

MEDICAL UNIVERSITY OF SOUTH CAROLINA

CURRICULUM VITAE

John Marcus Wharton, M.D.

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Primary academic appointment:

Medicine

Present academic rank and title:

Professor of Medicine with Tenure
Director, Cardiac Electrophysiology

Date and rank of first MUSC faculty appointment:

Professor of Medicine, December 1, 2002

Medical licensure:

North Carolina State Medical License, 1985
South Carolina

Specialty certification and dates:

Diplomate of the National Board of Medical Examiners (7-1-1981)
Diplomate of the American Board of Internal Medicine (9-14-1983)
Diplomate in the Subspecialty of Cardiovascular Diseases (11-11-1987)
Diplomate in the Subspecialty of Clinical Cardiac Electrophysiology (11-04-92)

Education:	Place	Date	Degree
College	University of North Carolina at Chapel Hill	1975	B.A.
Medical School	Vanderbilt University	1980	M.D.

Scholarly societies:

Phi Beta Kappa
 Delta Phi Alpha (Germanic languages)
 Alpha Omega Alpha
 North American Society of Pacing and Electrophysiology (NASPE)
 Cardiac Electrophysiology Society
 Council of Clinical Cardiology, American Heart Association

Honors:

Founders Medal in Medicine (Vanderbilt University) (1980)
 Albert Weinstein Award in Medicine (1980)
 Upjohn Achievement Award in Medicine (1980)
 Best Chief Resident Attending Award (1984)
 NASPE Young Investigator Award (1987)
 Honorary Member of the Association of Cardiologists, Sante Fe, Argentina
 (1995)
 Master Award, Master Approach to Cardiovascular Problems, University of
 Miami (1999)
 National Leadership Award Nominee (2000)
 The Best Doctors in America (2001-2002)
 Best Doctors in North Carolina (2002), by Business North Carolina (6/5/02)

Patents:

Bach SM, Lang DJ, Ideker RE, Wharton JM. System and method for evaluating
 lead defibrillation requirements of an implanted device without repeated
 fibrillation induction. U. S. Patent Number 5,105,809; date 4-21-92.

Professional training and academic career:

Internship and Residency in Medicine: University of California at San Francisco,
 San Francisco, CA, June 1980-June 1983

Chief Resident in Medicine: San Francisco General Hospital, University of
 California at San Francisco, San Francisco, CA, July 1983-June 1984

Instructor of Medicine: San Francisco General Hospital, University of California
 at San Francisco, San Francisco, CA, January 1984-June 1984

Fellow in Cardiology: Duke University Medical Center, Durham, NC, July 1984-
 June 1987

Associate in Medicine: Duke University Medical Center, Durham, NC, July 1987-
 June 1988

Assistant Professor of Medicine: Duke University Medical Center, Durham, NC, July 1988-April 1994

Director Clinical Cardiac Electrophysiology: Duke University Medical Center, Durham, NC, July 1988 to November 2002

Associate Professor of Medicine with Tenure: Duke University Medical Center, Durham, NC, April 1994 to November 2002

Professor of Medicine with Tenure and Director, Cardiac Electrophysiology: Medical University of South Carolina, Charleston, S.C.

Scientific Advisory Committees

InControl, Inc., Scientific Advisory Committee (1991-1996)

Cardiac Pathways, Inc., Scientific Advisory Committee (1991-1996)

Berlex Laboratories, Electrophysiologist Advisory Committee (1995)

EP Medical, Inc., Scientific Advisory Committee (1995-present)

Medtronic, Inc., Atrial Fibrillation Advisory Committee (1996-2000)

Cadent Medical Inc., Scientific Advisory Committee, 1996-2000.

Pharmatarget, Inc., International Working Group, 1996-1997.

CryoCath Technologies, Inc., International Advisory Group, 1996-present.

Proctor and Gamble, Inc. Atrial Fibrillation Advisory Board, 1998-present.

The Atrial Fibrillation Foundation of the Massachusetts General Hospital, Medical Board of Directors, 2000-present.

