2020-2021)
    3. Erika Lodgek (2022-2023)
    4. Kelly Ivins-O'Keefe (2023-2024)
    5. Benjamin Fiorillo (2023-2024)
    6. Braydon Bok (2025-)
  - c. Mentor for Critical Care Echocardiography Board Exam log supervision for each of the following Duke ICU fellows:
    1. Ingrid Moreno Duarte (2019-2020)
    2. Jonathan Curley (2020-2021)
    3. Andre Savadjian (2023-2024)
    4. Kelly Ivins-O'Keefe (2023-2024)
    5. Rodrigo Pereira (2023-2024)

6. Jacqueline Olive (2024-2025)
  7. Brian DelPino (2024-2025)
  8. Tiffany Dong (2024-2025)
  9. Wahida Khan (2024-2025)
  10. Scott Sparks (2025-2026)
- d. Mentor for Society of Critical Care Medicine (SCCM) ICU POCUS Curriculum log supervision for each of the following Duke fellows (Critical Care Medicine, Obstetric Anesthesiology, Perioperative Medicine, Cardiothoracic Surgery and Trauma/Acute Care Surgery fellowships):
1. Vinca Chow (2016-2017)
  2. Matthew Reed (2016-2017)
  3. Nawar Al-Rawas (2016-2017)
  4. Jamie Privratsky (2016-2017)
  5. Taylor Herbert (2017-2018)
  6. Kendall Smith (2017-2018)
  7. Tara Lenk (2018-2019)
  8. Lauriane Guichard (2019-2020)
  9. Ingrid Moreno Duarte (2019-2020)
  10. Jonathan Curley (2020-2021)
  11. William Lao (2020-2021)
  12. Olga Diomede (2020-2021)
  13. Riley Landreth (2020-2021)
  14. Karuna Puttur Rajkumar (2020-2021)
  15. RJ Krom (2021-2022)
  16. Megan Fah (2021-2022)
  17. Charles Trujillo (2021-2022)
  18. Bryan Chow (2022-2023)
  19. Ethan Garrigan (2022-2023)
  20. Max Hoffman (2022-2023)
  21. Rodrigo Pereira (2022-2023)
  22. Kelly Ivins-O'Keefe (2023-2024)
  23. Andre Savadjian (2023-2024)
  24. Jacqueline Olive (2024-2025)
  25. Brian DelPino (2024-2025)
  26. Tiffany Dong (2024-2025)
  27. Wahida Khan (2024-2025)
- e. Mentored Duke fellows from multiple specialties (Anesthesiology Critical Care; Pulmonary Critical Care; Nephrology; Acute Care/Trauma Surgery; Perioperative Medicine) in the development of fellow first-authored, Pubmed-indexed publications:
1. Nawar Al-Rawas (2017, PMID:28410321)
  2. Jamie Privratsky (2018, PMID:29985845)
  3. Tara Lenk (2019, PMID:31832180)
  4. William Fox (2020, PMID:32798171)
  5. Max Hoffman (2023, PMID: 36715419)
  6. John Ritchie (2023, PMID: 37811958)
  7. Ethan Garrigan (2023, PMID: 37721860)
  8. Rodrigo Pereira (2023, PMID: 36939233)

