

Stanford



Nitish Badhwar

Clinical Professor, Medicine - Cardiovascular Medicine

CLINICAL OFFICES

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Bio

BIO

Nitish Badhwar, MD is Professor of Medicine and Director of Cardiac Electrophysiology Training Program at Stanford University School of Medicine. Dr. Badhwar received his medical degree from Maulana Azad Medical College (University of Delhi, India). After completing his internal medicine training from New York Hospital of Queens (affiliated with Cornell Medical School), he worked as faculty in the Department of Medicine at Hospital of St. Raphael (Yale University School of Medicine). He completed Cardiac Electrophysiology training at UCSF with Dr. Scheinman. After being on faculty at UCSF for 15 years he recently joined the Arrhythmia Service at Stanford Hospital. He is a Fellow of American College of Cardiology and Heart Rhythm Society. He has been named best doctor in cardiac electrophysiology in San Francisco Magazine 3 years in a row (2015-2017). This is nominated by his peers. He was given Excellence in Teaching award in Medical Education by Academy of Medical Educators in 2015. He was an invited speaker at prestigious international meetings including Oriental Congress of Cardiology (OCC) in Shanghai, China; Cardiostim EHRA /Europace in Nice, France; Asia Pacific Heart Rhythm Society (APHRS) in Seoul, S Korea; American Heart Association Annual Scientific Session in New Orleans, LA and Indian Heart Rhythm Society in New Delhi, India.

Clinical Interest: Dr. Badhwar's clinical interest is in complex catheter ablation procedures including mapping and ventricular tachycardia (VT), atrial fibrillation (AF) and supraventricular tachycardia (SVT) including junctional variants of SVT. He started the epicardial ablation program at UCSF and also worked with Dr. Randall Lee

to perform the first percutaneous epicardial left atrial appendage (LAA) ligation in the Bay Area in patients with atrial fibrillation. He has also differentiated himself in the field of electrophysiology by performing hybrid procedures with CT surgeons in patients with AF and VT. He is also involved in device implantation including pacemakers, ICD and biventricular pacing for heart failure.

Research Interest: Dr. Badhwar has published electrophysiologic characteristics of SVTs including atrial tachycardia arising from the coronary sinus musculature, parasympathetic atrial tachycardia, left sided AVNRT, junctional tachycardia and nodofascicular tachycardia. He has also published on the use of nuclear medicine (ERNA) in assessing left ventricular dyssynchrony as well as optimal pacing sites in patients with heart failure requiring biventricular pacing. He has described the unique clinical characteristics of epicardial idiopathic VT arising from the cardiac crux. He has also published clinical outcomes of combining LAA ligation with catheter ablation of atrial fibrillation performed (first in human percutaneous closed chested Maze procedure) and is now part of a multi-center randomized study comparing standard ablation to ablation plus LAA ligation in patients with persistent atrial fibrillation (aMAZE trial).

CLINICAL FOCUS

- Heart Rhythm Disorders
- Clinical Cardiac Electrophysiology

ACADEMIC APPOINTMENTS

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

ADMINISTRATIVE APPOINTMENTS

- Director, Cardiac Electrophysiology Training Program, Stanford University School of Medicine, (2018- present)

PROFESSIONAL EDUCATION

- Fellowship: UCSF Dept of Cardiology (2003) CA
- Board Certification: Clinical Cardiac Electrophysiology, American Board of Internal Medicine (2003)
- Fellowship: LSU Health Sciences Center - Shreveport (2001) LA
- Residency: New York Hospital Queens (1996) NY
- Medical Education: Maulana Azad Medical College (1993) India

Research & Scholarship

CLINICAL TRIALS

- aMAZE Study: LAA Ligation Adjunctive to PVI for Persistent or Longstanding Persistent Atrial Fibrillation, Recruiting
- Pivotal Study Of A Dual Epicardial & Endocardial Procedure (DEEP) Approach, Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cardiac Electrophysiology (Fellowship Program)

Publications

PUBLICATIONS

- **Sinus node sparing novel hybrid approach for treatment of inappropriate sinus tachycardia/postural sinus tachycardia: multicenter experience.** *Journal of interventional cardiac electrophysiology : an international journal of arrhythmias and pacing*