Cardiac Science, Scientific Advisory Board (2000-present)

Zoll Medical, Advisory Board (2000-present)

Scientific Committee of the European Society of Cardiology (2001)

Transurgical, Inc., Medical Advisory Board (2001-present)

Council of Advisors, Medtronic, Inc. (2001-present)

Medical Advisory Panel, Boston Scientific (2002-present)

Editorial Boards

North American Society for Pacing and Electrophysiology, Publications Committee, (1995-1999)

American Heart Journal, Associate Editor (1996-present)

Clinical Cardiology, Editorial Board (1998-present)

EP Lab Digest, Editorial Board (2001-present)

Educational Committees

National Program for the Study and Treatment of Cardiac Arrhythmias (PRONETAC), National Council of Scientific and Technical Research, Republic of Argentina (1994-1995)

North American Society of Pacing and Electrophysiology, Fellowship Training Program Directors Committee (1997-1999); Co-Chairman (2000-present)

Association of Subspecialty Professors (1997-1999)

North American Society of Pacing and Electrophysiology, Fellowship Committee (1998-2002)

North American Society of Pacing and Electrophysiology, Program for Fellows Program Planning Committee (1998-present); Chairman (2001)

American College of Chest Physicians Panel on the Management of Atrial Fibrillation in Post-CABG Patients (2001-present)

North American Society of Pacing and Electrophysiology, Training and Fellowship Committee (2002-present)

North American Society of Pacing and Electrophysiology Task Force of FDA Atrial Fibrillation Ablation

Present Research Interests and Goals

My research interests at the present time are aimed primarily at catheter ablation of atrial fibrillation as well as other arrhythmias. In addition, I have been actively involved in exploring the use of other non-pharmacological treatments of atrial fibrillation. With regard to the former, we have accumulated a very extensive experience in various types of catheter ablation of atrial fibrillation, and are using this experience to design better means of atrial fibrillation ablation. This includes both the application of present technologies to improve results and safety as well as partnering with industry to design more effective technologies. From a less practical standpoint, we are presently trying to better understand the mechanisms underlying the initiating events of atrial fibrillation. We have continued to evaluate internal atrial defibrillation, including implantable devices, and pacing approaches to decrease atrial fibrillation frequency. However, the advent of atrial fibrillation ablation has decreased the priority of these avenues of investigation. Short-term goals include continuing to search for better and safer means of atrial fibrillation ablation under a broader array of clinical conditions, trying to define the mechanism and substrate of atrial fibrillation initiators and the various maintenance factors, establishing the optimal approach of pacing therapy for atrial fibrillation suppression, and establishing the optimal treatment protocols for atrial fibrillation management. A number of multicenter trials are in their formative stages at this point, including trials for determining the optimal pharmacologic strategy for treatment of early atrial fibrillation recurrence after cardioversion and the role of ventricular rate stabilization with permanent pacing in chronic atrial fibrillation. Long-term goals include the establishment of a specialized center of atrial fibrillation research and therapy to promote both basic research and clinical trials to advance our understanding and management of atrial fibrillation.

Current and Pending Research Protocols and Funding

- 1994-present Pacemaker Atrial Tachycardia Trial
(\$520,461 total grant)
- 1995-present Clinical investigation of the Metrix Atrial Defibrillator System
(No funding at this point; long-term follow-up only)
- 1999-present Evaluation of the safety and effectiveness of the CCT cryogenic console system and the Freezor 7 Fr focal ablation catheter in patients with supraventricular tachycardia
(\$52,500 per year)

- 1999-present Clinical investigation for the mapping and ablation of focal atrial fibrillation and atypical atrial flutter using the Cordis Webster Biosense mapping system (\$40,000 per year)
- 1999-present 3-dimensional transducer for medical diagnostic ultrasound (for intracardiac imaging and ablation) (NIH) (\$6302 salary support)
- 2000-present The clinical evaluation of cardiac ablation for sustained or recurrent type 1 atrial flutter; Boston Scientific/EP Technologies, Inc (\$35,000 per year)
- 2000-present Device guided ambulatory outpatient chemical cardioversion in Jewel AF patients (Medtonic, Inc) (\$7500 per year)
- 2000-present Very low energy cardioversion for atrial fibrillation (NIH) (\$5827 salary support)
- 2001-present Evaluation of the Navi-Star Thermo-Cool catheter with the Stockert 70 radiofrequency generator for endocardial ablation in patients with typical atrial flutter; BioSense-Webster, Inc (\$30,000 per year)
- 2001-present The Lifecor Wearable Cardioverter Defibrillator (WCD) (\$20,000 per year)
- 2001-present Chilli cooled ablation system for ventricular tachycardia post-approval study; Boston Scientific/EP Technologies (\$15,000 per year)
- 2002-present Evaluation of the Originep noninvasive multi-electrode ECG mapping system in atrial fibrillation; Resolution Medical, Inc (Pending)
- 2002-present Evaluation of focused ultrasound for pulmonary vein isolation (animal study); Transurgical, Inc (Pending)
- 2002-present Evaluation of specialized electrophysiologic catheter for internal ventricular defibrillation (animal study); TZ Medical, Inc (Pending)