9. Evan Schwartz (2024, PMID: 38918098)
  10. Michael Turk (2024, PMID: 38975755; 40455675)
  11. Jacqueline Olive (2025; PMID: 40788880; 40592612)
  12. Lior Abramson (2025; PMID: 40690387; 41095730)
- iii. Resident
- a. Nathaniel Erskine, Duke Anesthesiology resident (2020-2021): served as Nathan's official resident advisor.
  - b. Deanna Malone (Duke Pharmacy resident) and Blair Costin (ICU Fellow) (2018-2023): mentored Deanna and Blair in planning and execution of an IRB-approved, grant-funded retrospective study comparing phenobarbital versus benzodiazepines for treatment of alcohol withdrawal in the Duke Regional Hospital ICU. Published the findings (PMID: 37368937) and used them to lead Duke University Health System Alcohol Withdrawal Care Redesign Taskforce, which culminated in a new care pathway that facilitates use of phenobarbital as the preferred first-line agent for treatment of alcohol withdrawal at all Duke inpatient sites (prior to this taskforce, benzodiazepines were the only option at the vast majority of Duke clinical locations).
  - c. ASA Diagnostic POCUS Certificate Local Mentor for each of the following Duke Anesthesiology residents:
    1. Henry Lather (2021-2022)
    2. Emily Masterson (2024-)
    3. Danielle Isham (2024-)
    4. Marc Ghabasch (2024-)
    5. Madeline Stovall (2024-)
    6. Robert Chu (2024-)
    7. Chris Haxhi (2024-)
    8. Jennifer Anderson (2024-)
    9. Adriana McMichael (2024-)
    10. Haley Amenson (2024-)
    11. Allison Apfel (2025-)
    12. Gina Russell (2025-)
    13. Anne Walker (2025-)
    14. Rick Baggot (2025-)
    15. Sophia Toles (2025-)
    16. Natasha Navejar (2025-)
  - d. Mentored Duke residents from multiple specialties (Anesthesiology and Pharmacy) in the development of resident first-authored, Pubmed-indexed publications:
    1. Dennis Thapa (2017, PMID:28129941)
    2. Leah Acker (2019, PMID:30762592; 2021, PMID:33793430)
    3. Luca La Colla (2020, PMID:32732100)
    4. Annie Castro (2021, PMID:33783377)
    5. Deanna Malone (2023, PMID: 37368937)
    6. Marc Ghabasch (2025; 40169311)

**Education / teaching activities (residents, fellows, medical students, CME):**

- i) Teaching and supporting learners:

- a) Regularly teach and support learners as part of routine practice of anesthesiology and critical care medicine.
- b) Since 2016, have given over 200 scheduled lectures and seminars to Duke medical students, residents, and fellows. Typically, these lectures cover point-of-care ultrasound and resuscitation-related topics. Full list of scheduled talks available upon request.
- ii) Development of courses/educational programs
  - a) Developed and implemented a comprehensive curriculum to teach fellows from multiple specialties (Regional Anesthesia/Pain Medicine; ICU; Perioperative Medicine; Obstetric Anesthesiology) diagnostic point-of-care ultrasound (POCUS) (2016-present)
  - b) Co-organized and ran annual workshop critical care ultrasound for ICU fellows from the Southern region, Duke University Medical Center (DUMC; 2017, 2018, 2019)
  - c) As Editor-in-Chief of the American Society of Anesthesiologists' (ASA) Editorial Board on Point-of-Care Ultrasound (POCUS), led the creation, implementation, and ongoing content refresh of the ASA's Certificate Program in Diagnostic POCUS, a novel curriculum that standardizes the training of diagnostic POCUS within the field of anesthesiology.
  - d) As Section Editor for POCUS for OpenAnesthesia.org (international non-profit dedicated to teaching anesthesiology fundamentals freely to learners across the world), developed a multi-modal curriculum for teaching diagnostic POCUS using a combination of 5 written primers on ABA Keywords (29 pages, 6,607 words) and a POCUS Case of the Month Series (10 educational videos; total ~5 hours content; as of December 2025, each video has been viewed > 1,000 times). Supervised 3 junior faculty Associate Editors and multiple anesthesiology residents/fellows in the development of this content.
- iii) Development of assessment tools and methods
  - a) Developed and implemented a sepsis simulation for anesthesia trainees, including a competence assessment (PMID:30800765; 2016).
  - b) Developed and regularly maintain/update a web-based, interactive POCUS curriculum for Duke trainees (2017-present).
  - c) Developed and implemented a cardiac tamponade simulation case for anesthesia trainees, including a competence assessment.
  - d) As Editor-in-Chief of the American Society of Anesthesiologists' (ASA) Editorial Board on Point-of-Care Ultrasound (POCUS), led the creation and implementation of the Certificate's Final Exam, an assessment tool that evaluates proficiency in diagnostic POCUS image acquisition, interpretation, and appropriate use.
- iv) Education management/ Leadership
  - a) Founder and Director, Point-of-Care Ultrasound Fellowship Rotation, Duke SICU (2016-present)
  - b) Founder and Director, Point-of-Care Ultrasound Fellowship Rotation, Duke Ob-Anesthesia Fellowship (2016-2022)
  - c) Founder and Director, Point-of-Care Ultrasound Fellowship Rotation, Duke Perioperative Medicine Fellowship (2017-2021)
  - d) Member, Veterans Administration National Writing Group on POCUS Training and Credentialing Standards (2016-2018)
  - e) Content Developer for National Certificates in Point-of-Care Ultrasound, Alliance for Physician Certification and Advancement (2016-2019)
  - f) Editor-in-Chief, ASA Editorial Board on Point-of-Care Ultrasound (2020-2022)

