



**University of California San Francisco
CURRICULUM VITAE**

Name: Liviu Klein

Position: Professor of Clinical Medicine (Clinical X Series), Step 2
Department of Medicine
School of Medicine

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EDUCATION:

1988-1992	Grigore Moisil National Informatics College, Brasov, Romania	B.S. Mathematics and Computer Programming
1992-1998	Carol Davila School of Medicine, Bucharest, Romania	M.D. Medicine
1998-2000	University Hospital, Bucharest, Romania	Intern Medicine
2000-2001	Advocate Illinois Masonic Medical Center Chicago, IL	Intern Medicine
2001-2003	Advocate Illinois Masonic Medical Center Chicago, IL	Resident Medicine
2003-2005	Northwestern University, Chicago, IL	Fellow Cardiovascular Epidemiology
2003-2005	Northwestern University, Chicago, IL	M.S. Clinical Investigation
2005-2008	McGaw Medical Center of Northwestern University, Chicago, IL	Fellow Cardiovascular Disease
2006-2007	McGaw Medical Center of Northwestern University, Chicago, IL	Fellow Advanced Heart Failure and Transplantation
2008-2009	McGaw Medical Center of Northwestern University, Chicago, IL	Fellow Clinical Cardiac Electrophysiology

Professional Development

2004	American Heart Association, Dallas, TX The 30 th Ten-Day Seminar on the Epidemiology and Prevention of Cardiovascular Disease	Fellow
2008	The Jackson Laboratory, Bar Harbor, ME The 13 th Annual Course on Genomic and Proteomic Approaches to Complex Heart, Lung, Blood and Sleep Disorders.	Fellow
2009-2010	Northwestern University/ Kellogg School of Management, Chicago, IL	Certificate, Management Skills for Innovative University Leaders
2024	University of California San Francisco, Improvement & Leadership Development Program	Lean Champion Certificate

LICENSES, CERTIFICATION:

2000	Educational Commission for Foreign Medical Graduates (05825120)
2003	Medical licensure, Illinois (036108381)
2004	American Board of Internal Medicine, Internal Medicine (226867)

2010	American Board of Internal Medicine, Cardiovascular Disease (226867)
2010	Transplant Physician, United Network for Organ Sharing (UNOS)
2011	Medical licensure, California (C54894)
2011	Fluoroscopy licensure, California (RHC00171650)
2012	American Board of Internal Medicine, Advanced Heart Failure/ Transplant Cardiology (226867)
2016	ORCID 0000-0002-0547-1480

PRINCIPAL POSITIONS HELD:

2009-2011	Northwestern University, Chicago, IL	Assistant Professor	Medicine
2011-2015	University of California, San Francisco, CA	Assistant Professor	Medicine
2015-2021	University of California, San Francisco, CA	Associate Professor	Medicine
2021-	University of California, San Francisco, CA	Professor	Medicine

OTHER POSITIONS HELD CONCURRENTLY:

2009-2011	Northwestern Memorial Hospital, Chicago, IL Director Heart Failure Device Program
2009-2011	Northwestern University, Chicago, IL Assistant Professor, Department of Preventive Medicine
2011-	University of California, San Francisco, CA Director, Mechanical Circulatory Support and Heart Failure Device Programs
2019-	University of California, San Francisco, CA Director, Cardiology Clinical Research Unit
2021-	University of California, San Francisco, CA Medical Director, Advanced Heart Failure Comprehensive Care Center Chief, Section of Advanced Heart Failure, Mechanical Circulatory Support, Pulmonary Hypertension and Heart Transplantation
2024-2025	University of California Rosenman Institute, San Francisco, CA Director, Clinical Program for Innovation Development

HONORS AND AWARDS:

1994-1997	Merit Student Award, Carol Davila School of Medicine, Bucharest, Romania
2002, 2003	Peer Recognition Award, Advocate Illinois Masonic Medical Center, Chicago, IL
2003	Outstanding Senior Resident Award, Advocate Illinois Masonic Medical Center, Chicago, IL
2005	Finalist, American Heart Association, Jeremiah and Rose Stamler Research Award for New Investigators, Washington, DC.
2009	The Department of Medicine's Larry Jameson Research Award, Northwestern University Feinberg School of Medicine, Chicago, IL
2016	Sezai Innovative Research Award, International Society for Rotary Blood Pump, Mito, Japan

KEYWORDS/AREAS OF INTEREST:

Heart transplant, hemodynamic sensors, interatrial shunts, ventricular assist devices, wearables.

PROFESSIONAL ACTIVITIES

CLINICAL SUMMARY

I am the Director of the Advanced Heart Failure Comprehensive Care Center and have implemented processes to develop a comprehensive Heart Failure Disease Management Program and to streamline the care of heart failure/cardiomyopathy patients across the spectrum of their disease, from initial evaluation through mechanical circulatory support and heart transplantation. In addition, I have worked with partner

institutions to expand the program across all UCSF affiliates (i.e., Zuckerberg San Francisco General Hospital, San Francisco Veterans Affairs Hospital, Marin Health, Washington Hospital Healthcare System, and John Muir Health) and develop outreach endeavors to expand advanced heart failure and cardiogenic shock referrals across Northern California, Northern Nevada, and Hawaii. In the ~5 years since leading the program, I have grown it into a top 10 advanced heart failure program in the US (heart failure disease management patient volume increased from ~ 350 to ~2,100; overall outpatient encounters from ~ 1,000/ year to ~ 11,400/ year; transplant volume increased from ~ 25/ year to ~ 100/ year; VA ECMO for cardiogenic shock volume increased from ~ 40/ year to ~ 150/ year; durable ventricular assist devices volume increased from ~ 20/ year to ~ 35/ year; starting a total artificial heart program with ~5 implants/ year). I have implemented a chronic care management platform and improved the program's overall financial outlook, increasing contribution margin from ~\$18,000,000/year to ~\$83,000,000/year (despite an overall decrease in reimbursement per case).

I am the Director of the Mechanical Circulatory Support program, and I have led it to become one of the most successful in the United States by implementing novel remote monitoring technologies to reduce adverse events in patients implanted with ventricular assist devices. I have integrated data from these remote monitoring devices into patients' electronic medical records, enabling seamless patient care workflows.

I am the Director of the Clinical Cardiology Research Unit, and I have led it to become one of the busiest and most successful research units in the field. We have implemented a self-contained structure (finances, contracting, regulatory/IRB), capable of conducting pharmacological (phases 1-4) and device studies (first-in-human, early feasibility, and pivotal). The unit employs ~ 40 people (a director, a manager, 3 supervisors, 4 finance and contracting officers, and 30 research coordinators) and is running over 110 clinical trials, with an annual budget of over \$7,000,000.

CLINICAL SERVICE

Attending, Advanced Heart Failure and Transplant Service, University of California San Francisco Medical Center. I attend 10-12 weeks every year on this inpatient service, supervising house medical students, staff, fellows, and mid-level professionals.

In addition, I see patients in the outpatient Heart Failure clinic, Advanced Heart Failure clinic, Heart Transplant clinic, and Mechanical Circulatory Support program clinic (1 full day a week for 35 weeks a year) and I perform right heart catheterizations (including complex exercise hemodynamic assessment), endomyocardial biopsies, CardioMEMS/ Cordella Pulmonary Artery Pressure Sensor implants (1 full day a week for 20 weeks a year). I have been doing this for 14 years.

Director, Heart Failure Device Clinic, Northwestern Memorial Hospital: I attended this clinic for 12 months of the year, 1 half-day per week, for 2 years.

Attending, Advanced Heart Failure and Transplant Service, Northwestern Memorial Hospital: I attended 3 months of the year on this inpatient service, supervising house staff, fellows, medical students, and nurse practitioners. I did this for 2 years.

Attending, Arrhythmia Service, Northwestern Memorial Hospital: I attended for one month on this service, supervising house staff and fellows. I did this for 2 years.

Attending, Electrophysiology Laboratory, Northwestern Memorial Hospital: I implanted cardiac rhythm devices and supervised fellows. I did this for 2 years.

