

## CURRICULUM VITAE

NAME: John E. Mayer, Jr., M.D.

ADDRESS: Department of Cardiac Surgery  
Children's Hospital Boston  
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Boston, MA 02115

PLACE OF BIRTH: Tampa, Florida

EDUCATION:

1968 B.A. Yale University, New Haven, CT (cum laude)  
1972 M.D. Yale University School of Medicine, New Haven, CT

POSTDOCTORAL TRAINING:

1972-1973 Intern - Department of Surgery, University of Minnesota  
1973-1979 Medical Fellow - Department of Surgery, University of Minnesota  
1979-1981 Fellow - Division of Thoracic & Cardiovascular Surgery, University of Minnesota

LICENSURE & CERTIFICATION:

1973 Minnesota  
1981 Alabama  
1984 Massachusetts #52467  
1980 Diplomate, American Board of Surgery  
1982 Diplomate, American Board of Thoracic Surgery - #3875, 5/29/82 and recertification 1994 and 2001

ACADEMIC APPOINTMENTS:

1981 Instructor - Division of Thoracic & Cardiovascular Surgery, University of Minnesota  
1981-1984 Clinical Assistant Professor of Surgery, University of South Alabama  
1984-1989 Assistant Professor of Surgery, Harvard Medical School  
1989-1995 Associate Professor of Surgery, Harvard Medical School  
1996-present Professor of Surgery, Harvard Medical School

## HOSPITAL APPOINTMENTS:

1972-1973	Intern in Surgery, University of Minnesota
1973-1979	Resident in Surgery, University of Minnesota
1979-1981	Resident, Division of Thoracic & Cardiovascular Surgery, University of Minnesota
1981-1984	Chief of Cardiothoracic Surgery, Keesler USAF Medical Center
1981-1984	Staff Surgeon, University of South Alabama Medical Center
1984-1989	Associate in Cardiovascular Surgery, Children's Hospital, Boston, MA
1989-Present	Senior Associate in Cardiovascular Surgery, Children's Hospital, Boston, MA
1999-2001	Chief Medical Officer, Children's Hospital, Boston, MA
2001-9/2006	Special Assistant to the President, Children's Hospital Boston

## AWARDS AND HONORS:

1975-1978	National Research Service Award, National Institute of Health
1984	Meritorious Service Medal-United States Air Force

## MAJOR COMMITTEE ASSIGNMENTS:

## National/Regional:

1993-present	Society of Thoracic Surgeons/American Association for Thoracic Surgery- Professional Affairs Committee (formerly Government Relations Committee) Vice Chairman, 1996-1999, Chair 1999-2002. Chair Council on Health Policy and Relationships 2002-2005
1993-present	Society of Thoracic Surgeons/American Association for Thoracic Surgery- Coding and Nomenclature Committee
1993-present	Society of Thoracic Surgeons-National Database Committee
1989-1995	New England Organ Bank- Board of Trustees
1991-1993	Grant Review Committee for the Massachusetts Affiliate of American Heart Association
1994-present	Thoracic Surgical Foundation for Research and Education - Education Committee
1996-2005	AMA Relative Value Update Committee, Society of Thoracic Surgeons-Representative
1998-2001	American Association for Thoracic Surgery- Program Committee.
1997-2001	Co-Chairman, Health Policy Committee Society of Thoracic Surgeons
1998-2000	Society of Thoracic Surgeons-Member of Governing Council
2004-Present	Coalition of Cardiovascular Organizations

2005-2006 Society of Thoracic Surgeons, Second Vice President  
 2006-2007 Society of Thoracic Surgeons, First Vice President

Hospital/Institution:

1984-1991 Committee on Clinical Investigation (IRB)  
 1991-present Managed Care Steering Committee, Physicians Organization  
 1993-2001 Strategic Planning Group-subcommittee to negotiate all hospital physician fees  
 2001-present Joint Contracting Organization (Hospital and Physician's Organization)  
 1994-present Network Steering Committee  
 1994-1995 Executive Management Group-Children's Hospital  
 1994-present Cardiovascular Program Governance Committee  
 1995-2004 Board of Trustees, Children's Hospital  
 1995-present Cardiovascular Program Quality Improvement Committee  
 1998-2000 Medical Director, Clinical Program Development, Children's Hospital  
 2000-present Board of Trustees, Pediatric Physician's Organization at Childrens Hospital (PPOC)  
 1994-present Pediatric Physician's Organization at Children's Hospital Boston, Contracting Committee  
 1994-present Pediatric Physician's Organization at Children's Hospital Boston, Quality Committee

PROFESSIONAL SOCIETIES:

American College of Cardiology - Fellow  
 International Society for Heart Transplantation  
 American College of Surgeons - Fellow  
 American Association for Thoracic Surgery  
 Society of Thoracic Surgeons  
 Congenital Heart Surgeons Society  
 American Heart Association  
 Tissue Engineering Society  
 American Medical Association

MAJOR RESEARCH INTERESTS:

1. Preservation of the immature myocardium with particular emphasis on the role of the vasculature in ischemia/reperfusion injury.
2. Clinical management of single ventricle with emphasis on the Fontan operation, clinical management of tetralogy of Fallot with diminutive pulmonary arteries, use of the arterial switch operation for repair of transposition of the great arteries.
3. Development and testing of tissue-engineered cardiac valve leaflets and conduit arteries