- g) Editor, American Society of Anesthesiologists' (ASA) Editorial Board on Point-of-Care Ultrasound (2022-present)
- h) Section Editor for POCUS, OpenAnesthesia.org (2022-present)
- i) ASA Representative, International Consensus Conference on Lung Ultrasound 2.0 (2024-present)
- j) ASA Representative, National Board of Echocardiography Working Group on POCUS Board Certification (2025-)
- k) ASA Representative, ASRA/Multiprofessional Society Taskforce on POCUS Standardization (2025-present)

**Invited lectures and presentations (do not list abstract presentations):**

- i. Visiting professorships:
  - a. Visiting Professorship and Grand Rounds, "Point-of-care ultrasound in the care of critically ill patients," Anesthesiology Department, St. Luke's International Hospital, Tokyo, Japan (10/13/17)
  - b. Visiting Professorship, "Teach the Teachers: POCUS for Hospitalists", Four-day Workshop, Department of Internal Medicine, Singapore General Hospital, Singapore (1/21/18-1/24/18)
  - c. Visiting Professorship (remote during COVID)/Grand Rounds, "Point-of-Care Ultrasound: Quo Vadis?", Rutgers-New Jersey Medical School, Department of Anesthesiology (9/8/21)
  - d. Visiting Professorship (remote during COVID)/Grand Rounds, "Point-of-Care Ultrasound: Quo Vadis?", Grand Rounds, Maine Medical Center, Department of Anesthesiology (4/21/22)
  - e. Visiting Professorship (remote during COVID)/Grand Rounds, "Point-of-Care Ultrasound: Quo Vadis?", Montefiore Medical Center, Department of Anesthesiology (11/4/22)
- ii. National/International meetings:
  - a. Invited Speaker, American Society of Anesthesiologists' Annual Meeting, Refresher Course on Perioperative Focused Cardiac and Lung Ultrasound (10/2017, 10/2018, 10/2019)
  - b. Invited Speaker, "Point of Care Ultrasound for Anesthesiologists & Intensivists," Society for Imaging Informatics in Medicine Annual Meeting (06/26/2020)
  - c. Invited Speaker, "Perioperative Heart & Lung Ultrasound: How do I use it?," EBPOM 2020: Annual London Congress of Perioperative Medicine (9/11/2020)
  - d. Invited Speaker, "ASRA Recommendations on Point-of-Care Ultrasound Education and Training," Live National Webinar (8/23/2021)
  - e. Invited Speaker, "ASA Diagnostic POCUS Certificate," Introduction to Perioperative Point-of-Care Ultrasound, American Society of Regional Anesthesia National Workshop (11/6/2021)
  - f. Lead Speaker, ASA Diagnostic POCUS Certificate: Panel Discussion, American Society of Anesthesiologists' Annual Meeting (10/09/2021)
  - g. Teaching Faculty, ASA Diagnostic POCUS Certificate: 4 Separate Workshops (see workshops section below), American Society of Anesthesiologists' Annual Meeting (Oct 9-11, 2021)
  - h. Lead Speaker, ASA Diagnostic POCUS Certificate: Panel Discussion, American Society of Anesthesiologists' Annual Meeting (10/22/2022)
  - i. Lead Speaker and Organizer, ASA Diagnostic POCUS Certificate: 6 Separate Workshops (see workshops section below), American Society of Anesthesiologists' Annual Meeting,

New Orleans, LA (Oct 22-24, 2022)