PROFESSIONAL ORGANIZATIONS

Memberships

2003-	American Heart Association
2003-	Heart Failure Society of America
2007-	International Society for Heart and Lung Transplant
2012-	International Society for Mechanical Circulatory Support
2016-	Heart Failure Association of the European Society of Cardiology
2022-	American Society of Artificial Internal Organs
2022-	European Society of Cardiology

Service to Professional Organizations

2009-2011 American Heart Association, Dallas, TX
Member, Early Career Committee

2009-2011 American Heart Association, Dallas, TX
Member, Fall Program Committee

2009-2014 American Heart Association, Dallas, TX
Member, Elizabeth Barrett-Connor Research Award Committee

2011 United Network for Organ Sharing, Richmond, VA
Member, Heart Review Board Region 7

2011-2014 American Heart Association, Dallas, TX
Member, Committee on Scientific Sessions Program

2011- American Heart Association, Dallas, TX
Abstract Reviewer for Annual Scientific Sessions

2011-2019 American Heart Association, Dallas, TX
Abstract Reviewer for Epidemiology, Prevention, Lifestyle and Cardiometabolic Health
Annual Scientific Sessions

2012-2014 United Network for Organ Sharing, Richmond, VA
Member, Research Committee Region 5

2013 United Network for Organ Sharing, Richmond, VA
Member, Heart Review Board Region 5

2012-2016 Heart Failure Society of America, Washington, DC
Member, Early Career Committee

2015- International Society for Heart Lung Transplantation, Addison, TX
Abstract Reviewer for Annual Scientific Sessions

2015- Heart Failure Society of America, Washington, DC
Abstract Reviewer for Annual Scientific Sessions

2018-2020 Heart Failure Society of America, Washington, DC
Member, Annual Meeting Program Committee

2020-2023 American Board of Internal Medicine, Cardiovascular Disease, Philadelphia, PA
Member, Advanced Heart Failure and Transplant Cardiology Exam Committee

2020-2021 American College of Cardiology, Washington, DC
Member, Panel for Appropriate Use Criteria for Implantable Cardioverter Defibrillators/
Cardiac Resynchronization Therapy

2020 American College of Cardiology, Washington, DC
Member, American College of Cardiology Heart House Roundtable on Recent Advances
in Heart Failure with Reduced Ejection Fraction

2022-2024 American Society of Artificial Internal Organs, Beverly, MA
Member, Annual Meeting Program Committee (Cardiac Track)

2024 United Network for Organ Sharing, Richmond, VA
Member, Heart Review Board Region 5

NIH Sponsored Studies Committee Service

2013-2021 NIH/NHLBI Women's Health Initiative
Chair, Heart Failure Scientific Interest Group

2018-2025 NIH/NHLBI Jackson Heart Study
Co-Chair, Cardiovascular Outcomes Working Group

2018-2025 NIH/NHLBI Jackson Heart Study
Member, Scientific Council

SERVICE TO PROFESSIONAL PUBLICATIONS:

2007- Reviewer for American Journal of Cardiology, American Journal of Transplantation,
Annals of Internal Medicine, Circulation, Circulation: Heart Failure, European Heart
Journal, European Journal of Heart Failure, Heart, Heart Failure Reviews, Heart & Lung,

JAMA: Internal Medicine, Journal of American College of Cardiology, Journal of American College of Cardiology: Heart Failure, Journal of American College of Cardiology: Electrophysiology, Journal of American Heart Association, Journal of American Society of Artificial Internal Organs, Journal of Cardiac Failure, Journal of Heart and Lung Transplantation, Pacing and Clinical Electrophysiology, Journal of Interventional Cardiac Electrophysiology

2017-2022 Associate Editor for Circulation: Heart Failure

INVITED PRESENTATIONS

INTERNATIONAL

- 2014 22nd Annual Congress of the International Society of Rotary Blood Pumps, San Francisco, CA (session co-chair)
- 2015 1st Asia Pacific Cardiorenal Forum, Sydney, Australia
- 2016 24th Annual Congress of the International Society for Rotary Blood Pumps, Mito, Japan
- 2016 17th International Symposium on Progress in Clinical Pacing, Rome, Italy
- 2017 1st Annual Global Cardio Diabetes Conclave, Chennai, India
- 2017 25th Annual Congress of the International Society for Mechanical Circulatory Support, Tucson, AZ
- 2017 2nd Annual Global Cardio Diabetes Conclave, Mumbai, India
- 2018 18th International Symposium on Progress in Clinical Pacing, Rome, Italy
- 2019 3rd Congress on Progress in Cardiology and Cardiovascular Surgery, Cluj Napoca, Romania (session co-chair)
- 2019 27th Annual Congress of the International Society for Mechanical Circulatory Support, Bologna, Italy (session co-chair)
- 2019 Catheter Structural Interventions (CSI) San Francisco, San Francisco, CA
- 2020 75th Annual Meeting (Platinum Jubilee) of Association of Physicians of India, Agra, India
- 2020 Professor Sam GP Moses Memorial Lecture at the 4th Annual Global Cardio Diabetes Conclave, Mumbai, India (virtual meeting)
- 2021 7th Annual Meeting, New Developments in Gastroenterology, Bucharest, Romania
- 2021 5th Annual Global Cardio Diabetes Conclave, India (virtual meeting)
- 2022 42nd Annual Meeting and Scientific Sessions, International Society for Heart and Lung Transplantation, Boston, MA
- 2022 61st Annual Meeting, Romanian Society of Cardiology, Sinaia, Romania
- 2022 8th Annual Meeting, New Developments in Gastroenterology, Bucharest, Romania
- 2022 19th Global Cardiovascular Clinical Trialists Forum, Washington, DC
- 2023 9th Annual Meeting, New Developments in Gastroenterology, Bucharest, Romania
- 2024 44th Annual Meeting and Scientific Sessions, International Society for Heart and Lung Transplantation, Prague, Czech Republic
- 2024 10th Annual Meeting, New Developments in Gastroenterology, Bucharest, Romania
- 2024 Catheter Structural Interventions (CSI), online webinar
- 2024 Innovation in Cardiovascular Interventions, Tel Aviv, Israel
- 2025 Catheter Structural Interventions - Frankfurt, Frankfurt, Germany
- 2025 11th Annual Meeting, New Developments in Gastroenterology, Bucharest, Romania
- 2025 Georgia MedTech Symposium, Tbilisi, Georgia

NATIONAL

- 2009 American Heart Association Annual Scientific Meeting, Orlando, FL (session co-chair)
- 2012 American Heart Association Annual Scientific Meeting, Los Angeles, CA (session co-chair)
- 2013 American College of Cardiology Annual Scientific Meeting, San Francisco, CA (session co-chair)
- 2014 Heart Rhythm Society Annual Scientific Meeting, San Francisco, CA
- 2014 Heart Failure Society of America Annual Scientific Meeting, Las Vegas, NV
- 2015 Heart Failure Society of America Annual Scientific Meeting, Washington, DC (session chair,

- multiple sessions)
- 2016 Heart Failure Society of America Annual Scientific Meeting, Kissimmee, FL
 - 2017 American College of Cardiology Annual Scientific Meeting, Washington, DC
 - 2017 American Heart Association Annual Scientific Meeting, Anaheim, CA (session co-chair)
 - 2018 American Society of Transplantation, Cutting Edge of Transplantation 2018, Phoenix, AZ (session co-chair)
 - 2018 American College of Cardiology Annual Scientific Meeting, Orlando, FL
 - 2018 American Society for Artificial Internal Organs/ International Consortium of Circulatory Assist Clinicians Mechanical Circulatory Support Proficiency Verification Course, Washington, DC
 - 2018 Heart Failure Society of America Annual Scientific Meeting, Nashville, TN
 - 2019 Heart Rhythm Annual Scientific Sessions, San Francisco, CA
 - 2020 Precision Medicine World Conference, Santa Clara, CA
 - 2020 Heart Rhythm Annual Scientific Sessions, San Diego, CA (virtual meeting)
 - 2020 American Society for Artificial Internal Organs, Chicago, IL (virtual meeting)
 - 2020 Heart Failure Society of America Board Review course, Chicago, IL (virtual meeting)
 - 2020 Transcatheter Cardiovascular Therapeutics, Miami, FL (virtual meeting)
 - 2020 Heart Failure Society of America Annual Scientific Meeting, Cleveland, OH (virtual meeting)
 - 2021 ASAIO MCS VAD University, Washington, DC (virtual webinar)
 - 2021 Transcatheter Cardiovascular Therapeutics, Orlando, FL
 - 2022 Technology and Heart Failure Therapeutics, New York, NY
 - 2022 American College of Cardiology Annual Scientific Meeting, Washington, DC (session co-chair)
 - 2023 Technology and Heart Failure Therapeutics, Boston, MA
 - 2023 American Society for Artificial Internal Organs, San Francisco, CA (session co-chair)
 - 2023 Transcatheter Cardiovascular Therapeutics, San Francisco, CA
 - 2024 Technology and Heart Failure Therapeutics, Boston, MA
 - 2024 Heart Failure Society of America Annual Scientific Meeting, Atlanta, GA (online)
 - 2024 American Heart Association Annual Scientific Meeting, Chicago, IL (session moderator and late-breaking clinical trial presentation)
 - 2025 Technology and Heart Failure Therapeutics, Boston, MA (session moderator, presenter)
 - 2025 American Society for Artificial Internal Organs, New Orleans, LA
 - 2025 Heart Failure Society of America Annual Scientific Meeting, Minneapolis, MN (session moderator, presenter)
 - 2025 Transcatheter Cardiovascular Therapeutics, San Francisco, CA (session moderator, chair)
 - 2026 Technology and Heart Failure Therapeutics, Boston, MA
 - 2026 North America Heart Failure with Preserved Ejection Fraction Summit, Charleston, SC

