

BIOGRAPHICAL SKETCH

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NAME: Martin Richard Huecker, MD

eRA COMMONS USER NAME (credential, e.g., agency login): MRHUEC01

POSITION TITLE: Associate Professor, Research Director, Wellness Director

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Kentucky, Lexington KY	B.S.	05/2003	Biology, Philosophy
University of Louisville, Louisville KY	M.D.	05/2007	Medicine
University of Louisville, Louisville KY	Internship	06/2008	Internal Medicine
University of Louisville, Louisville KY	Residency	12/2011	Emergency Medicine

A. Personal Statement

I currently serve in the roles of Research Director and Wellness Director in the Department of Emergency Medicine at the University of Louisville. With past positions as Associate EM Program Director and Assistant Dean for Medical Student Affairs, I have had the privilege to engage in diverse research opportunities. I have published on open access education, resident procedural training, medical student instruction, trauma management, humanities, hypothermia, malpractice, and substance abuse. As my career has matured, I have narrowed focus on healthcare professional wellness, substance use disorders, and now the emerging technology Tele-stethoscope™.

The burnout epidemic in medicine continues to be exacerbated by systemic obstacles to the patient-physician relationship. I have studied this in multiple ways in EM residents: sleep surveys, alertness, sleep tracking, and didactics. Our department devotes considerable time to resident and medical student wellness.

In 2019, I started an open access journal, the Journal of Wellness, with authors and audience inclusive of all healthcare professionals. Since inception in 2019, the journal has published 63 manuscripts with >18,000 total downloads from 126 countries. I present wellness instruction sessions for medical students along with departmental Grand Rounds (within UofL and at other institutions). To gain more experience and knowledge in optimal health and wellness, I obtained board certification in Lifestyle Medicine (dipABLM) in 2021.

My team has experience in grant-funded research, having participated in an NIH funded study of convalescent plasma in COVID-19 patients. This research was in collaboration with other academic emergency physicians in the Strategies to Innovate Emergency Care Clinical Trials Network (SIREN), in which we continue to participate with the ICECAP trial in 2022. UofL Dept of EM's heavy clinical load, excellent training environment, and growing research team has allowed considerable scholarly growth. The is fertile ground for research into acoustic technology that can potentially differentiate heart failure and chronic obstructive pulmonary disease patients. Our team won a national award for best abstract using Tele-stethoscope™ technology. In 2022 we will use the technology in prehospital patients with cardiac, pulmonary, and traumatic disease.

1. **Huecker M.** The End. Acad Emerg Med. Volume22, Issue10. October 2015. p1233-1234

2. **Huecker M.** The Deliberate Practice of Medicine. J Grad Med Educ 1 October 2018; 10 (5): 599–600. doi: <https://doi.org/10.4300/JGME-D-17-01035.1>

3. Ferguson B, Gerald J, Petrey J, **Huecker M**. Malpractice in Emergency Medicine - A Review of Risk and Mitigation Practices for the Emergency Medicine Provider. *J Emerg Med*. 2018 Nov;55(5):659-665. doi: 10.1016/j.jemermed.2018.06.035. Epub 2018 Aug 27.

4. **Huecker M**. Stoicism Defeats Burnout. *Acad Emerg Med*. 2020 Dec;27(12):1374-1376. doi: 10.1111/acem.13967. Epub 2020 Apr 15. PMID: 32187762.

5. **Huecker M**, Shreffler J, Ferguson B. Sleep deprivation hormesis: The shift that doesn't kill you makes you stronger. *Am J Emerg Med*. 2021 Jan;39:223-224. doi: 10.1016/j.ajem.2020.04.092. Epub 2020 May 4. PMID: 32482482.

B. Positions and Honors

Appointments

11/2013 - 6/2019	Assistant Professor, Dept of EM, UofL, Louisville, KY
11/2015 - Present	Research Director, Dept of EM, UofL, Louisville, KY
07/2015 - 12/2017	Assistant/Associate Program Director, Dept of EM, UofL, Louisville, KY
01/2018 - 03/2020	Assistant Dean for Medical Student Affairs, UofL School of Medicine
07/2019 - Present	Associate Professor, Dept of EM, UofL, Louisville, KY
07/2020 - Present	Wellness Director, Dept of EM, UofL, Louisville, KY

Honors and Awards

2003	Phi Beta Kappa National Honor Society, University of Kentucky
2006	Arch E. Cole Award, University of Louisville School of Medicine
2006	Alpha Omega Alpha, University of Louisville School of Medicine
2007	Dr. Presley F. Martin Memorial Award, University of Louisville School of Medicine
2007	Merck Manual Book Award, University of Louisville School of Medicine
2010	Chief Resident, Department of Emergency Medicine, University of Louisville
2011	Research Award, Department of Emergency Medicine, University of Louisville
2017	Attending of the Year, Department of Emergency Medicine, University of Louisville
2021	ACEP Abstract of the Year, Student Category, Boston
2021	ACEP Abstract of the Year, Resident Category, Boston
2021	Finalist for UofL School of Medicine Faculty Excellence Award

C. Contributions to Science

1. We continue to build on the interest in physician wellness, with plans for grant funding for wearable devices. We aim to prevent, identify, and correct barriers to optimal health in medical students and physicians, with focus on burnout, circadian disruption, social isolation, and overall wellness. We recently concluded an IRB approved study in UofL residents from all specialties, with surveys before and after a novel intervention.