- j. Lead Speaker, ASA Diagnostic POCUS Certificate: Panel Discussion, American Society of Anesthesiologists' Annual Meeting, San Francisco, CA (10/14/2023)
  - k. Lead Speaker and Organizer, ASA Diagnostic POCUS Certificate: 5 Separate Workshops (see workshops section below), American Society of Anesthesiologists' Annual Meeting, San Francisco, CA (Oct 14-16, 2023)
  - l. Invited Speaker, "Basic and Advanced Lung Ultrasound," ASRA Advanced POCUS Workshop, San Diego, CA (12/2/2023)
  - m. Lead Speaker and Organizer, ASA Diagnostic POCUS Certificate: 6 Separate Workshops (see workshops section below), American Society of Anesthesiologists' Annual Meeting, Philadelphia, PA (Oct 19-21, 2024)
  - n. Lead Speaker and Organizer, ASA Diagnostic POCUS Certificate: 6 Separate Workshops (see workshops section below), American Society of Anesthesiologists' Annual Meeting, San Antonio, TX (Oct 11-13, 2025)
  - o. Invited Speaker, "Gastric Ultrasound: how do I do it?," Holiday CME Seminars, Aspen, CO (Feb 2, 2026)
  - p. Invited Speaker, "Lung ultrasound for the anesthesia provider", Holiday CME Seminars, Aspen, CO (Feb 3, 2026)
  - q. Invited Speaker, "FAST exam: what does the anesthesia provider need to know?," Holiday CME Seminars, Aspen, CO (Feb 3, 2026)
  - r. Invited Speaker, "Basic Cardiac POCUS for the non-cardiac anesthesiologist: pre-op assessment & crisis management", Holiday CME Seminars, Aspen, CO (Feb 4, 2026)
  - s. Invited Speaker, "POCUS Logistics: Training, Credentialing/Privileging, and Billing", Holiday CME Seminars, Aspen, CO (Feb 4, 2026)
  - t. Invited Speaker, "POCUS off the beaten path: DVT, Diaphragm, and Beyond," Holiday CME Seminars, Aspen, CO (Feb 5, 2026)
- iii. National Scientific Meetings (invited):
- a. See International Meetings above.
- iv. Instructional Courses, workshops, symposiums (National)
- a. Invited Faculty, American College of Chest Physicians Essentials in Ultrasonography Course (Chicago, IL; 11/2016)
  - b. Invited Faculty, CastleFest National Emergency Medicine POCUS Course (Lexington, KY; 4/2017)
  - c. Invited Faculty, Veterans Administration National Point-of-Care Ultrasound Course (Orlando, FL; 9/2017)
  - d. Invited Faculty, Introduction to Perioperative Point-of-Care Ultrasound, American Society of Regional Anesthesia National Workshop (San Diego, CA; 3/2019)
  - e. Invited Faculty, Introduction to Perioperative Point-of-Care Ultrasound and Transthoracic Echocardiography Workshop, American Society of Anesthesiologists' Annual Meeting (Orlando, FL; 10/2019)
  - f. Invited Faculty, Perioperative Point of Care Ultrasound Workshop, American Society of Anesthesiologists' Annual Meeting (Orlando, FL; 10/2019)
  - g. Invited Faculty, Advanced Critical Care Ultrasonography for the Perioperative Physician Workshop, American Society of Anesthesiologists' Annual Meeting (Orlando, FL; 10/2019)
  - h. Invited Faculty, Introduction to Perioperative Point-of-Care Ultrasound Workshop,