REGIONAL AND OTHER INVITED PRESENTATIONS

- 2008 Cardiology Grand Rounds, Northwestern University, Chicago, IL
- 2009 Internal Medicine Grand Rounds, St. Joseph Hospital, Chicago, IL
- 2009 American College of Cardiology Illinois Chapter, Lombard, IL
- 2009 Internal Medicine Grand Rounds, Vista Healthcare, Waukegan, IL
- 2010 Internal Medicine Grand Rounds, St. Francis Hospital, Evanston, IL
- 2011 Internal Medicine Grand Rounds, Advocate Illinois Masonic Medical Center, Chicago, IL
- 2011 Cardiology Grand Rounds, Northwestern University, Chicago, IL
- 2011 Internal Medicine Grand Rounds, St. Mary and Elizabeth Hospital, Chicago, IL
- 2011 Cardiology Grand Rounds, UCSF, San Francisco, CA
- 2011 Cardiology Grand Rounds, Kaiser Permanente, San Francisco, CA
- 2012 40th Annual Advances in Internal Medicine, UCSF, San Francisco, CA
- 2012 San Francisco Arrhythmia and Cardiovascular Update, San Francisco
- 2012 Cardiology Grand Rounds, UC Davis, Sacramento, CA
- 2012 UCSF Transplant 2012, San Francisco, CA
- 2012 UCSF State of the Art Advanced Heart Failure and Arrhythmia Management, San Francisco, CA

2012 Zoll Fellows Symposium, Los Angeles, CA
 2013 Internal Medicine Grand Rounds, O'Connor Hospital, San Jose, CA
 2013 Internal Medicine Grand Rounds, UCSF, San Francisco, CA
 2013 Internal Medicine Grand Rounds, St. Francis Hospital, San Francisco, CA
 2013 Internal Medicine Grand Rounds, Highland Hospital, Oakland, CA
 2014 Cardiology Grand Rounds, UCSF Fresno, Fresno, CA
 2014 UCSF Innovative Procedures, Devices, and State of the Art Care for Arrhythmias, Heart Failure and Structural Heart Disease, Honolulu, HI
 2014 Nursing Education Day, UCSF, San Francisco, CA
 2014 Microsoft Research Talk Series, Microsoft, Redmond, WA
 2014 Women's Health Initiative Annual Investigator Meeting, Seattle, WA
 2014 Internal Medicine Grand Rounds, Dominican Hospital, Santa Cruz, CA
 2014 Cardiology Grand Rounds, UCSF, San Francisco, CA
 2014 42nd Annual Advances in Internal Medicine, UCSF, San Francisco, CA
 2014 31st Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2015 Cardiology Grand Rounds, El Camino Hospital, Mountain View, CA
 2015 St. Jude Medical Fellows Symposium, Orlando, FL
 2016 Hospital Medicine Grand Rounds, UCSF, San Francisco, CA
 2016 Cardiology Grand Rounds, California Pacific Medical Center, San Francisco, CA
 2016 Cardiology Grand Rounds, John Muir Medical Center, Walnut Creek, CA
 2016 44th Annual Advances in Internal Medicine, UCSF, San Francisco, CA
 2016 Internal Medicine Grand Rounds, Highland Hospital, Oakland, CA
 2016 Southern California Mechanical Circulatory Support Consortium, Los Angeles, CA
 2016 Cardiology Grand Rounds, Kaiser Permanente, San Francisco, CA
 2017 Heart Failure Grand Rounds, University of California San Diego, San Diego, CA
 2017 Heart Failure Grand Rounds, University of Southern California, Los Angeles, CA
 2017 Cardiac Surgery Grand Rounds, UCSF, San Francisco, CA
 2017 34th Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2018 Cardiology Grand Rounds, El Camino Hospital, Mountain View, CA
 2018 Cardiology Grand Rounds, UCSF, San Francisco, CA
 2018 Cardiac Surgery Grand Rounds, UCSF, San Francisco, CA
 2018 New York Heart Failure Club, New York, NY
 2018 Heart Failure Grand Rounds, MedStar/ Washington Hospital Center, Washington, DC
 2018 Cardiology Grand Rounds, Kaiser Permanente, San Francisco, CA
 2018 2018 Cardiovascular Summit, Las Vegas, NV
 2018 5th Annual Full Spectrum of Heart Failure Therapy: Optimizing Outcomes, Seattle, WA
 2018 Catheter Interventions in Structural, Valvular and Congenital Heart Disease, Atrial Fibrillation and Heart Failure, San Francisco, CA
 2018 Internal Medicine Grand Rounds, Kaiser Permanente, San Francisco, CA
 2018 The 14th Annual Heart Failure Symposium of Northwestern Medicine, Chicago, IL
 2019 Cardiology Grand Rounds, John Muir Hospital, Concord, CA
 2019 Cardiology Grand Rounds, University of Utah, Salt Lake City, UT
 2019 Cardiology Grand Rounds, Kaiser Permanente, San Francisco, CA
 2019 Medicine Grand Rounds, Good Samaritan Hospital, San Jose, CA
 2019 ECMO training course, Dignity Health, Sequoia Hospital, Redwood City, CA
 2019 Medicine Grand Rounds, St. Rose Hospital, Hayward, CA
 2019 Cardiology Grand Rounds, University of Nebraska, Omaha, NE
 2019 Nursing Education Day, UCSF, San Francisco, CA
 2019 Heart Failure Grand Rounds, Houston Methodist DeBakey Heart Vascular Center, Houston, TX
 2020 Roger K. Larson Visiting Professor and Internal Medicine Grand Rounds, University of California Fresno, Fresno, CA
 2020 Cardiology Grand Rounds, University of California Fresno, Fresno, CA

2020 Cardiology Grand Rounds, Kaiser Permanente, San Francisco, CA
 2020 Cardiology Grand Rounds, John Muir Hospital, Concord, CA
 2020 37th Annual Advances in Heart Disease, UCSF, San Francisco, CA (virtual meeting)
 2021 Cardiology Grand Rounds, Advocate Illinois Masonic Medical Center, Chicago, IL
 2021 Cardiology Grand Rounds, Floreasca University Emergency Hospital, Bucharest, Romania
 2022 ECMO Certification Course, El Camino Hospital, Mountain View, CA
 2022 Cardiology Grand Rounds, University of California San Francisco, San Francisco, CA
 2022 Sonoma State University School of Nursing, Rohnert Park, CA
 2022 Internal Medicine Grand Rounds, San Joaquin General Hospital, French Camp, CA
 2022 39th Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2023 Roger K. Larson Visiting Professor and Internal Medicine Grand Rounds, University of California Fresno, Fresno, CA
 2023 Sonoma State University School of Nursing, Rohnert Park, CA
 2023 Update on Heart Failure Therapies, UCSF, Sonoma, CA
 2023 40th Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2024 Stanford Bay Area Transplant Conclave, San Francisco, CA
 2024 Internal Medicine Grand Rounds, Renown Health/ University Nevada Medical School, Reno, NV
 2024 Sonoma State University School of Nursing, Rohnert Park, CA
 2024 2nd Annual Update on Heart Failure Therapies, UCSF, Sonoma, CA
 2024 38th Annual Cardiology for the Practitioner, UCSF, Yosemite, CA
 2024 41st Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2025 Heart Failure Grand Rounds, Case Western University/ University Hospitals of Cleveland, Cleveland, OH
 2025 Machine Learning in Healthcare Course, University of California Berkeley, Berkeley, CA
 2025 Grand Rounds, Emergency University Hospital Bucharest, Bucharest, Romania
 2025 Annual Heart Lung Institute Symposium, Fresno, CA (keynote lecture)
 2025 Heart Waves. American College of Cardiology, Georgia Chapter. Practical Cardiology Update, Manalapan, FL
 2025 Internal Medicine Grand Rounds, University of California San Francisco, San Francisco, CA
 2024 3rd Annual Update on Heart Failure Therapies, UCSF, Sonoma, CA
 2025 42nd Annual Advances in Heart Disease, UCSF, San Francisco, CA
 2026 Richard Monheit Cardiology Lecture, Jefferson Health/ Einstein Hospital, Philadelphia, PA
 2026 Update in Heart Failure 2026 – Keys to Heart Success, Sacramento, CA
 2026 14th Practical Update in the Practice of Cardiovascular Medicine – Napa Cardiology, Napa, CA

