

## CURRICULUM VITAE<sup>1</sup>

**Michael D. Zwank, M.D.**  
**US Citizenship**

### PROFESSIONAL ADDRESS

Regions Hospital  
Department of Emergency Medicine  
640 Jackson Street, MS11102F  
Saint Paul, MN 55101  
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### Education

<b>Degree</b>	<b>Institution</b>	<b>Date Degree Granted</b>
B.S.	University of Wisconsin Madison, WI Molecular Biology	1996
M.D.	University of Wisconsin Medical School Madison, WI Doctor of Medicine	2001
Internship	Boston Medical Center Internal Medicine Boston, MA	2003
Residency	Boston Medical Center Emergency Medicine Boston, MA	2006
Residency	Boston Medical Center Chief Resident Emergency Medicine Boston, MA	2006

**Certifications, Licenses**

Fellow American Academy of Emergency Medicine	2013-Present
Fellow American College of Emergency Physicians	2009-Present
American Registry for Diagnostic Medical Sonography (RDMS)	2009-Present
American Board of Emergency Medicine	2007-Present
Minnesota Medical License	2006-Present
Wisconsin Medical License	2006-Present
Minnesota DEA Registration	2006-Present
Wisconsin DEA Registration	2006-Present
Pediatric Advanced Life Support (PALS)	2003-Present
Advanced Trauma Life Support (ATLS)	2003-Present
Advanced Cardiac Life Support (ACLS)	2002-Present

**Academic Appointments**

University of Minnesota, Twin Cities Assistant Professor of Emergency Medicine	2007-Present
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**Clinical/Hospital Appointments**

Research Director Department of Emergency Medicine Regions Hospital Saint Paul, MN	8/2012-Present
Ultrasound Director Department of Emergency Medicine Regions Hospital Saint Paul, MN	1/2007-Present
Senior Staff Physician Department of Emergency Medicine Regions Hospital Saint Paul, MN	8/2006-Present
Attending Physician	8/2006-Present

Emergency Department, HealthPartners Western  
Wisconsin Group (Hudson Hospital, Lakeview Hospital,  
Westfields Hospital, Amery Regional Medical Center)

Attending Physician  
Emergency Department  
Saint Croix Regional Medical Center  
Saint Croix Falls, WI

8/2006-9/2012

### Consulting Positions

Editorial Review Group Chair in Emergency Medicine  
Doody Enterprises, Inc.  
1100 Lake St. Suite LL 25  
Oak Park, IL 60301

2/2012-present

- I write and edit reviews for recently published books in the field of emergency medicine.  
I have a group of residents that assist in the writing of the reviews. These reviews are  
published online and referenced by major booksellers including Amazon.com.

### Expert Witness Experience – Civil Cases

2011 – Consulted on vascular injury due to police dog bite

### Current Membership and Offices in Professional Organizations

American Academy of Emergency Medicine

2013-Present

American Medical Association

2003-Present

American College of Emergency Physicians

2001-Present

Society for Academic Emergency Medicine

2001-Present

### HONORS AND AWARDS FOR RESEARCH WORK, TEACHING, PUBLIC ENGAGEMENT, AND SERVICE

#### External Sources

Fellow

2013

American Academy of Emergency Medicine  
Milwaukee, WI

Faculty Teaching Award

2011

Regions Hospital Emergency Medicine Residency  
Saint Paul, MN

- Presented in recognition of the outstanding faculty educator  
for emergency medicine residents

- Fellow 2009  
 American College of Emergency Medicine  
 Dallas, Texas  
 - Awarded in recognition of special contributions to the College and the specialty of emergency medicine.
- Apple Award 2007  
 Regions Hospital Emergency Medicine Residency  
 Saint Paul, MN  
 - Presented in recognition of the outstanding faculty educator for medical students rotating through the emergency department
- David A. Frommer Award for Academic Excellence 2006  
 Boston Medical Center Emergency Medicine Residency  
 Boston, MA  
 - Awarded to the resident who has embodied academic research during residency
- Merck Scholar 1999  
 University of Wisconsin School of Medicine and Public Health  
 Madison, WI  
 - Awarded for extracurricular involvement at the medical school

## RESEARCH AND SCHOLARSHIP

### Grants and Contracts

#### External Sources

##### Site-Investigator

Principal Investigator: Anupam Kharbanda, MD (Children's Hospitals and Clinics of Minnesota)  
 NIH R01HD079463-01A1  
 EHR-based Decision Support for Pediatric Acute Abdominal Pain in Emergency Care  
 1% effort

