Stanford

Mohan Viswanathan

Clinical Professor, Medicine - Cardiovascular Medicine

CLINICAL OFFICE (PRIMARY)

- **Cardiovascular Medicine**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

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Bio

CLINICAL FOCUS

- Clinical Cardiac Electrophysiology
- Tachycardia, Supraventricular
- Catheter Ablation
- Atrial Fibrillation
- Atrial Flutter
- Ventricular Tachycardia
- Wolff-Parkinson-White Syndrome
- Pacemaker implantation
- ICD and Biventricular ICD and pacemaker implantation
- Left atrial appendage closure device implantation
- Leadless pacemaker implantation
- Implantable loop recorder implantation
- Advanced medical therapy and assessment and treatment

ACADEMIC APPOINTMENTS

- Clinical Professor, Medicine - Cardiovascular Medicine
- Member, Cardiovascular Institute

PROFESSIONAL EDUCATION

- Board Certification: Clinical Cardiac Electrophysiology, American Board of Internal Medicine (2019)
- Fellowship: UCSF Dept of Cardiology (2007) CA
- Fellowship: UCSF Dept of Cardiology (2005) CA
- Medical Education: University of California at San Francisco School of Medicine (1999) CA
- Residency: Hospital of the University of Pennsylvania Dept of Internal Medicine (2002) PA

LINKS

- Get a Second Opinion: https://stanfordhealthcare.org/second-opinion/overview.html

Research & Scholarship

CLINICAL TRIALS

- AdaptResponse Clinical Trial, Not Recruiting
- Precision Event Monitoring for Patients With Heart Failure Using HeartLogic, Not Recruiting
- Safety Study of Etripamil Nasal Spray for Patients With Paroxysmal Supraventricular Tachycardia. NODE-303, Not Recruiting

Publications

PUBLICATIONS

- **Structure- and Function-Resolved Triangulation of Deep-Learning Pathogenicity Predictions for Variants of Uncertain Significance in Cardiac Channelopathy Genes**
  Biswas, R., Viswanathan, M. N., Lee, B.
  LIPPINCOTT WILLIAMS & WILKINS.2026

- **Ultrasound-Guided Parasternal Tunneling During Intermuscular S-ICD Implantation Is Associated with Lower Shock Impedance and More Favorable Implant Geometry.** *Heart rhythm*
  Sanchis-Gomar, F., Schloss, L., Perino, A. C., Viswanathan, M. N., Baykaner, T., John, R. M., Rogers, A. J., Badhwar, N., Narayan, S. M., Wang, P. J., Perez, M. V.
  2026

- **Generation of two induced pluripotent stem cell lines from breast cancer patients carrying BRCA1 mutations.** *Stem cell research*
  Chen, Y. I., Caudal, A., Flores-Banuelos, A. G., Yan, C. D., Park, W. G., Viswanathan, M., Wu, J. C.
  2025; 86: 103716

- **NOVEL ECG CRITERIA TO GUIDE SUCCESSFUL ABLATION OF VENTRICULAR ARRHYTHMIAS ARISING FROM THE ENDOCARDIAL CARDIAC CRUX**
  Badhwar, N., Johnson, C. J., Bhatia, N. K., Perez, M., Perino, A., Viswanathan, M., De Larochelliere, H.
  ELSEVIER SCIENCE INC.2024: 265

- **NOVEL ECG CRITERIA TO GUIDE SUCCESSFUL ABLATION OF VENTRICULAR ARRHYTHMIAS ARISING FROM THE ENDOCARDIAL CARDIAC CRUX**
  Badhwar, N., Johnson, C. J., Bhatia, N. K., Perez, M., Perino, A., Viswanathan, M., De larochelliere, H.
  ELSEVIER SCIENCE INC.2024: 265

- **AUTOMATED, ACCURATE IDENTIFICATION OF VENTRICULAR TACHYCARDIA FROM ELECTRONIC HEALTH RECORDS USING NATURAL LANGUAGE PROCESSING**
  Brennan, K., Azizi, Z., Feng, R., Goyal, J., Liu, X., Ganesan, P., Ruiperez-Campillo, S., Baykaner, T., Badhwar, N., John, R. M., Viswanathan, M., Perino, A., Wang, et al
  ELSEVIER SCIENCE INC.2024: 2644

- **Ambient Circulation Surrounding an Ablation Catheter Tip Affects Ablation Lesion Characteristics.** *Journal of cardiovascular electrophysiology*
  Nussinovitch, U., Wang, P., Babakhanian, M., Narayan, S. M., Viswanathan, M., Badhwar, N., Zheng, L., Sauer, W. H., Nguyen, D. T.
  2023