GOVERNMENT and OTHER PROFESSIONAL SERVICE:

2010 National Institute for Health Research, United Kingdom, Ad Hoc Grant Reviewer
 2013-2019 American Heart Association, Grant Reviewer (Cardiac Electrophysiology Committee and Clinical-Population Sciences Committee)
 2018 National Institutes of Health, Cancer, Heart, and Sleep Epidemiology Panel A Study Section (CHSA), Ad Hoc Grant Reviewer
 2018 National Institutes of Health, Health Services and Health Informatics Special Emphasis Panel (HSIH)
 2018-2022 National Institutes of Health, Biomedical Sensing, Measurement and Instrument Small Business Special Emphasis Panel (SBIB-G)
 2019 American Heart Association, Grant Reviewer (Arrhythmia Sudden Cardiac Death Strategically Focused Research Network)
 2020 American Heart Association, Grant Reviewer (Innovative Project Award Clinical Sciences)
 2020 Medical Research Council, United Kingdom, Ad Hoc Grant Reviewer
 2021 National Institutes of Health, Cancer, Heart, and Sleep Epidemiology Panel A Study Section (CHSA), Ad Hoc Grant Reviewer

2021-2022	American Heart Association, Reviewer, Career Development Award Committee
2022	Netherlands Organization for Health Research and Development, Netherlands, Ad Hoc Grant Reviewer
2023	Pennsylvania Department of Health Formula Grants Performance Review, Ad Hoc Grant Reviewer
2024	National Institutes of Health, Mentored Patient-Oriented Research (MPOR), Ad Hoc Study Section Reviewer
2025	National Institutes of Health, Cardiac and Circulatory Sciences K Awards, Ad Hoc Study Section Reviewer
2025	United States Special Operations Command (USSOCOM), Biomedical and Human Performance Research and Development Award (BHPDA), Ad Hoc Grant Reviewer
2025	American Heart Association, Clinical and Population Science Innovative Project Award (Committee Chair)
2025	Congressional Mandated Peer-Reviewed Medical Research Program (PRMRP), Ad Hoc Grant Reviewer
2025-2026	American Heart Association, Fellowship Cardiology 8 Committee (Committee Chair)
2025-2026	Pennsylvania Department of Health Formula Grants Performance Review, Ad Hoc Grant Reviewer
2026	American Heart Association, Clinical Development Awards Committee
2026	National Institutes of Health, Topics in Clinical Data Management, Analysis, Informatics and Digital Health B, Ad Hoc Grant Reviewer and Alternate Committee Chair

UNIVERSITY SERVICE

ACTIVITY SUMMARY

I have co-chaired the Mechanical Circulatory Support committee and have introduced several initiatives that have improved the outcomes of patients with left ventricular assist devices.

I have been a member of the Destination Program committee and helped select several UCSF programs to be mentored through the program.

2012-2018	Member, Faculty Oversight Research Committee, Division of Cardiology, UCSF
2012-2016	Co-Chair, Value and Quality Committee, Division of Cardiology, UCSF
2013-2020	Member, Code Blue Committee, UCSF Medical Center
2013-	Member, Intern Recruitment Committee, Department of Medicine, UCSF
2013-	Co-Chair, Mechanical Circulatory Support Quality Improvement Committee, UCSF Medical Center
2014-2018	Member, Destination Programs Committee, UCSF Medical Center
2014-2018	Member, Faculty Search Committee, Cardiothoracic Surgery, UCSF Medical Center
2016-2020	Member, Faculty Search Committee, Heart Failure, UCSF Medical Center
2018	Member, Faculty Search Committee, Pulmonary and Critical Care, San Francisco Veterans Affairs Medical Center
2019-	Chair, Faculty Oversight Research Committee, Division of Cardiology, UCSF
2019-	Director, Cardiology Clinical Research Infrastructure, UCSF
2020-2021	Member, Faculty Search Committee, Cardiology - Chief of Interventional Cardiology, UCSF Medical Center
2020	Member, Faculty Search Committee, Cardiothoracic Surgery - Chief of Cardiothoracic Surgery, UCSF Medical Center
2020	Chair, Faculty Search Committee, Cardiology - Chief of Cardio Oncology, UCSF Medical Center
2021-2023	Member, Faculty Search Committee, Cardiology - Critical Care Cardiology, UCSF Medical Center
2021-2022	Co-Chair, Faculty Search Committee, Cardiothoracic Surgery, UCSF Medical Center
2023-2024	Member, Faculty Search Committee, Cardiothoracic Surgery - Chief of Cardiothoracic Surgery, UCSF Medical Center

2023-2024 Member, Faculty Search Committee, Cardiology - Chief of Cardiac Imaging, UCSF Medical Center
 2024-2025 Member, Faculty Search Committee, Cardiology, UCSF Medical Center
 2023-2024 Chair, Faculty Search Committee, Cardiology - Heart Failure, UCSF Medical Center
 2024-2025 Member, Faculty Search Committee, Cardiothoracic Surgery, UCSF Medical Center
 2026 Member, Faculty Search Committee, Cardiology - Chief of Adult Congenital Heart Disease, UCSF Medical Center
 2026-2029 Member, Finance Committee, UCSF Health

PUBLIC SERVICE

ACTIVITY SUMMARY

I have brought the Camp Cardiac program to UCSF. This is a program geared towards high school students interested in a career in health care. I have been a faculty mentor for first year medical students running the Camp Cardiac and have given several lectures every year.

2013-2019 Faculty mentor, Camp Cardiac, UCSF
 2015, 2022 Faculty, UCSF Osher Mini Medical School for the Public

CONTRIBUTION TO DIVERSITY

I was fortunate to mentor over 30 students, residents, fellows, and junior faculty, of which 60% are women or underrepresented minorities. Most of these mentees have developed into phenomenal clinicians and researchers and have obtained positions at leading academic practices across the US, Asia, and Europe.

Since becoming Section Chief of Advanced Heart Failure, Mechanical Circulatory Support, Pulmonary Hypertension, and Heart Transplantation, I have actively recruited women and underrepresented faculty; within 3 years of my leadership, we increased representation from 20% to 66%.

In my research, I study the risk of heart failure in women and the risk of developing sudden cardiac arrest in women with heart failure. I co-Chaired the Heart Failure Working Group of the Women's Health Initiative, the largest epidemiological study of cardiovascular disease risk factors and outcomes in women. I have defined the risk factors and outcomes in women of African American and Latinx ethnicity, and the contribution of each risk factor to the development of heart failure.

In addition, in my research, I served as Co-Chair of the Cardiovascular Outcomes Research Group and as a Member of the Scientific Council of the Jackson Heart Study, the largest study to understand the burden of cardiovascular disease in African Americans.

I was the Chairman of the Steering Committee and the National PI of the PROACTIVE HF trial, studying the role of a second-generation pulmonary artery pressure sensor in patients with heart failure. In my role, I ensured that the Steering and Eligibility committees had equal representation of women and minority investigators. In addition, the trial enrolled 40% women and 25% minorities, representing one of the highest proportions in any heart failure clinical trial to date.

TEACHING and MENTORING

TEACHING NARRATIVE

I teach residents, fellows and advanced practice providers about invasive hemodynamics, heart failure, heart transplantation, and ventricular assist devices during daily bedside rounds on the clinical service. In addition, I have mentored students, residents, and fellows in an outpatient clinic and during research rotations.