## RESEARCH FUNDING:

1975-1978	NIH/NHLBI National Research Service Award Grant # HL05185
1992-1997	NIH/NHLBI Grant #1 PO1 HL48675 Adhesion Molecules in Myocardial Ischemia
7/1998-6/2004	NIH/NHLBI Grant #1 RO1 HL60463 Tissue Engineering of Pulmonary Valves and Pulmonary Arteries
11/02-10/05	NIH/NIST Grant Treatment of Cardiovascular Disease Using Tissue Engineering
3/2002-2/2006	NIH - NHLBI/Univ. of Pittsburg. R01 HL68816, Biomechanical Optimization Of TE Heart Valves
10/2004-9/2006	CIMIT Proof-of-Principle Award. Tissue Engineering of Pulmonary Valves for Application in Congenital Heart Disease
1/2002-12/2006	NIH - NHLBI/R01 HL68915 Engineering of Pacemaker Tissue for Cardiac Implantation

## TEACHING EXPERIENCE:

4/81 - 7/81	Instructor in Surgery, University of Minnesota
8/81-5/84	Chief Cardiothoracic Surgery, Keesler USAF Medical Center. Responsible for teaching thoracic and cardiac surgery in board certified general surgery program. Initiated open cardiac surgery program.
9/81-5/84	Attending Staff, University of Alabama, in Adult and Pediatric Cardiac Surgery
5/84-1989	Associate in Cardiovascular Surgery, Children's Hospital, Assistant Professor of Surgery, Harvard Medical School, Boston, MA
1989 - present	Senior Associate in Cardiovascular Surgery, Children's Hospital, Associate Professor of Surgery, Harvard Medical School
1996	Professor of Surgery, Harvard Medical School

## PRINCIPAL CLINICAL &amp; HOSPITAL SERVICE RESPONSIBILITIES:

Primary clinical responsibility includes surgery for complex forms of congenital heart disease. Resident/fellow teaching is carried out on a daily basis in the operating room and on the ICU and postoperative ward.

Surgical Director of Cardiac Transplant Program

MAJOR ADMINISTRATIVE RESPONSIBILITIES:

Primary administrative responsibilities include interviewing and selecting applicants for the residency training program and the Cardiovascular Surgery Research Laboratory. Four nurse practitioners for the Cardiovascular Surgical Service are supervised. One of 3 physicians, executive subcommittee (Strategic Planning Group) of the Managed Care Committee responsible for negotiating managed care contracts. Member of Network Steering Committee charged with designing and implementing the formation of integrated network for pediatric patient care 1994-1997. Member of Cabinet governing council for Children's Hospital 1998-present. Interim Chief Medical Officer 2000-2001, Children's Hospital, Special Assistant to the President, Children's Hospital 2001-present, member Children's Hospital Board of Trustees 1995-present

BIBLIOGRAPHY:

1. Mayer JE Jr, Hammond CL. Dipyridamole and aspirin tested against an experimental model of thrombosis. *Ann Surg* 1973;178:108.
2. Kabemba J, Mayer JE Jr, Hammond GL. Experimental arterial thrombosis formation in vivo by proteolytic enzyme perfusion and the role of the elastin layer. *Surgery* 1973;73:438.
3. Mayer JE Jr, McCullough J, Weiblen BJ, Kaplan EL, Lindsay WG, Nicoloff DM. Effects of cardiopulmonary bypass on neutrophil chemotaxis. *Surg Forum* 1976;27:285.
4. Mayer JE Jr, Joyce LD, Reinke D, McGeachie R, Humphrey EW, Varco RL. Aberrant left pulmonary artery presenting as a right paratracheal mass in an adult. *J Thorac Cardiovasc Surg* 1976;72:571.
5. Mayer JE Jr, Murray CA, Varco RL. The treatment of esophageal perforation with delayed recognition and continuing sepsis. *Ann Thorac Surg* 1977;23:568.
6. Kersten TE, Mayer JE Jr, Varco RL, Humphrey EW. The nature of failure of pulmonary adaptation to atelectasis. *Surgery* 1977;82:90.
7. Mayer JE Jr, Humphrey EW. The effect of pulmonary emboli on pulmonary capillary permeability. *Fed Proc* 1978;37:712.
8. Mayer JE Jr, Pyle RB, Lindsay WG, Wang Y, Jorgenson C, Nicoloff DM. Five year experience with the Lillehei-Kaster prosthesis in the aortic position. *World J Surg* 1978;2:351.
9. Pyle RB, Mayer JE Jr, Lindsay WG, Jorgenson C, Wang Y,

- Nicoloff DM. Hemodynamic evaluation of Lillehei-Kaster and Starr-Edwards prostheses. *Ann Thorac Surg* 1978;26:336.
10. Mayer JE Jr, Lindsay WG, Wang Y, Jorgenson Nicoloff DM. Composite replacement of the ascending aorta and aortic valve. *J Thorac Cardiovasc Surg* 1978;76:816.
  11. Humphrey EW, Ewing SL, Wrigley JV, Northrup WF, Kersten TE, Mayer JE Jr, Varco RL. The production of malignant tumors of the lung and pleura in dogs from intratracheal asbestos instillation and cigarette smoking. *Cancer* 1981;47:1994.
  12. Mayer JE Jr, Lindsay WG, Castaneda W, Nicoloff DM. Influence of aspirin and didyridamole on patency of coronary artery bypass grafts. *Ann Thorac Surg* 1981;31:204.
  13. Mayer JE Jr, Kersten TE Humphrey EW. The effects of transfusion of emboli and aged plasma on pulmonary capillary permeability. *J Thorac Cardiovasc Surg* 1981;82:358.
  14. Mayer JE Jr, Ewing S, Ophoven JJ, Sumner HW, Humphrey EW. Influence of histology on survival after curative resection of undifferentiated lung cancer. *J Thorac Cardiovasc Surg* 1982;84:641.
  15. Castaneda AR, Mayer JE Jr, Jonas RA. Repair of complete atrioventricular canal in infancy. *World J Surg* 1985; 9:590-597.
  16. Jonas RA, Freed MD, Mayer JE Jr, Castaneda AR. Long-term follow-up of patients with synthetic right heart conduits. *Congenital Heart Disease*. 1985;72:suppl II:77-83.
  17. Lang P, Jonas RA, Norwood WI, Mayer JE Jr., Castaneda AR. The surgical anatomy of hypoplasia of aortic tract complex. *J Thorac Cardiovasc Surg* 1985; 89:149-151.
  18. Jonas RA, Lang P, Mayer JE Jr., Castaneda AR. The importance of Prostaglandin E<sub>1</sub> in resuscitation of the neonate with critical aortic stenosis. (letter to the editor). *J Thorac Cardiovasc Surg* 1985; 89:314-316.
  19. Davis WR, Vacek JL, Quinton RR, Phillips GM, Mayer JE Jr. Emergency coronary bypass surgery for intractable cardiovascular collapse associated with severe left main coronary artery stenosis. *Crit Care Med* 1986;14:1080.
  20. Gold JP, Jonas RA, Lang P, Elixson EM, Mayer JE Jr,