Selected Recent Invited Presentations

- 1/20-21/00 “Non-pharmacological Treatment of Atrial Fibrillation”; Advances in Arrhythmia Management (Various topics); Sponsored by Berlex Laboratories; Cancun, Mexico
- 1/27-28/00 “Atrial Fibrillation Ablation”; International Symposium on Atrial Fibrillation: Mechanisms and New Directions in Therapy; Sponsored by the Massachusetts General Hospital; Boston, MA
- 2/4-6/00 “Pharmacokinetics of Antiarrhythmic Drugs”; Advances in Arrhythmia Management); Sponsored by Berlex Laboratories; Charleston, SC
- 2/8/00 “Post-Operative Atrial Fibrillation: Mechanisms and Management”; Cardiology Grand Rounds Cedars Sinai Medical Center; Los Angeles, CA
- 2/8/00 “Management of Atrial Fibrillation”; Cardiology Grand Rounds; University of Southern California Medical Center; Los Angeles, CA
- 2/9/00 “Management of Atrial Fibrillation” and “Treatment and Prevention of Sudden Cardiac Death”; San Fernando Valley Symposium on Advances in Cardiology
- 2/25-27/00 “Non-pharmacological Treatment of Atrial Fibrillation”; Advances in Arrhythmia Management (Various topics); Sponsored by Berlex Laboratories; Las Palmas, CA
- 3/6-7/00 “Advances in Treatment of Atrial Fibrillation”; Sponsored by Berlex Laboratories; 3 different hospitals in Maine and New Hampshire
- 3/12-15/00 “AV nodal Ablation for Atrial Fibrillation”; ACC Annual Meeting; Anaheim, CA
- 3/24/00 “Ablation of Atrial Fibrillation”; Cardiology Grand Rounds; Washington Hospital Center; Washington, DC
- 3/25/00 “Ablation of Atrial Fibrillation”; Advances in Cardiology Symposium; Norfolk, VA
- 4/2-4/00 “Non-pharmacological Treatment of Atrial Fibrillation” (Keynote Address); “Ablation of Atrial Fibrillation”; Japanese Circulation Society; Osaka, Japan

- 4/13/00 "Management of Atrial Fibrillation"; Medicine Grand Rounds; Grand Blanc, MI
- 5/6/00 "Advances in the Treatment of Atrial Fibrillation"; Wrigley Field; Chicago, IL
- 5/16-20/00 "Ablation of Focal Atrial Tachycardia"; "Setting Up an Electrophysiology Laboratory: Equipment Considerations"; "Field Requirements for Electrical Defibrillation"; "Ventricular Tachycardia Ablation: How to Get Home on Time"; NASPE, Washington, DC
- 5/17/00 "Ablation of Atrial Fibrillation: The Duke Experience"; Round Table on Catheter Ablation of Focal Atrial Fibrillation"; Sponsored by the University of Virginia Health Sciences Center; Washington, DC
- 5/18/00 "Whom Shall We Ablate? Clues from the Clinical Presentation"; Ablating Atrial Fibrillation: State of the Art 2000. Sponsored by the Mayo Clinic; Washington, DC
- 6/2-4/00 "Non-pharmacological Treatment of Atrial Fibrillation"; Advances in Arrhythmia Management; Sponsored by Berlex Laboratories; Palm Beach, FL
- 6/12/00 "Ablation of Atrial Fibrillation"; Atrial Fibrillation Ablation Symposium; Sponsored by Bard Electrophysiology; Inc; Monte Carlo, Monaco
- 6/12-14/00 "Ablation of Atrial Fibrillation"; CardioStim Meeting, Nice, France
- 6/19/00 "Ablation of Atrial Fibrillation"; Cardiology Grand Rounds; University of Alabama, Birmingham, AL
- 6/20/00 "Management of Atrial Fibrillation"; two hospitals in Montgomery and Birmingham, AL
- 7/13/00 "Management of Arrhythmia Emergencies"; Duke University Medical Center, Durham, NC
- 7/20/00 "Management of Atrial Fibrillation"; Cardiology Grand Rounds; hospitals in Ft. Myers and Sarasota, FL
- 7/27/00 "Management of Atrial Fibrillation"; Dinner Meeting; Baton Rouge, LA
- 7/28/00 "Management of Atrial Fibrillation"; Cardiology Grand Rounds; Louisiana State University School of Medicine; New Orleans, LA