FORMAL SCHEDULED CLASSES FOR UCSF STUDENTS:

Quarter	Academic Year	Course No and Title	Teaching Contribution	Units	Class Size
Spring	2012-2013	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	25
Winter	2013-2014	IDS 102A: Major Organ Systems – Cardiomyopathy and	Lecturer; 1 lecture	8	80

		Pericardial Diseases			
Spring	2013-2014	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	20
Winter	2014-2015	IDS 102A: Major Organ Systems – Cardiomyopathy, Valvular Disease, and Pericardial Diseases	Lecturer; 2 lectures	8	80
Spring	2014-2015	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	25
Winter	2015-2016	IDS 102A: Major Organ Systems - Cardiomyopathy, Valvular Disease, and Pericardial Diseases	Lecturer; 2 lectures	8	80
Spring	2016-2017	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	20
Spring	2017-2018	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	20
Spring	2018-2019	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	20
Spring	2019-2020	NS 219: Introduction to Human Biology and Medicine	Lecturer; 1 lecture	3	30

PREDOCTORAL STUDENTS DIRECTLY SUPERVISED OR MENTORED:

Dates	Name	Program or School	Role	Position Obtained
2009-2010	Andrew Kott	Medical Student	Supervised research	Internal Medicine Resident, Northwestern University
2010-2011	Kathleen Prendergast	Clinical Research and Regulatory Administration	Supervised Master's Thesis	Regulatory Affairs, Department of Defense
2011-2013	Sanders Oh	Medical Student	Supervised research	Internal Medicine Resident, Northwestern University
2012-2015	Mozziyar Etemadi	Medical Student	Supervised research	Anesthesiology Resident, Northwestern University
2013	Sheena Galhotra	Medical Student	Supervised research	Ob Gyn Resident, Rush University
2014-2015	Julie Wu	Medical Student	Mentored, Longitudinal Clinical Experience	Internal Medicine Resident, Northwestern University
2015-2016	Amlu Natesan	Medical Student	Mentored, Longitudinal Clinical Experience	Pediatrics Resident, UCLA
2015	Aya Abounasr	Medical Student	Mentored, Pathways Explore Resource Allocation Program for Trainees (RAP'tr)	Anesthesiology Resident, Stanford
2016-2017	Tom Sorrentino	Medical Student	Mentored, Longitudinal Clinical Experience	General Surgery Resident, UCSF
2016-2017	Sarah Westcott	Clinical Research Coordinator	Career mentor	Medical Student, UC Davis
2017-2018	Daniel Bernard	Medical Student	Transitional Ambulatory	Internal Medicine

			Clinical Experience	resident, Columbia Presbyterian
2017-2018	Evan Whitehead	Medical Student	Transitional Ambulatory Clinical Experience; Research Elective supervision	Internal Medicine resident, Massachusetts General Hospital
2017-2018	Philip Kingsford	Medical Student	Research Elective supervision	Internal Medicine resident, University of Southern California
2018-2020	Grace Furnari	Clinical Research Coordinator	Career mentor	Medical Student, UC San Diego
2019	Cassie Nguyen	College Student	Research Elective supervision	Clinical Research, Pulse Biosciences
2019-2020	Edward Kempton	Medical Student	Transitional Ambulatory Clinical Experience	Medical Student, UCSF
2020-2021	Suleiman, Leena	Medical Student	Transitional Ambulatory Clinical Experience	Neurology Resident, UCSF

POSTDOCTORAL FELLOWS AND RESIDENTS DIRECTLY SUPERVISED OR MENTORED:

Dates	Name	Program or School	Role	Current Position
2010-2017	Jana Svetlichnaya	Cardiology	Supervised research (T32 mentorship)	Heart Failure Cardiologist, Kaiser San Francisco
2010-2011	Jon Rhee	Internal Medicine	Supervised research	Interventional Cardiologist, NV
2010-2012	Michael Tempelhof	Cardiology	Supervised research	Interventional Cardiologist, OH
2010-2012	Andrew Sauer	Cardiology	Outpatient clinic mentor	Professor, St. Luke's Mid America Heart Institute, Kansas City, MO
2019-2020	Benjamin Kelemen	Cardiology	Supervised research (T32 mentorship)	Interventional Cardiologist, Kaiser Santa Clara
2016-2020	Md Mobashir Hasan Shandi	Engineering	Supervised research and PhD Thesis Committee	Assistant Professor, Arizona State University, Tempe, AZ
2021-2023	Wu, Janet	Cardiology	Supervised research	MCS Coordinator, UCSF
2021-2024	Sara Westcott	Internal Medicine	Supervised research and outpatient clinic mentor	Cardiology Fellow, Stanford
2022-2025	Ishan Kamat	Cardiology	Supervised research and outpatient clinic mentor	Heart Failure Cardiologist, HCA Heart Hospital, Austin

INFORMAL TEACHING:

2023-2024	Attending rounds, Advanced Heart Failure and Transplant Service (8 weeks)
2024-2025	Attending rounds, Advanced Heart Failure and Transplant Service (15 weeks)
2025-2026	Attending rounds, Advanced Heart Failure and Transplant Service (13 weeks)

FACULTY MENTORING:

Dates	Name	Program or School	Role	Current Position
2017-2022	Geoffrey Tison	Cardiology	Co-Mentor K23 Award	Associate Professor, UCSF
2018-2021	Bettina Heidecker	Cardiology	Career Mentor	Consultant Cardiologist, Charité University Hospital, Berlin, Germany
2022-2023	Sunki Lee	Cardiology	Career Mentor	Advanced Heart Failure/Transplant Cardiologist, Hallym University Dongtan Hospital, Korea
2025	Alina Scarlatescu	Cardiology	Career Mentor	Cardiac Intensivist, Emergency University Hospital, Bucharest, Romania

TEACHING AIDS:

None

RESEARCH AND CREATIVE ACTIVITIES**RESEARCH SUMMARY**

My research aims to develop multimodal sensors and machine learning algorithms to predict clinical course, treatment responses, and outcomes in patients with heart failure. In addition, I have developed several machine learning algorithms to predict the best treatment selection for patients with hypertension, heart failure, and coronary artery disease. I have been funded by several NIH grants for these activities. In addition, my research is contributing to understanding the epidemiology of heart failure in women and sudden cardiac death in women with heart failure. I have been funded by several NIH grants for this.

RESEARCH AWARDS AND GRANTS**CURRENT**

1. R44 HL184643-01A1 (Naar PI) 07/01/26 – 06/30/28
National Heart, Lung and Blood Institute (NHLBI)
Antisense oligonucleotide targeting a pathological microRNA for heart failure treatment
This study will advance the development of a first-in-class locked nucleic acid antisense oligonucleotide targeting miR-128-3p, a master regulator of cardiac remodeling, to prevent heart failure progression post myocardial infarction in a validated swine model.
Role: Site Principal Investigator

PAST

1. R01 HL159216-01A1 (Breathett PI) 11/01/23 – 10/31/25
National Heart, Lung and Blood Institute (NHLBI)
SOCIAL-HF: Seeking Objectivity in Allocation of Advanced Heart Failure therapies
This study will investigate the effect of a standardized bias training on allocation of advanced heart failure therapies.
Role: Site Principal Investigator

2. HHSN2682018000101 (Correa PI) 08/13/18 – 08/12/25
National Heart, Lung and Blood Institute (NHLBI) and NIMHD
Jackson Heart Study
The primary goal of this subcontract is to develop the infrastructure for heart failure research in African Americans, recruited part of the Jackson Heart Study. The PI is the Co-Chair of the Cardiovascular Outcomes Working Group in the Jackson Heart Study.
Role: Site Principal Investigator

3. R44 HL162139-01 (Voskerician PI) 05/15/22 – 12/31/24
National Heart, Lung and Blood Institute (NHLBI)
PERSEVERE-PEF: optimizing medical therapy saves lives in heart failure with preserved ejection fraction
This study will investigate the efficacy of optima4PEF analytic intelligence in improving medical therapy management for patients diagnosed with heart failure with preserved ejection fraction (HFpEF) requiring concerted management of fluid volume overload, hypertension, coronary artery disease and/or atrial fibrillation.
Role: Site Principal Investigator
4. R44 HL140624-02 (Voskerician PI) 05/15/20 – 03/31/22
National Heart, Lung and Blood Institute (NHLBI)
PROTECT: optima4BP 2.0: prediction of Optimal Treatment and Route to achieve and maintain BP Target
This study will investigate the benefits of optima4BP artificial intelligence to predict the best treatment response to pharmacological interventions in data derived from large clinical trials.
Role: Site Principal Investigator
5. R44 HL149428-01 (Voskerician PI) 09/01/19 – 03/31/22
National Heart, Lung and Blood Institute (NHLBI)
ARTERY Outcomes: tAilored dRug Titration through artificial intERvention: an interventional study
This study will investigate the benefits of optima4BP artificial intelligence that transforms the episodic and reactive nature of uncontrolled hypertension pharmacological treatment into a process that is continuous, proactive, and personalized.
Role: Site Principal Investigator
6. R01 HL130619-01A1 (Klein/ Inan PI) 04/01/16 – 03/31/22
National Heart, Lung and Blood Institute (NHLBI)
Non-invasive biosensors to detect cardiovascular changes in heart failure
This study will lead to the development of a novel non-invasive sensors and a cloud-based risk prediction algorithm for predicting heart failure decompensations.
Role: Co-Principal Investigator
7. R01 HL130502 (Grady PI) 09/01/15 – 03/31/22
National Heart, Lung and Blood Institute (NHLBI)
Mechanical circulatory support: Measures of adjustment and quality of life
The primary goal of this project is to establish quality of life measures in patients with left ventricular assist devices and their correlations with outcomes.
Role: Site Principal Investigator
8. R43 HL147627-01 (Voskerician PI) 04/15/19 – 03/31/20
National Heart, Lung and Blood Institute (NHLBI)
OPTIMA4HEART: Pharmacological Intervention and Transitions of Care in Cardiovascular Disease Management
This study investigated the benefit of developing a novel multi-cardiovascular disease software tool (optima4heart) as a physician decision support aid in timely and safely optimizing medication treatment and directing team-based patient care needs, independent of in-office visits
Role: Site Principal Investigator
9. R01 HL130591 (Eaton PI) 07/01/16 – 06/30/21
National Heart, Lung and Blood Institute (NHLBI)
Women's Health Initiative Strong and Healthy -2 Prevent Heart Failure
An ancillary study to the Women's Health Initiative Strong and Healthy (WHISH), to determine the impact of physical activity on the composite endpoint of incident heart failure, heart failure recurrence

