Stanford



Katherine Hekman

Assistant Professor of Surgery (Vascular Surgery)

Surgery - Vascular Surgery

CLINICAL OFFICE (PRIMARY)

- **VA Palo Alto Health Care System**

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Bio

BIO

Dr. Hekman earned her Bachelor's degree at Johns Hopkins University, followed by her MD and PhD at the University of Chicago. She then completed vascular surgery residency at Northwestern University. Dr. Hekman's primary research focus is on stem cell-based regenerative medicine for treating vascular disease. Her clinical research interests also include reducing surgical site infections, optimizing the care of venous thromboembolism, and promoting wellness in surgical training.

CLINICAL FOCUS

- Vascular Surgery

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Surgery - Vascular Surgery
- Member, Bio-X

HONORS AND AWARDS

- AVF-Boston Scientific Translational Research Grant, American Venous Forum (2025-2027)
- Career Development Award-2, Department of Veterans Affairs (2024-2029)
- Small Projects in Rehabilitation Grant, Department of Veterans Affairs (2023-2025)
- Faculty Research Award, Association of VA Surgeons (2023)
- Faculty Research Fellowship, American College of Surgeons (2022-2024)
- Early Career Investigator Award, Vascular and Endovascular Surgery Society (2022)
- Alpha Omega Alpha Medical Honor Society Member, Northwestern University (2018)
- Excellence in Research Award - Vascular, American College of Surgeons (2018)
- Trainee Research Award in Basic Science, Association of Academic Surgeons (2018)
- Ruth L Kirschstein National Research Service Award, F32, NHLBI (2017-2019)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board Member, Journal of Vascular Surgery - Vascular Science (2025 - present)
- Member, International Society for Women Vascular Surgeons (2025 - present)
- Editorial Board Member, Annals of Vascular Surgery (2023 - present)
- Fellow, American College of Surgeons (2023 - present)
- Member, North American Vascular Biology Organization (2022 - present)
- Member, Association for Veterans' Affairs Surgeons (2022 - present)
- Member, American Venous Forum (2022 - present)
- Member, Georgia Vascular Society (2021 - present)
- Member, International Society of Applied Cardiovascular Biology (2021 - present)
- Member, Vascular and Endovascular Surgery Society (2018 - present)

PROFESSIONAL EDUCATION

- Board Certification: Vascular Surgery, American Board of Surgery (2022)
- Residency: McGaw Medical Center of Northwestern University Surgery Program (2021) IL
- Medical Education: University of Chicago Pritzker (2014) IL
- BA, Johns Hopkins University , Biophysics and Spanish Literature (2006)
- PhD, University of Chicago , Molecular Medicine (2012)
- MD, University of Chicago (2014)

PATENTS

- Katherine Hekman. "United States Patent US20240010992A1 Compositions and methods to improve iPSC-EC function", Northwestern University; Department of Veterans Affairs, Jan 11, 2024

LINKS

- Hekman Lab: https://med.stanford.edu/hekmanlab.html

Publications

PUBLICATIONS

- **Development of a large language model clinical variable extraction pipeline for thestudy of lymphedema** *JVS-Vascular Science*
  Fisher, A. T., Lakshmi, A., Liu, B. C., Woo, J., Gaus, R., Chaudhari, A. S., Arya, S., Hekman, K.
  2026

- **Narrative review of endothelial cell metabolism and aberrations in atherosclerosis and peripheral artery disease.** *JVS-vascular science*
  Carr, S. M., Scrivner, O., Hekman, K. E.
  2025; 6: 100285

- **Parallel multiOMIC analysis reveals glutamine deprivation enhances directed differentiation of renal organoids.** *bioRxiv : the preprint server for biology*
  Sarami, I., Hekman, K. E., Gupta, A. K., Snider, J. M., Ivancic, D., Zec, M., Kandpal, M., Ben-Sahra, I., Menon, R., Otto, E. A., Chilton, F. H., Wertheim, J. A.
  2025

- **Narrative review of endothelial cell metabolism and aberrations in atherosclerosis and peripheral artery disease** *JVS-VASCULAR SCIENCE*
  Carr, S. M., Scrivner, O., Hekman, K.
  2025; 6