- 7/18-20/00 "Non-pharmacological Treatment of Atrial Fibrillation"; Advances in Arrhythmia Management; Sponsored by Berlex Laboratories; Banff, Canada
- 7/25-27/00 "Non-pharmacological Treatment of Atrial Fibrillation"; Advances in the Treatment of Arrhythmias; Sponsored by the University of Colorado and Guidant, Corp; Vail, CO
- 8/7/00 "Current Management of Atrial Fibrillation"; Medicine Grand Rounds; Alamance Regional Medical Center; Burlington, NC
- 9/9/00 "Ablation of Atrial Fibrillation"; South Atlantic Society of Pacing and Electrophysiology Allied Professional Meeting; Myrtle Beach, SC
- 9/25/00 "Management of Atrial Fibrillation"; Medicine Grand Rounds; Iowa Heart Center; Des Moines, IA
- 10/14-15/00 "Ablation of Atrial Fibrillation"; South Atlantic Society of Pacing and Electrophysiology Meeting, Hilton Head, SC
- 10/16/00 "Atrial Fibrillation" and "Supraventricular Tachycardia"; Philadelphia Board Review Course in Cardiovascular Disease; Sponsored by Jefferson Medical College; Philadelphia, PA
- 10/27/00 "Advances in Diagnosis and Treatment of Syncope" and "Advances in the Treatment of Atrial Fibrillation"; Advances in Cardiology, 2000; Birmingham, AL
- 11/12-15/00 AHA, New Orleans
- 12/5-8/00 "Hybrid Therapy for Treatment of Atrial Fibrillation"; IXth international Symposium on Progress in Clinical Pacing; Rome, Italy
- 12/15/00 "Current Management of Atrial Fibrillation"; Cardiology Grand Rounds; Bay State Medical Center; Springfield, MA
- 1/12-13/01 "Conventional Pacing for Atrial Fibrillation---Results of PA3, PAC-A-TACH, CTOPP and Other Clinical Trials" and "Electroanatomic Mapping of the Pulmonary Veins"; International Symposium on Atrial Fibrillation: Mechanisms and New Directions in Therapy; Sponsored by the Massachusetts General Hospital; Boston, MA
- 1/24/01 "Sotalol for Treatment of Atrial Fibrillation" (Keynote Address); Berlex National Sales Meeting, Anaheim, CA