and cardiovascular disease death in those with a history of heart failure, as well as defining the type, intensity, frequency of physical activity associated with heart failure reduction.

Role: Site Principal Investigator

10. R44 HL132622-01A1 (Voskerician PI) 04/01/17 – 03/31/19

National Heart, Lung and Blood Institute (NHLBI)

ARTERY: tAilored dRug Titration through artificial 15ntervention: an 15nterventional study

This study tested a novel clinical decision support treatment algorithm for managing hypertension and integrating treatment recommendation with the electronic health records.

Role: Site Principal Investigator

11. R44 HL125001-02 (Naima PI) 07/01/16 – 07/01/18

National Heart, Lung and Blood Institute (NHLBI)

CorBrand: A novel wearable wrist sensor for heart failure remote monitoring

We developed a novel device capable of assessing non-invasively physiologic changes in cardiovascular parameters, with a hypothesis that worsening in ambulatory physiologic parameters will be detected at least 10 days before a heart failure hospitalization.

Role: Site Principal Investigator

12. R44 HL127880-01 A1 (Gandini PI) 04/01/17 – 03/31/19

National Heart, Lung and Blood Institute (NHLBI)

A disposable assay for the monitoring of heart failure in the home setting

This study tests a novel test (“pScreen”) capable of assessing home BNP levels using a POC test.

Role: Principal Investigator

13. R56 AG048458-01A1 (Klein/ Inan PI) 09/30/15 – 08/31/17

National Institute on Aging (NIA)

Wearable Cardiomechanics Monitor to Decrease Heart Failure Readmissions

This study will lead to the development of a novel non-invasive sensors and a cloud based risk prediction algorithm for predicting heart failure decompensations.

Role: Principal Investigator

14. ONC Market R&D Pilot Challenge (Klein PI) 08/01/15 – 04/30/17

Office of the National Coordinator for Health Information Technology (ONC HIT)

Piloting healthcare coordination in hypertension (PRECISION)

This study will lead to the development of a novel treatment algorithm for managing hypertension and integrating treatment recommendations with the electronic health records.

Role: Principal Investigator

15. R43 HL125001-01 (Naima PI) 08/01/14 – 12/31/15

National Heart, Lung and Blood Institute (NHLBI)

Novel multi-sensor for heart failure remote monitoring: ReThink HF.

This study will lead to the development of a novel non-invasive hemodynamic sensor and a cloud based risk prediction algorithm for predicting heart failure decompensation.

Role: Principal Investigator

16. R21AG027471 (Klein PI) 09/01/07 – 08/31/10

National Institute on Aging/ Office for Research in Women’s Health

Heart Failure Evaluation in Post-Menopausal Women: The Women’s Health Initiative (WHI).

This study used the data available from the WHI hormone replacement therapy randomized trials and, through a novel method of adjudicating heart failure outcomes, examined the influence of hormone replacement therapy on incidence and prognosis in post-menopausal women.

Role: Principal Investigator

17. Young Investigator Database Seed Grant (Klein PI) 11/30/08 – 10/31/10

American Heart Association

Quality of Care and Outcomes for Women Hospitalized with Heart Failure

This study used the data available from the Get with the Guidelines Program (GWTG) of the American Heart Association and examined the characteristics and outcomes of women hospitalized with heart failure in the United States.

Role: Principal Investigator

CLINICAL STUDIES COMMITTEES

CURRENT

1. PROACTIVE-HF 2 Trial 01/01/24 – 12/31/28

Edwards Lifesciences

A PROspective, Multi-Center, Randomized, Controlled, Single Blind Clinical Trial Evaluating the Safety and Efficacy of the Cordella™ Pulmonary Artery Sensor System in New York Heart Association (NYHA) Class II Heart Failure Patients

This study will test the ability of Cordella™ Pulmonary Artery Sensor system to aid in the management of heart failure patients at risk for heart failure decompensation.

Role: Steering Committee Member and National Co-PI

2. AltaValve Early Feasibility and Pivotal Study 03/01/23 – 08/30/28

4C Medical Technologies

A Multicenter Early Feasibility Study to Assess the Safety and Efficacy of AltaValve Transcatheter Valve Implant for Mitral Regurgitation

This study will test the safety and efficacy of AltaValve in the treatment of mitral regurgitation.

Role: Member, Eligibility Committee

3. CORCINCH-HF Trial 10/01/23 – 09/30/26

Ancora Heart

Clinical Evaluation of the AccuCinch® Ventricular Restoration System in Patients Who Present With Symptomatic Heart Failure With Reduced Ejection Fraction (HFrEF): The CORCINCH-HF Study

This study will test the safety and efficacy of AccuCinch® the treatment of heart failure with reduced ejection fraction.

Role: Member, Eligibility Committee

4. DORAYA-HF Pivotal Trial 05/01/25 – 04/30/28

Revamp Medical

Clinical Evaluation of the Assessment of the Doraya Device for the treatment of volume overload in Acute Heart Failure Patients with Insufficient Response to Diuretics

This study will test the safety & efficacy of Doraya® the treatment of decompensated heart failure patients.

Role: Member, Protocol Advisory Committee

PAST

1. MANAGE-HF Trial 11/01/16 – 10/31/22

Boston Scientific

Multiple cArdiac seNsors for mAnaGement of Heart Failure

This study tested the ability of HeartLogic™ feature to aid in the management of heart failure patients with reduced ejection fraction at risk for heart failure decompensation.

Role: Member, Steering Committee

2. PROACTIVE-HF Trial 09/01/19 – 08/31/24

Endotronix

A PROspective, Multi-Center, Randomized, Controlled, Single Blind Clinical Trial Evaluating the Safety and Efficacy of the Cordella™ Pulmonary Artery Sensor System in New York Heart Association (NYHA) Class III Heart Failure Patients

This study tested the ability of Cordella™ Pulmonary Artery Sensor system to aid in the management of heart failure patients at risk for heart failure decompensation.

Role: Chair, Steering Committee and National PI

3. DT PAS Registry and APOGEE Trial 07/01/18 – 06/30/25
Medtronic

Destination Therapy Post Approval Study Product Surveillance Registry Platform and Apogee Addendum
This study will further confirm safety and effectiveness of the HVAD when used as intended, in “real world” clinical practice.

Role: Member, Steering Committee

4. DETECT-HF Trial 07/01/22 – 07/30/26
Cordio Medical

A Multicenter Observational Study to Collect Information Related to the Clinical Significance and Performance of the Cordio System

This study will test the ability of HearO™ app to aid in the diagnosis of heart failure decompensation.

