

CURRICULUM VITAE

ERIC RANDALL POWERS

Education:

1965 – 1969: Cornell University, B.A.

1969 – 1974: Harvard University, M.D.

Residency and Fellowship Training:

1974 - 1975 Intern in Medicine, Massachusetts General Hospital,
Boston Massachusetts

1975 - 1976 Resident in Medicine, Massachusetts General Hospital,
Boston, Massachusetts

1976 - 1979 Clinical and Research Fellow, Cardiac Unit,
Massachusetts General Hospital, Boston, Massachusetts

Licensure:

New York State License: 137715

Virginia State License: 0101 043081

South Carolina License 27709

Faculty Positions:

1979 - 1986 Assistant Professor, Department of Medicine,
College of Physicians and Surgeons, Columbia University, New York,
NY

1979 - 1986 Assistant Physician,
The Presbyterian Hospital, New York, NY

1979 - 1988 Staff Member, Cardiovascular Laboratory,
Columbia-Presbyterian Medical Center, NY

1980 - 1982 Associate Director, Adult Cardiovascular Laboratory,
Columbia-Presbyterian Medical Center, New York, NY

1982 - 1988 Director, Adult Cardiovascular Laboratory,
Columbia-Presbyterian Medical Center, New York, NY

1986 - 1988 Associate Professor of Clinical Medicine,

NY College of Physicians and Surgeons, Columbia University, New York,

1986 - 1988 Associate Attending Physician, The Presbyterian Hospital, New York, NY

1987 - 1988 Associate Chief, Division of Cardiology,
Columbia University, College of Physicians and Surgeons

1988 - 2005 Director, Cardiac Catheterization Laboratory,
University of Virginia Hospital, Charlottesville, VA.

1988 - 2005 Professor of Medicine,
University of Virginia, Charlottesville, VA.

1992 - 2005 Donald C. Barnes Professor of Cardiology In Internal Medicine,
University of Virginia, Charlottesville, VA

1994 - 2005 Director, Cardiac Catheterization Laboratory,
Augusta Medical Center, Fishersville, VA

1997- 2005 Director, Cardiac Catheterization Laboratory,
Martha Jefferson Hospital, Charlottesville, VA

2005 - Professor of Medicine, Medical University of South Carolina, Charleston,
SC

2005 - Director, Acute Coronary Syndrome Center
Medical University of South Carolina, Charleston, SC

2006 - Medical Director for Access, Heart and Vascular PCU, Medical
University of South Carolina

2007 - Medical Director, Heart and Vascular Center, Medical University of South
Carolina

Certifications:

Diplomate, American Board of Internal Medicine

Diplomate, Subspecialty Board of Cardiovascular Disease

Diplomate, Subspecialty Board of Interventional Cardiology

Honors and Awards:

- Summa cum Laude, Phi Beta Kappa, Cornell University
- AOA, Harvard Medical School
- “America’s Top Doctors” Castle Connolly Guide
- “Best Doctors In America”
- 1978 - 1979 National Research Service Award
- 1972 Second Prize Winner, Student Awards Competition,
Eastern Section of the American Federation for Clinical Research
- 1978 - 1979 American Heart Association, Massachusetts Affiliate Research Fellowship
Award
- 1983 - 1988 Principal Investigator, Contract NHLBI HV 82-11,
Thrombolysis in Myocardial Infarction
- 1987 - 1994 Principal Investigator, NHLBI Registry for Balloon Valvuloplasty
- 1989 - 1994 Co-Principal Investigator, University of Virginia, Thrombolysis for
Myocardial Infarction and Thrombolysis In Myocardial Ischemia (TIMI)
- 1989 - 1996 Principal Investigator, University of Virginia, Effects of OPC-8212 In
Patients With Chronic Congestive Heart Failure. Otsuka America, Inc.
- 1990 - 1993 Principal Investigator, University of Virginia, Effects of Angioplasty
and Contrast Media on Platelet Activation. Mallinckrodt Medical Inc.
- 1995 – 1996 Principal Investigator, University of Virginia, A Randomized, Double-
Blind, Placebo Controlled Study of the Effects of MK-383 on Cardiac
Outcomes in Patients Undergoing Percutaneous Transluminal Coronary
Angioplasty or Atherectomy Due to Unstable Angina Pectoris or
Following Acute Myocardial Infarction. Merck & Co., Inc.
- 1997 – 1997 Principal Investigator, University of Virginia, A Randomized, Double-
Blind, Multicenter Placebo-Controlled, Dose-Ranging Study of Oral
MK-0853 (DMP 754) in Aspirin-Treated Patients undergoing Coronary
Angioplasty. Merck & Co., Inc.
- 1997 Principal Investigator, University of Virginia, Paragon Elective or Acute
Stenting (PAS) Trial. Progressive Angioplasty Systems, Inc.

