

Emily Welker, MD

CURRICULUM VITAE

Ironwood Cancer & Research Centers, a Division of
Ironwood Physicians, PC

EMPLOYMENT HISTORY

Ironwood Cancer & Research Centers
Breast Surgeon
October 2023

EDUCATION

University of Michigan, Ann Arbor
Bachelor of Science in Biomedical Engineering
August 2007 – June 2011

Michigan State University College of Human Medicine
Doctor of Medicine
August 2013 – May 2017

TRAINING

St. Joseph Mercy Hospital, Ann Arbor
General Surgery Residency
July 2017 – June 2022

University of Southern California Keck School of Medicine
Breast Surgical Oncology Fellowship
August 2022 – July 2023

PROFESSIONAL APPOINTMENTS

Position:	Engineer
Department:	Manufacturing Engineering
Dates:	June 2011 – June 2013
Description:	Designed, manufactured and tested laser-welded components for
Work:	Terumo Heart's Left Ventricular Assist System (LVAS)

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LICENSURE

Medical Board of California

November 2021 – November 2023

California Board of Pharmacy – Controlled Substance License

March 2022 – May 2025

HONORS AND AWARDS

Consultant Award 2020 - Awarded to St. Joseph's Mercy Ann Arbor Best Consultant by the University of Michigan Emergency Medicine Residency Program

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American College of Surgeons, Michigan Chapter

American Society of Breast Surgeons, Candidate Member

TEACHING ACTIVITIES

RESIDENT LECTURE SERIES

Welker, EM. Fluid Management, March 2018.

Welker, EM. Benign and Malignant Esophageal Neoplasms, October 2019.

Welker, EM. Parathyroid Anatomy, Surgery and Complications, June 2020.

Welker, EM. Benign and Malignant Conditions of the Breast, January 2021.

Welker, EM. Benign and Malignant Conditions of the Stomach, September 2021.

Welker, EM. Landmark Trials in Breast Surgical Oncology, June 2022.

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RESIDENT JOURNAL CLUB SERIES

Article Presented: Sellam Y, Shahadi ID, Gelernter I, et al. Local Recurrence of Breast Cancer: Salvage Lumpectomy as an Option for Local Treatment. *Breast J.* 2019;25(4):619-624. doi:10.1111/tbj.13290. Date Presented: August 2020

TEACHING ADMINISTRATION

D&C Weekly Lecture Coordinator, June 2020 – June 2022

Women in Surgery St. Joseph Mercy Health Representative, June 2019 – June 2022

EDUCATION

Physiology and Neurology Tutor, August 2014 – May 2014

Tutored three Michigan State University College of Human Medicine medical students in physiology and neurology

Anatomy Lab Blue Coat, August 2014 – December 2014

Facilitated cadaver lab learning for first-year Michigan State University College of Human Medicine medical students

COMMITTEE SERVICE

Block III Committee Member, August 2015 – July 2016

Student voice during third-year Michigan State University College of Human Medicine curriculum meetings

Dean's Student Advisory Committee, August 2015 – July 2016

Facilitated communication between Michigan State University College of Human Medicine students and the Dean of the College of Social Science

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QUALITY IMPROVEMENT

Root Cause Analysis Participant, August 2020

Provided surgical input regarding a patient complication

Learn from Defects Participant, September 2020

Provided surgical input regarding use of an expired product

DESIGN PROJECTS

Transvenous Pacemaker Placement Simulator, 2010

Designed and manufactured a functional transvenous cardiac pacing simulator and user computer interface

Optogenetic Testing Device, 2010 - 2011

Designed and manufactured a low-cost optogenetic testing device successfully used to stimulate and record action potential propagation in genetically modified *Drosophila* expressing light sensitive ion channels

RESEARCH

RESEARCH ASSISTANT

Department: University of Michigan Department of Orthopaedic Research

PI: Kenneth Kozloff, Ph.D.

Description: Investigated the influence of intrinsic aerobic activity on osteoblast differentiation, proliferation and mineralization

Dates: 2010 – 2011

PUBLICATIONS

Welker E, Novak J, Jelsma L, et al. Continuous Hemoglobin Monitoring in Pediatric Trauma Patients with Solid Organ Injury. Journal of Pediatric Surgery. 2018 Oct; 53(10): 2055-2058. DOI: 10.1016/j.jpedsurg.2017.12.015.

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PROFESSIONAL PRESENTATIONS

Novak, *Welker*, Jelsma, Nickoles, Koehler, Davis, DeCou, Durkin (2016) Continuous Hemoglobin Monitoring in Pediatric Trauma Patients with Solid Organ Injury. Grand Rapids Medical Education Partners Research Day 2016.

Cole JH, Tayim RJ, *Welker EM*, Halonen NR, Goulet GC, Koch LG, Zernicke RF, Alford AI, Kozloff KM (2011) Intrinsic Aerobic Capacity Influences Osteoblast Proliferation, Differentiation and Mineralization in Vitro. *Trans Orthop Res Soc* 36:2301.

Marzullo, King, *Welker*, Eddy, Yin, Wei, Pulver, Gage (2011) The Blue Light Special: A Portable, Low-Cost Optogenetics Kit for the Classroom. Society for Neuroscience Conference 2011.