

BROOKS WALSH, M.D.

Emergency Physician

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EDUCATION & TRAINING

Yale-New Haven Hospital Emergency Medicine Residency New Haven, CT Resident	2007 – 2011
Albany Medical College, Albany, NY M.D.	2003 – 2007
University of New Hampshire, Durham, NH Premedical Coursework	1999 – 2002
Advanced Life Support Institute, Conway, NH Paramedic certification	1996 – 1997
Stonehearth Open Learning Opportunities, Conway, NH Emergency Medical Technician certification	1995
University of New Mexico, Albuquerque, NM Graduate coursework in mathematics.	1992 – 1994
Marlboro College, Marlboro, VT B.A., Philosophy of Physics	1986 – 1992

BOARD CERTIFICATION

Diplomate, American Board of Emergency Medicine	6/5/2012-12/31/2022
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WORK EXPERIENCE

Attending Physician, Bridgeport Hospital, Bridgeport CT	8/2011 - Now
Paramedic; Frisbie Memorial Hospital, Rochester, NH	1998 – 2003
Emergency Medical Technician; Tamworth, Bartlett, Bow, NH	1995 – 1998

LEADERSHIP

Member of Emergency Department ad hoc COVID planning group	2020
Coordinator monthly departmental Morbidity & Mortality conference	1/2021 - now

RESEARCH & PUBLICATIONS

Journal articles

Walsh B, Bartfield J: "Survey of Parental Willingness-to-Pay and Willingness-to-Stay for 'Painless' Intravenous Catheter Placement" *Pediatric Emergency Care*. 2006; 22(11): 699-703

Walsh B, Bomann S, Moore C: "Diagnosing Infective Endocarditis by Emergency Department Echocardiogram" *Academic Emergency Medicine*. 2009; 16(6): 572-573

Walsh B, Sutijono D, Moore C: "Emergency Ultrasound Diagnosis of Traumatic Renal Cyst Rupture" *Critical Ultrasound Journal*. 1, 127-128 (2010). <https://doi.org/10.1007/s13089-010-0023-6>

Walsh, Brooks, David C. Cone, Emily M. Meyer, and Gregory L. Larkin. "Paramedic Attitudes Regarding Prehospital Analgesia." *Prehospital Emergency Care* 17, no. 1 (September 12, 2012): 78-87. <https://doi.org/10.3109/10903127.2012.717167>.

Walsh B, Van Tonder: "Orthopedic Pitfalls of the Upper Extremity" in "Urgent Care Emergencies: Avoiding the Pitfalls and Improving the Outcomes," Mattu ed. Published 9/4/2012, Wiley-Blackwell; 1 edition

Watford CA, **Walsh B**: "Passive Leg Elevation should not delay appropriate cardiopulmonary resuscitation" *Resuscitation*. 2013 May;84(5):e61. doi: 10.1016/j.resuscitation.2013.01.036. Epub 2013 Feb 11.

Walsh BM, Karim R, and Smith SW. "A Patient with a Biventricular Pacemaker Presenting with Chest Pain." *JAMA Internal Medicine* 2015 Jun;175(6):1053-5. doi: 10.1001/jamainternmed.2015.0515. PMID: 25844881.

Oto, Brandon, Domenic John Corey, James Oswald, Derek Sifford, and **Brooks Walsh**. "Early Secondary Neurologic Deterioration After Blunt Spinal Trauma: A Review of the Literature." *Academic Emergency Medicine*, 2015 Oct;22(10):1200-12. doi: 10.1111/acem.12765. Epub 2015 Sep 22. PMID: 26394232.

Walsh, Brooks M., and Christopher L. Moore. "McConnell's Sign Is Not Specific for Pulmonary Embolism: Case Report and Review of the Literature." *The Journal of Emergency Medicine*, 2015 Sep;49(3):301-4. doi: 10.1016/j.jemermed.2014.12.089. Epub 2015 May 16. PMID: 25986329.