- 1997 Principal Investigator, University of Virginia, Study of the Safety and Effectiveness of Percutaneous Myocardial Revascularization in Patients With Class III and VI Angina. Eclipse Surgical Technologies, Inc.
- 1997 – 1998 J Edwin Wood Jr. Cardiovascular Division Teachers Award, Univ. of Virginia
- 1998 Clinical Excellence Award, Department of Medicine U.Va. Health Sciences Center
- 1998 Principal Investigator, University of Virginia, AMISTAD II Trial
- 1999 Principal Investigator, University of Virginia, TARGET Trial
- 2000 Principal Investigator, University of Virginia, BARI II Study
- 2002 Principal Investigator, University of Virginia, TAXUS V Trial
- 2004 – 2005 J Edwin Wood Jr, Cardiovascular Division Teaching Award, Univ. of Virginia
- 2005 William “Billy” Gitchell Award, AHA, Charlottesville, Virginia.
- 2005 Establishment of the annual Eric R. Powers lectureship at the University of Virginia
- 2006 Golden Apple Education Award Nominee, Medical University of South Carolina
- 2006-2007 Michael E. Assey Teaching Award for Cardiovascular Diseases, Medical University of South Carolina

Professional Affiliations:

Member, Councils on Circulation, Basic Science and Radiology, American Heart Association

Fellow, Council on Clinical Cardiology AHA

Fellow, American College of Cardiology

Former Member, Review Panel on Cardiopulmonary Function, National Aeronautics and Space Administration

Former Member, Mortality and Morbidity Committee, Balloon
Valvuloplasty Registry Fellow, Society for Cardiac Angiography
and Interventions

- 1985 - 1988 Member, Research Council, New York Heart Association
- 1985 - 1988 Member, Steering Committee, NHLBI Trial of Thrombolysis in Myocardial Infarction
- 1990 - 1995 Member, Radiation Safety Committee, University of Virginia
- 1990 - 1993 Member, Research Council, Virginia Heart Association
- 1992 - 1997 Chairman, Promotions Committee, Department of Medicine, University of Virginia
- 1992 - 1995 Member, Research Council, New York Heart Association
- 1992 - 1995 Member, Committee on Cardiac Catheterization, American Heart Association
- 1992 - 1998 Member, Database Committee, American College of Cardiology
- 1994 – 2004 Director, Annual University of Virginia Postgraduate Course in Cardiovascular Disease
- 1994 – 1995 Member, Committee on Utilization of Revascularization Procedures, Rand Corporation
- 1995 – 1996 Member, Department of Medicine Internal Review Committee
- 2000 – 2004 Member, Data Safety and Monitoring Board, “Companion” study
- 1999 – 2005 Ad Hoc Reviewer for the National Cancer Institute, NIH
- 2000 – 2005 Member, BARI II Steering Committee
- 2000 – 2005 Member, NIH Study Section ZRG1 SSS-W(10)
- 2008 - Chairman, Steering Committee, South Carolina Mission:Lifeline

Selected Invited Presentations:

- 1989 American Heart Association, Council on Clinical Cardiology,
"Percutaneous Balloon Valvuloplasty, Current Status"