- de Asmundis, C., Chierchia, G., Lakkireddy, D., Romeya, A., Okum, E., Gandhi, G., Sieira, J., Vloka, M., Jones, S. D., Shah, H., Winner, M., Patel, D., Whalen, et al
2021
- **The Role of the Left Septal Fascicle in Fascicular Arrhythmias: Clinical Presentation and Laboratory Evaluation.** *JACC. Clinical electrophysiology*
Sanchez, J. M., Higuchi, S. n., Walters, T. E., Vedantham, V. n., Hsia, H. n., Gerstenfeld, E. P., Badhwar, N. n., Albona, M. n., Njeim, M. n., Scheinman, M. M.
2021
 - **Three Dimensional Transmural Mapping to Guide Ventricular Arrhythmia Ablation.** *Heart rhythm*
Narayan, S. M., Badhwar, N. n.
2021
 - **Open-Chest Ablation of Incessant Ventricular Tachycardia During Left Ventricular Assist Device Implantation.** *JACC. Clinical electrophysiology*
Shah, R. L., Hiesinger, W., Badhwar, N.
2020; 6 (7): 901–2
 - **Long-term outcomes of ablation for ventricular arrhythmias in mitral valve prolapse.** *Journal of interventional cardiac electrophysiology : an international journal of arrhythmias and pacing*
Marano, P. J., Lim, L. J., Sanchez, J. M., Alvi, R., Nah, G., Badhwar, N., Gerstenfeld, E. P., Tseng, Z. H., Marcus, G. M., Delling, F. N.
2020
 - **Approach to narrow complex tachycardia: non-invasive guide to interpretation and management.** *Heart (British Cardiac Society)*
Shah, R. L., Badhwar, N.
2020
 - **Long-term clinical outcomes from real-world experience of left atrial appendage exclusion with LARIAT device.** *Journal of cardiovascular electrophysiology*
Parikh, V., Bartus, K., Litwinowicz, R., Turagam, M. K., Sadowski, J., Kapelak, B., Bartus, M., Podolec, J., Brzezinski, M., Musat, D., Rasekh, A., Mittal, S., Cheng, et al
2019; 30 (12): 2849-2857
 - **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
 - **Hybrid and surgical procedures for the treatment of persistent and longstanding persistent atrial fibrillation.** *Expert review of cardiovascular therapy*
Sanchez, J. M., Al-Dosari, G., Chu, S., Beygui, R., Deuse, T., Badhwar, N., Lee, R. J.
2018; 16 (2): 91-97
 - **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
 - **Mapping Atrial Fibrillation After Surgical Therapy to Guide Endocardial Ablation.** *Circulation. Arrhythmia and electrophysiology*
Bhatia, N. K., Shah, R. L., Deb, B., Pong, T., Kapoor, R., Rogers, A., Badhwar, N., Brodt, C., Wang, P. J., Narayan, S. M., Lee, A. M.
2022: 101161CIRCEP121010502
 - **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
 - **Wide Complex QRS During Sotalol Administration.** *JAMA cardiology*
Rogers, A. J., Wang, P. J., Badhwar, N.
1800
 - **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