##### Site-Investigator

Principal Investigator: Clay Johnston, MD (University of California, San Francisco)  
 NIH 1U01 NS062835 and UL1 RR024131  
 Platelet-Oriented Inhibition in new TIA. (NCT00991029)  
 \$33,014,211  
 2% Effort; January, 2012 - present

##### Site-Investigator

Principal Investigator: Adnan Qureshi, MD (University of Minnesota)  
 NIH R01 NS062091 and R01 NS061861

Antihypertensive Treatment of Cerebral Hemorrhage II (ATACH-II)  
1% Effort; April, 2014 - present

### Internal Sources

#### Co-Investigator

Healthpartners Institute Internal Grant  
Biomarker Levels as A predictor of Concussion Severity OUTcomes (BLACOUT)  
Sandi Wewerka (Principal Investigator)  
\$30,000  
In-kind effort: Sept, 2015 – present

#### Grant Awardee & Administrator

Regions Hospital Internal Grant (RED Fund)  
Point-of-Care Ultrasound Educator for Regions Hospital Clinicians  
\$50,000  
In-kind effort: Jan, 2015 – present

#### Principal Investigator

Healthpartners Research Foundation Internal Grant  
Agreement Between Physician and CT Scan in High Energy Mechanism Stable Trauma  
Patients – a pilot study  
\$25,000  
5% Effort: April, 2010 – September, 2011

#### Principal Investigator

Healthpartners Research Foundation Internal Grant  
Ultrasound Guided Direct Internal Jugular Venous Catheterization  
\$25,000  
5% Effort; May, 2008 – October, 2009

### Publications [Note if these are published electronically with a URL if appropriate]

#### Peer-Reviewed Publications

1. **Zwank MD**, Ho BM, Gresback D, Stuck LH, Salzman JG, Woster WR. Does computed tomographic scan affect diagnosis and management of patients with suspected renal colic? *Am J Emerg Med.* 2013 Dec 18. [Epub ahead of print] PMID: 24440589 : Impact Factor: 1.704; not cited yet  
- Primary Author (Involved in all aspects of the project including study design, data acquisition, manuscript preparation and review)
2. **Zwank MD**, Dummer BW, Danielson LT, Haake BC. Lacunar Stroke in a Teenager After Minor Head Trauma: Case Report and Literature Review. *J Child Neurol.* 2013 Sep 26. [Epub ahead of print]. Impact Factor: 1.385; not cited yet  
- Primary Author (Involved in all aspects of the project including defining intellectual content, literature review, manuscript preparation and review)

3. **Zwank MD**, Leow M, Anderson CP. Emergency department patient knowledge and physician communication regarding CT scans. *Emerg Med J*. 2013 Jul 14. [Epub ahead of print]. Impact Factor: 1.645; cited 1 time
  - Primary Author (Involved in all aspects of the project including study design, data acquisition, manuscript preparation and review)
4. Stelpflug SJ, Gardner RL, Leroy JM, Ellsworth H, **Zwank MD**. Hydroxocobalamin hinders hemodialysis. *Am J Kidney Dis*. 2013 Aug;62(2):395. doi: 10.1053/j.ajkd.2013.04.015. Epub 2013 Jun 15. Impact Factor: 5.294; cited 1 time
  - Co-author (Conducted literature review, manuscript preparation and editing)
5. **Zwank MD**. Emergency. *Acad Emerg Med*. 2012 Feb;19(2) p 243. Epub 2012 Jan. Impact Factor: 1.757; not cited
  - Sole Author (Defined intellectual content, writing preparation and editing)
6. **Zwank MD**, Carlson CG, Anderson CP. A new technique for evaluating jugular venous distension in congestive heart failure using ultrasound. *Am J Emerg Med*. 2012 Oct;30(8):1650-2. Epub 2012 Aug 3. Impact Factor: 1.704; not cited
  - Primary Author (Involved in all aspects of the project including study design, data acquisition, manuscript preparation and review)
7. **Zwank MD**. Ultrasound-guided catheter-over-needle internal jugular vein catheterization. *Am J Emerg Med*. 2012 Feb;30(2):372-3. Epub 2011 Oct 26. Impact Factor: 1.704; not cited
  - Sole Author (Involved in all aspects of the project including study design, data acquisition, manuscript preparation and review)
8. Burnett AM, Anderson CP, **Zwank MD**. Laboratory-confirmed gonorrhea and/or chlamydia rates in clinically diagnosed pelvic inflammatory disease and cervicitis. *Am J Emerg Med*. 2012 Sep;30(7):1114-7. Epub 2011 Oct 24. Impact Factor: 1.704; cited 4 times
  - Co-author (Involved in all aspects of the project including study design, data acquisition, manuscript preparation and review)
9. **Zwank MD**. Middle turbinectomy as a complication of nasopharyngeal airway placement. *Am J Emerg Med*. May 2009; 27 (4) 513. Impact Factor: 1.704; cited 1 time
  - Sole Author (Defined intellectual content, performed literature review, manuscript preparation and editing)
10. Oudijk EJ, Nijhuis EJ, **Zwank MD**, van de Graaf E, Mager HJ, Coffey PJ, Lammers J-WJ, Koenderman L. Systemic Inflammation in COPD Visualized by Gene Profiling in Peripheral Blood Neutrophils. *Thorax*. July 2005; 60:538-544. Impact Factor: 8.376; cited 66 times
  - Conducted laboratory experiment and data collection