- 1991 American College of Physicians, Meet the Professor
- 1992 American College of Cardiology, Luncheon Panel "Current Status of Aortic and Mitral Valvuloplasty"
- 1992 American College of Physicians, Meet the Professor, "Treatment of Acute Myocardial Infarction" and "Evaluation and Treatment of Congestive Heart Failure"
- 1992 Echo Now, Echo 2000 Symposium, "Echocardiography In the Cath Lab, the Future"
- 1992 Paul Dudley White Society, "Prediction of Recovery in Function After Angioplasty in Patients With Recent Infarction"
- 1992 New York Cardiological Society, Interventions in the Treatment of Heart Disease "Collaterals Preserve Myocardium in The Majority of Infarct Patients" "The Influence of Late Recanalization Upon Late Potentials"
- 1993 American College of Physicians, Meet the Professor, "Acute Myocardial Infarction, Treatment"
- 1994 American College of Cardiology, Mini Course, "Prognosis After Acute Myocardial Infarction: Can The Cardiologist Enhance Outcome; Role of Collateral Derived Blood Flow"
- 1994 American College of Physicians, Meet the Professor, "Myocardial Infarction," "Treatment of Congestive Heart Failure"
- 1994 American Heart Association, Post Graduate Seminar: "Late Reperfusion and the Concept of the Open Artery"
- 1994 American Heart Association; Cardiovascular Conference: "Cardiogenic Shock and Pump Failure"
- 1995 American College of Physicians, Meet the Professor, "Management of Congestive Heart Failure"
- 1995 Roanoke Valley Heart Net, "Modern Management of Unstable Angina."
- 1996 Society for Cardiac Angiography and Interventions, "Contrast Echocardiography."
- 1996 Recent Advances in Clinical Medicine Course, University of Virginia
- 1996 Abstract Reviewer, Session Moderator, Meeting of American Heart Association

- and American College of Cardiology
- 2000 Speaker “Multiple Small Feedings of the Mind” at the ACP-ASIM Annual Session
- 2004 Fractional Flow Reserve, physiologic assessment of coronary stenosis severity, Medical University of South Carolina
- 2005 Eric R. Powers lecturer at the University of Virginia
- 2007 “Management of ST elevation MI” – Door to Balloon Alliance
- 2007 “Optimal Management of STEMI: The MUSC Experience” - SC Heart Care Alliance
- 2008 The Science Behind the ACC/AHA Guidelines and the GWTG Performance Measures – AHA Workshop, Columbia, SC

- 1 . Powers ER, Powell WJ Jr. Effect of arterial hypoxia on myocardial oxygen consumption. *Circ Res* 33:749-756, 1973.
- 2 . Powers ER, Foster JR, Powell WJ Jr. Interaction of interval-force relationships with aortic pressure and stroke volume. *Am J Physiol* 230:893-900, 1976.
- 3 . Foster JR, Powers ER, Powell WJ Jr. Interaction of aortic pressure with left ventricular end-diastolic pressure in the determination of the performance of the intact left ventricle. *Am J Physiol* 232:H697-H704, 1977.
- 4 . Garan H, Powers ER, Ruskin JN, Powell WJ Jr. Neural effect of digitalis glycosides on gracilis vascular resistance in hypotension. *Am J Physiol* 238:H729-H735, 1980.
- 5 . Bregman D, Nichols AB, Weiss MB, Powers ER, Martin EC, Casarella WJ. Percutaneous intraaortic balloon pump insertion. *Am J Cardiol* 46:261-264, 1980.
- 6 . Powers ER, Bannerman KS, Stone J, Reison DS, Escala EC, Kalischer A, Weiss MB, Sciacca RR, Cannon PJ. The effect of captopril on renal, coronary, and systemic patients with severe congestive heart failure. *Am Heart J* 104:1203-1210,1982.