- Castaneda AR. Transthoracic intracardiac monitoring lines in pediatric surgical patients: a ten-year experience. *Ann Thorac Surg* 1986; 42:185-191.
21. Mayer JE Jr, Jonas RA, Castaneda AR. Arterial switch operation for transposition of the great arteries with intact ventricular septum. *J Cardiac Surg* 1986; 1:97-104.
  22. Mayer JE Jr, Helgason HR, Jonas RA, Lang P, Vargas FJ, Cook N, Castaneda AR. Extending the limits of modified Fontan procedures. *J Thorac Cardiovasc Surg* 1986; 92:1021-1028.
  23. Hickey PR, Hansen DD, Strafford M, Thompson JE, Jonas RA, Mayer JE Jr. Pulmonary and systemic hemodynamic effects of nitrous oxide on infants with normal and elevated pulmonary vascular resistance. *Anesthesiology* 1986;65:374-378.
  24. Vargas FJ, Coto EO, Mayer JE Jr, Jonas RA, Castaneda AR. Complete atrioventricular canal and tetralogy of Fallot: surgical considerations. *Ann Thorac Surg* 1986, 42:258-263.
  25. Vargas FJ, Mayer JE Jr, Jonas RA, Castaneda AR. Atrioventricular valve repair or replacement in atrio-pulmonary anastomosis: surgical considerations. *Ann Thorac Surg* 1987; 43:403-405.
  26. Vargas FJ, Mayer JE Jr, Jonas RA, Castaneda AR. Anomalous systemic and pulmonary venous connections in conjunction with atrio-pulmonary anastomosis (Fontan-Kreutzer). *J Thorac Cardiovasc Surg* 93: 523-532, 1987.
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  29. Jonas RA, Mayer JE Jr, Castaneda AR. Unsatisfactory clinical experience with a collagen sealed knitted extracardiac conduit. *J Cardiac Surg* 2:257-264, 1987.
  30. Rothman A, Mayer JE Jr, Freed MD. Treatment of chronic pleural effusions after the Fontan procedure with prednisone. *Am J Cardiol* 1987;60:408-409.
  31. Rothman A, Lang P, Lock JE, Jonas RA, Mayer JE Jr,

- Castaneda AR. Surgical management of subaortic obstruction in single left ventricle and tricuspid atresia. JACC 10:421-426, 1987.
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  34. Pasquini Luciano, Sanders SP, Parness I, Colan S, Keane JF, Mayer JE Jr, Kratz C, Foran RB, Marino B, Van Praagh S, and Van Praagh R. Echocardiographic and anatomic findings in atrioventricular discordance with ventriculoarterial concordance. Am J Cardiol 1988;62: 1256-1262.
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  38. Austin EH, Jonas RA, Mayer JE Jr, Castaneda AR. Aortic atresia with normal left ventricle. J Thorac Cardiovasc Surg 1989; 97:392-395.
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- of left atrial catheters. J Cardiothorac Anesth, 1989; 3:757-759.
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  46. Sanders SP, Mayer JE Jr, Colan SD, Spevak PJ, Parness IA. Tetralogy of Fallot with pulmonary atresia: The role 2-dimensional and doppler echocardiography in the initial evaluation. Cardiovasc Imaging, 1:101-106, 1989.
  47. Mayer JE Jr, Sanders SP, Jonas RA, Castaneda AR, Wernovsky G. Coronary artery pattern and outcome of the arterial switch operation for transposition of the great arteries. Circulation 1990; 82:5 IV-139-IV145.
  48. Mayer JE Jr, Perry SB, O'Brien P, Perez-Atayda A, Jonas RA, Castaneda AR, Parness IA. Orthotopic Heart Transplantation for complex congenital heart disease. J Thorac Cardiovasc Surg 1990; 99:484-492.
  49. Geggel RL, Mayer JE Jr, Fried R, Helgason H, Cook EF and Reid LM. Role of lung biopsy in patients undergoing a modified Fontan procedure. J Thorac Cardiovasc Surg 1990;99:451-459.
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53. Mayer JE Jr. Invited Letter: Rapid Cooling contracture of the myocardium. *J Thorac Cardiovasc Surg* 1990 458-460.
54. Kadoba K, Jonas RA, Mayer JE Jr, Castaneda AR. Mitral Valve replacement in the first year of life. *J Thorac Cardiovasc Surg* 1990; 100:762-768
55. Mayer JE Jr. Invited Editorial. Cardiac transplantation for hypoplastic left heart syndrome: A modified technique. *Ann Thorac Surg* 1990 50:864-5.
56. Jenkins KJ, Hanley FL, Colan SD, Mayer JE Jr, Castaneda AR, Wernovsky G. Function of the anatomic pulmonary valve in the systemic circulation. *Circulation* 1991; 84 (suppl 5) III173-III179.
57. Bellinger DC, Wernovsky G, Rappaport LA, Mayer JE Jr, Castaneda AR, Farrell DM, Lang P, Hickey PR, Jonas RA, Newburger JW. Cognitive development of children following early repair of transposition of the great arteries using deep hypothermic circulatory arrest. *Pediatrics* 1991, 87:701-707.
58. DiDonato RM, Wernovsky G, Jonas RA, Mayer JE Jr, Keane JF, Castaneda AR. Corrected transposition in situs inversus (I,D,D,): Biventricular repair of associated cardiac anomalies. *Circulation* 1991; 84(suppl 5) III193-III199.
59. Mayer JE Jr. Invited letter: Coarctation. *J Thorac & Cardiovas Surg* 1991;101:165-166.
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61. Anderson WD, Kulik TJ, Mayer JE Jr. Inhibition of contraction of isolated lymphatic ducts by atrial natriuretic peptide. *Am J Physiol Part 2*, 1991; 260:R610-R614.
62. DiDonato RM, Jonas RA, Lang P, Rome JJ, Mayer JE Jr, Castaneda AR. Neonatal repair of tetralogy of Fallot with and without pulmonary atresia. *J Thorac Cardiovasc Surg* 1991, 101:126-137.