#### Non-Peer-Reviewed Publications

1. **Zwank MD**. Case Management: Pleural Effusion. Massachusetts Chapter of the American College of Emergency Physicians (MACEP) News, February 2006: 5-7.

#### Articles Submitted for Publication

N/A

### **Educational Videos-Physician Education Material**

- I was the sole producer of these videos including developing intellectual content, acquisition of images and videos and full video editing (exerpts – many more have been produced).

1. Extended Focused Assessment with Sonography in Trauma (eFAST)  
<http://youtu.be/Yg78aU93SZE> (25,880 views on 11/1/2015)
2. Ultrasound Estimated Post-Void Residual Bladder  
<http://youtu.be/g2PUBIFTNq0> (4,900 views on 8/16/2015)
3. Ultrasound of Morison's Pouch (first part of a FAST exam)  
<http://youtu.be/Jplpyd5yCs0> (576 views on 8/16/2015)
4. Deep Vein Intravenous Catheter Placement  
<http://youtu.be/YKr69aCMKFw> (136 views on 6/27/14)
5. Ocular Ultrasound  
<http://youtu.be/r7iNuqm8NnQ> (31 views on 6/27/14)

### **Books**

Sherman SC, Cico SJ, Nordquist E, Ross C, Wang E; Atlas of Clinical Emergency Medicine (2015) Wolters Kluwer.

- I served as a contributor of several chapters for this book.

Dries DJ, Zanotti-Cavazzoni SL, Latenser BA, Martinex EA, Rincon F, **Zwank MD**; Year Book of Critical Care Medicine (2013) Mosby.

- I served as an Associate Editor for this book.

Dries DJ, Zanotti-Cavazzoni SL, Latenser BA, Martinex EA, Rincon F, **Zwank MD**; Year Book of Critical Care Medicine (2012) Mosby.

- I served as an Associate Editor for this book.

### **Websites**

[www.plusultrasound.com](http://www.plusultrasound.com)

1/2011-present

- I am the sole developer and am solely responsible for the content and update of this website. The website brings together a number of resources related to bedside ultrasound developed by others as well as resources developed by me into a convenient single location for others to use. It also serves as a personal web-log (blog) for high-yield current literature.

### **Presentations**

**Invited Oral Presentations at International Professional Meetings, Conferences, etc.**

**1. Zwank MD.** Ultrasound in Acute Respiratory Illness in Children. 1<sup>st</sup> International Congress on Ultrasound in the Critical Patient. Bogota, Colombia, July 23-25, 2015.

2. **Zwank MD.** Cost-effectiveness and Socioeconomic Impact of Ultrasound at the Bedside. 1<sup>st</sup> International Congress on Ultrasound in the Critical Patient. Bogota, Colombia, July 23-25, 2015.