- 2/6/01 "Management of Atrial Fibrillation"; Medicine Grand Rounds; Resurrection/St. Francis Hospital; Evanston, IL
- 2/9-10/01 "Mapping and Ablation of Atrial Fibrillation" Keynote Address; BioSense Webster International Sales Meeting; Laguna Beach, CA
- 3/7-8/01 "Management of Atrial Fibrillation"; Dinner meetings and Grand Rounds in Houma and Lafayette, LA
- 3/15-16/01 "Management of Post-Operative Atrial Fibrillation"; Advances in Diagnosis and Treatment of Arrhythmias Symposium; Sponsored by Knoll Pharmaceutical, Inc; Ponte Vedra Beach, FL
- 3/17/01 "Management of Atrial Fibrillation: Advances in Cardiology Symposium; Point Clear, AL
- 3/18-21/01 "Hybrid Therapy for Atrial Fibrillation in 2001", Panel Discussion; ACC; Orlando, FL
- 4/26/01 "Management of Atrial Fibrillation"; Dinner Meeting; Louisville, KY
- 5/1-5/01 NASPE; Boston, MA
- 5/19-20/01 "Non-invasive Studies for the Prediction of Sudden Cardiac Death" and "From Electrical and Anatomic Mechanisms to Mapping of Atrial Fibrillation"; Taiwan Society of Cardiology Annual Conference and Scientific Meeting, Taipei, Taiwan
- 6/8-10/01 "Management of Atrial Fibrillation" and "Diagnosis and Treatment of Supraventricular Tachycardia"; Puerto Rico Chapter of the American College of Cardiology Annual Meeting; San Juan, PR
- 6/22/01 "Ablation of Atrial Fibrillation"; Cardiology Grand Rounds; University of Chicago; Chicago, IL
- 6/28/01 "Management of Atrial Fibrillation"; Cardiology Grand Rounds; St. Johns Hospital; Detroit, MI
- 7/26/01 "Management of Arrhythmia Emergencies"; Duke University Medical Center, Durham, NC
- 8/30/01 "Management of Atrial Fibrillation"; Grand Rounds; John Umstead Hospital; Butner, NC

- 9/3-6/01 "Ablation of Atrial Fibrillation"; Pusan University Hospital, Pusan, Korea
- 9/7-8/01 "Ablation of Atrial Fibrillation" and "Electroanatomic Mapping", Queen Mary Hospital, Hong Kong, China
- 9/21/01 "Ablation of Atrial Fibrillation"; Cardiology Grand Rounds; University of Florida, Gainesville, FL
- 9/28-29/01 "Evaluation and Management of Syncope"; "Sudden Cardiac Death Prevention"; and "Management of Atrial Fibrillation"; Arrhythmia Symposium for the Primary Care Physicians; Rapid City Regional Medical Center; Rapid City, SD
- 10/25/01 "Ablation of Atrial Fibrillation-Current Update"; Presymposium Dinner Presentation; Bethesda, MD
- 10/26/01 "Management of Atrial Fibrillation"; Bethesda Symposium on Advances in Cardiology, Bethesda, MD
- 11/1/01 "Management of Atrial Fibrillation"; Cardiology Grand Rounds; Medical College of Georgia; Augusta, GA
- 11/2/01 "Management of Atrial Fibrillation in the 21st Century", Keynote Dinner Presentation; Greensboro Advances in Cardiology Symposium, High Point, NC
- 11/11-15/01 "Atrial Fibrillation Ablation: Ready for Prime Time?", in Cardiovascular Seminar; "Non-Pharmacological Treatment of Atrial Fibrillation" in Special Session; AHA, Anaheim, CA;
- 11/17/01 "Ablation of Atrial Fibrillation"; Stanford Cardiology Symposium; Palo Alto, CA
- 11/29-12/1/01 "Ablation of Atrial Fibrillation" and "Advances in Treatment and Prevention of Sudden Cardiac Death"; Annual Symposium of the Society of Cardiology of Uruguay; Montevideo, Uruguay
- 12/13/01 "Ablation of Atrial Fibrillation"; Cardiology Grand Rounds; University of Texas at Houston, Houston, TX
- 1/17-19/02 "Pacing for Suppression of Atrial Fibrillation"; The Atrial Fibrillation Conference; Massachusetts General Hospital; Boston, MA
- 2/14/02 "Ablation of Atrial Fibrillation"; Cardiology Grand Rounds; Medical University of South Carolina; Charleston, SC