- **Machine Learning to Probe Variability in Patient Outcomes After Atrial Fibrillation Ablation - The Stanford AF Registry (start)**
  Deb, B., Bhatia, N., Rogers, A. J., Baykaner, T., Chang, H., Clopton, P. L., Ganesan, P., Feng, R., Ruiperez-Campillo, S., Turakhia, M., Perino, A. C., Perez, M., Zei, et al
  LIPPINCOTT WILLIAMS & WILKINS.2022: A12117

- **Multivariate Predictors of Long-Term Outcome From Ventricular Tachycardia Ablation in a Large Registry**
  Goyal, J., Deb, B., Le Menestrel, T., Chang, H., Tjong, F., Rogers, A. J., Azizi, Z., Ruiperez-Campillo, S., Feng, R., Ganesan, P., Baykaner, T., John, R., Perez, et al

LIPPINCOTT WILLIAMS & WILKINS.2022: A14115

- **Needle-Tipped Catheter Ablation of Papillary Muscle Results in Deeper and Larger Ablation Lesions.** *Journal of cardiovascular translational research*
  Nussinovitch, U., Wang, P., Babakhanian, M., Narayan, S. M., Viswanathan, M., Badhwar, N., Zheng, L., Sauer, W. H., Nguyen, D. T.
  2022

- **Catheter Ablation for Atrial Fibrillation in Adult Congenital Heart Disease: An International Multicenter Registry Study.** *Circulation. Arrhythmia and electrophysiology*
  Griffiths, J. R., Nussinovitch, U., Liang, J. J., Sims, R., Yoneda, Z. T., Bernstein, H. M., Viswanathan, M. N., Khairy, P., Srivatsa, U. N., Frankel, D. S., Marciniak, F. E., Sandhu, A., Shoemaker, et al
  2022: 101161CIRCEP122010954

- **Perpendicular Catheter Orientation During Papillary Muscle Ablation Results in Larger, Deeper Lesions.** *Journal of cardiovascular electrophysiology*
  Nussinovitch, U., Wang, P., Narayan, S., Viswanathan, M., Badhwar, N., Zheng, L., Sauer, W. H., Nguyen, D. T.
  2022

- **Importance of the Activation Sequence of the His or Right Bundle for Diagnosis of Complex Tachycardia Circuits.** *Circulation. Arrhythmia and electrophysiology*
  Viswanathan, M. N., Julie He, B., Sung, R., Hoffmayer, K. S., Badhwar, N., Lee, A., Goldberger, J. J., Hsia, H. H., Jackman, W. M., Scheinman, M. M.
  2021: CIRCEP120009194

- **Electrical Substrate Ablation for Refractory Ventricular Fibrillation: Results of the AVATAR Study.** *Circulation. Arrhythmia and electrophysiology*
  Krummen, D. E., Ho, G. n., Hoffmayer, K. S., Schweis, F. n., Baykaner, T. n., Rogers, A. J., Han, F. T., Hsu, J. C., Viswanathan, M. N., Wang, P. J., Rappel, W. J., Narayan, S. M.
  2021

- **Pulmonary Vein Stenosis and Pulmonary Hypertension Following a Catheter-Based Radiofrequency Ablation for Atrial Fibrillation: A Case Report.** *The American journal of case reports*
  Thomas, C. A., Cruz Morel, K. J., Viswanathan, M. N., de Jesus Perez, V. A.
  2020; 21: e924709

- **Extended cardiac ambulatory rhythm monitoring in adults with congenital heart disease: Arrhythmia detection and impact of extended monitoring** *CONGENITAL HEART DISEASE*
  Schultz, K. E., Lui, G. K., McElhinney, D. B., Long, J., Balasubramanian, V., Sakarovitch, C., Fernandes, S. M., Dubin, A. M., Rogers, I. S., Romfh, A. W., Motonaga, K. S., Viswanathan, M. N., Ceresnak, et al
  2019; 14 (3): 410–18

- **Effect of Catheter Ablation vs Medical Therapy on Quality of Life Among Patients With Atrial Fibrillation The CABANA Randomized Clinical Trial** *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*
  Mark, D. B., Anstrom, K. J., Sheng, S., Piccini, J. P., Baloch, K. N., Monahan, K. H., Daniels, M. R., Bahnson, T. D., Poole, J. E., Rosenberg, Y., Lee, K. L., Packer, D. L., Robb, et al
  2019; 321 (13): 1275–85

- **Year in Review in Cardiac Electrophysiology.** *Circulation. Arrhythmia and electrophysiology*
  Tzou, W. S., Hussein, A. A., Madhavan, M., Viswanathan, M. N., Steinberg, B. A., Ceresnak, S. R., Davis, D. R., Park, D. S., Wang, P. J., Kapa, S.
  2019; 12 (2): e007142