63. Fujiwara T, Heinle J, Britton L, Mayer JE Jr. Myocardial Preservation in Neonatal Lambs: Comparison of hypothermia with crystalloid and blood cardioplegia. *J Thorac Cardiovasc Surg* 1991; 101:703-712.
64. Mayer JE Jr. Invited Editorial. Development, Growth, and Cardiac surgery. *Am. J Dis. Children.* 1991,145;33-34.
65. Mayer JE Jr. Aortic Valvotomy Using Inflow Occlusion. Growth of the Hypoplastic Ascending Aorta After radical palliation. *Ann Thorac Surg* 1991; 52:647-653.
66. Bridges ND, Perry SB, Keane JF, Goldstein SAN, Mandell V, Mayer JE Jr, Jonas RA, Castaneda AR, and Lock JE. Preoperative transcatheter closure of congenital muscular ventricular septal defects. *New Eng J Med* 1991; 324:1312-1317.
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72. Mayer JE Jr. Fontan procedure for hypoplastic left heart syndrome (editorial) *Circulation*, 1992; 85:372-373.

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75. Kawata H, Aoki M, Hickey P, Mayer JE Jr. Effect of Antibody to leukocyte adhesion molecule CD18 on recovery of neonatal lamb heart after 2 hours of cold ischemia. *Circulation* 1992; 86 (suppl II) II364-II370.
76. Aoki M, Kawata H, Mayer JE Jr. Coronary endothelial injury by cold crystalloid cardioplegic solution in neonatal lambs. *Circulation* 1992; 86(suppl 5): II346-II351.
77. Chang AC, Wernovsky G, Wessel DL, Freed MD, Parness IA, Perry SB, O'Brien P, Van Praagh R, Hanley FL, Jonas RA, Castaneda AR, Mayer JE Jr. Surgical management of late right ventricular failure after Mustard or Senning Repair. *Circulation* 1992; 85: (suppl II) II-140-II-149.
78. Bridges ND, Mayer JE Jr, Lock JE, Jonas RA, Hanley FL, Keane JF, Perry SB, Castaneda AR. Effect of baffle fenestration on outcome of the modified Fontan operation. *Circulation* 1992;86:1762-9.
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80. Giglia TM, Mandell VS, Connor AR, Mayer JE Jr, Lock JE. Diagnosis and management of right ventricular-dependent coronary circulation in pulmonary atresia with intact ventricular septum. *Circulation*. 1992; 86:1516-28.
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82. Kern FH, Jonas RA, Mayer JE Jr, Hanley FL, Castaneda AR, Hickey PR. Temperature monitoring during CPB in infants: Does it predict efficient brain cooling? *Ann Thorac Surg* 1992; 54:749-54.

83. Matitiau A, Geva T, Colan SD, Sluysmans T, Parness IA, Spevak PH, van der Velde M, Mayer JE Jr, Sanders SP. Bulboventricular foramen size in infants with double-inlet left ventricle or tricuspid atresia with transposed great arteries: Influence on initial palliative operation and rate of growth. *JACC*, 1992; 19:142-8.
84. Jenkins KJ, Sanders SP, Orav EJ, Coleman EA, Mayer JE Jr, Colan SD. Individual pulmonary vein size and survival in infants with totally anomalous pulmonary venous connection. *JACC* 1993; 22:201-206.
85. Aoki M, Nomura F, Kawata H, Mayer JE Jr. Effect of calcium and preischemic hypothermia on recovery of myocardial function after cardioplegic ischemia in neonatal lambs. *J Thorac Cardiovasc Surg*. 1993; 105:207-212.
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88. Newburger JW, Jonas RA, Wernovsky G, Wypij D, Hickey PR, Kuban KCK, Farrell DM, Holmes GL, Helmers SL, Constantinou J, Carrazana E, Barlow JK, Walsh AZ, Lucius KC, Share JC, Wessel DL, Hanley FL, Mayer JE Jr, Castaneda AR, Ware JH. Comparison of perioperative neurologic effects of hypothermic circulatory arrest versus low flow cardiopulmonary bypass in infant heart surgery. *New Eng J Med* 1993; 329:1057-1064.
89. Kawata H, Aoki M, Mayer JE Jr. Nitroglycerin Improves Functional Recovery of Neonatal Lamb Hearts After 2 Hours of Cold Ischemia. *Circulation* 1993; 88 (suppl 5 Pt.2) II366-II371.
90. Nomura F, Aoki M, Mayer JE Jr. Effects of Adenosine Infusion During Reperfusion After Cold Cardioplegic Ischemia in Neonatal Lambs. *Circulation* 1993; 88 (suppl 5 Pt.2) II380-II386.
91. Gentles TL, Colan SD, Giglia TM, Mandell VS, Mayer JE Jr, Sanders SP. Right ventricular decompression and left ventricular function in pulmonary atresia with intact ventricular septum in the influence of less extensive coronary anomalies. *Circulation* 1993; 88 (suppl 5 Pt.2) II183-II188.