- 2/15-16/02 “Pacing for Suppression of Atrial Fibrillation”, “Non-pharmacological Approaches to Management of Atrial Fibrillation” and “Case Studies in Atrial Fibrillation”; Clinical Electrophysiology Symposium; Sponsored by Medtronic, Inc; Ft. Myers, FL
- 3/21/02 “Pulmonary Vein Ablation Is First-Line Therapy for the 30 Year Old Patient with Paroxysmal Atrial Fibrillation” (Debate); ACC Annual Meeting; Atlanta, GA
- 3/21/02 “Ablation of Atrial Fibrillation”; Cardiology Grand Rounds; University of California; San Francisco, CA
- 5/7-11/02 “Mahaim Tachycardias”; “Electroanatomic Mapping of Atrial Tachycardia”; “Setting Up an Electrophysiology Laboratory”. NASPE Annual Meeting; San Diego, CA
- 6/1/02 “New Technology for Atrial Fibrillation Ablation”, Advances in Cardiovascular Disease Symposium, Northwestern Health Care Systems, Chicago, IL
- 6/28/02 “Ablation of Atrial Fibrillation”, Cardiology Grand Rounds, Emory University, Atlanta, GA
- 8/24/02 “Indication for Implantable Cardioverter-Defibrillators in Hypertrophic Cardiomyopathy, Long QT Syndrome, and Brugada Syndrome”, Medtronic Symposium, Napa, CA
- 9/24/02 “Ablation of Atrial Fibrillation”, Northwestern University Medical Center, Chicago, IL
- 10/3/02 “Ablation of Atrial Fibrillation”, New Bern, NC
- 10/23/02 “Ablation of Atrial Fibrillation; Ready for Prime Time?”, Concepts in Contemporary Cardiology; University of Texas at Houston, Houston, TX
- 11/2/02 “Atrial Fibrillation: Keeping the Heart in Rhythm” and “What You Should Know About the AFFIRM Trial”; Atrial Fibrillation National Patient Education Day; Massachusetts General Hospital Atrial Fibrillation Foundation, Boston, MA
- 11/17/02 “Non-pharmacologic Therapy: Ablation and Defibrillation”, Plenary Session: Atrial Fibrillation – From Bench to Bedside. American Heart Association, Chicago, IL

- 12/5/02 "Pulmonary Vein Isolation: Standard of Care for Ablation of Paroxysmal Atrial Fibrillation? Which Tools Make It Easier and Which in the Future? Xth International Symposium on Progress in Clinical Pacing, Rome, Italy.
- 1/18/03 "Is Intracardiac Echocardiography Necessary for Optimal Pulmonary Vein Isolation" (Debate) The Atrial Fibrillation Conference; Massachusetts General Hospital; Boston, MA
- 1/22/03 "The Importance of New Dosages of Sotalol", Berlex Sales Meeting, Orlando, FL
- 1/23/03 "Technological Advances in the Ablation of Atrial Fibrillation", Cardiology Grand Rounds, MUSC, Charleston, SC
- 2/15/03 "AF Ablation". Advances in Cardiac Rhythm Management for EP Fellows, Medtronic, Inc. Minneapolis, MN.
- 5/11/03 "Focal Atrial Tachycardias: Anatomic and Electrophysiologic Considerations"; Charleston Symposium on Interventional Pediatric Electrophysiology, Kiawah, SC.

PUBLICATIONS

Articles:

1. Wharton JM, Coleman DL, Wofsy CB, Luce JM, Blumenfeld W, Hadley WK, Ingram Drake L, Volberding PA, Hopewell PC. Trimethoprim-sulfamethoxazole or pentamidine for *Pneumocystis carinii* pneumonia in the acquired immunodeficiency syndrome. A prospective randomized trial. *Ann Intern Med* 1986; 105: 37-45.
2. Wolf PD, Wharton JM, Wilkinson CD, Smith WM, Ideker RE. A method of measuring cardiac defibrillation potentials. *Proceedings of the 39th Annual Conference on Engineering in Medicine and Biology*, 1986; 4-5.
3. Wharton JM, Demopoulos P, Goldschlager N. Torsades des pointes during administration of pentamidine isethionate. *Am J Med* 1987; 83: 571-576.
4. Ideker RE, Wolf P, Chen P-S, Wharton JM, Smith WM. Computer-assisted mapping of ventricular defibrillation. *Proceedings of the 40th Annual Conference on Engineering in Medicine and Biology*, 1987: 33-34.
5. Ideker RE, Wharton JM, Shibata N, Chen P-S, Smith WM. The mechanism of ventricular defibrillation. *Computers in Cardiology* 1988, 210-211.
6. Cabo C, Wharton JM, Ideker RE, Smith WM. Digital filters for activation detection in unipolar cardiac electrograms. *Proceedings of the 10th Annual Conference of the IEEE Engineering in Medicine and Biology Society*, 1988, 110-111.
7. Tang ASL, Yabe S, Wharton JM, Smith WM, Ideker RE. Ventricular defibrillation using biphasic waveforms: The importance of phasic duration. *J Am Coll Cardiol* 1989; 13: 207-214.
8. Frazier DW, Wolf PD, Wharton JM, Tang ASL, Smith WM, Ideker RE. Stimulus induced discontinuous conduction: A mechanism for the electrical initiation of reentry in normal canine myocardium. *J Clin Invest* 1989; 83: 1039-1052.
9. Wiseman A, Ohman M, Wharton JM. Transient reversal of bifascicular block during acute myocardial infarction with reperfusion therapy: A word of caution. *Am Heart J* 1989; 117: 1381-1383.
10. Frazier DW, Wharton JM, Wolf PD, Smith WM, Ideker RE. Mapping the electrical initiation of ventricular fibrillation. *J Electrocardiography* 1989; 22(supp): 198-199.