- 7 . Powers ER, Cannon PJ. The effect of hypertonic mannitol infusion during prolonged coronary occlusion. *Cardiovasc Res* 17:528-525, 1983.
- 8 . Johnson LL, Powers ER, Tzall W, Sciacca RR, Cannon PJ. Left ventricular volume and ejection fraction response to exercise in aortic insufficiency. *Am J Cardiol* 151:1379-1385, 1983.
- 9 . Powers ER, DiBona DR, Powell WJ Jr. Myocardial cell volume and coronary resistance during low flow myocardial ischemia in the dog. *Am J Physiol* 247:H467-H477, 1984.
- 10 . Palacios I, Powers ER, Powell WJ Jr. Effect of end-diastolic volume on the canine left ventricular ejection fraction. *Am Heart J* 109:1059-1069, 1985.
- 11 . Powers ER, Bannerman KS, Fitz-James I, Cannon PJ. The effect of elevations of coronary artery Pco₂ on coronary blood flow. *J Am Coll Cardiol* 8:1178-1181, 1986.
- 12 . Owen J, Friedman KD, Grossman BA, Wilkins C, Berke AD, Powers ER. Quantitation of fragment X formation during thrombolytic therapy with streptokinase and tissue plasminogen activator. *J Clin Invest* 79:1642-1647, 1987.
- 13 . Owen J, Friedman KD, Grossman BA, Wilkins C, Berke AD, Powers ER. Thrombolytic therapy with tissue plasminogen activator or streptokinase induces transient thrombin activity. *Blood* 72:228-236, 1988.
- 14 . Nichols AB, Berke AD, Han J, Reison DS, Watson RM, Powers ER. Cinevideodensitometric analysis of the effect of coronary angioplasty on coronary stenotic dimensions. *Am Heart J* 115:722-732, 1988.
- 15 . Horn EM, Corwin SJ, Steinberg SF, Chow YK, Neuberger GW, Cannon PJ, Powers ER, Bilezikian JP. Reduced guanine nucleotide regulatory proteins and beta adrenergic receptors in congestive heart failure and reversal with angiotensin converting enzyme inhibitor therapy. *Circulation* 78:1373-1378, 1988.
- 16 . Nichols AB, Smith R, Berke AD, Shlofmitz RA, Powers ER. Importance of balloon size in coronary angioplasty. *J Am Coll Cardiol* 13:1094-1100, 1989.
- 17 . Petrossian GA, Nichols AB, Marboe CC, Sciacca R, Rose EA, Smith CR, Cannon PJ, Reemtsma K, Powers ER. Relationship between survival and development of coronary artery disease and anti-HLA antibodies after cardiac transplantation. *Circulation* 80(5):III-122-III-125, 1989.
- 18 . Spotnitz WD, Matthew TL, Keller MW, Powers ER, Kaul S. Intraoperative demonstration of coronary collateral flow using myocardial contrast

- two-dimensional echocardiogram. *J Am Coll Cardiol* 65:1259-1260, 1990.
- 19 . Sarembock IJ, Gertz SD, Gimble LW, Owen RM, Powers ER, Roberts WC. Effectiveness of recombinant desulphatohirudin on restenosis following balloon angioplasty in rabbits. *Circulation* 84:232-243, 1991.
 - 20 . Gasperetti CM, Feldman MD, Burwell LR, Angello DA, Haugh KH, Owen RM, Powers ER. Influence of contrast media on thrombus formation during coronary angioplasty. *J Am Coll Cardiol* 18:443-450, 1991.
 - 21 . Horn EH, Daniel P, Apfelbaum MA, Barr ML, Pepino P, Powers ER, Smith CR, Rose EA, Bilizekian JP. Beta-adrenergic receptor sensitivity and guanine nucleotide regulatory proteins in transplanted human hearts and autotransplanted baboons. *Transplantation* 52:960-966,1991.
 - 22 . Sabia PJ, Powers ER, Jayaweera AR, Ragosta M, Kaul S. Functional significance of collateral blood flow in patients with recent acute myocardial infarction: A study using myocardial contrast echocardiography. *Circulation* 85:2080-2089, 1992.
 - 23 . Gimble LW, Gertz SD, Haber HL, Ragosta M, Powers ER, Roberts WC, Sarembock IJ. Effect of chronic subcutaneous or intramural administration of heparin on femoral artery restenosis after balloon angioplasty in hypercholesterolemic rabbits. A quantitative angiographic and histopathologic study. *Circulation* 86:1536-1546, 1992.
 - 24 . Sabia PJ, Powers ER, Ragosta M, Sarembock IJ, Burwell L.R, Kaul S. An association between collateral blood flow and myocardial viability in patients with recent myocardial infarction. *N Engl J Med* 327:1825-1831, 1992.
 - 25 . Sarembock IJ, Gertz SD, Gimble LW, Owen RM, Powers ER, Roberts WC. Recombinant desulphatohirudin in reducing restenosis (letter). *Circulation* 85:1953-1954, 1992.
 - 26 . Ragosta M, Sabia PJ, Kaul S, DiMarco JP, Sarembock IJ, Powers ER. Effects of late (1 to 30 days) reperfusion after acute myocardial infarction on a single-averaged ECG. *Am J Cardiol* 71:19-23, 1993.
 - 27 . Haber HL, Simek CL, Bergin JD, Sadun A, Gimble L.W, Powers ER, Feldman MD. Bolus intravenous nitroglycerin predominantly reduces afterload in patients with excessive arterial elastance. *J Am Coll Cardiol* 22:251-257, 1993.
 - 28 . Haber HL, Gertz SD, Gimble L.W, Ragosta M, Powers ER, Roberts WC, Sarembock IJ. Oral terbinafine does not limit restenosis after balloon angioplasty of atherosclerosis femoral arteries in rabbits. *J Invas Cardiol* 5:128-136, 1993.