**Invited Oral Presentations at Local and Regional Professional Meetings, Conferences, etc.**

1. **Zwank MD** The Nuts and Bolts of Bedside Ultrasound. Urgent Care: An Old Concept in the New Millennium. Minneapolis, MN – October 29-30, 2015.
2. **Zwank MD** Best New Literature for the Rural Emergency. 3<sup>rd</sup> Comprehensive Advanced Life Support (CALS) Hospital Conference. Minneapolis, MN – October 9, 2015.
3. **Zwank MD, Norman KB.** Peripheral IV Access With and Without Ultrasound Guidance - A Guide for EVERYONE. Trauma Education: The Next Generation. Saint Paul, MN. Supported by HealthPartners Institute for Education and Research – September 17, 2015.
4. **Zwank MD.** Does This Trauma Patient Need a CT Scan. Trauma Education: The Next Generation. Saint Paul, MN. Supported by HealthPartners Institute for Education and Research – September 4, 2014.
5. **Zwank MD.** Extended Focused Assessment with Sonography in Trauma (eFAST). Trauma Education: The Next Generation. Saint Paul, MN. Supported by HealthPartners Institute for Education and Research – September 5, 2013.
6. **Zwank MD** Hot Topics for the Rural EM Provider: A Review of the Recent Literature. 2<sup>nd</sup> Comprehensive Advanced Life Support (CALS) Hospital Conference. Minneapolis, MN – April 26, 2013.
7. **Zwank MD.** Influential Papers in Emergency Medicine. Emergency Medicine and Trauma Update. Bloomington, MN. Supported by HealthPartners Institute for Education and Research – November 15, 2012.
8. **Zwank MD.** Functional Hemodynamics & Lung Imaging via Bedside Ultrasonography; Optimizing Mechanical Ventilation 2012. Saint Paul, MN. HealthPartners Institute for Education and Research – October 26-28, 2012.
9. **Zwank MD.** Influential Papers in 2011: Emergency Medicine and Bedside Ultrasound Breakout Session. Emergency Medicine and Trauma Update. Bloomington, MN. Supported by HealthPartners IME - November 18, 2011.
10. **Zwank MD.** CT Use in Trauma – A Challenging Dilemma. South Dakota American College of Emergency Medicine (ACEP) Regional Meeting Rapid City SD. March 4, 2011
11. **Zwank MD.** 5 Uses of Ultrasound for Every Emergency Physician. South Dakota ACEP Regional Meeting Rapid City SD. March 4, 2011
12. **Zwank MD.** To CT or Not? A Simple Question. Or Not. and Bedside Ultrasound Breakout Session. Emergency Medicine and Trauma Update. Bloomington, MN. Supported by HealthPartners IME - November 17, 2010.



13. **Zwank MD.** Monitoring Cardiac Output and Functional Hemodynamics Breakout Session. Optimizing Mechanical Ventilation 2010. Saint Paul, MN. Supported by HealthPartners IME – October 8, 2010.
14. **Zwank MD.** Ten Papers That Will Change Your Practice and Bedside Ultrasound Breakout Session. Emergency Medicine and Trauma Update. Bloomington, MN. Supported by HealthPartners IME - November 19, 2009.
15. **Zwank MD.** Bedside Ultrasound Breakout Session. Emergency Medicine and Trauma Update. Bloomington, MN. Supported by HealthPartners IME - November 20, 2008.

#### **Peer-reviewed Oral Presentations at Professional Meetings, Conferences, etc.**

1. **Zwank MD,** Gordon BD. Innovative Utilization of the Epic Electronic Medical Record for Integrating Evidence-Based Medicine and Improving Patient Care. SAEM Annual Meeting, San Diego, CA, May 2015.
2. **Zwank MD,** Muhar A. Can A Low Risk Chest Pain Protocol Reduce Admission Rates Among Patients Presenting to the Emergency Department with Chest Pain?. Platform Presentation, – SAEM Annual Meeting, Atlanta, GA, May 2013.
3. **Zwank MD.** Can a Low Risk Chest Pain Protocol Reduce Admission Rates Among Patients Presenting to the Emergency Department with Chest Pain? A Quality Project. Platform - SAEM Great Plains Regional Research Forum St. Louis MO, Sept 29, 2012.
4. **Zwank MD.** Mayeux G, MacDonald J, Muhar A, Anderson CP. Effect of Repeat Abdominal CT in ED Patients on Diagnosis and Disposition. Lightning Oral Abstract - SAEM Great Plains Regional Research Forum St. Louis MO, Sept 29, 2012.
5. Gresback DJ, **Zwank MD.** Disposition Variability for Patients with Chest Pain Among Emergency Department Physicians. Lightning Oral Presentation – SAEM Great Plains Regional Research Forum St. Louis MO, Sept 10, 2011.
6. **Zwank MD.** Bedside Ultrasound for the Hypotensive Patient, Platform Presentation – SAEM Annual Meeting Boston MA. June 1-5, 2011.
7. Carlson CA, Anderson CP, **Zwank MD.** Correlation Between Internal Jugular Vein Dimensions and Congestive Heart Failure. Platform presentation – SAEM Annual Meeting Boston MA. June 1-5, 2011.