Walsh, Brooks M., and Stephen W. Smith. "'Persistent Juvenile' T-Wave Pattern May Not Be Persistent: Case Series and Literature Review." *The Journal of Emergency Medicine*, 2015 Dec;49(6):e165-72. doi: 10.1016/j.jemermed.2015.06.064. Epub 2015 Sep 26. PMID: 26409676.

Araque, Katherine A., Michael J. Smith, and **Brooks M. Walsh**. "T-Wave Inversions on ECG as Primary Manifestation of Hashimoto's Disease." *BMJ Case Reports* Araque KA, Smith MJ, Walsh BM. T-wave inversions on ECG as primary manifestation of Hashimoto's disease. *BMJ Case Rep*. 2016;2016:bcr2016214949. Published 2016 Apr 7. doi:10.1136/bcr-2016-214949

Lee, Daniel H., **Brooks Walsh**, and Stephen W. Smith. "Terminal QRS Distortion Is Present in Anterior Myocardial Infarction but Absent in Early Repolarization." *The American Journal of Emergency Medicine* 34, no. 11 (November 1, 2016): 2182-85. <https://doi.org/10.1016/j.ajem.2016.08.053>.

Walsh, Brooks Myrick, and Stephen W. Smith. "Differences in Electrocardiographic Findings Between Acute Isolated Right Ventricular Myocardial Infarction and Acute Anterior Myocardial Infarction." *JAMA Internal Medicine* 176, no. 12 (December 1, 2016): 1875-76.

Walsh, Brooks M., and Lauren A. Tobias. "Low-Pressure Pericardial Tamponade: Case Report and Review of the Literature." *Journal of Emergency Medicine* 52, no. 4 (April 1, 2017): 516–22.
<https://doi.org/10.1016/j.jemermed.2016.05.069>.

Walsh, Brooks M. "Perichondritis Associated with Cartilaginous Ear Piercing." *Visual Journal of Emergency Medicine* Volume 6, January 2017, Page 12. <https://doi.org/10.1016/j.visj.2016.06.006>

Yip, Michael F., and **Brooks M. Walsh**. "Hemorrhagic Pericardial Cyst Diagnosis Accelerated by Emergency Physician Echocardiography: A Case Report." *The Journal of Emergency Medicine*, 2017 Apr;52(4):e105-e109. doi: 10.1016/j.jemermed.2016.10.023. Epub 2017 Jan 20. PMID: 28117110.

Varghese, Jithin G., Qurat-ul-ain Jelani, Stuart Zarich, and **Brooks Walsh**. "The Role of Early Focused Cardiac Ultrasound in a Not-So-Typical Presentation of Takotsubo Cardiomyopathy: A Case Report." *Journal of Emergency Medicine* 2017 May;52(5):e169-e173. doi: 10.1016/j.jemermed.2017.01.024. Epub 2017 Mar 3. PMID: 28268118.

Walsh, Brooks, Ken Grauer, Edward R. Tuohy, and Stephen W. Smith. "Proximal RCA Occlusion Producing Anterior ST Segment Elevation, Q Waves, and T Wave Inversion." *Journal of Electrocardiology*, December 19, 2017. <https://doi.org/10.1016/j.jelectrocard.2017.12.036>.

Miranda, David F., Angie S. Lobo, **Brooks Walsh**, Yader Sandoval, and Stephen W. Smith. "New Insights Into the Use of the 12-Lead Electrocardiogram for Diagnosing Acute Myocardial Infarction in the Emergency Department." *The Canadian Journal of Cardiology* 34, no. 2 (February 2018): 132–45.
<https://doi.org/10.1016/j.cjca.2017.11.011>.

Smith, Stephen W., **Brooks Walsh**, Ken Grauer, Kyuhyun Wang, Jeremy Rapin, Jia Li, William Fennell, and Pierre Taboulet. "A Deep Neural Network Learning Algorithm Outperforms a Conventional Algorithm for Emergency Department Electrocardiogram Interpretation." *Journal of Electrocardiology*, November 16, 2018. <https://doi.org/10.1016/j.jelectrocard.2018.11.013>.