11. Cabo C, Wharton JM, Simpson EV, Ideker RE, Smith WM. Use of coherence in activation detection during ventricular defibrillation. Proceedings of the 11th Annual Conference of the IEEE Engineering in Medicine and Biology 1989; 1733-1734.
12. Ideker RE, Krassowska W, Wharton JM, Smith WM. Experimental results pertinent to the modelling of defibrillation. Proceedings of the 11th Annual Conference of the IEEE Engineering in Medicine and Biology Society; 1989, 77-78.
13. Cabo C, Wharton JM, Simpson EV, Ideker RE, Smith WM. The effect of sampling rate on the detection of local activity in unipolar electrograms. Proceedings of the 12th Annual Conference of the IEEE Engineering in Medicine and Biology Society, 1990; 12 654-655.
14. Cabo C, Wharton JM, Wolf PD, Smith WM, Ideker RE, Smith WM. Activation in unipolar electrograms: A frequency analysis. IEEE Trans Biomed Eng 1990; 37: 500-508.
15. Vitullo RN, Wharton JM, Pritchett ELC. Tranzadone-induced exercise related ventricular tachycardia. Chest 1990; 98: 247-248.
16. Hurwitz JL, German LD, Packer DL, Wharton JM, McCarthy EA, Wilkinson WE, Prystowsky EN, Pritchett ELC. Occurrence of atrial fibrillation in patients with paroxysmal supraventricular tachycardia due to atrioventricular nodal reentry. PACE 1990; 13: 705-710.
17. Wharton JM, Richard VJ, Murry CE, Dixon EG, Reimer KA, Meador J, Smith WM, Ideker RE. Electrophysiologic effects of monophasic and biphasic stimuli in normal and infarcted dogs. PACE 1990; 13:1158-1172.
18. Hurwitz JL, Conley MJ, Wharton JM, Prystowsky EN. Syncope secondary to paroxysmal high grade AV block in a heavily trained man. PACE 1991; 14: 994-999.
19. Cabo C, Wharton JM, Ideker RE, Smith WM. Spatial filtering of unipolar electrograms. Computers in Cardiology 1991, 417-420.
20. Wharton JM, Wolf PD, Smith WM, Chen PS, Frazier DW, Yabe S, Danieleley N, Ideker RE. Cardiac potential and potential gradient fields generated by single, combined, and sequential shocks during ventricular defibrillation. Circulation 1992; 85: 1510-1523.