#### **Poster Abstract Presentations at Professional Meetings, Conferences, etc.**

1. **Zwank MD,** House CM, Isenberger KM, Quaday KA, Ziegenfuss JY, Moriarty KA, Nelson WB. Early Discharge with Next Day Stress Testing in Low Risk Chest Pain Patients Presenting to the Emergency Department is Feasible. ACEP Scientific Assembly Annual Meeting Boston, MA, Oct 26-29, 2015.
2. Stoesz AE, **Zwank MD,** Stuck LH, Ward CM. Anterior Shoulder Dislocation Reduction in the Emergency Department: Is There a Best Technique? ACEP Scientific Assembly Annual Meeting Boston, MA, Oct 26-29, 2015.

3. **Zwank MD**, Droegemueller CJ. Pre-Hospital Notification of Suspected Acute Ischemic Stroke Can Improve Common Reported Time Benchmarks. SAEM Great Plains Regional Research Forum, Minneapolis, MN September, 2015.
4. **Zwank MD**, Cicoello K, Farrar K. Does an Electronic Medical Record Alert Improve Recognition of Elevated Blood Pressure Prior to Discharge? SAEM Great Plains Regional Research Forum, Minneapolis, MN September, 2015.
5. **Zwank MD**. Electronic Medical Record Workflow Affects Bedside Ultrasound Ordering and Documentation Compliance. SAEM Great Plains Regional Research Forum, Minneapolis, MN September, 2015.
6. **Zwank MD**, Mohr WJ, Endorf FW, Muhar AA, Atwood DT. Treatment of Accidental Hypothermia at a Level I Trauma Center: A Retrospective Cohort. SAEM Annual Meeting, San Diego, CA, May 2015.
7. **Zwank MD**. Does an Electronic Medical Record Alert Affect Door to Antibiotics Time in Four Community Hospitals? SAEM Great Plains Regional Research Forum, Kansas City, MO September 2014.
8. **Zwank MD**, Roach BD. Patient Care Intervals Associated With Increased Productivity. SAEM Great Plains Regional Research Forum, Kansas City, MO September 2014.
9. **Zwank MD**, Mayeux GP, MacDonald J (student), Anderson CP. Repeat Abdominal CT Influences Emergency Department Patient Diagnosis and Disposition. Abstract - ACEP Scientific Assembly Annual Meeting Seattle, WA, Oct 14-17, 2013.
10. **Zwank MD**, Bourdon RM, Adibhatla R. Increased Body Mass Index Among Women Correlates with Increased Rates of Urine Contamination. Abstract - ACEP Scientific Assembly Annual Meeting Seattle, WA, Oct 14-17, 2013.
11. **Zwank MD**, Bourdon RM, Adibhatla R. Increased Body Mass Index Among Women Correlates with Increased Rates of Urine Sample Contamination. Abstract –SAEM Regional Research Forum, Springfield, IL, Sept 28, 2014.
12. **Zwank MD**, Mohr WJ, Endorf FW, Atwood DT (student), Muhar AA (student). Treatment of Accidental Hypothermia at a Level I Trauma Center: A Retrospective Cohort. Abstract – SAEM Regional Research Forum, Springfield, IL, Sept 28, 2014.
13. **Zwank MD**, Woster W. Does CT Scan Affect Diagnosis and Management of Patients With Suspected Renal Colic? Abstract – SAEM Annual Meeting, Atlanta, GA, May 2013.
14. **Zwank MD**. Ultrasound Guided Catheter Over Needle Internal Jugular Vein Catheterization. Abstract – American Institute for Ultrasound in Medicine Annual Meeting Phoenix AZ. Mar 30-Apr 1, 2012.
15. **Zwank MD**, et al. Agreement Between Physician and CT Scan in High Energy Mechanism Stable Trauma Patients. Abstract – ACEP Scientific Assembly Annual Meeting San Francisco CA. Oct 15-18, 2011.