- **Substrate Characterization and Outcomes of Ventricular Tachycardia Ablation in Titin Cardiomyopathy: A Multicenter Study.** *Circulation. Arrhythmia and electrophysiology*
Enriquez, A., Liang, J., Smietana, J., Muser, D., Salazar, P., Shah, R., Badhwar, N., Bogun, F., Marchlinski, F. E., Garcia, F., Baranchuk, A., Tung, R., Redfearn, et al
2021
- **Generation of three heterozygous KCNH2 mutation-carrying human induced pluripotent stem cell lines for modeling LQT2 syndrome.** *Stem cell research*
Mondejar-Parreno, G., Jahng, J. W., Belbachir, N., Wu, B. C., Zhang, X., Perez, M. V., Badhwar, N., Wu, J. C.
2021; 54: 102402
- **A Randomized, Double-Blind, Placebo-Controlled Trial of Intravenous Alcohol to Assess Changes in Atrial Electrophysiology.** *JACC. Clinical electrophysiology*
Marcus, G. M., Dukes, J. W., Vittinghoff, E. n., Nah, G. n., Badhwar, N. n., Moss, J. D., Lee, R. J., Lee, B. K., Tseng, Z. H., Walters, T. E., Vedantham, V. n., Gladstone, R. n., Fan, et al
2021
- **Deformation of stylet-driven leads & helix unraveling during acute explant after conduction system pacing.** *Indian pacing and electrophysiology journal*
Shah, R. L., Kapoor, R., Badhwar, N.
2021
- **Supraventricular tachycardia with shifting atrial activation patterns caused by extrastimuli: What is the mechanism?** *Journal of cardiovascular electrophysiology*
Chandh Raja, D., Nair, K. K., Badhwar, N., Pandurangi, U. M.
2020
- **Ablation of Supraventricular Tachycardias From Concealed Left-sided Nodoventricular And Nodofascicular Accessory Pathways.** *Circulation. Arrhythmia and electrophysiology*
Cardona-Guarache, R., Han, F. T., Nguyen, D. T., Chicos, A. B., Badhwar, N., Knight, B. P., Johnson, C. J., Heaven, D., Scheinman, M. M.
2020
- **An Irregular Rhythm: What Is the Mechanism?** *JACC. Clinical electrophysiology*
Higuchi, S. n., Kumar, U. N., Badhwar, N. n., Tchou, P. n., Scheinman, M. M.
2020; 6 (9): 1205–11
- **Complex Re-Entrant Arrhythmias Involving the His-Purkinje System: A Structured Approach to Diagnosis and Management.** *JACC. Clinical electrophysiology*
Voskoboinik, A. n., Gerstenfeld, E. P., Moss, J. D., Hsia, H. n., Goldberger, J. n., Nazer, B. n., Dewland, T. n., Singh, D. n., Badhwar, N. n., Tchou, P. J., Meriwether, J. N., Sauer, W. n., Danon, et al
2020; 6 (12): 1488–98
- **Variable Presentations and Ablation Sites for Manifest Nodoventricular/Nodofascicular Fibers.** *Circulation. Arrhythmia and electrophysiology*
Nazer, B., Walters, T. E., Dewland, T. A., Naniwadekar, A., Koruth, J. S., Najeeb Osman, M., Intini, A., Chen, M., Biermann, J., Steinfurt, J., Kalman, J. M., Tanel, R. E., Lee, et al
2019; 12 (9): e007337
- **Intentional pneumothorax avoids collateral damage: Dynamic phrenic nerve mobilization through intrathoracic insufflation of carbon dioxide.** *HeartRhythm case reports*
Shah, R. L., Perino, A. n., Obafemi, O. n., Lee, A. n., Badhwar, N. n.
2019; 5 (9): 480–84
- **Surface ECG and intracardiac spectral measures predict atrial fibrillation recurrence after catheter ablation.** *Journal of cardiovascular electrophysiology*
Szilágyi, J., Walters, T. E., Marcus, G. M., Vedantham, V., Moss, J. D., Badhwar, N., Lee, B., Lee, R., Tseng, Z. H., Gerstenfeld, E. P.
2018; 29 (10): 1371-1378
- **Subxiphoid Hybrid Approach for Epicardial/Endocardial Ablation and LAA Exclusion in Patients with Persistent and Longstanding Atrial Fibrillation.** *Journal of atrial fibrillation*
Badhwar, N., Al-Dosari, G., Dukes, J., Lee, R. J.
2018; 11 (1): 2014
- **Clinical Features and Sites of Ablation for Patients With Incessant Supraventricular Tachycardia From Concealed Nodofascicular and Nodoventricular Tachycardias.** *JACC. Clinical electrophysiology*

Han, F. T., Riles, E. M., Badhwar, N., Scheinman, M. M.
2017; 3 (13): 1547-1556

- **Post-cardioversion ST-segment elevation: a case-based review of the pathophysiology.** *Journal of thoracic disease*
Divanji, P., Badhwar, N., Goldschlager, N.
2017; 9 (12): 5503-5506
- **Anatomical and electrical remodeling with incomplete left atrial appendage ligation: Results from the LAALA-AF registry.** *Journal of cardiovascular electrophysiology*
Turagam, M., Atkins, D., Earnest, M., Lee, R., Nath, J., Ferrell, R., Bartus, K., Badhwar, N., Rasekh, A., Cheng, J., Di Biase, L., Natale, A., Wilber, et al
2017; 28 (12): 1433-1442
- **Safety and outcomes of cryoablation for ventricular tachyarrhythmias: Results from a multicenter experience** *HEART RHYTHM*
Di Biase, L., Al-Ahamad, A., Santangeli, P., Hsia, H. H., Sanchez, J., Bai, R., Bailey, S., Horton, R., Gallinghouse, G. J., Burkhardt, D. J., Lakkireddy, D., Yang, Y., Badhwar, et al
2011; 8 (7): 968-974
- **Wolff-Parkinson-White syndrome: where is the pathway?** *Indian pacing and electrophysiology journal*
Turakhia, M. P., Scheinman, M., Badhwar, N.
2009; 9 (2): 130-133
- **Impact of advanced age on survival in patients with implantable cardioverter defibrillators** *EUROPACE*
Pellegrini, C. N., Lee, K., Olgin, J. E., Turakhia, M. P., Tseng, Z. H., Lee, R., Badhwar, N., Lee, B., Varosy, P. D.
2008; 10 (11): 1296-1301