
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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|--|---|------------|------------------------|
| NAME Michelle Maya Kittleson, M.D., Ph.D. | POSITION TITLE Director, Postgraduate Education in Heart Failure and Transplantation | | |
| eRA COMMONS USER NAME | | | |
| EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i> | | | |
| INSTITUTION AND LOCATION | DEGREE <i>(if applicable)</i> | YEAR(s) | FIELD OF STUDY |
| Harvard College (Cambridge, MA) | A.B. | 1992 -1995 | Biochemical Sciences |
| Yale University School of Medicine (New Haven, CT) | M.D. | 1995 -1999 | Medicine |
| Brigham and Women's Hospital (Boston, MA) | | 1999 -2002 | Internal Medicine |
| Johns Hopkins Hospital (Baltimore, MD) | | 2002 -2006 | Fellowship, Cardiology |
| Johns Hopkins Bloomberg School of Public Health (Baltimore, MD) | Ph.D. | 2003 -2006 | Clinical Investigation |

A. Personal Statement

Dr. Kittleson is the Director of Postgraduate Education in Heart Failure and Transplantation, Director of Heart Failure Research, and Professor of Medicine at the Smidt Heart Institute at Cedars-Sinai. She received her MD at Yale University School of Medicine in New Haven, CT with internship and residency in Internal Medicine at Brigham and Women's Hospital in Boston, MA, and a fellowship in Cardiology at John Hopkins Hospital in Baltimore, MD, where she also received a PhD in clinical investigation from the Johns Hopkins Bloomberg School of Public Health.

Dr. Kittleson is the author of over 60 peer-reviewed publications in heart failure and transplantation as well as review articles, editorials, and book chapters. She participates in educational efforts on a national scale, including chair of the writing group for the 2020 American Heart Association Scientific Statement on Cardiac Amyloidosis, writing committees for the American College of Cardiology/American Heart Association 2020 Hypertrophic Cardiomyopathy Guidelines and 2021 Heart Failure Guidelines. She has medical narrative essays published in the New England Journal of Medicine, Annals of Internal Medicine, and JAMA Cardiology, as poems in JAMA and the Annals of Internal Medicine.

B. POSITIONS AND HONORS

Positions and Employment

| | |
|--------------|---|
| 2019-present | Professor of Medicine, Cedars-Sinai |
| 2010-2019 | Director, Post Graduate Medical Education in Heart Failure and Transplantation Director, Heart Failure Research Associate Professor of Medicine, Cedars-Sinai Smidt Heart Institute |
| 2006-2009 | Assistant Clinical Professor of Medicine/Cardiology, UCLA School of Medicine |

Committee Leadership/Membership

Writing groups

2017 ACC/AHA/HFSA/ISHLT/ACP Advanced Heart Failure and Transplant Cardiology Training Statement

2019 ACC/HFSA/ISHLT Lifelong Learning Statement for Advanced Heart Failure and Transplant Cardiology Specialists

2020 AHA/ACC Guideline for the Diagnosis and Treatment of Hypertrophic Cardiomyopathy

2020 AHA Scientific Statement on Cardiac Amyloidosis, Writing Group Chair

2020 Update to 2016 ACC/AHA Clinical Performance and Quality Measures for Adults with Atrial Fibrillation or Atrial Flutter

2021 ACC/AHA Update on Heart Failure Guidelines

Program planning committees

Heart Failure Society of America, Program Planning Committee, 2017, 2018

AHA Committee on Scientific Sessions Programming, 2019

Expert reviewer

ISHLT Standards and Guidelines Committee, Management of VAD patients, expert reviewer, 2018

SCAI/HFSA Expert Consensus Statement on the Classification of Cardiogenic Shock, expert reviewer, 2019

National educational initiatives

AHA Transthyretin Amyloid Cardiomyopathy for Professionals; podcast and article, 2019

Chair, ACC Educational Initiative on Hypertrophic Cardiomyopathy; podcast and articles; 2020

Planning Committee, AHA Series "Care of Patients with Transthyretin Amyloidosis," 2019-2020

Other national committee activities

Chair, ABIM Advanced Heart Failure and Transplant Cardiology Self-Evaluation Program Committee, 2013-2017

ACCSAP Question Writing Group, 2013-2014, since 2018

AHA Council on Clinical Cardiology Heart Failure and Transplantation Committee 2015-2019

Associate Editor, ACC CardioSmart Heart Failure Condition Center, 2016

F1000 Prime Faculty, Heart Failure Section, 2018

Merit-Based Incentive Payment Systems Heart Failure Clinician Committee for CMS, 2019