Walsh, Brooks, and Lauren Tobias. "In Reply to Shiber." *Journal of Emergency Medicine* 54, no. 1 (January 1, 2018): 130. <https://doi.org/10.1016/j.jemermed.2017.08.069>.

Walsh, Brooks. "Misplacing V1 and V2 Can Have Clinical Consequences." *The American Journal of Emergency Medicine* 0, no. 0 (February 7, 2018). <https://doi.org/10.1016/j.ajem.2018.02.006>.

Walsh, Brooks, and Stephen W. Smith. "Not All Electrocardiographic Variants in Black Patients Can Be Considered 'Normal.'" *The American Journal of Cardiology*, January 31, 2018.
<https://doi.org/10.1016/j.amjcard.2018.01.008>.

Walsh, Brooks M. "J Point Elevation Needs to Be Defined, and Is Not Synonymous with Early Repolarization." *The American Journal of Cardiology*, June 3, 2018.
<https://doi.org/10.1016/j.amjcard.2018.05.034>.

Smith, Stephen W., Jeremy Rapin, Jia Li, Yann Fleureau, William Fennell, **Brooks M. Walsh**, Arnaud Rosier, Laurent Fiorina, and Christophe Gardella. "A Deep Neural Network for 12-Lead Electrocardiogram Interpretation Outperforms a Conventional Algorithm, and Its Physician Overread, in the Diagnosis of Atrial Fibrillation." *IJC Heart & Vasculature* 25 (December 1, 2019): 100423.
<https://doi.org/10.1016/j.ijcha.2019.100423>.

Walsh, Brooks, Peter W. Macfarlane, Jordan M. Prutkin, and Stephen W. Smith. "Distinctive ECG Patterns in Healthy Black Adults." *Journal of Electrocardiology* 56 (October 2019): 15–23.
<https://doi.org/10.1016/j.jelectrocard.2019.06.007>.

Dodd, Kenneth W., Deborah L. Zvosec, Michael A. Hart, George Glass, Laura E. Bannister, Richard M. Body, Brett A. Boggust, ... **Brooks M. Walsh**, MD; Jennifer L. White, MD; Stephen W. Smith, MD.
"Electrocardiographic Diagnosis of Acute Coronary Occlusion Myocardial Infarction in Ventricular Paced Rhythm Using the Modified Sgarbossa Criteria." *Annals of Emergency Medicine* 0, no. 0 (June 22, 2021).
<https://doi.org/10.1016/j.annemergmed.2021.03.036>.

POSTERS & PRESENTATIONS

"A 33 year-old female with chest pain," Clinical Pathologic Case Presentation, Yale-New Haven Hospital, November 2009

"Pediatric Syncope," Yale-New Haven Hospital, April 2008

Walsh B, Bartfield J: "Parents will pay out-of-pocket and will stay longer in the emergency department to make their child's IV painless." Poster Session, New York American College of Emergency Physicians Scientific Assembly. July 2005

Walsh B, Cone DC, Larkin G "Paramedics Attitudes Regarding Prehospital Analgesia: "Taking the Edge Off." Poster Session, 2011 Society for Academic Emergency Medicine Annual Meeting" SAEM Abstracts, Plenary Session." *Academic Emergency Medicine* 18, no. s1 (2011): S4–249.
<https://doi.org/10.1111/j.1553-2712.2011.01073.x>.

"Endocrine Emergencies for the Paramedic," Bridgeport Hospital, Emergency Medicine Institute, December 2011

Walsh, Brooks, Stephen W Smith, Derek Sifford, Vince DiGiulio, Brandon Oto, Christopher A. Watford, and Ken Grauer. "Examples of Precordial 12-Lead Electrocardiogram Lead Placement Found on Google Images Are Often Incorrect and Lack Gender and Racial Diversity," "SAEM Annual Meeting Abstracts." *Academic Emergency Medicine* 24, no. S1 (2017): S7–281. <https://doi.org/10.1111/acem.13203>.

