

Girish Narayan, MD

Present Position

2006-Present **Palo Alto Medical Foundation Group**, Palo Alto, CA
Partner Physician
Cardiac Electrophysiology, Cardiac MRI, Echocardiography

El Camino Hospital, Mountain View, CA

Staff Physician, Division of Cardiovascular Medicine

Stanford University Hospital, Palo Alto, CA
Staff Physician, Division of Cardiology

Administrative Positions

2021 - 2022 **Department Chair**,
Encina Cardiology, Palo Alto Medical Foundation Group
2022 - Present **Executive Medical Director**
Heart and Vascular Service Line, Palo Alto Medical Foundation Group

Leadership Development Activities

5/2021 Difficult Conversations
6/2022 LEAN

Education/Training

1988-1992 **Columbia University**, New York, NY
B.S., Computer Science, *Summa Cum Laude*

1992-1997 **Harvard Medical School**, Boston, MA
Massachusetts Institute of Technology, Boston, MA
M.D., Harvard-MIT Division of Health Sciences and Technology

1997-2000 **Columbia-Presbyterian Hospital**, New York, NY **Internship & Residency**, Internal Medicine

2000-2003 **Stanford University Hospital**, Palo Alto, CA **Fellowship**,
Cardiovascular Medicine

2003-2004 **Stanford University Hospital**, Palo Alto, CA **Fellowship**, Advanced Cardiac Imaging (Echo and MRI)

2004-2005 **Stanford University Hospital**, Palo Alto, CA **Fellowship**, Cardiac Electrophysiology

7/2005-12/2005 **Heart Care Associates**, Milwaukee, WI
Advanced Preceptorship, Cardiac Electrophysiology

Professional Interests

Intelligent optimization of Electronic Medical Records to improve physician workflow
Artificial intelligence applications in Cardiology Imaging
Real time image guidance for intracardiac procedures.

Entrepreneurial Activities

Co-founder, and Member, medical Advisory board,
Apama Medical, Novel device for Atrial Fibrillation Ablation
Sold to Boston Scientific 10/2017

Co-Founder
Sedara Medical, Automated patient care coordination system for procedures

Member, Medical Advisory Board
Nuvera Medical

ACADEMIC AND PROFESSIONAL HONORS

1988 **National Semifinalist**, Westinghouse Junior Science Talent Search Award 1988
National Finalist, US Army Science Symposium
1990 **Pulitzer Scholarship**, Columbia University
1991 **Tau Beta Pi**, National Engineering Honor Society
1992 **Pupin Award for the Best All-Round Graduate**, Columbia University 1994
Cabot Family Research Fellowship, Harvard Medical School 1996 **Paul Dudley White Fellowship**, Harvard Medical School
2002 **Best Clinical Fellow**, Stanford Division of Cardiology
2004 **2nd Prize**, International Society for Magnetic Resonance in Medicine 2004 2004
Stanford Dean's Award, Grant Funding for Independent Research 2004 **Finalist**,
Astra-Zeneca Young Investigator Award Competition

BIBLIOGRAPHY

MD THESIS

Narayan, G., “Surface expression kinetics of VCAM-1, ELAM-1, and ICAM-1 in Human Umbilical Vein Endothelial cells”, HST/MIT Thesis Archives, 1997.

PEER REVIEWED ORAL PRESENTATIONS

Narayan, G., et al., “Complete MRI Assessment of LV/RV Function and Volume in a Single Breath-hold in Heart Failure Patients using SSFP”, Chosen to present at the Aztra-Zeneca Young Investigators Competition, San Diego, 2004.

Narayan, G., Complete Assessment of LV and RV Function and Volume in a Single Breathhold Using Real-time, Spiral, Steady-state Free Precession.” Presented at International Society of Magnetic Resonance Imaging, Kyoto, Japan. 2004, **2nd Place**

Narayan, G., et al. “Remote echocardiography is an Accurate Clinical Tool”, American Heart Association, Chicago, IL 2002.

Narayan, G., et al. “A System for Real-time, Internet based Echocardiography.” American Society of Echocardiography, Orlando, FL 2002. ***Selected as a featured research presentation.***

Narayan, G., Baker, A.S., “Incidence, disease spectrum, and treatment outcomes of Post-operative endophthalmitis at Aravind Eye Hospital, Madurai, India in 1995,” American Academy of Ophthalmology, Chicago, IL 1996.

PEER REVIEWED ABSTRACTS

Narayan, G., Nayak, K., Pauly, J., et al., “Single Breath-hold, 4D Assessment of RV/LV Function Using Triggered, Real-time SSFP in Heart Failure Patients”, Presented at Society for Cardiovascular Magnetic Resonance, Barcelona, Spain. 2004

Narayan, G., Chan, F. Napoli, A., et al., Enabling Rapid Coronary Sinus Cannulation Using Pre-procedural 3D Anatomic Reconstructions from Contrast Enhanced Spiral CT, North American Society for Pacing and Electrophysiology, 2004.

Chan, F.P., Napoli, A., **Narayan, G.**, et al., Anatomy of the Coronary Venous System in Patients with Left Heart Failure, North American Society for Pacing and Electrophysiology, 2004.