AHFTC NRMP/HFSA Match Program Taskforce 2019-2020

AHA Scientific & Clinical Education Lifelong Learning Committee, 2019-2021

Co-Editor-in-Chief, ACC Collaborative Maintenance Pathway Heart Failure SAP, 2019-2024

AHA Heart Failure Initiative Quality Improvement Registry, Science Steering Committee, 2019

Cedars-Sinai committees

Cedars-Sinai Medical Group Peer Review Committee, since 2017

Cedars-Sinai Medical Group Credentialing Committee since, 2017

Cedars-Sinai Medical Center Bioethics Committee, since 2018

Cedars-Sinai Medical Center Cardiology Performance Improvement Committee, since 2018

Cedars-Sinai Board of Directors, 2020-2026

Editorial positions

Reviewer, Journal of Heart and Lung Transplantation

Reviewer, American Journal of Transplantation

Reviewer, Clinical Transplantation

Reviewer, European Heart Journal

Reviewer, Circulation Heart Failure

Reviewer, Journal of Cardiac Failure

Reviewer, JAMA Cardiology

Reviewer, Circulation

Guest Editor, Journal of the American College of Cardiology

Editorial Board, Journal of Cardiology

Editorial board, Circulation Heart Failure

Honors

| | |
|------|---|
| 1999 | Parker Prize, Yale University School of Medicine, New Haven, CT |
| 1999 | Campbell Prize and Perkins Prize: Highest Rank on the National Board Examinations |
| 2004 | Clinical Researcher Annual International Award |
| 2004 | Samuel A. Levine Young Clinical Investigator Award at AHA |
| 2005 | ACCF/Bristol Myers Squibb Travel Award |
| 2005 | Pearl M. Stellar Research Fund for Woman Physicians Fellowship Award, Baltimore, MD |
| 2005 | Frederik B. Bang School-Wide Award for Student Research, Baltimore, MD |
| 2009 | Clinical Faculty Teaching Award, UCLA Department of Medicine |
| 2011 | Junior Faculty Case Presentation Award, International Society of Heart and Lung Transplantation |
| 2018 | Jon A. Kobashigawa Faculty Teaching Award |
| 2018 | Top 20 Reviewer, Circulation Heart Failure |

C. CONTRIBUTIONS TO SCIENCE

Triage of advanced heart failure patients to heart transplantation or mechanical circulatory support is challenging, and a better understanding of the trajectories of such patients will better inform medical decision-making in this complex cohort. As the site PI for the MedaMACS and REVIVAL studies, both multicenter observational registries of advanced heart failure patients, I have participated in a number of analyses to better understand the trajectory of such patients.

Relevant references:

Kittleson MM, Shah P, Lala A, McLean RC, Pamboukian S, Horstmanshof D, Thibodeau J, Shah K, Teuteberg J, Gilotra N, Taddei-Peters WC, Cascino TM, Richards B, Khalabatri S, Jeffries N, Stevenson LW, Mann D, Aaronson KD, Stewart GC for the REVIVAL Investigators. INTERMACS Profiles and Outcomes of Ambulatory Advanced Heart Failure Patients: A Report from the REVIVAL Registry. *J Heart Lung Transplant* 2019 Aug 28. [Epub ahead of print].

Ambardekar AV, Kittleson MM, Palardy M, Mountis MM, Forde-McLean RC, DeVore AD, Pamboukian SV, Thibodeau JT, Teuteberg JJ, Cadaret L, Xie R, Taddei-Peters W, Naftel DC, Kirklin JK, Stevenson LW, Stewart GC. Outcomes with Ambulatory Advanced Heart Failure from the Medical Arm of Mechanically Assisted Circulatory Support (MedaMACS) Registry. *J Heart Lung Transplant*. 2019; 38: 408-417.

Stewart GC, Kittleson MM, Patel PC, Cowger JA, Patel CB, Mountis MM, Johnson FL, Guglin ME, Rame JE, Teuteberg JJ, Stevenson LW. INTERMACS (Interagency Registry for Mechanically Assisted Circulatory Support) Profiling Identifies Ambulatory Patients at High Risk on Medical Therapy After Hospitalizations for Heart Failure. *Circ Heart Fail*. 2016 Nov;9(11).