- **Year in Review in Cardiac Electrophysiology** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*
  Tzou, W. S., Hussein, A. A., Madhavan, M., Viswanathan, M. N., Steinberg, B. A., Ceresnak, S. R., Davis, D. R., Park, D. S., Wang, P. J., Kapa, S.
  2019; 12 (2)

- **Extended cardiac ambulatory rhythm monitoring in adults with congenital heart disease: Arrhythmia detection and impact of extended monitoring.** *Congenital heart disease*
  Schultz, K. E., Lui, G. K., McElhinney, D. B., Long, J., Balasubramanian, V., Sakarovitch, C., Fernandes, S. M., Dubin, A. M., Rogers, I. S., Romfh, A. W., Motonaga, K. S., Viswanathan, M. N., Ceresnak, et al
  2019

- **AF Drivers Where Ablation Terminates Persistent AF Fluctuate Due to Competing Drivers but Remain Anchored in Specific Locations**

Meckler, G. L., Kowalewski, C. A., Rogers, A. J., Rodrigo, M., Clopton, P., Shenasa, F., Alhusseini, M., Swerdlow, M., Joshi, V., Hossainy, S., Zaman, J., Baykaner, T., Brachmann, et al

LIPPINCOTT WILLIAMS & WILKINS.2018

- **Comparing Multiple Mapping Methods at Sites of AF Termination: The COMPARE-AF Registry.**

  Zaman, J. A., Baykaner, T., Meckler, G., Clopton, P., Alhusseini, M., Shenasa, F., Kowalewski, C., Rogers, A., Vidmar, D., Krummen, D., Viswanathan, M., Rappel, W., Brachmann, et al

  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Machine Learning Reveals That Drivers for Persistent Atrial Fibrillation at Termination Sites Show Irregular Rotational Cycles and Domain Size**

  Alhusseini, M., Abuzaid, F., Swerdlow, M., Clopton, P., Meckler, G. L., Maniar, N. M., Rogers, A., Rodrigo, M., Baykaner, T., Zaman, J., Kowalewski, C., Shenasa, F., Tamboli, et al

  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Rotor Substrate Ablation for Antiarrhythmic-Refractory Ventricular Fibrillation With Infrequent, Multifocal Triggers**

  Krummen, D. E., Ho, G., Hoffmayer, K. S., Schweis, F., Bradshaw, A., Baykaner, T., Wang, P. J., Viswanathan, M. N., Rappel, W., Narayan, S. M.

  LIPPINCOTT WILLIAMS & WILKINS.2018

- **Year in Review in Cardiac Electrophysiology.** *Circulation. Arrhythmia and electrophysiology*

  Kapa, S., Davis, D. R., Park, D. S., Steinberg, B. A., Viswanathan, M. N., Tzou, W., Madhavan, M., Ceresnak, S. R., Wang, P. J.

  2018; 11 (7): e006648

- **Year in Review in Cardiac Electrophysiology** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*

  Kapa, S., Davis, D. R., Park, D. S., Steinberg, B. A., Viswanathan, M. N., Tzou, W., Madhavan, M., Ceresnak, S. R., Wang, P. J.

  2018; 11 (7)

- **Independent mapping methods reveal rotational activation near pulmonary veins where atrial fibrillation terminates before pulmonary vein isolation** *JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY*

  Navara, R., Leef, G., Shenasa, F., Kowalewski, C., Rogers, A. J., Meckler, G., Zaman, J. A. B., Baykaner, T., Park, S., Turakhia, M. P., Zei, P., Viswanathan, M., Wang, et al

  2018; 29 (5): 687–95

- **Clinical Implications of Ablation of Drivers for Atrial Fibrillation A Systematic Review and Meta-Analysis** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*

  Baykaner, T., Rogers, A. J., Meckler, G. L., Zaman, J., Navara, R., Rodrigo, M., Alhusseini, M., Kowalewski, C. A. B., Viswanathan, M. N., Narayan, S. M., Clopton, P., Wang, P. J., Heidenreich, et al

  2018; 11 (5)

- **CAVOTRICUSPID ISTHMUS ABLATION FOR TREATMENT OF RECURRENT ATRIAL TACHYARRHYTHMIA IN PATIENT WITH DRUG-INDUCED TORSADE DE POINTES AND SEVERE SYSTOLIC HEART FAILURE**

  Rogers, A., Viswanathan, M.