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95. Hanley FL, Fenton KN, Jonas RA, Mayer JE Jr, Cook NR, Wernovsky G, Castaneda AR. Surgical repair of complete atrioventricular canal defects in infancy. Twenty-year Trends. *J Thorac Cardiovasc Surg* 1993; 106:387-94.
96. Pasquini L, Parness IA, Colan SD, Wernovsky G, Mayer JE Jr, Sanders SP. Diagnosis of intramural coronary artery in transposition of the great arteries using two-dimensional echocardiography. *Circulation* 1993; 88:1136-41.
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100. Fishberger SB, Bridges ND, Keane JF, Hanley FL, Jonas RA, Mayer JE Jr, Castaneda Ar, Lock JE. Intraoperative device closure of ventricular septal defects. *Circulation* 1993; 88 (suppl II) II205-II209.
101. Mayer JE Jr. Invited letter concerning Normocalcemic blood or crystalloid cardioplegia provides superior neonatal myocardial protection over low-calcium cardioplegia. *J Thorac Cardiovasc Surg* 1993;106: 761-4.
102. Giglia TM, Jenkins KJ, Matitiau A, Mandell VS, Sanders SP, Mayer JE Jr, Lock JE. Influence of Right Heart

- Size on Outcome in Pulmonary Atresia with Intact Ventricular Septum. *Circulation* 1993;88(5 Pt1):2248-56.
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  27. Saul JP, Walsh EP, Langberg JJ, Mayer JE Jr, Lock JE. Radiofrequency ablation of accessory atrioventricular pathways: Early results in children with refractory SVT. 63rd Scientific Sessions, American Heart Assoc. November. 12-15, 1990.
  28. Jenkins KJ, Hanley FL, Colan SD, Mayer JE Jr, Castaneda AR, Wernovsky G. Function of the anatomic pulmonary valve in the systemic circulation. American Heart Assoc. Presented at the 63rd Scientific Session of AHA, 11/90.
  29. Jonas RA, Bridges ND, Hanley FL, Mayer JE Jr, Castaneda AR. Fontan Procedure following bidirectional Glenn shunt for high risk patients. American College of Cardiology, 40th Annual Scientific Session. March 3-7, 1991, Atlanta, Georgia.

30. Mayer JE Jr, Bridges ND, Jonas RA, Hanley FL, Lock JE, Castaneda AR. Factors associated with marked reduction in mortality for Fontan operations in patients with single ventricle. American Assoc. for Thoracic Surgery. 1991.
31. Kawata H, Sawatari K, Mayer JE Jr. Evidence for the role of neutrophils in reperfusion injury after cold cardioplegia ischemia in neonatal lambs. Western Thoracic Surgical Association, 17th Annual Mtg., Seattle, Washington, June 26-29, 1991. Presented.
32. Kawata H, Aoki M, Hickey PR, Mayer JE Jr. Effect of antibody to leukocyte adhesion molecules CD 18 on recovery of neonatal lamb hearts after 2 hr of cold ischemia. Presented - 64th Scientific Session of the American Heart Assoc. Anaheim, CA. November 11-14, 1991.
33. Bridges ND, Mayer JE Jr, Lock JE, Castaneda AR. Effect of fenestration on outcome of Fontan repair. Presented 64<sup>th</sup> Scientific Session of the American Heart Assoc., Anaheim, CA. November 11-14, 1991.
34. Aoki M, Kawata H, Mayer JE Jr. Coronary endothelial injury by cold crystalloid cardioplegic solution in neonatal lambs. Presented - 64th Scientific Session of the American Heart Assoc. Anaheim, CA, Nov. 11-14, 1991.
35. Nomura F, Aoki M, Mayer JE Jr. Effects of Adenosine infusion reperfusion after cold cardioplegic ischemia in neonatal lambs. 65th Annual Scientific Session of the American Heart Association. Nov. 16-19, 1992, New Orleans, LA.
36. Aoki M, Nomura F, Kawata H, Mayer JE Jr. Effect of calcium and preischemic hypothermia on recovery of myocardial function after cardioplegic ischemia in neonatal lambs. 72nd Annual Meeting of the American Association for Thoracic Surgery 1992, Los Angeles, CA.
37. du Plessis AJ, Chang AC, Wernovsky G, Wessel D, Lock JE, Mayer JE Jr. Cerebrovascular accidents following The Fontan procedure. Presented - 66th Scientific Session of the American Heart Assoc. Atlanta, GA, Nov. 8-11, 1993.
38. Gentles TL, Mayer JE Jr, Jonas Ra, Keane JF. A Surgical alternative to the Fontan procedure for the Hypoplastic right ventricle. Presented - 66<sup>th</sup> Scientific Session of the American Heart Assoc. Atlanta, GA, Nov. 8-11, 1993.
39. Manning PB, Mayer JE Jr, Sanders SP, Coleman EA, Jonas, RA, Castaneda AR. Unique Features and prognosis of