- 29 . Sabia PJ, Powers ER, Ragosta M, Smith WH, Watson DD, Kaul S. Role of quantitative planar thallium-201 imaging for predicting viability in patients with acute myocardial infarction and a totally-occluded infarct related artery. *J Nucl Med* 5:728-736, 1993.
- 30 . Petrossian G, Nichols AB, Rose E, Smith CR, Powers ER. Quantitative cinevideodensitometric analysis of serial coronary angiograms following cardiac transplantation. *J Invas Cardiol* 5:258-266, 1993.
- 31 . Haber HL, Simek CL, Gimple LW, Bergin JD, Subbiah K, Jayaweera AR, Powers ER, Feldman MD. Why do patients with congestive heart failure tolerate the initiation of -blocker therapy? *Circulation* 88:1610-1619, 1993.
- 32 . Gasperetti CM, Gonias SL, Gimple L.W, Powers ER. Platelet activation during coronary angioplasty in humans. *Circulation* 88:2728-2734, 1993.
- 33 . Gertz SD, Gimple LW, Ragosta M, Roberts WC, Haber HL, Powers ER, Perez LS, Sarembock IJ. Response of femoral arteries of cholesterol fed rabbits to balloon angioplasty with or without laser: Emphasis on the distribution of foam cells. *Exp Mol Pathol* 59:225-243, 1993.
- 34 . Ragosta M, Gimple LW, Gertz SD, Dunwiddie CT, Vlasuk GP, Haber HL, Powers ER, Roberts WC, Sarembock IJ. Specific factor Xa inhibition reduces restenosis following balloon angioplasty of atherosclerotic femoral arteries in rabbits. *Circulation* 89:1262-1271, 1994.
- 35 . Ragosta M, Camarano G, Kaul S, Powers ER, Sarembock IJ, Gimple LW. Microvascular integrity indicates myocellular viability in patients with recent myocardial infarction: New insights using myocardial contrast echocardiography. *Circulation* 89:2562-2569, 1994.
- 36 . Haber HL, Powers ER, Gimple LW, Wu CC, Subbiah K, Johnson WH, Feldman MD. Intracoronary angiotensin converting enzyme inhibition improves diastolic function in patients with hypertensive left ventricular hypertrophy. *Circulation* 89:2616-2625, 1994.
- 37 . Gertz SD, Gimple LW, Banai S, Ragosta M, Powers ER, Roberts WC, Perez L.S, Sarembock IJ. Geometric remodeling is not the principal pathogenetic process in restenosis after balloon angioplasty: Evidence from collective angiographic-histomorphometric studies of atherosclerotic arteries in rabbits. *Circulation*, 90:3001-3008, 1994.
- 38 . Camarano G, Ragosta M, Gimple L.W, Powers ER, Kaul S. Identification of viable myocardium with contrast echocardiography in patients with poor left ventricular systolic function caused by recent or remote myocardial infarction. *Am J Cardiol* 75:215-219, 1995.