Chan, F.P., Napoli, A., **Narayan, G.**, et al., Effectiveness of Non-Contrast Enhanced Cardiac

Gated Computed Tomography in the Evaluation of the Coronary Veins., North American Society for Pacing and Electrophysiology, 2004.

Chan, F.P., Napoli, A., **Narayan, G.**, An Optimized Protocol for Cardiac Gated Computed Tomography of the Coronary Veins for Pretreatment Planning. North American Society for Pacing and Electrophysiology, 2004.

Park, J., Santos, J., **Narayan, G.**, Hu, BS.et al., Triggered, Real-time Determination of Cardiac Output using Variable Density Spirals., International Society of Magnetic Resonance Imaging, Toronto, Canada. 2004.

Tsukiji, M., Nguyen, P., **Narayan, G.**, et. Peri-infarct ischemia determined by combined MR myocardial viability and perfusion images predicts future cardiovascular events in patients with ischemic cardiomyopathy, To Be Presented American College of Cardiology 2005.

Narayan, G., McConnell, M., Yang, P., Visualization of skeletal myoblasts with MRI, International Society of Magnetic Resonance Imaging, Toronto, Canada. 2003.

Narayan, G., et al. “A Novel Technique for Real-time, Internet based Echocardiography”, Presented at the American College of Cardiology, 2002.

Nguyen, P., Nayak, K., **Narayan, G.**, et al., Dobutamine Stress MR with Spiral Real-time SSFP Reliably Detects Wall Motion Abnormalities, Society of Magnetic Resonance Imaging, Orlando, Florida. 2002

Nguyen PK, Nayak KS, Narayan G, Liang DH, Schnittger I, Pauly JM, McConnell MV, Hu BS, **Yang P.** Dobutamine stress MR with spiral real time SSFP reliably detects wall motion abnormalities. *J Cardiovascular Magn Reson* 2003;5(1):68-69

Nguyen PK, Nayak KS, Narayan G, Liang DH, Schnittger I, Pauly JM, McConnell MV, Hu BS, **Yang P.** Dobutamine stress MR with real-time spiral SSFP – pilot clinical study. *Proceedings 11th ISMRM Mtg*, 1598 (Toronto), July 2003.

Engval, J., **Narayan, G.**, Nguyen, P., et. al., Wall motion assessment SSFP Presented at Society of Magnetic Resonance Imaging, Orlando, Florida. 2002

Steel, C, Filardo, S, **Narayan, G.**, et al, The feasibility of telemedicine during military deployment. *Society of Air Force Physicians*, 2001.

Wang, AS, **Narayan, G.**, Kao, D, Liang, F. An evaluation of using real-time volumetric display of 3D ultrasound data for intracardiac catheter manipulation tasks. Volume Graphics, 2005.

PEER-REVIEWED MANUSCRIPTS

Narayan, G., Sra, J. Akhthar, M., “Use of Combination IC and III agents for the control

of refractory atrial fibrillation” J Interv Card Electrophysiol 2006 Aug 18

Sra, J., **Narayan, G.**, “Computed Tomography-Fluoroscopy Image Integration-Guided Catheter Ablation of Atrial Fibrillation”, J Cardiovasc Electrophysiol. 2007 Jan 29;

Narayan, G., “Rapid (<10 sec), 4 dimensional, LV and RV functional assessment in a single breath hold using Steady-state free precession MRI in patients with Cardiomyopathy” Journal of Magnetic Resonance Imaging, June 2005

Sra, J., **Narayan, G.**, Krum, D., Akhtar, M., “Registration of 3D Computed Tomography Images with Interventional Systems: Implications for Catheter Ablation for Atrial Fibrillation.” J Interv Card Electrophysiol. 2006 Dec 1;

Tsukiji M, Nguyen P, **Narayan G**, Hellinger J, Chan F, Herfkens R, Pauly JM, McConnell MV, Yang PC. Peri-infarct ischemia determined by cardiovascular magnetic resonance evaluation of myocardial viability and stress perfusion predicts future cardiovascular events in patients with severe ischemic cardiomyopathy.

Wong, S.H. Conolly, S.C. Scott, G.C., **Narayan, G.**, Liang, D.H., “Intravascular Ultrasound Array for Treatment of Atrial Fibrillation”, Proceedings of the IEEE Ultrasonics Symposium 2004 (Montreal, Canada).

[Aaron S. Wang](#), **Narayan, G.**, [David Kao](#), [David Liang](#): An Evaluation of Using Real-time Volumetric Display of 3D Ultrasound Data for Intracardiac Catheter Manipulation Tasks. [Volume Graphics 2005](#): 41-45

Wong, S.H., Scott, S.C., Conolly, S.M., **Narayan, G.**, Liang, D.H., “[Feasibility of noncontact intracardiac ultrasound ablation and imaging catheter for treatment of atrial fibrillation](#)”. IEEE Trans Ultrason Ferroelectr Freq Control. 2006 Dec ;53 (12):2394-405

BOOK CHAPTERS

Narayan, G, Wang P, Al-Ahmad A. ”Novel Control Technologies for Catheter Manipulation” In: New Arrhythmia Technologies. Blackwell Publishing (2005)