- Primum ASD presenting in the first year of life.  
Presented - 66<sup>th</sup> scientific Session of the American Heart Association. Atlanta, GA, Nov. 8-11, 1993.
40. Nomura F, Forbess JM, Hiramatsu T, Mayer JE Jr. Effects of Adenosine infusion during reperfusion After cold cardioplegic ischemia in neonatal lambs. Presented - 66<sup>th</sup> Scientific Session of the American Heart Association, Atlanta, GA. Nov. 8-11, 1993.
  41. Forbess JM, Hiramatsu T, Nomura F, Miura T, Farrington CK, Sokolowski K, Bree M, Mayer JE Jr. Anti-CD11b monoclonal antibody improves myocardial function after six hours of hypothermic storage. 43rd Annual Scientific Sessions of the American College of Cardiology, Atlanta, GA March 19, 1994.
  42. Hiramatsu T, Forbess JM, Miura T, Mayer JE Jr. Effects of L-arginine and L-NAME on recovery of neonatal lamb hearts after cold cardioplegic ischemia: Evidence for an important role of endothelial production of nitric oxide. Annual meeting of The American Association for Thoracic Surgery, NY, New York, April 24-27,1994.
  43. Hiramatsu T, Forbess JM, Miura T, Roth SJ, Cioffi MA, Mayer Jr JE. Effects of endothelin-1 and endothelin-A receptor antagonist on recovery after hypothermic cardioplegic ischemia in neonatal lamb hearts. 66th Scientific Session of the American Heart Association, November 8-11, 1994.
  44. Shin'oka T, Breuer CK, Zund G, Tanel R, Ma P, Langer R, Vacanti JP, Mayer JE Jr. Tissue engineered heart valve leaflets: valve leaflet replacement in a juvenile lamb model. Presented at the 68th Scientific Session of the American Heart Association, November 13-16,1995 Anaheim, CA.
  45. Schermerhorn ML, Nelson DP, Xiao M, Neufeld EJ. Mitigation of ischemia-reperfusion injury in ICAM-1 knockout mice. Presented at the 68th Scientific Session of the American Heart Association, November 13-16,1995 Anaheim, CA.
  46. Nomura F, Forbess JM, Mayer JE Jr. Mechanism of 'hot shot' effect on recovery after hypothermic ischemia in neonatal lamb heart. Presented at the 68th Scientific Session of the American Heart Association, November 13-16,1995 Anaheim, CA.
  47. Zund G, McGuirk DK, Breuer C, Shinoka T, Mayer JE Jr. Hypoxia and cytokines/lipopoly-saccharides synergize Modulate E-selectin expression on bovine endothelia. Presented at the XVIIth Congress of the European Society of Cardiology, 1995. European Heart Journal.

48. Perron J, Moran A, del Nido PJ, Mayer JE, Jonas RA. Conduit repair in early infancy. Presented at the 69th Scientific Session of the American Heart Association, November 10-13, 1996 New Orleans, Louisiana.
49. Shinoka, T, Shum-Tim D, Ma PX, Tanel R, Langer R, Vacanti JP, Mayer JE Jr. Tissue-engineered heart valve leaflets: Does cell origin? Presented at the 69th Scientific Sessions of the American Heart Association, November 10-13, 1996, New Orleans, Louisiana.
50. Blume ED, Nelson DP, Gauvreau K, Plumb C, Walsh AZ, Neufeld EJ, Hickey PR, Mayer Jr JE, Newburger JW. Soluble adhesion molecules in infants and children undergoing cardiopulmonary bypass. Presented at the 69th Scientific Sessions of the American Heart Association, November 10-13, 1996, New Orleans, Louisiana.
51. Nomura F, Forbess JM, Hiramatsu T, Mayer JE Jr. Flow regulatory effects of adenosine during reperfusion on recovery after hypothermic ischemia in neonatal lamb hearts. Presented at the 69th Scientific Session of the American Heart Association, November 10-13, 1996, New Orleans, Louisiana.
52. Tabbutt S, Nelson DP, Tsai N, Miura T, Newburger JW, Hickey PR, Mayer Jr JE, Neufeld EJ. Induction of mRNA for water channel aquaporin-1 in sheep lung following cardiopulmonary bypass. Presented at the 69th Scientific Session of the American Heart Association, November 10-13, 1996, New Orleans, Louisiana.
53. Kreutzer J, Castaneda AR, Keane JF, Mayer JE Jr, Jonas RA. Surgical incorporation of hepatic veins in patients with pulmonary arteriovenous malformations (AVMs) after Kawashima operation. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery, May 11-15, 1997, Honolulu, Hawaii.
54. delNido PJ, Mayer JE Jr, Duncan B, Geva T, Jonas RA. Minimally invasive and video-assisted cardiac surgery for congenital heart disease. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery, May 11-15, 1997, Honolulu, Hawaii.
55. Hraska V, Duncan BW, DeFreitas AR, Shum-Tim D, Colli A, Freed MD, delNido PJ, Jonas RA, Mayer JE Jr. Long term outcome of surgically treated patients with corrected transposition of the great arteries. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery, May 11-15, 1997, Honolulu, Hawaii.
56. Gentles TL, Gauvreau K, Mayer JE Jr, Fishberger SB,