Role: Member, Steering Committee

ACTIVE ADVISORY BOARDS

1. Heart Failure Advisory Board 07/01/2014 – present
Abbott, Abbott Park, IL

2. Scientific Advisory Board 07/01/2020 – present
Cardiosense, Chicago, IL

3. Advisory Board 01/01/2026 – present
SofMedica, Bucharest, Romania

PEER REVIEWED PUBLICATIONS:

1. Borrello F, Beahan M, **Klein L**, Gheorghiade M. Reappraisal of beta-blocker therapy in the acute and chronic post myocardial infarction period. *Rev Cardiovasc Med.* 2003;4:S13-S24.
2. Gheorghiade M, Gattis WA, **Klein L**. OPTIME in CHF trial: rethinking the use of inotropes in the management of worsening chronic heart failure resulting in hospitalization. *Eur J Heart Fail.* 2003;5:9-12.
3. Jain P, Massie BM, Gattis WA, **Klein L**, Gheorghiade M. Current medical treatment for the exacerbation of chronic heart failure resulting in hospitalization. *Am Heart J.* 2003;145:S1:3-17.
4. **Klein L**, Gheorghiade M. Therapeutic strategies for patients hospitalized with worsening heart failure. *Ital Heart J.* 2003;4:71-74.
5. **Klein L**, O'Connor CM, Gattis WA, Zampino M, De Luca L, Vitarelli A, Fedele F, Gheorghiade M. Pharmacologic therapy for patients with chronic heart failure and reduced systolic function: review of trials and practical considerations. *Am J Cardiol.* 2003;91:18F-40F.
6. Danciu SC, **Klein L**, Mir Hosseini M, Ibrahim L, Coyle BW, Kehoe RF. A predictive model for survival after in hospital cardiopulmonary arrest. *Resuscitation.* 2004;62:35-42.
7. Gheorghiade M, **Klein L**, Stone NJ, Bonow RO, Kim RJ. Improvement in the function of hibernating myocardium in a patient with heart failure due to coronary artery disease receiving high dose simvastatin. *Ital Heart J.* 2004;5:160-162.
8. **Klein L**, Galvez A, Klein O, Chediak J. Warfarin – induced limb gangrene in the setting of lung adenocarcinoma. *Am J Hematol.* 2004;76:175-178.
9. **Klein L**, Gattis WA, Pasini E, Borrello F, Wu E, O'Connor CM, Gheorghiade M. Effects of amino acids supplementation on left ventricular remodeling in patients with chronic heart failure, decreased systolic function, and diabetes: a magnetic resonance imaging study (rationale and design). *Am J Cardiol.* 2004;93:44A-46A.
10. **Klein L**, Gheorghiade M. Coronary artery disease and prevention of heart failure. *Med Clin North Am.* 2004;88:1209-1235.
11. **Klein L**, Gheorghiade M. Management of the diabetic patient with myocardial infarction: clinical trials update. *Am J Med.* 2004;116:S47-S63.
12. Piccini JP, **Klein L**, Gheorghiade M, Bonow RO. New insights into diastolic dysfunction: role of diabetes. *Am J Med.* 2004;116:S64-S75.

13. De Luca L, **Klein L**, Udelson JE, Orlandi C, Sardella G, Fedele F, Gheorghiade M. Hyponatremia in patients with heart failure. *Am J Cardiol*. 2005;96:19L-23L.
14. Gheorghiade M, Zannad F, Sopko G, **Klein L**, Piña IL, Konstam MA, Massie BM, Roland E, Targum S, Collins SP, Filippatos G, Tavazzi L; for the International Working Group on Acute Heart Failure Syndromes. Acute heart failure syndromes: current state and framework for future research. *Circulation*. 2005;112:3958-3968.
15. **Klein L**, O'Connor CM, Leimberger JD, Gattis WA, Piña IL, Felker GM, Adams KF Jr, Califf RM, Gheorghiade M. Lower serum sodium is associated with increased short-term mortality in hospitalized patients with worsening heart failure – results from the Outcomes of a Prospective Trial of Intravenous Milrinone for Exacerbations of Chronic Heart Failure. *Circulation*. 2005;111:2454-2460.
16. **Klein L**. Posting treatment recommendations to primary care physicians did not improve care for people with myocardial infarction or heart failure. *Evid Based Cardiovasc Med*. 2005;9:72-75.
17. **Klein L**, O'Connell JB. Thromboembolic risk in the patient with heart failure. *Curr Treat Options Cardiovasc Med*. 2007;9:310-317.
18. Lloyd-Jones DM, Liu K, Colangelo LA, Yan LL, **Klein L**, Loria CM, Lewis CE, Savage P. Consistently stable body mass index and changes in risk factors associated with the metabolic syndrome. *Circulation*. 2007;115:1004-1011.
19. **Klein L**, Massie BM, Leimberger JD, O'Connor CM, Piña IL, Adams KF Jr, Califf RM, Gheorghiade M. Admission or changes in renal function during hospitalization for worsening heart failure predict post-discharge survival: - results from the Outcomes of a Prospective Trial of Intravenous Milrinone for Exacerbations of Chronic Heart Failure (OPTIME-CHF) study. *Circulation: Heart Failure*. 2008;1:25-33.
20. Shah RU, **Klein L**, Lloyd-Jones DM. Heart failure in women: epidemiology, biology and treatment., *Women's Health*. 2009;5:517-527.
21. **Klein L**. Higher-dose dabigatran reduced stroke, but not major hemorrhage, more than warfarin in atrial fibrillation. *Ann Intern Med*. 2010;152:JC1-2.
22. **Klein L**, Grau-Sepulveda MV, Bonow RO, Hernandez AF, Williams MV, Bhatt DL, Fonarow GC. Quality of care and outcomes in women hospitalized for heart failure. *Circulation: Heart Failure*. 2011;4:589-598.
23. **Klein L**. Omnes Viae Romam Ducunt: Asymptomatic Cardiac and Non-cardiac Organ System Dysfunction Lead to Heart Failure. *Circulation*. 2011;124:4-6.
24. Shah RU, Tsai V, **Klein L**, Heidenreich PA. Characteristics and outcomes of very elderly patients following first hospitalization for heart failure. *Circulation: Heart Failure*. 2011;4:301-307.
25. Shah RU, Winkleby MA, Van Horn L, Phillips L, Eaton C, Martin LW, Rosal MC, Manson JA, Lloyd-Jones DM, **Klein L**. Association of socioeconomic status and incident heart failure in women: The Women's Health Initiative Hormone Therapy Trial. *J Am Coll Cardiol*. 2011;58:1457-1464.
26. Svetlichnaya J, **Klein L**. Atrial fibrillation in elderly patients with heart failure: convergence of two cardiovascular epidemics in the 21st century. *Expert Rev Cardiovasc Ther*. 2011;9:903-912.
27. Tempelhof MW, **Klein L**, Cotts WG, Benzuly KH, Davidson CJ, Meyers SN, McCarthy PM, Malaisrie CS, McGee EC, Beohar N. Clinical experience and patient outcomes associated with the Tandem Heart percutaneous transeptal assist device among a heterogeneous patient population. *ASAIO Journal*. 2011;57:254-261.
28. **Klein L**. Apixaban reduced stroke and systemic embolism compared with warfarin in atrial fibrillation. *Ann Intern Med*. 2012;156:JC1-2.
29. **Klein L**. Rivaroxaban reduced stroke and systemic embolism compared with warfarin in nonvalvular AF. *Ann Intern Med*. 2012;156:JC2-3.
30. Eaton CB, Abdulbaki AM, Margolis KL, Manson JE, Limacher M, **Klein L**, Allison MA, Robinson JG, Curb JD, Martin LA, Liu S, Howard BV. Racial and ethnic differences in incident hospitalized heart failure in postmenopausal women: the Women's Health Initiative. *Circulation*. 2012;126:688-696.