16. Paech N, **Zwank MD**. Laboratory Screening of Depressed or Suicidal Patients Is Unnecessary. Abstract – ACEP Scientific Assembly Annual Meeting San Francisco CA. Oct 15-18, 2011.
17. **Zwank MD**, et al. Agreement Between Physician and CT Scan in High Energy Mechanism Stable Trauma Patients. Abstract – SAEM Great Plains Regional Research Forum St. Louis MO, Sept 10, 2011.
18. Walker JR, Anderson CP, **Zwank MD**. Padding the Slider Transfer Board and Patient Comfort in the Emergency Department. Abstract – SAEM Great Plains Regional Research Forum St. Louis MO, Sept 10, 2011.
19. **Zwank MD**, Leow M (student), Anderson CP. Emergency Department Patient Knowledge And Physician Communication Regarding Computed Tomography (CT) Scans. Abstract – SAEM Annual Meeting Boston MA. June 1-5, 2011.
20. **Zwank MD**, Burnett AM, Anderson CP. Laboratory Confirmed Gonorrhea and or Chlamydia Rates in Clinically Diagnosed PID and Cervicitis. Abstract – SAEM Annual Meeting Boston MA. June 1-5, 2011.
21. **Zwank MD**, Burnett AM, Anderson CP. Laboratory Confirmed Gonorrhea and or Chlamydia Rates in Clinically Diagnosed PID and Cervicitis. Abstract – SAEM Regional Conference Omaha, NE. September 17, 2010.
22. Carlson CA, Anderson CP, **Zwank MD**. Correlation Between Internal Jugular Vein Dimensions and Congestive Heart Failure. Abstract – SAEM Regional Conference Omaha, NE. September 17, 2010.
23. **Zwank MD**, Flottesmesch TJ, Anderson CP. Ultrasound Guided Direct Internal Venous Catheterization. Abstract – SAEM Regional Conference Omaha, NE. September 17, 2010.
24. Hultin C, **Zwank MD**, Oyama L, Wasserman J, Ford J, Rathlev N, Mehta SD. Emergency Department Factors Associated with Acute Mesenteric Ischemia in An Urban Academic Hospital. American College of Emergency Physicians Scientific Assembly, September 2005.
25. **Zwank MD**, Baker w, Lowenstein R, Mehta SD. The Utility of Ultrasonography For the Assessment of Jugular Venous Distention. New England Regional SAEM Conference, March 2006 and 2nd World Congress on Ultrasound in Emergency and Critical Care Medicine, Natick, Massachusetts, June 2006.

#### Other Key Activities and Accomplishments

Academic Excellence Scholar (University of Wisconsin) Awarded a full 4-year academic scholarship to attend the University of Wisconsin	8/1992-8/1996
Junior Researcher Department of Pulmonary Diseases (Leo Koenderman, PhD) Utrecht Medical Center, Utrecht, The Netherlands	6/2001-5/2002
Research Assistant Department of Neuroendocrinology (Charles Czeisler, MD, PhD) Brigham & Women's Hospital, Boston, MA	2/1997-6/1997
Research Assistant	1/1993-5/1994

Department of Urology (Walter Hopkins, PhD)  
University of Wisconsin, Madison, WI

## TEACHING AND CURRICULUM DEVELOPMENT

### University of Minnesota

- Course Director 2009-Present  
EMMD 7512- Bedside Ultrasound for the Clinician  
[http://www.meded.umn.edu/clerkships/EMMD\\_7512.php](http://www.meded.umn.edu/clerkships/EMMD_7512.php)  
University of Minnesota Medical School  
Minneapolis, MN
- Clinical Faculty Teacher 2007-present  
EMMD 7500- Bedside Ultrasound for the Clinician  
[http://www.meded.umn.edu/clerkships/EMMD\\_7500.php](http://www.meded.umn.edu/clerkships/EMMD_7500.php)  
University of Minnesota Medical School  
Minneapolis, MN
- Ultrasound & Procedure Workshops 2007-present  
University of Minnesota Medical School  
Minneapolis, MN  
Workshops include: Ultrasound Workshops with First/Second Year  
Critical Care Curriculum, Ultrasound with Cadaver Lab, Airway Procedure Lab

### External

- Instructor 2012-present  
Rare Procedure Lab for Faculty Emergency Physicians  
Department of Emergency Medicine  
Regions Hospital  
Saint Paul, MN
- Emergency Medical Service Critical Case Reviews 2007-Present  
Saint Paul EMS Station 10  
Saint Paul, MN

### Course/Lecture List

- Emergency Medicine Residency Core Content 2006-present  
Regions Hospital Emergency Medicine Residency  
Saint Paul, MN  
- I lecture 4-6 times per year on topics of emergency ultrasound and obstetrics/  
gynecology.
- Emergency Medicine Critical Case Conference 2006-present  
Regions Hospital Emergency Medicine Residency  
Saint Paul, MN

- I conduct this conference including patient case presentation and discussion 4-6 times per year.