- American Society of Anesthesiologists' Annual Meeting (San Diego, CA; 10/9/2021)
- i. Invited Faculty, Point-of-Care Ultrasound (POCUS) for All Anesthesiologists, American Society of Anesthesiologists' Annual Meeting (San Diego, CA; 10/10/2021)
- j. Invited Faculty, Perioperative Point of Care Ultrasound Workshop, American Society of Anesthesiologists' Annual Meeting (San Diego, CA; 10/11/2021)
- k. Invited Faculty, Basic Critical Care Ultrasonography for the Perioperative Physician, American Society of Anesthesiologists' Annual Meeting (San Diego, CA; 10/11/2021)
- l. Invited Faculty, Point-of-Care Ultrasound (POCUS) for All Anesthesiologists, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/2022)
- m. Invited Faculty, Introduction to Perioperative Point-of-Care Ultrasound Workshop, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/22/2022)
- n. Invited Faculty, Hands on Scanning: Live POCUS Practice and Guidance, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/22//2022)
- o. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Focused Cardiac Ultrasound Image Acquisition, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/22/2022)
- p. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Building, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/22/2022).
- q. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Lung and Abdominal (FAST & Gastric) Image Acquisition, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/23/2022).
- r. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Building, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/23/2022).
- s. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/24/2022).
- t. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Building, American Society of Anesthesiologists' Annual Meeting (New Orleans, LA; 10/24/2022).
- u. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Focused Cardiac Ultrasound Image Acquisition, American Society of Anesthesiologists' Annual Meeting (San Francisco, CA; 10/14/2023).
- v. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists' Annual Meeting (San Francisco, CA; 10/14/2023).
- w. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Lung and Abdominal (FAST & Gastric) Image Acquisition, American Society of Anesthesiologists' Annual Meeting (San Francisco, CA; 10/15/2023).
- x. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists' Annual Meeting (San Francisco, CA; 10/15/2023).
- y. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists' Annual Meeting (San Francisco, CA; 10/16/2023).

- z. Invited Speaker, “Advanced Lung Ultrasound,” Advanced POCUS Workshop, American Society of Regional Anesthesia (San Diego, CA; Dec 2-3, 2023)
- aa. Invited Speaker, Diagnostic POCUS for the Perioperative Anesthesiologist, Michigan Society of Anesthesiologists’ Annual Meeting (Traverse City, MI; 9/4/2024)
- bb. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Focused Cardiac Ultrasound Image Acquisition, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/19/2024).
- cc. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/19/2024).
- dd. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Lung and Abdominal (FAST & Gastric) Image Acquisition, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/20/2024).
- ee. Lead Speaker and Workshop Co-Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Gastric Image Acquisition, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/20/2024).
- ff. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/20/2024).
- gg. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (Philadelphia, PA; 10/21/2024).
- hh. Invited Speaker, American Society of Echocardiography 50<sup>th</sup> Anniversary Meeting: “AI and POCUS: Where we are and where we’re headed” (Nashville, TN; 9/7/2025).
- ii. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (San Antonio, TX; 10/11/2025).
- jj. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Lung and Abdominal (FAST & Gastric) Image Acquisition, American Society of Anesthesiologists’ Annual Meeting ((San Antonio, TX; 10/11/2025).
- kk. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (San Antonio, TX; 10/12/2025).
- ll. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Focused Cardiac Ultrasound Image Acquisition, American Society of Anesthesiologists’ Annual Meeting (San Antonio, TX; 10/12/2025).
- mm. Lead Speaker and Workshop Co-Organizer, ASA Diagnostic POCUS Certificate Part 2 Workshop: Gastric Image Acquisition, American Society of Anesthesiologists’ Annual Meeting (San Antonio, TX; 10/12/2025).
- nn. Lead Speaker and Workshop Organizer, ASA Diagnostic POCUS Certificate Part 4 Workshop: Log Portfolio Building, American Society of Anesthesiologists’ Annual Meeting (San Antonio, TX; 10/13/2025).

**Clinical activity** (describe clinical focus or specialization, clinical commitment as % effort, documentation of regional /institutional referral patterns):

- a) Critical Care Medicine (50%)
- b) Anesthesiology (50%)

**Academic, leadership and administrative activities – School of Medicine** (list roles / responsibilities, include dates):

- i. Committees
  - a. Member, Quality and Safety Committee, Anesthesiology Department, DUH (2016-present)
- ii. Leadership positions
  - a. Co-Chair, Point-of-Care Ultrasound Taskforce, Duke University Health System (2019-2023)
  - b. Co-Chair, DUHS Alcohol Withdrawal Care Redesign Taskforce (2019-2021)

**Leadership and administrative activities – hospital / DUHS** (list roles / responsibilities, include dates):

- i) Director of Point-of-Care Ultrasound, Duke Surgical ICU (2016-present)