BOOK CHAPTER

Walsh, Brooks M., and Reinier van Tonder. "Orthopedic Pitfalls of the Upper Extremity." In *Urgent Care Emergencies*, edited by Deepi G. Goyal MD, Amal Mattu MD
2013 John Wiley & Sons, Ltd. ISBN:9780470657720

PEER REVIEWS

Text book

Wesley, Keith. *Elsevier: Huszar's ECG and 12-Lead Interpretation, 5th Edition: Wesley*. 5th ed. Elsevier, 2016. isbn=9780323355759.

Journal publications

Enhancing the Accuracy of Computerized Interpretation of Old Inferior Wall Myocardial Infarction in a Routine Or Preoperative Electrocardiogram By Analyzing Repolarization Abnormalities and Q Waves in Leads II, III and AVF

Reviewed: Dec 2020 for Journal of Investigative Medicine

A Unique Case of Inferior ST Segment Elevation and Pericardial Tamponade Caused By Electric Injury

Reviewed: Dec 2020 for Journal of Electrocardiology

The use of Smith-modified Sgarbossa criteria to diagnose an extensive anterior acute myocardial infarction in a patient presenting with a left bundle branch block

Reviewed: Nov 2020 for Journal of Electrocardiology

Machine learning techniques for detecting electrode misplacement and interchanges when recording ECGs: A systematic review and meta-analysis

2 rounds from Jul 2020 to Aug 2020 for Journal of Electrocardiology

Early Identification of Takotsubo Syndrome in the Emergency Department Using Point-of-Care Echocardiography: A Case Series"

Reviewed: Jun 2020 for Journal of Clinical Ultrasound

Prognostic Value of Initial QRS Analysis in Acute Anterior Myocardial Infarction: Correlation with Left Ventricular Systolic Dysfunction, Serum Biomarkers, and Cardiac Outcome

Reviewed: Mar 2020 for Journal of Electrocardiology

Accuracy and Knowledge in 12-lead ECG Placement Among Nursing Students and Nurses: a Multicenter Italian Study

Reviewed: Jan 2020 for Journal of Electrocardiology

The efficacy of a nationwide interactive ECG teaching workshop for UK medical students

Reviewed: Aug 2019 for Journal of Electrocardiology

Data driven feature selection and machine learning to detect misplaced V1 and V2 chest electrodes when recording the 12-lead electrocardiogram

2 rounds from May 2019 to Jul 2019 for Journal of Electrocardiology

Checklist efficacy in electrocardiogram interpretation by medical interns

Reviewed: Jun 2019 for Advances in Medical Education and Practice

How do healthcare practitioners read electrocardiograms? A dual-process model of electrocardiogram interpretation

Reviewed: Apr 2019 for BMJ Open

Initial evaluation and management of wide-complex tachycardia: A simplified and practical approach

Reviewed: Dec 2018 for Journal of Electrocardiology

Electrocardiogram algorithms used to differentiate wide complex tachycardias demonstrate diagnostic limitations when applied by non-cardiologists
Reviewed: Sep 2018 for Journal of Electrocardiology

A Cross – Sectional and Scrutiny Study for Assessment Quality of Working Life and Organizational Commitment of Prehospital Paramedic Personnel in South-East Iran
Reviewed: Aug 2018 for World Journal of Emergency Medicine

Comparison between Negative T waves characteristics in acute coronary syndrome and pulmonary embolism
Reviewed: May 2018 for Journal of Electrocardiology

An Assessment of Pain Management Among Patients Presenting to Emergency Medical Services After Suffering a Fall
Reviewed: Aug 2013 for Prehospital Emergency Care

NON-PEER REVIEWED/SOCIAL MEDIA EDUCATION

"Mill Hill Ave Command" 9/2011 - Now
(<http://millhillavecommand.blogspot.com/>)
Author of blog devoted to recent EMS research, education, and local EMS issues.
Example: [You gave adenosine for THAT? \(part 3\)](#)