Emergency Medicine PGY-1 Ultrasound Orientation 2009-Present

Developed course concepts for Emergency Medicine Curriculum

Regions Hospital

Saint Paul, MN

- This is an ongoing course for first year residents. I am the sole developer for the course content, expectations and evaluations.

### Curriculum Development

Bedside Ultrasound for the Clinician (EMMD 7512) 7/2009-Present

University of Minnesota Medical School

Minneapolis, MN

- With Drs. Rob Reardon and Cullen Hegarty, I developed the concept for this course and received approval from the Medical School to offer it. The course is a four week elective aimed at teaching bedside focused ultrasound to interested medical students primarily heading into the field of emergency medicine.

Ultrasound-guided Internal Jugular Central Line Workshop 2010-present

Regions Hospital

Saint Paul, MN

- A monthly workshop that I conduct in the Simulation Center at Regions Hospital aimed at training residents and medical students to place central lines using ultrasound guidance

Ultrasound Curriculum 2008-present

Regions Hospital Emergency Medicine Residency

Saint Paul, MN

- An integrated bedside ultrasound curriculum used during the first year of residency. Interns spend the morning intubating patients in the operating room in the morning and then reading, viewing online content and performing bedside ultrasound in the afternoon

Ultrasound Tuesdays

Regions Hospital Emergency Department

Saint Paul, MN

- One Tuesday every month, I dedicate to bedside ultrasound teaching in the emergency department. This time is used for instructing nurses, residents, physician assistants and attendings in various aspects of bedside ultrasound.

### Collaborative Efforts and Activities

Mock Oral Boards for Emergency Medicine Residents 2007-present

Regions Hospital

Saint Paul, MN

- This is given once over a two day span each year

### Faculty Development Activities regarding teaching

Emergency Medicine Basic Research Seminar 2007-2008

American College of Emergency Physicians

Dallas, TX

- I was an attendee at this two week seminar.

### **Continuing Medical Education**

I complete 30-50 or more AMA PRA Category 1 CME credits every year.

### **ADVISING AND MENTORING**

#### **Medical Students**

Medical Student Mentor 2007-Present

Clinical Mentor for medical students interested in Emergency Medicine  
University of Minnesota Medical School  
Minneapolis, MN

Gunnar Wagoner – Medical Student (2013)  
Adam Kraus, MD – Resident University of Nebraska (2012)  
Wendy Woster, MD – Attending Physician Healthpartners (2008)  
Kate Katzung, MD – Toxicology Fellowship Regions Hospital (2007)

#### **Post-Doctoral Fellows Mentoring Activities**

Scholarly Oversight Committee for Fellowship Research Project  
Beth Placzek, DO – Attending Physician Mayo Clinic (2012-2013)

#### **Residents Supervised**

Resident Mentor 2007-present

Emergency Medicine Residency  
Mentor one resident in each residency class during their residency  
Regions Hospital  
Saint Paul, MN

Maria Goertz, MD – Current Resident (2013-present)  
Amy Stoesz, MD – Current Resident (2012-present)  
Kyle Holloway, MD – Current Resident (2011-present)  
Joe Walter, MD – Hyperbaric Fellowship, Hennepin County Medical Center (2010-2013)  
Eric Dahl, MD – Attending Physician Healthpartners (2009-2012)  
N Kojla Paech, MD – Attending Physician University of California San Francisco (2008-2011)  
Nate Curl, MD – Attending Physician University of Iowa (2007-2010)

Resident Scholarly Project/Research Project Mentor 2007-present

Emergency Medicine Residency  
Mentor multiple resident projects during the course of their residency  
Regions Hospital  
Saint Paul, MN

Sakib Motalib : VTI and fluid responsiveness  
 Shaun Kennedy : Electronic Medical Record Order Entry  
 Ryan Bourdon : Urinary Tract Infection Variance by Body Mass Index  
 Eric Ellingson : Internal Jugular Vein Dimensions Predicting Congestive Heart Failure  
 Marc Ellingson : Internal Jugular Vein Dimensions Predicting Congestive Heart Failure  
 Brian Roach : Emergency Department Provider Efficiency and Patient Throughput  
 Gary Mayeux : Repeat Abdominal CT Scans  
 Wendy Woster : CT Scan Utility for Renal Colic Diagnosis  
 Peter Baggenstos : Ultrasound Utility for Undifferentiated Hypotension Review  
 Jerome Walker : Padding Slider Boards and Patient Comfort  
 Catie Carlson : Internal Jugular Vein Dimensions Predicting Congestive Heart Failure  
 Alex Gerbig : Electronic Medical Record Order Entry and Clinical Decision Rules  
 Kolja Paech : Laboratory use in the Medical Clearance of Depressed Patients  
 Chris Dillon : Peripheral IV Catheter in the Internal Jugular Vein  
 Danielle Jackson : Peripheral IV Catheter in the Internal Jugular Vein  
 Duncan McBean : Peripheral IV Catheter in the Internal Jugular Vein