- 39 . Desmarais RL, Sarembock IJ, Ayers CR, Vernon SM, Powers ER, Gimple L.W. Elevated serum lipoprotein(a) is a risk factor for restenosis after coronary balloon angioplasty. *Circulation* 91:1403-1409, 1995.
- 40 . Ismail S, Combs MJ, Goodman NC, Teotia SS, Teates CD, Abbott RD, Fechner RE, Nolan SP, Powers ER, Spotnitz WD. Reduction of femoral arterial bleeding post catheterization using percutaneous application of fibrin sealant. *Cathet Cardiovasc Diagn* 34:88-95, 1995.
- 41 . Ragosta M, Gertz SD, Sarembock IJ, Deckelbaum L, Haber HL, Powers ER, Gimple L.W. Effect of mid-infrared laser angioplasty with and without balloon angioplasty on acute outcome and restenosis in atherosclerotic femoral arteries in rabbits. *Lasers Surg Med* 16:235-245, 1995.
- 42 . Gertz SD, Gimple LW, Ragosta M, Powers ER, Sarembock IJ, Banai S, Perez LS, Roberts WC. Geometric remodeling (letter). *Circulation* 92:3581-3583, 1995.
- 43 . Ragosta M, Barry WL., Gimple LW, Gertz SD, McCoy KW, Stouffer GA, McNamara CA, Powers ER, Owens GK, Sarembock IJ. Effect of thrombin inhibition with desulfatohirudin on early kinetics of cellular proliferation after balloon angioplasty in atherosclerotic rabbits. *Circulation* 93:1194-1200, 1996.
- 44 . Barry WL, Gimple LW, Humphries JE, Powers ER, McCoy KW, Sanders JM, Owens GK, Sarembock IJ. Arterial thrombin activity after angioplasty in an atherosclerotic rabbit model: Time course and effect of hirudin. *Circulation* 94:88-93, 1996.
- 45 . Ismail S, Jayaweera AR, Camarano G, Gimple LW, Powers ER, Kaul S. Relation between air-filled albumin microbubble and red blood cell rheology in the human myocardium: Influence of echocardiographic systems and chest wall attenuation. *Circulation* 94:445-451, 1996.
- 46 . Sarembock IJ, Gertz SD, Thome LM, McCoy KW, Ragosta M, Powers ER, Maraganore JM, Gimple LW. Effectiveness of hirulog in reducing restenosis after balloon angioplasty of atherosclerotic femoral arteries in rabbits. *J Vasc Res* 33:308-314, 1996.
- 47 . Keeling A, Taylor V, Nordt LA, Powers E, Fisher C. Reducing time in bed after cardiac catheterization (TIBS II). *Am J Crit Care* 5:277-281, 1996.
- 48 . Feldman MD, Pak PH, Wu C.C, Haber HL, Heesch CM, Bergin JD, Powers ER, Cowart TD, Johnson W, Feldman AM, Kass DA. Congestive Heart Failure/Pulmonary Hypertension: Acute cardiovascular effects of OPC 18970 in patients with congestive heart failure. Time and dose dependent analysis based on pressure-volume relations. *Circulation* 93:474-483, 1996.

- 49 . Vernon SM, Camarano G, Kaul S, Sarembock IJ, Gimple LW, Powers ER, Ragosta M. Myocardial contrast echocardiography demonstrates that collateral blood flow can preserve myocardial function beyond a chronically occluded coronary artery. *Am J Cardiol* 78:958-890,1996.
- 50 . Falstron JK, Goodman NC, Ates G, Abbott RD, Powers ER, Spotnitz W.D. Reduction of femoral artery bleeding post catheterization using a collagen enhanced fibrin sealant. *Cathet Cardiovasc Diagn* 41:79-84, 1997.
- 51 . Barry WL, Wiegman PJ, Gimple LW, Gertz SD, Powers ER, Owens GK, Sarembock IJ. A new single-injury model of balloon angioplasty in cholesterol-fed rabbits: Beneficial effect of hirudin and comparison with double-injury model. *Lab Invest* 77:109-116, 1997.
- 52 . Gertz SD, Barry WL, Gimple LW, Banai S, Perez LS, McNamara CA, Powers ER, Ragosta M, Owens GK, Roberts WC, Sarembock IJ. Predictors of luminal narrowing by neointima after angioplasty in atherosclerotic rabbits. *Cardiovasc Res* 36:396-407, 1997.
- 53 . Vernon S, Kaul S, Powers ER, Camarano G, Gimple LW, Ragosta M. Myocardial viability in patients with chronic coronary artery disease and previous myocardial infarction-comparison of myocardial contrast echocardiography and myocardial perfusion scintigraphy. *Am Heart J* 134:835-840, 1997.
- 54 . Gertz SD, Sanai S, Gimple LW, Powers ER, Sarembock IJ, Roberts WC. Remodeling rather than neointimal formation? (Letter). *Circulation* 92:3581-3583, 1997.
- 55 . Thome LM, Gimple LW, Bachhuber BD, McNamara CA, Ragosta M, Gertz SD, Powers ER, Owens GK, Humphries JE, Sarembock IJ. Early plus delayed hirudin reduces restenosis in the atherosclerotic rabbit more than early administration alone: Potential implications for dosing of antithrombin agents. *Circulation* 98:2301-2306,1998.
- 56 . Ragosta M, Karve M, Brezynski D, Humphries J, Sanders JM, Sarembock IJ, Gimple LW, Powers ER. Effectiveness of heparin in preventing thrombin generation and thrombin activity in patients undergoing coronary intervention. *Am Heart J* 137:250-257,1999.
- 57 . Manka DR, Wiegman P, Din S, Sanders JM, Green SA, Gimple LW, Ragosta R, Powers E, Ley K, Sarembock IJ. Arterial injury increases expression of inflammatory adhesion molecules In the carotid arteries of apolipoprotein-E-efficient mice. *J Vasc Res* 36:372-378, 1999.
- 58 . Bishop GG, Wiegman P, McNamara C, Din S, Sanders J, Hesselbacher S, Feldman M, McPherson JA, Humphries JE, Hammarskjoid ML, Gimple LW,