"Doc Cottle's Desk" 9/2011 - Now
Author of blog devoted to EM resident education
(<http://doccottlesdesk.blogspot.com/>)
Example: [The stethoscope – "It's not a lie if you believe it."](#)

"Dr Smith's ECG Blog" 2015 - Now
Contributor
(<http://hqmeded-ecg.blogspot.com/>)
Example: [Giant R-waves. What are they?](#)

"EMS 12-LEAD" 2013 - 2020
Associate Editor
(<http://www.ems12lead.com/>)
Example: [Nitro paste is NOT an emergency medicine drug – The Evidence](#)

Emergency Medicine Curiosa 2016 - Now
Author of blog devoted to emergency ultrasound, echocardiography, and electrocardiology
(<https://emcuriosa.blogspot.com/>)
Example [Bugs in the B-hive: Read the lung ultrasound in context!](#)

MEDIA - INTERVIEWS/APPEARANCES

News 12 CT

Doctors: Boy makes rare recovery after near-drowning 5/8/2017
<https://connecticut.news12.com/doctors-boy-makes-rare-recovery-after-near-drowning-36089891?fbclid=IwARof2x725scCFDbzT2SL8Scj6Se2Br6n8RQiwWKOOnSG6WUXxSyGT64yt4l>

CT POST

"Why CT experts say it's hard to tell when people are too high to drive" 8/16/2021
<https://www.ctpost.com/news/article/Why-CT-experts-say-it-s-hard-to-tell-when-16389451.php>

"With flu returning and COVID cases rising, could Connecticut see 'twindemic' this winter?" 12/2/21
[https://www.nhregister.com/news/article/With-flu-returning-and-COVID-cases-rising-could-16668741.php?utm_campaign=CMS%20Sharing%20Tools%20\(Premium\)&utm_source=share-by-email&utm_medium=email](https://www.nhregister.com/news/article/With-flu-returning-and-COVID-cases-rising-could-16668741.php?utm_campaign=CMS%20Sharing%20Tools%20(Premium)&utm_source=share-by-email&utm_medium=email)

"COVID treatments in short supply across Connecticut, doctors say" 12/31/21
<https://www.ctpost.com/news/article/COVID-treatments-in-short-supply-across-16739118.php>

"When will pandemic end in Connecticut? Experts say it's complicated." 2/27/22
<https://www.ctinsider.com/news/article/When-will-pandemic-end-in-Connecticut-Experts-16950820.php>

TEACHING

Coordinator & presenter of monthly department morbidity & mortality meeting 1/2021 - now

Review cases from our ED and hospital, discuss with leadership
Identify potential missteps and areas for improvement
Provide approximately 30 minute presentations each month.

Bedside resident education 8/2011 - Now

I supervise and instruct residents from the Yale Emergency Medicine residency.
I also supervise off-service residents from the internal medicine, obstetrics, and podiatry services
I provide teaching to physician assistant students as well.

Social-media based teaching 8/2012 - now

I use Twitter to highlight interesting ECG and bedside echo teaching points
Currently have > 5000 followers
Recent teaching threads have earned 25,000 - 400,000 impressions

AWARDS & HONORS

Daisy Award (The Daisy Foundation) 8/2017

Usually this nursing award is given to an individual nurse..
In our case, I received the award as part of an ED team of nurses, technicians

Teaching Award (Yale Emergency Medicine Residency) 2011

"In Recognition of Outstanding Teaching by an Emergency Medicine Resident"

Power Day Award (Yale Medical School - 4th year students) "Dr. Brooks Walsh, one of eight, receives a Power Day Award presented by the graduating medical school class. The award represents those residents that exemplify model clinicians."	2011
Johnson & Johnson Physician Scholars in International Health Program Fellow, Yale School of Medicine	2010
The Gold Humanism Honor Society , Albany Medical College	2006
Graduated Cum Laude , Marlboro College	1992
Woodworth Award in Mathematics , Marlboro College	1991
LICENSE Physician, State of Connecticut #049681	Current