31. Avery C, Sethupathy P, Buyske S, He Q, Lin DY, Arking DE, Carty CL, Duggan D, Fesinmeyer M, Hindorff LA, Jeff JM, **Klein L**, Patton KK, Peters U, Shohet RV, Sotoodehnia N, Young AM, Kooperberg C, Haiman CA, Mohlke KL, Whitsel EA, North KE. Fine-mapping and initial characterization of QT interval loci in African Americans. *PloS Genetics*. 2012;8:e1002870.
32. **Klein L**. New oral anticoagulants reduced stroke and systemic embolism compared with warfarin in atrial fibrillation. *Ann Intern Med*. 2012;157:JC2-3.
33. Perez MV, Wang PJ, Larson JC, Cochrane B, Curb JD, **Klein L**, Manson JE, Martin LW, Robinson J, Wassertheil-Smoller S, Stefanick ML. Effects of postmenopausal hormone therapy on incident atrial fibrillation: the Women's Health Initiative randomized controlled trials. *Circ Arrhythm Electrophysiol*. 2012;5:1108-1116.
34. Perez MV, Wang PJ, Larson JC, Soliman EZ, Limacher M, Rodriguez B, **Klein L**, Manson JE, Martin LW, Prineas R, Connelly S, Hlatky M, Wassertheil-Smoller S, Stefanick ML. Risk factors for atrial fibrillation and their population burden in postmenopausal women: the Women's Health Initiative Observational Study. *Heart*. 2013;99:1173-1178.
35. Sridharan L, **Klein L**. Prognostic factors in patients hospitalized for heart failure. *Curr Heart Fail Rep*. 2013;10:380-386.
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37. Wiens A, Etemadi M, **Klein L**, Roy S, Inan OT. Wearable ballistocardiography: Preliminary methods for mapping surface vibration measurements to whole body forces. *Conf Proc IEEE Eng Med Biol Soc*. 2014;5172-5175.
38. Etemadi M, Hersek S, Tseng JM, Rabbani N, Heller JA, Roy S, **Klein L**, Inan OT. Tracking clinical status for heart failure patients using ballistocardiography and electrocardiography signal features. *Conf Proc IEEE Eng Med Biol Soc*. 2014;5188-5191.
39. Donneyong MM, Hornung CA, Taylor KC, Baumgartner RN, Myers JA, Eaton CB, Gorodeski EZ, **Klein L**, Martin LW, Shikany JM, Song Y, Li W, Manson JE. Risk of heart failure among postmenopausal women: A secondary analysis of the randomized trial of vitamin D plus calcium of the women's Health Initiative. *Circ Heart Fail*. 2015;8:49-56.
40. Rogers SE, Klein L, Perissinotto CM. The importance of cognitive assessment before ventricular device placement: a teachable moment. *JAMA Intern Med*. 2015;175:890.
41. Wiens A, Etemadi M, Roy S, **Klein L**, Inan O. Towards continuous, non-invasive assessment of ventricular function and hemodynamics: wearable ballistocardiography. *IEEE J Biomed Health Inform*. 2015;19:1435-1442.
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43. **Klein L**, Greenberg BH, Konstam MA, Gregory D, Kociol RD, Johnson MR, De Marco T. Activities and Compensation of Advanced Heart Failure Specialists: Results of the Heart Failure Society of America (HFSA) Survey. *J Card Fail*. 2015;21:924-929.
44. **Klein L**. Treating hemodynamic congestion is the key to prevent heart failure hospitalizations. *J Am Coll Cardiol HF*. 2016;4:345-347.
45. Eaton CB, Pettinger M, Rossouw J, Martin LW, Foraker R, Quddus A, Liu S, Wampler NS, Hank Wu WC, Manson JE, Margolis K, Johnson KC, Allison M, Corbie-Smith G, Rosamond W, Breathett K, **Klein L**. Risk factors for incident hospitalized heart failure with preserved versus reduced ejection fraction in a multiracial cohort of postmenopausal women. *Circ Heart Fail*. 2016;9:2883-2891.
46. Sack KL, Baillargeon, Acevedo-Bolton G, Genet M, Rebelo N, Kuhl E, **Klein L**, Weiselthaler GM, Burkhoff D, Franz T, Guccione JM. Partial LVAD restores ventricular outputs and normalizes LV but not RV stress distributions in the acutely failing heart in silico. *Int J Artif Organs*. 2016;39:421-430.
47. Pandey A, LaMonte M, **Klein L**, Ayers C, Psaty BM, Eaton CB, Allen NB, de Lemos JA, Carnethon M, Greenland P, Berry JD. Relationship between physical activity, body mass index, and risk of heart failure. *J Am Coll Cardiol*. 2017;69:1129-1142.

48. Brondfield MN, Reid MJ, Rutishauser RL, Cope JR, Tang J, Ritter JM, Matanock A, Ali I, Doernberg SB, Hiltz-Horeczko A, DeMarco T, **Klein L**, Babik JM. Disseminated Acanthamoeba infection in a heart transplant recipient treated successfully with a miltefosine-containing regimen: Case report and review of the literature. *Transpl Infect Dis.* 2017;19:e12661-e12668.
49. Cowie MR, Simon M, **Klein L**, Thokala P. The cost-effectiveness of real-time pulmonary artery pressure monitoring in heart failure patients: a European perspective. *Eur J Heart Fail.* 2017;19:661-669.
50. Hall PS, Nah G, Howard BV, Lewis CE, Allison MA, Sarto GE, Waring ME, Jacobson LT, Manson JE, **Klein L**, Parikh NI. Reproductive factors and incidence of heart failure hospitalization in the Women's Health Initiative. *J Am Coll Cardiol.* 2017;69:2517-2526.
51. **Klein L**. (Re)Discovering the neurohormonal and hemodynamic duality of heart failure. *J Am Coll Cardiol.* 2017;70:1887-1889.
52. Inan OT, Baran Pouyan M, Javaid AQ, Dowling S, Etemadi M, Dorier A, Heller JA, Bicen AO, Roy S, De Marco T, **Klein L**. Novel wearable seismocardiography and machine learning algorithms can assess clinical status of heart failure patients. *Circ Heart Fail.* 2018;11:e4313-e4322.
53. Pandey A, Omar W, Ayers C, LaMonte M, **Klein L**, Allen N, Kuller LH, Greenland P, Eaton C, Gottdiener JS, Lloyd-Jones D, Berry JD. Sex and race differences in lifetime risk of heart failure with preserved ejection fraction and heart failure with reduced ejection fraction. *Circulation.* 2018;137:1814-1823.
54. Breathett K, Leng I, Foraker RE, Abraham WT, Coker L, Whitfield KE, Shumaker S, Manson JE, Eaton CB, Howard BV, Ijioma N, Cené CW, Martin LW, Johnson KC, **Klein L**. Risk factor burden, heart failure, and survival in women of different ethnic groups: insights from the Women's Health Initiative. *Circ Heart Fail.* 2018;11:e4642-4650.
55. LaMonte MJ, Manson JE, Chomistek AK, Larson JC, Lewis CE, Bea JW, Johnson KC, Li W, **Klein L**, LaCroix AZ, Stefanick ML, Wactawski-Wende J, Eaton CB. Physical activity and incidence of heart failure in postmenopausal women. *JACC Heart Fail.* 2018;6:983-995.
56. Moss J, Oesterle AC, Raiman M, Flatley E, Beaser A, Jeevanendram V, **Klein L**, Tot A, Wieselthaler G, Uriel N, Tung R. Feasibility and utility of intraoperative epicardial scar characterization during left ventricular assist device implantation. *J Cardiovasc Electrophysiol.* 2019;30:183-192.
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NON-PEER REVIEWED PUBLICATIONS AND OTHER CREATIVE ACTIVITIES:

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MEETING ABSTRACTS (PAST 3 YEARS ONLY)

1. Loyaga-Rendon R, Schroder J, Couper G, Kiernan M, Meyer D, Zeeshan A, Goldstein D, **Klein L**, Smith J, Urban M. Outcomes of DCD Hearts Preserved at 4-8°C Following TA-NRP Compared to Normothermic Machine Perfusion. *J Heart Lung Transplant*. 2026.
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FIVE SIGNIFICANT PUBLICATIONS

1. **Klein L**, Fudim M, Etemadi M, Gordon R, Tibrewala A, Hernandez-Montfort J, McCann P, Zier L, Shah K, Rollins A, Karia D, Quyyumi A, Motiwala SR, Diakos N, Rommel J, Ambrosy AP, Ganti VG, Soni P, Larimer K, Carek AM, Inan OT. Noninvasive Pulmonary Capillary Wedge Pressure Estimation in Heart Failure Patients With the Use of Wearable Sensing and AI. *JACC Heart Fail*. 2025;13:102513-102524.

I designed the study, obtained funding, and drafted the final manuscript. This study was the first to evaluate the non-invasive determination of intracardiac filling pressures using an unbiased machine learning algorithm.

2. Abraham J, McCann P, Wang L, Schnell Heringer A, Paulsen J, Chappell J, Remick J, Westerdahl D, Lewis R, Callis K, Spinelli KJ, **Klein L**. Internal Jugular Vein as Alternative Access for Implantation of a Wireless Pulmonary Artery Pressure Sensor. *Circ Heart Fail*. 2019 Aug; 12(8):e006060. PMID: 31525097
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3. Breathett K, Leng I, Foraker RE, Abraham WT, Coker L, Whitfield KE, Shumaker S, Manson JE, Eaton CB, Howard BV, Ijioma N, Cen  CW, Martin LW, Johnson KC, **Klein L**. Risk Factor Burden, Heart Failure, and Survival in Women of Different Ethnic Groups: Insights From the Women's Health Initiative. *Circ Heart Fail*. 2018 05; 11(5):e004642. PMID: 29716899. PMCID: PMC5935135
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