- Ragosta M, Powers ER, Dickek D, Owens GK, Sarembock IJ. Local adenovirus-mediated delivery of hirudin in a rabbit arterial injury model. *J Vasc Res* 36:343-352. 1999.
- 59 . McPherson JA, Robinson PS, Powers ER, Sarembock IJ., Ragosta M. Angiographic findings inpatients undergoing catheterization for recurrent symptoms within 30 days of successful coronary intervention. *Am J Cardiol* 84(5):589-592, 1999.
 - 60 . Wiegman P, Barry WL, McPherson JA, McNamara CA, Gimple LW, Sanders JM, Bishop GG, Powers ER, Ragosta M, Owens GK, Sarembock IJ. All-trans-retinoic acid limits restenosis after balloon angioplasty in the focally atherosclerotic rabbit: A favorable effect on vessel remodeling. *Atheroscler Thromb Vasc Biol* 20:89-95, 2000.
 - 61 . Keeling AW, Fisher CA, Haugh KH, Powers ER, Turner MS. Reducing time in bed after percutaneous transluminal coronary angioplasty. (TIBS III). (Clinical Trial.) *Am J Crit Care* 9(3):185-7, 2000.
 - 62 . Buckley RS, Kaul S, Jayaweera AR, Gimple LW, Powers ER, Dent JM. Quantification of mitral regurgitation in the cardiac catheterization laboratory with contrast echocardiography. *Am Heart J* 139(6):1109-12, 2000.
 - 63 . Ragosta M, Powers ER, Samady H, Gimple LW, Sarembock IJ, Beller GA. Relationship between extent of residual myocardial viability and coronary flow reserve in patients with recent myocardial infarction. *Am Heart J* 141(3):456-462, 2001.
 - 64 . Bishop GG, McPherson JA, Sanders JM, Hesselbacher SE, Feldman MJ, McNamara CA, Gimple LW, Powers ER, Mousa SA, Sarembock IJ. Selective alpha(v)beta(3)-receptor blockade reduces macrophage infiltration and restenosis after balloon angioplasty in the atherosclerotic rabbit. *Circulation* 103(14):1906-1911, 2001.
 - 65 . McPherson JA, Barringhaus KG, Bishop GG, Sanders JM, Rieger JM, Hesselbacher SE, Gimple LW, Powers ER, MacDonald T, Sullivan G, Linden J, Sarembock IJ. Adenosine A2A receptor stimulation reduces inflammation and neointimal growth in a murine carotid ligation model. *Arterioscler Thromb Vasc Biol* 21(5):791-796, 2001.
 - 66 . Fischer JJ, Samady H, McPherson JA, Sarembock IJ, Powers ER, Gimple LW, Ragosta M. Comparison between visual assessment and quantitative angiography versus fractional flow reserve for native coronary narrowings of moderate severity. *Am J Cardiol* 90:210-215, 2002.
 - 67 . Samady H, Yi-Hwa L, Choi CJ, Ragosta M, Pfau SE, Cleman MW, Powers ER,