- Burnett J, Colan SD, Newburger JW, Wernovsky G. Factors influencing late morbidity after the Fontan operation. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery. May 11-15, 1997, Honolulu, Hawaii.
57. Mayer JE Jr. Open heart surgery: pathophysiologic aspects of myocardial protection. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery. May 11-15, 1997, Honolulu, Hawaii.
  58. Jonas RA, duPlessis AJ, Wypij D, Plumb C, Farrell D, delNido PJ, Mayer JE, Newburger JW. Clinical trial of pH management strategy in infants: perioperative results. Presented at The Second World Congress of Pediatric Cardiology and Pediatric Cardiac Surgery. May 11-15, 1997. Honolulu, Hawaii.
  59. Pigula R, Khalil PA, Mayer JE Jr, del Nido PJ, Jonas RA. Early repair of tetralogy of Fallot. American Heart Association 71<sup>st</sup> Scientific Session. November 8-11, 1998, Dallas, TX.
  60. Bichell DP, Jenkins K, Mayer JE Jr. Results of a Combined catheter and surgical strategy for the Treatment of multiple ventricular septal defects. American Heart Association 71<sup>st</sup> Scientific Session. November 8-11, 1998, Dallas, TX.
  61. Bichell DP, Mayer JE Jr, Geva T, del Nido, PJ. Minimal access open heart surgery for the correction Of complex congenital heart defects. American Heart Association 71<sup>st</sup> Scientific Session. November 8-11, 1998, Dallas, TX.
  62. Shum-Tim D, Stock UA, Hrkach J, Shinoka T, Lien J, Moses MA, Stamp A, Taylor G, Moran A, Landis W, Langer R, Vacanti JP, Mayer JE Jr. Tissue engineering autologous aorta using a new biodegradable polymer. 35<sup>th</sup> Annual Meeting of the Society of Thoracic Surgeons, January 25-27, 1999 San Antonio, TX.
  63. Nagashima M, Stock UA, Nollert G, Sperling, J, Shum-Tim D, Hatsuoka S, Mayer JE Jr. Effects of cyanosis And hypothermic circulatory arrest on lung function in neonatal lambs. Society of Thoracic Surgeons, 35<sup>th</sup> Annual Meeting, January 25-27, 1999, San Antonio, TX.
  64. Sperling JS, Sodian R, Hoerstrup SP, Wiederschain D, Moses MA, Schoen FJ, Vacanti JE, Mayer JE Jr. In Vitro Development of a tissue engineered blood vessel using a pulsatile flow bioreactor. Tissue Engineering, Gene Delivery, and Regenerative Healing, 3<sup>rd</sup> Annual Hilton Head Workshop, Feb. 17-21, 1999. Presented.

65. Stamm C, Friehs I, Duebener L, Mayer JE Jr, Jonas RA, del Nido PJ. Long-term results of the lateral tunnel Fontan procedure in patients with atrial isomerism. *Cardiology in the Young*. The 3<sup>rd</sup> World Congress of Pediatric Cardiology and Cardiac Surgery, May 27-31, 2001. Toronto, Ontario, Canada.
66. Perry TE, Kaushal S, Nasser B, Sutherland FWH, Wang J, Guleserian KJ, Bischoff J, Vacanti JP, Sacks M, Mayer JE Jr. Peripheral blood as a cell source for tissue engineering heart valves. *Surgical Forum* 2001.
67. Hancock Friesen CL, Jonas FA, delNido PJ, Mayer JE Jr, Colan SD, Lang P, Blume ED. Anatomic repair of corrected transposition of the great arteries. American Heart Association 75<sup>th</sup> Scientific Session, November 17-20, 2002, Chicago, IL.
68. Garcia CA, Bischoff J, Sutherland FWH, Perry TE, Rabkin E, Schoen F, Solomon Su, Eberhart RC, Mayer JE Jr. A tissue engineered cardiovascular stent for pediatric applications. American Heart Association 75<sup>th</sup> Scientific Session, November 17-20, 2002, Chicago, IL.
69. Sutherland FWH, Perry TE, Sherwood M, Masuda Y, Garcia CA, McLellan DL, Engelmayr GC, Sacks MS, Mayer JE Jr. Bone marrow derived pulmonary valve substitutes display favorable hemodynamic function in vivo. American Heart Association 75<sup>th</sup> Scientific Session, November 17-20, 2002, Chicago, IL.
70. Sutherland FWH, Perry TE, Sherwood MC, Masuda Y, Garcia CA, McLellan DL, Engelmayr GC, Sacks MS, Mayer JE Jr. Evaluation of tissue engineered heart valves in a large Animal model. Tissue Engineering Society International. December 9, 2002, Nagoya, Japan.
71. Sutherland FW, Perry TE, Sherwood MC, Yu Y, Masuda Y, McLellan DL, Garcia CA, Engelmayr CG, Sacks MS, Mayer JE Jr. Harnessing the potential of stem cells: from bone marrow t highly functional semilunar heart valve. American Association for Thoracic Surgery. 83<sup>rd</sup> Annual Meeting, May 4-7, 2003, Boston, MA.
72. Sales VL, Mettler BA, Aikawa-Rabkin E, Engelmayr G, Moses MA, Bischoff J, Sacks M, Schoen F, Mayer JE Jr. Endothelial progenitor cells as a sole source for tissue engineered heart valve remodel in vitro. Oral presentation. American Heart Association Scientific Sessions, November 2004, New Orleans.
73. Sales VL, Mettler BA, Engelmayr Jr G, Johnson Jr JA, Sacks M, Mayer JE Jr. Circulating endothelial progenitor ells elicit matrix remodeling in response to TGF- $\beta$  1 in tissue-engineered scaffolds. Oral