- **Smoking Status Impacts Mitochondrial Function and Synthetic Function in Mesenchymal Stem Cells Derived from Diabetics with Arterial Insufficiency** *ADVANCES IN WOUND CARE*
  Mclaughlin, D., Sasaki, M., Hoffmann, C., Brewster, L., E. Hekman, K.
  2025; 14 (9): 439-449
- **Unconscious bias in speaker introductions at a national vascular surgery meeting: The impact of rank, race and gender** *AMERICAN JOURNAL OF SURGERY*
  Vavra, A. K., Furlough, C. L., Guerra, A., Hekman, K. E., Yoo, T., Duma, N., Stewart, C. L., Yi, J. A.
  2024; 232: 54-58
- **Hyperoxia impairs induced pluripotent stem cell-derived endothelial cells and drives an atherosclerosis-like transcriptional phenotype** *JVS-VASCULAR SCIENCE*
  Carr, S. M., Owsiany, K., Scrivner, O., Mclaughlin, D., Jo, H., Brewster, L. P., Hekman, K. E.
  2024; 5: 100193
- **Deaths after DNR in Amputees: An Opportunity for More Discussion**
  Khader, M., Brewster, L. P., Alabi, O., Hekman, K. E., Escobar, G. A., Mahajan, A. D., Duwayri, Y.
  LIPPINCOTT WILLIAMS & WILKINS.2023: S588-S589
- **Single-Cell RNA sequencing investigation of female-male differences under PAD conditions** *FRONTIERS IN CARDIOVASCULAR MEDICINE*
  Marrero, G., Villa-Roel, N., Li, F., Park, C., Kang, D., Hekman, K. E., Jo, H., Brewster, L. P.
  2023; 10: 1251141
- **Efficacy and safety of sonographer discretion to terminate a venous duplex ultrasound for diagnosis of deep vein thrombosis in coronavirus disease 2019 patients**
  Ho, J. W., Chao, C. L., Helenowski, I. B., Dwyer, A., Vavra, A. K., Eskandari, M. K., Hekman, K. E., Tomita, T. M.
  ELSEVIER.2023: 10-+
- **Smoking Status Impacts Mitochondrial Function in Peripheral Arterial Disease Patient-Derived Mesenchymal Stem Cells**
  McLaughlin, D., Hekman, K. E.
  LIPPINCOTT WILLIAMS & WILKINS.2022: S326-S327
- **Autophagy Enhances Longevity of Induced Pluripotent Stem Cell-Derived Endothelium via mTOR-Independent ULK1 Kinase** *STEM CELLS TRANSLATIONAL MEDICINE*
  Hekman, K. E., Koss, K. M., Ivancic, D. Z., He, C., Wertheim, J. A.
  2022; 11 (11): 1151-1164
- **Direct oral anticoagulants decrease treatment failure for acute lower extremity deep venous thrombosis** *VASCULAR*
  Hekman, K. E., Chao, C. L., Morgan, C. E., Helenowski, I. B., Eskandari, M. K.
  2022; 30 (6): 1199-1204
- **Results of a Modified Lower Extremity Venous Duplex Ultrasound Protocol for Patients With Coronavirus Disease 2019**
  Ho, J., Chao, C., Vavra, A., Eskandari, M., Hekman, K., Tomita, T.
  MOSBY-ELSEVIER.2021: E87
- **Unconscious Bias in Speaker Introductions at a Vascular Surgery Meeting: The Impact of Rank and Race**
  Vavra, A., Furlough, C., Guerra, A., Hekman, K., Yoo, T., Yi, J. A., Duma, N., Stewart, C.
  MOSBY-ELSEVIER.2021: E164-E165
- **Modifiable risk factors for burnout in vascular surgery trainees**
  Hekman, K. E., Sullivan, B. P., Bronsert, M., Chang, K. Z., Reed, A., Velazquez-Ramirez, G., Wohlauer, M. V., Assoc Program Directors Vasc Surg
  MOSBY-ELSEVIER.2021: 2155-+
- **New Class of Medication Yields Better Outcomes: Direct Oral Anticoagulants Improve Treatment Success for Lower Extremity Acute Deep Vein Thrombosis**
  Hekman, K., Chao, C., Morgan, C. E., Helenowski, I. B., Eskandari, M. K.
  MOSBY-ELSEVIER.2021: E48
- **Current issues and future directions for vascular surgery training from the results of the 2016-2017 and 2017-2018 Association of Program Directors in Vascular Surgery annual training survey**

Hekman, K., Wohlauer, M., Magee, G. A., Shokrzadeh, C. L., Brown, K. R., Carsten, C. G., Chaer, R., Jazaeri, O., Lee, A. M., Singh, N., Coleman, D. M.
MOSBY-ELSEVIER.2019: 2014-2020