  ELSEVIER SCIENCE INC.2018: 2565

- **Independent mapping methods reveal rotational activation near pulmonary veins where atrial fibrillation terminates before pulmonary vein isolation.** *Journal of cardiovascular electrophysiology*

  Navara, R., Leef, G., Shenasa, F., Kowalewski, C., Rogers, A. J., Meckler, G., Zaman, J. A., Baykaner, T., Park, S., Turakhia, M. P., Zei, P., Viswanathan, M., Wang, et al

  2018

- **Clinical Implications of Ablation of Drivers for Atrial Fibrillation: A Systematic Review and Meta-Analysis.** *Circulation. Arrhythmia and electrophysiology*

  Baykaner, T. n., Rogers, A. J., Meckler, G. L., Zaman, J. n., Navara, R. n., Rodrigo, M. n., Alhusseini, M. n., Kowalewski, C. A., Viswanathan, M. N., Narayan, S. M., Clopton, P. n., Wang, P. J., Heidenreich, et al

  2018; 11 (5): e006119

- **Identification and Characterization of Sites Where Persistent Atrial Fibrillation Is Terminated by Localized Ablation** *CIRCULATION-ARRHYTHMIA AND ELECTROPHYSIOLOGY*

  Zaman, J. A. B., Sauer, W. H., Alhusseini, M. I., Baykaner, T., Borne, R. T., Kowalewski, C. A. B., Busch, S., Zei, P. C., Park, S., Viswanathan, M. N., Wang, P. J., Brachmann, J., Krummen, et al

  2018; 11 (1): e005258

- **Radiation Safety in Children with Congenital and Acquired Heart Disease: A Scientific Position Statement on Multimodality Dose Optimization from the Image Gently Alliance.** *JACC. Cardiovascular imaging*
  Hill, K. D., Frush, D. P., Han, B. K., Abbott, B. G., Armstrong, A. K., deKemp, R. A., Glatz, A. C., Greenberg, S. B., Herbert, A. S., Justino, H., Mah, D., Mahesh, M., Rigsby, et al
  2017

- **Multicentre safety of adding Focal Impulse and Rotor Modulation (FIRM) to conventional ablation for atrial fibrillation.** *Europace*
  Krummen, D. E., Baykaner, T., Schricker, A. A., Kowalewski, C. A., Swarup, V., Miller, J. M., Tomassoni, G. F., Park, S., Viswanathan, M. N., Wang, P. J., Narayan, S. M.
  2017; 19 (5): 769-774

- **What Explains Atrial Fibrillation Mechanisms at Sites Where Ablation Terminates Persistent Atrial Fibrillation Prior to Pulmonary Vein Isolation?**
  Navara, R., Meckler, G. L., Kowalewski, C. A. B., Shenasa, F., Baykaner, T., Zaman, U. A. B., Al-Husseini, M., Hossainy, S., Krummen, D., Brachmann, J., Viswanathan, M., Park, S., Turakhia, et al
  WILEY.2017: 607

- **The precise timing of tachycardia entrainment is determined by the postpacing interval, the tachycardia cycle length, and the pacing rate: Theoretical insights and practical applications** *HEART RHYTHM*
  Kaiser, D. W., Hsia, H. H., Dubin, A. M., Liem, L. B., Viswanathan, M. N., Zei, P. C., Wang, P. J., Narayan, S. M., Turakhia, M. P.
  2016; 13 (3): 695-703

- **The precise timing of tachycardia entrainment is determined by the postpacing interval, the tachycardia cycle length, and the pacing rate: Theoretical insights and practical applications.** *Heart rhythm*
  Kaiser, D. W., Hsia, H. H., Dubin, A. M., Liem, L. B., Viswanathan, M. N., Zei, P. C., Wang, P. J., Narayan, S. M., Turakhia, M. P.
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- **Right-sided subcutaneous implantable cardioverter-defibrillator placement in a patient with dextrocardia, tetralogy of Fallot, and conduction disease.** *HeartRhythm case reports*
  Ceresnak, S. R., Motonaga, K. S., Rogers, I. S., Viswanathan, M. N.
  2015; 1 (4): 186-189

- **Electrical Integration of Human Embryonic Stem Cell-Derived Cardiomyocytes in a Guinea Pig Chronic Infarct Model** *JOURNAL OF CARDIOVASCULAR PHARMACOLOGY AND THERAPEUTICS*
  Shiba, Y., Filice, D., Fernandes, S., Minami, E., Dupras, S. K., Van Biber, B., Trinh, P., Hirota, Y., Gold, J. D., Viswanathan, M., Laflamme, M. A.
  2014; 19 (4): 368-381

- **Electrical Integration of Human Embryonic Stem Cell-Derived Cardiomyocytes in a Guinea Pig Chronic Infarct Model.** *Journal of cardiovascular pharmacology and therapeutics*
  Shiba, Y., Filice, D., Fernandes, S., Minami, E., Dupras, S. K., Biber, B. V., Trinh, P., Hirota, Y., Gold, J. D., Viswanathan, M., Laflamme, M. A.
  2014; 19 (4): 368-381