**Other Mentoring Activities** *[including serving as a mentor or member of a mentoring committee for a faculty member, etc.]*

**Research Intern Mentor**

Mentored Research Interns from project development to completion

Marissa Leow : Patient Knowledge about CT Scan Radiation Risks (2009-2010)  
 Benjamin Ho, MD : CT Scan Utility for Renal Colic (2010-2011)  
 David Gresback, MD – CT Scan Utility for Renal Colic (2011-2012)  
 Benjamin Dummer – Lacunar Stroke in Pediatric Patients (2012-2013)  
 Levi Danielson – Lacunar Stroke in Pediatric Patients (2012-2013)

**CLINICAL SERVICE**

**Quality Improvement Projects**

Regions Hospital ED to Inpatient Bed LEAN Team 11/2013-Present  
 Served on committee focused on improving efficiency of moving patients from the emergency department to their hospital bed after the admission order has been placed

Regions Hospital ED to Discharge LEAN Team 1/2009-2010  
 Served on committee focused on improving efficiency of discharging patients from the emergency department after the discharge order has been placed

**Clinical Service Responsibilities**

Attending Emergency Medicine Physician 2006-present  
 Regions Hospital Emergency Department  
 Regions Hospital

Saint Paul, MN

I am a clinician who is scheduled for clinical shifts throughout the entire year. I work 1200 clinical hours per year (approximately three 8 hour shifts totalling 24-25 hours per week). The majority of these hours are located at our teaching hospital. I work approximately 2 shifts each month in community hospitals

Inter-department Liaison – Obstetrics & Gynecology Regions Hospital Saint Paul, MN	10/2012-present
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## PROFESSIONAL SERVICE AND PUBLIC OUTREACH

### Editorships/Journal Reviewer Experience

Journal Reviewer American Journal of Emergency Medicine	9/2013 - present
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Newsletter Section Editor Ultrasound Section American College of Emergency Medicine Dallas, Texas	1/2012-present
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### Committee memberships

Hospital Point of Care Ultrasound Committee Co-chair with a radiologist of a recently formed committee focused on oversight of all bedside ultrasound throughout the hospital Regions Hospital Saint Paul, MN	5/2014-present
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Institute for Clinical Systems Improvement (ICSI) Diagnosis and Treatment of Chest Pain and Acute Coronary Syndrome Served as a committee member for this task force aimed at developing national guidelines for the management of acute chest pain. Bloomington, MN	2/2012-10/2012
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Value Analysis Team (VAT) Committee that evaluates all emergency department purchasing and utilization Regions Hospital Department of Emergency Medicine Saint Paul, MN	12/2011-Present
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Emergency Department Innovations Committee Committee focused on innovative concepts for patient care Regions Hospital Department of Emergency Medicine Saint Paul, MN	1/2008-2010
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Clinical Research Sub-Committee Institutional Review Board	11/2007-Present
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Regions Hospital  
Saint Paul, MN

ACGME Institutional Review Committee 2/2005  
Boston Medical Center  
Boston, MA

ACGME Residency Review Committee 2/2005  
Boston Medical Center Emergency Medicine Residency  
Boston, MA

### **Service to the University/Medical School/Department**

#### **University of Minnesota**

Faculty Advisory Council 11/2012-present  
University of Minnesota Medical School  
Minneapolis, MN

#### **Community Outreach Activities**

Ultrasound Workshops for Rural Emergency Medicine 10/2012  
Taught four ultrasound workshops in Western Wisconsin  
for physicians practicing in rural emergency departments

Doc Hollywood 2009-present  
Radio interview for public education and public relations  
Topics included: Hypothermia and Lacerations  
Radio Station KS 95  
Minneapolis, MN

Volunteer Physician 2008  
United States Figure Skating Championship  
Xcel Energy Center  
Saint Paul, MN

Stadium Physician for Minnesota Wild NHL Hockey 2007-Present  
Xcel Energy Center  
Minnesota Wild, NHL