- **RECELLULARIZATION OF RAT KIDNEY SCAFFOLD VASCULATURE WITH HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS**
  Manjunath, A., Hekman, K., Koss, K., Im, C., Wertheim, J.
  LIPPINCOTT WILLIAMS & WILKINS.2019: E1005

- **Evidence-Based Bundled Quality Improvement Intervention for Reducing Surgical Site Infection in Lower Extremity Vascular Bypass Procedures**
  Hekman, K. E., Michel, E., Blay, E., Helenowski, I. B., Hoel, A. W.
  ELSEVIER SCIENCE INC.2019: 44-53

- **Evaluation of the Effectiveness of an Evidence-Based Bundled Quality Improvement Intervention in Reducing Surgical Site Infections in Lower-Extremity Vascular Bypass Procedures**
  Hekman, K. E., Michel, E., Blay, E., Helenowski, I. B., Yang, A. D., Hoel, A. W.
  ELSEVIER SCIENCE INC.2018: S287-S288

- **Perspectives and Perceived Needs of the Contemporary Vascular Surgery Trainee: Results of the National Association of Program Directors in Vascular Surgery Trainee Survey**
  Wohlauer, M., Jazaeri, O., Brown, K. P., Lee, A., Hekman, K., Magee, G. A., Chaer, R. A., Coleman, D. M.
  MOSBY-ELSEVIER.2018: E241-E242

- **Impact of Body Mass Index on Outcomes after Mesenteric Revascularization for Chronic Mesenteric Ischemia**
  Mansukhani, N. A., Hekman, K. E., Yoon, D. Y., Helenowski, I. B., Hoel, A. W., Rodriguez, H. E., Pearce, W. H., Eskandari, M. K., Tomita, T. M.
  ELSEVIER SCIENCE INC.2018: 159-165

- **Poor Outcomes in Obese Patients After Mesenteric Revascularization for Chronic Mesenteric Ischemia**
  Yoon, D. Y., Hekman, K. E., Mansukhani, N., Hoel, A. W., Rodriguez, H. E., Pearce, W. H., Eskandari, M. K., Tomita, T. M.
  MOSBY-ELSEVIER.2016: 872

- **The autosomal dominant spinocerebellar ataxias: emerging mechanistic themes suggest pervasive Purkinje cell vulnerability** *JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY*
  Hekman, K. E., Gomez, C. M.
  2015; 86 (5): 554-561

- **A conserved eEF2 coding variant in SCA26 leads to loss of translational fidelity and increased susceptibility to proteostatic insult** *HUMAN MOLECULAR GENETICS*
  Hekman, K. E., Yu, G., Brown, C. D., Zhu, H., Du, X., Gervin, K., Undlien, D., Peterson, A., Stevanin, G., Clark, H., Pulst, S. M., Bird, T. D., White, et al
  2012; 21 (26): 5472-5483

- **Positive and negative predictors for good outcome after decompressive surgery for Chiari malformation type 1 as scored on the Chicago Chiari Outcome Scale.** *Neurological research*
  Hekman, K. E., Aliaga, L., Straus, D., Luther, A., Chen, J., Sampat, A., Frim, D.
  2012; 34 (7): 694-700

- **Spinocerebellar Ataxia 26: Neuropathological Findings and an Association with a Mutation in Eukaryotic Elongation Factor 2**
  Clark, H., Hekman, K., Yu, G., Gomez, C.
  LIPPINCOTT WILLIAMS & WILKINS.2012: 556

- **A novel scoring system for assessing Chiari malformation type I treatment outcomes.** *Neurosurgery*
  Aliaga, L., Hekman, K. E., Yassari, R., Straus, D., Luther, G., Chen, J., Sampat, A., Frim, D.
  2012; 70 (3): 656-64; discussion 664-5

- **An intrastrand three-DNA-base interaction is a key specificity determinant of F transfer initiation and of F TraI relaxase DNA recognition and cleavage.** *Nucleic acids research*
  Hekman, K., Guja, K., Larkin, C., Schildbach, J. F.
  2008; 36 (14): 4565-72

- **Differing requirements for DNA recognition and cleavage by the F TraI relaxase.**

Schildbach, J. F., Hekman, K., Larkin, C.
ACADEMIC PRESS INC ELSEVIER SCIENCE.2007: 207