- Kramer CM, Wackers FJ, Beller GA, Watson DD. Electromechanical mapping for detecting myocardial viability and ischemia in patients with severe ischemic cardiomyopathy. *Am J Cardiol* 91:807-811, 2003.
- 68 . Balcells E, Powers ER, Lepper W, Belcik T, Wei K, Ragosta M, Samady H, Lindner JR. Detection of myocardial viability by contrast echocardiography in acute infarction predicts recovery of resting function and contractile reserve. *J Am Coll Cardiol* 41: 827-833, 2003.
- 69 . Ragosta M, Samady H, Isaacs RB, Gimple LW, Sarembock IJ, Powers ER. Coronary flow reserve abnormalities in patients with diabetes mellitus who have end-stage renal disease and normal epicardial arteries. *Am Heart J* 147 (6):1017-1023, 2004.
- 70 . Ragosta M, Samady H, Gimple LW, Sarembock IJ, Fenster M and Powers ER. Percutaneous treatment of focal vs. diffuse in-stent restenosis: A prospective randomized comparison of conventional therapies. *Catheter Cardiovasc Interv* 61:344-349, 2004.
- 71 . McClish JC, Ragosta M, Powers ER, Barringhaus KG, Gimple LW, Fischer J, Garnett J, Siadaty M, Sarembock IJ, Samady H. Effect of acute myocardial infarction on the utility of fractional flow reserve for the physiologic assessment of the severity of coronary artery narrowing. *Am J Cardiol* 93:1102-1106, 2004.
- 72 . Samady H, Choi CJ, Ragosta M, Powers ER, Beller GA, Kramer CM. Electromechanical mapping identifies improvement in function and retention of contractile reserve after revascularization in ischemic cardiomyopathy. *Circulation* 110:2410-2416, 2004.
- 73 . Micari A, Belcik TA, Balcells EA, Powers E, Wei K, Kaul S. Improvement in microvascular reflow and reduction of infarct size with adenosine in patients undergoing primary coronary stenting. *Am J Cardiol* 96:1410-1415, 2005.
- 74 . Chhatriwalla AN, Ragosta M, Powers ER, Fischer JJ, Barringhaus KG, Sarembock IJ, Gimple LW, Kramer CM, Samady H. High left ventricular mass index does not limit the utility of fractional flow reserve for the physiologic assessment of lesion severity. *J Invasive Cardiol* 18:544-549, 2006
- 75 . Samady H, Lepper W, Powers ER, Wei K, Ragosta M, Bishop GG, Sarembock IJ, Gimple L, Watson DD, Beller GA, Barringhaus KG. Fractional Flow Reserve of infarct related arteries identifies reversible defects on non-invasive myocardial perfusion imaging early after myocardial infarction. *J Am Coll Cardiol* 47:2187-93, 2006
- 76 . Ragosta M, Dee S, Sarembock IJ, Lipson LC, Gimple LW, Powers ER. Prevalence of unfavorable angiographic characteristics for percutaneous

- intervention in patients with unprotected left main coronary disease. *Catheter Cardiovasc Interv* 68:357-362, 2006
- 77 . Fischer JJ, Wang XQ, Samady H, Sarembock IJ, Powers ER, Gimple LW, Ragosta M. Outcome of Patients With Acute Coronary Syndromes and Moderate Coronary Lesions Undergoing Deferral of Revascularization Based on Fractional Flow Reserve Assessment. *Catheter Cardiovasc Interv* 68:544-548, 2006
 - 78 . Le DE, Powers ER, Bin JP., Leong-Poi, Goodman NC, Kaul S. Transmyocardial revascularization ameliorates ischemia by cardiac denervation and not by angiogenesis: new insights using a canine model of chronic ischemia. *J Nucl Cardiol* 14:207-214, 2007
 - 79 . Ragosta M, Bishop AH, Lipson LC, Watson DD, Gimple LW, Sarembock IJ, Powers ER. A comparison between angiography and fractional flow reserve versus SPECT myocardial perfusion imaging for determining lesion significance in patients with multivessel coronary disease. *Am J Cardiol* 99:896-902, 2007
 - 80 . Ruzsics B, Lee H, Powers ER, Flohr TG, Costello P, Schoepf. Myocardial ischemia diagnosed by dual-energy computed tomography. Correlation with single-photon emission computed tomography. *Circulation* 117:1244-1245, 2008.
 - 81 . Pallares MJ, Powers ER, Zwerner PL, Fowler, A, Reeves R, Nappi JN. Barriers to clopidogrel adherence following placement of drug-eluting stents. *Ann Pharmacother* 43:259-67, 2009.
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