Ambardekar AV, Forde-McLean RC, Kittleson MM, Stewart GC, Palardy M, Thibodeau JT, DeVore AD, Mountis MM, Cadaret L, Teuteberg JJ, Pamboukian SV, Cantor RS, Lindenfeld J. High early event rates in patients with questionable eligibility for advanced heart failure therapies: Results from the Medical Arm of Mechanically Assisted Circulatory Support (Medamacs) Registry. *J Heart Lung Transplant*. 2016 Jan 18

Stewart GC, Kittleson MM, Cowger JA, Johnson FL, Patel CB, Mountis MM, Patel PC, Rame JE, Testani J, Guglin ME, Teuteberg JJ, Stevenson LW. Who wants a left ventricular assist device for ambulatory heart failure? Early insights from the MEDAMACS screening pilot. *J Heart Lung Transplant*. 2015 [Epub ahead of print]

My work in medical narratives allows me to further medical education on a larger scale by offering strategies for other physicians to better communicate with patients and each other.

Relevant references:

Kittleson MM. The 1% Club. JAMA Cardiol. 2017;2(1):13-14.

Kittleson MM. The Toddler, The Waiter, and the Captain. Journal of Grad Med Educ 2017 Apr;9(2):265-266.

Kittleson MM. The Privilege of Grief. Ann Intern Med. 2018 Nov 20;169(10):729-730.

Kittleson MM, Noble MD, Furiasse N. 142 days. JAMA Cardiol. 2019 4(4):309-310.

DeFilippis EM and Kittleson MM. Trading lives. Am J Med 2019 Jul 24 [Epub ahead of print].

Kittleson MM. Predictions . JAMA Cardiol September 2018 [Epub ahead of print].

Kittleson MM. My First Terrible Diagnosis. Academic Medicine 2019. 94(10): 1488.

Kittleson MM. A Good Physician: On Complacency and Communication 2019. New England Journal of Medicine 2019; 381: 1798-99..

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

Ongoing Research Support

Blood Type A1 Study Kittleson (PI) 07/01/2019 06/30/2021
The Frequency and Significance of Blood Type A1 Donors to non-A1 Subgroup Recipients in Heart Transplantation

The purpose of the study is to determine the frequency and impact of unintentional transplantation of A1 organs to non-A1 heart transplant recipients.

NIH ALL-IN Study/1U01AI136816-01 Patel (Site PI) 05/01/2018-4/30/2020
Targeting Inflammation and Alloimmunity in Heart Transplant Recipients with Tocilizumab.

The primary objective of the study is to compare the efficacy of standard of care triple maintenance immunosuppression plus tocilizumab treatment versus standard of care triple maintenance immunosuppression plus placebo on outcomes as defined by a composite 1 year post-transplant endpoint of a) detection of donor-specific antibodies (DSA), b) acute cellular rejection (ACR), c) antibody mediated rejection (AMR), d) hemodynamic compromise (HDC) rejection in absence of biopsy or histological rejection, e) death, and f) retransplantation.

Role: Co-Investigator

Genzyme Kobashigawa (PI) 07/01/2018 – 07/01/2021
A Pilot Randomized Study to Assess the Effect and Safety Profile of Thymoglobulin® in Primary Cardiac Transplant Recipients (ATG):

A 12-month, single center, randomized, open-label study of efficacy comparing immediate treatment with and without Thymoglobulin® 1.5 mg/kg/d for 5 consecutive days in heart transplant recipients. The purpose of this study is to definitively establish Thymoglobulin's potential efficacy in preventing cardiac allograft vasculopathy.

Role: Co-Investigator

One Legacy Foundation/Baylor Kransdorf (Site PI) 06/01/2019-05/31/2021
Transplant of Redeemed Organs by Judicious Administration of New Direct Acting Antivirals for Hepatitis-C Heart Recipients (TROJAN-C).

This prospective, multi-center, open-label clinical trial will utilize Hepatitis C virus (HCV) - Positive donors for heart transplantation in HCV-negative recipients

Role: Co-Investigator

TransMedics

Esmailian (site PI)

09/11/2019 – 09/10/2022

OCS-CAR-121918 - Continued Access Protocol to collect additional evidence to evaluate the Safety and Effectiveness of The Portable Organ Care System (OCS™) Heart For Preserving and Assessing Expanded Criteria Donor Hearts for Transplantation (Heart EXPAND CAP

Role: Co-Investigator

Completed Research Support

University of Michigan/NHLBI

Kittleson (PI)

6/1/15-7/1/18

Registry Evaluation of Vital Information on VADs in Ambulatory Life (REVIVAL)

REVIVAL is a prospective, observational study designed to identify prospectively a population of ambulatory patients followed on optimal medical therapy for whom chronic heart failure limits both function and survival to a range where elective implantation of left ventricular assist devices should offer meaningful benefit.