We have ongoing QI projects and IRB approved studies on wellness. We maintain access to data from rigorous annual surveys on medical student wellbeing to look for associations with school and board exam performance. Additionally, I conduct wellness didactics, publish a free monthly wellness newsletter (www.practiceofwellness.com), and serve on the UofL Physician Engagement Committee. My **goal** is for doctors to *actually* be healthy themselves, to model health for our patients.

a. Ferguson B, Shoff H, Shreffler J, McGowan J, **Huecker M**. Does My Emergency Department Doctor Sleep? The Trouble With Recovery From Night Shift. *Journal of Emergency Medicine*. August 2019. Volume 57, Issue 2, p162–167.

b. Ferguson BA, Lauriski DR, **Huecker M**, Wichmann M, Shreffler J, Shoff H. Testing Alertness of Emergency Physicians: A Novel Quantitative Measure of Alertness and Implications for Worker and Patient Care. *J Emerg Med*. 2020;58(3):514-9.

c. Shreffler J, Petrey J, **Huecker M**. The Impact of COVID-19 on Healthcare Worker Wellness: A Scoping Review. *West J Emerg Med*. 2020;21(5):1059-1066. Published 2020 Aug 17. doi:10.5811/westjem.2020.7.48684

d. Shreffler J, **Huecker M**, Martin L, Sawning S, Thé S, Shaw MA, et al. Strategies to Combat Burnout During Intense Studying: Utilization of Medical Student Feedback to Alleviate Burnout in Preparation for a High Stakes Examination. *Health Professions Education*. 2020;6(3):334-42.

e. Shreffler J, Montgomery T, Shreffler M, Bernal M, Thé S, Danzl D, Mallory MN, **Huecker M**. Measuring Faculty Viewpoints to Optimize Success for Faculty Researchers: Does Creativity Matter? *Creativity Research Journal*, 33:3, 321-329. 2021.

2. To establish ability to maintain depth of commitment to one focused topic, I present work on substance use disorder. After an early editorial on the opioid epidemic (on the heroin surge as an unintended consequence of truncation of opioid prescriptions), we built a six-year database of all patients presenting with opioid/heroin related complaints that yielded multiple posters and three publications. See below published collaborative data related to individuals who died of opioid overdose in Jefferson County (working with the coroner's office and Department of Corrections). We continue to collaborate with local drug recovery centers.

a. **Huecker M**, Shoff H. The Law of Unintended Consequences: Has the Crackdown on Prescription Opiates Shifted Abuse to Heroin? *West J Emerg Med*. 2014; 15(4): 561-563.

b. Faryar K, ... **Huecker M**. The Effects of Kentucky's Comprehensive Opioid Legislation on Patients Presenting with Prescription Opioid or Heroin Abuse to One Urban Emergency Department. *J Emerg Med*, 53, 805-814, December 2017.

c. Faryar K, ... **Huecker M**. Prevalence of Emergency Department Patients Presenting with Heroin or Prescription Opioid Abuse Residing in Urban, Suburban, and Rural Jefferson County. *J Emerg Med*. 2018 Nov;55(5):605-611. doi: 10.1016/j.jemermed.2018.07.029

d. Shreffler J, Shaw I, Berrones A, **Huecker M**. Prescription History Before Opioid Overdose Death: PDMP Data and Responsible Prescribing. *J Public Health Manag Pract*. 2021;27(4):385-92.

e. Cales RH, Cales SC, Shreffler J, **Huecker MR**. The COVID-19 pandemic and opioid use disorder: Expanding treatment with buprenorphine, and combining safety precautions with telehealth. *J Subst Abuse Treat*. 2022;133:108543. doi:10.1016/j.jsat.2021.108543.

3. In 2019 we partnered with John Heironimus to test his mathematical analysis of acoustic recordings from smartphones. We won a national award for best abstract at the American College of Emergency Physicians Scientific Assembly. We plan to submit the manuscript with full dataset in the pilot study of patients with and without left ventricular dysfunction in Summer 2022. We are actively applying for SBIR and other NIH grants to test and validate this technology.

Dickens, Frick, Heironimus, Grace, Noel, **Huecker**. Auscultatory Mapping & Chaotic Reconstruction of Cardiovascular Fluid Dynamics Using Unmodified Cell Phone Recordings. ACEP. Boston, MA. 2021.

D. Additional Information: Research Support and/or Scholastic Performance

C3PO NIH Funded Clinical Trail SIREN Network

ClinicalTrials.gov identifier (NCT number): NCT04355767 ; Award Number: 1OT2HL156812-01
Study on convalescent plasma in patients with COVID-19 discharged from the ED. Concluded in 2021.

ICECAP NIH Funded Clinical Trial in SIREN Network

ClinicalTrials.gov: NCT04217551 ; NIH Project Number: UH3HL145269
Influence of Cooling Duration on Efficacy in Cardiac Arrest Patients - Ongoing

Ongoing membership as UofL spoke site PI Strategies to Innovate Emergency Care Clinical Trials Network (SIREN).