21. Page RL, Wharton JM, Wilkinson WE, Friedman IM, Claypool WD, Karim A, Kowalski KG, McDonald SJ, Gardiner P, Pritchett ELC. Bidisomide (SC-40230), a new antiarrhythmic agent: Initial study of tolerability and pharmacokinetics. *Clin Pharm Therapeut* 1992; 51: 371-378.
22. Curtis A, Ellenbogen K, Wharton JM, Strauss HC. The frequency-dependent effects of verapamil on antegrade refractory periods and kinetics of block on the atrioventricular node in man. *J Cardiovasc Electrophysiol* 1992; 3: 21-33.
23. Harrison JK, Greenfield RA, Wharton JM. Acute termination of supraventricular tachycardia during pregnancy by adenosine. *Am Heart J* 1992; 123: 1386-1388.
24. Wharton JM, Coleman RE, Strauss HC. The role of the autonomic nervous system in sudden cardiac death. *Trends in Cardiovascular Medicine* 1992; 2: 65-71.
25. Ideker RE, Hillsley RE, Wharton JM. Shock strength for the implantable defibrillators: Can you have too much of a good thing? *PACE* 1992; 15: 841-844.
26. Greene D, Vitullo RN, Sorrentino R, Page RL, Wharton JM. Multiuser clinical electrophysiology database using low-cost PC's in a Novell network environment. *Computers in Cardiology* 1992, 135-138.
27. Barrington W, Greenfield RA, Bacon M, Page RL, Wharton JM. Treatment of supraventricular tachycardias with transcatheter delivery of radiofrequency current. *Am J Med* 1992; 93: 549-557.
28. Pressley JC, Wharton JM, Tang ASL, Gallagher JJ, Lowe JE, Prystowsky EN. Effect of Ebstein's anomaly on long-term outcome of surgically treated patients with Wolff-Parkinson-White Syndrome. *Circulation* 1992; 86: 1147-1155.
29. Tedder M, Anstadt MP, Wharton JM, Revishvili AS, Hegde SS, Lowe JE. Prophylactic implantable defibrillator patches in patients at high risk for malignant ventricular arrhythmias. *J Amer Soc for Artificial Internal Organs* 1992; 38: M261-M265.
30. Tedder M, Wharton JM, Anstadt MP, Revishvili AS, Hegde SS, Lowe JE. Optimal defibrillation patch configuration includes the right heart and left ventricle. *Am J Cardiol* 1993; 71: 349-350.

31. Page RL, Shenasa H, Evans JJ, Sorrentino RA, Wharton JM, Prystowsky EN. Radiofrequency catheter ablation of idiopathic recurrent ventricular tachycardia with right bundle branch block, left axis morphology. *PACE* 1993; 16:327-336.
32. Hamer ME, Wharton JM, Page RL. Utility of transtelephonic ECG monitoring in evaluating discharges from a third generation implantable cardioverter-defibrillator. *J Electrocardiol* 1993; 26: 235-238.
33. Hillsley RE, Wharton JM, Cates AW, Wolf PD, Ideker RE. Why do some patients have high defibrillation thresholds at defibrillator implantation? Answers from basic research. *PACE* 1994; 17: 222-239.
34. Sanders WE, Jr., Sorrentino RA, Greenfield RA, Hamer M, Wharton JM. Catheter ablation of sinoatrial reentrant tachycardia. *J Am Coll Cardiol* 1994; 23: 926-934.
35. Merrill JJ, Dewese G, Wharton JM. Magnesium therapy for digoxin-facilitated atrioventricular conduction during atrial fibrillation in the Wolff-Parkinson-White Syndrome. *Am J Med* 1994; 97: 25-28.
36. Wharton JM, Johnson EE. Catheter based atrial defibrillation. *PACE* 1994; 17 (Part II): 1058-1066.
37. Blanchard SM, Walcott GP, Wharton JM, Ideker RE. Why is catheter ablation less successful than surgery for treating ventricular tachycardia that results from coronary artery disease. *PACE* 1994; 17 (Part I): 2315-2335.
38. Nibley C, Wharton JM. Ventricular tachycardias with left bundle branch block morphology. *PACE* 1995;18: 334-356.
39. Hillsley RE, Wharton JM. Implantable atrial defibrillators. *J Cardiovasc Electrophysiology* 1995; 6: 634-648.
40. Wharton JM. Persistent tachycardia, diagnosis and management (Commentary). *Chest* 1995; 106: 1733-1734.
41. Ruffy R, Imran MA, Santel DJ, Wharton JM. Radiofrequency delivery through a cooled catheter tip allows the creation of larger endomyocardial lesions in the ovine heart. *J Cardiovasc Electrophysiol* 1995; 6: 1089-1096.
42. Zimmerman LI, Geiger M, Newby K, Wharton JM, Kearney P, Brandon M, Kent V, Natale A. Effect of AV node ablation and pacemaker implantation in patients with depressed ejection fraction and chronic atrial fibrillation with "normal" ventricular response. *REBRAMPA (Brazilian and Latin American Journal of Cardiac Pacing and Electrophysiology)* 1995; 8: 187-190.

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