- Presentation. Tissue Engineering Society International and European Tissue Engineering, October 10-13<sup>th</sup>, 2004. Lausanne, Switzerland.
74. Sales VL, Mettler BA, Aikawa-Rabkin E, Engelmayer G, Moses MA, Bischoff J, Sacks M, Schoen F, Mayer JE Jr. Endothelial progenitor cells as a sole source for tissue-engineered heart valve remodel in vitro. Oral presentation. Advances in Tissue Engineering and Biology of Heart Valves. September 15-18, 2004, Florence, Italy.
  75. Mettler BA, Sales VL, Wylie-Sears J, Stucken C, Farber M, Rabkin-Aikawa E, Martin D, Bischoff J, Schoen F, Mayer JE Jr. Sequential vs. systemic control of structure for tissue engineered heart valves: A pursuit of clinical application. Oral presentation. Advances in Tissue Engineering and Biology of Heart Valves. September 15-18, 2004, Florence, Italy.
  76. Mettler BA, Sales VL, Antila V, Mayer JE Jr. Punch technique: a novel method for pulmonary valve construction. Poster presentation. International Society for Applied Cardiovascular Biology March 2004, Savannah, GA.
  77. Sales VL, Mettler BA, Lopez-Ilasaca M, Wagner J, Mayer JE Jr. Efficient ex vivo retroviral GFP transduction of endothelial progenitor cells: potential use in tissue engineering of heart valves. Poster presentation. International Society for Stem Cell Research 2004 Annual Meeting, June 2004, Boston, MA.
  78. Sales VL, Mettler BA, Lopez-Ilasaca M, Mayer JE Jr. Retroviral GFP and RFP transduction of progenitor cells: potential use in cardiovascular tissue engineering. Poster presentation. Tissue Engineering Society International and European Tissue Engineering, October 10-13, 2004. Lausanne, Switzerland.
  79. Merryman WD, Mettler BA, Grashow JS, Sacks MS, Mayer JE Jr. A novel tissue engineered heart valve bioreactor - from cell culture to implantation. Oral presentation at Advances in Tissue Engineering and Biology of Heart Valves, September 15<sup>th</sup> - 18<sup>th</sup>, 2004, Florence, Italy.
  80. Merryman WD, Engelmayer GC Jr, Mayer JE Jr, Sacks MS. The in-vitro response of aortic valve leaflets to cyclic tension and the relation to valve interstitial cell phenotype. Oral presentation. Advances in Tissue Engineering and Biology of Heart Valves, September 15<sup>th</sup>-18<sup>th</sup>, 2004, Florence, Italy.
  81. Engelmayer GC Jr, Mayer JE Jr, Sacks MS. A mathematical model for predicting the flexural rigidity of engineered heart valve tissues based on nonwoven

- fiber/matrix interactions. Poster presentation. *Advances in Tissue Engineering and Biology of Heart Valves*, September 15<sup>th</sup>-18<sup>th</sup>, 2004, Florence, Italy.
82. Engelmayer GC Jr, Mayer JE Jr, Sacks MS. Scaffolds to guide cell and collagen fiber orientation in engineered heart valve tissues. Oral presentation. *Advances in Tissue Engineering and Biology of Heart Valves*, September 15<sup>th</sup>-18<sup>th</sup>, 2004, Florence, Italy.
  83. Ma M, Gauvreau K, Allan CK, Mayer JE, Jenkins KJ. Mode of death after congenital heart surgery. *J Am Coll Card.* 2004;43:26A.
  84. Sales VL, Mettler BA, Englemayer GC Jr, Johnson JA Jr, Sacks MS, Mayer JE JR. TGF- $\beta$ 1 modulates extracellular matrix production, proliferation and apoptosis of circulating endothelial progenitor cells in tissue-engineered scaffolds. Oral presentation. American Heart Association Scientific Sessions 2005, November 13-16 2005, Dallas, TX.
  85. Visconti K, Rimmer D, Gauvreau K, del Nido P, Mayer JE Jr, Pigula FA. Regional low flow perfusion versus circulatory arrest in neonates: one year neurodevelopmental outcome. STS 42<sup>nd</sup> Annual meeting, January 30-February 1, 2006. Chicago, IL.
  86. Nathan M, Rimmer D, Gauvreau K, del Nido P, Mayer JE Jr., Bacha E, Shin A, Regan W, Gonzales R, Pigula F. Hypoplastic left heart syndrome: clinical outcomes of primary biventricular repair in neonates with aortic atresia and ventricular septal defect. STS 42<sup>nd</sup> Annual meeting, January 30-February 1, 2006. Chicago, IL.
  87. Sales VL, Mettler BA, Lopez-Illasaca M, Johnson Jr JA, Mayer JE Jr. Endothelial Progenitor and Mesenchymal Stem Cells Persist in tissue-engineered patch in vivo: Application of GFP and RFP-Expressing retroviral vector. *Advances in Innovative Technologies & Tissue Engineering for the Treatment of Heart Valve Disease*, Hilton Head Island, SC. March 2-5, 2006. Published in the meeting proceedings, 2006:79.
  88. Sales VL, Mettler, BA, Lopez-Illasaca M, Johnson, Jr JA, Mayer JE Jr. Endothelial Progenitor and Mesenchymal Stem Cells Persist in Tissue-Engineered Patch in vivo: Application of GFP and RFP-Expressing Retroviral Vector. *Advances in Innovative Technologies & Tissue Engineering For the Treatment of Heart Valve Disease*, Hilton Head Island, SC. March 2-5, 2006. Published in the Meeting Proceedings. 2006:79.
  89. Sales, VL, Engelmayer Jr., GC, Gottlieb D, Johnson Jr. JA, Gao, J, Wang, Y, Sacks, MS, Mayer Jr. JE. Protein Pre-coating of Elastomeric Tissue-engineered Scaffolds

- in Vitro Yields Enhanced Extracellular Matrix Formation and Transdifferentiation of Circulating Endothelial Progenitor Cells into Smooth Muscle Cells. Advances in Innovative Technologies & Tissue Engineering For the Treatment of Heart Valve Disease, Hilton Head Island, SC. March 2-5, 2006. Published in the Meeting Proceedings. 2006:33.
90. Engelmayer Jr, GC, Sales VL, Mayer, Jr. JE, Sacks, MS. Mechanical Stimulation of Mesenchymal Stem Cell Tissue Engineered Heart Valves. Advances in Innovative Technologies & Tissue Engineering For the Treatment of Heart Valve Disease, Hilton Head Island, SC. March 2-5, 2006. Published in the Meeting Proceedings. 2006:33.
  91. Aikawa E., Mettler, BA, Mendelson K, Sales, VL, Martin, D, Mayer Jr., JE. Schoen, FJ. Healing and Remodeling of Bioengineered Pulmonary Artery Patches Implanted in Sheep. 10th annual International Society for Applied Cardiovascular Biology (ISACB) 2006 Biennial meeting", La Jolla, CA, March 08-11, 2006. Published in the Meeting Proceedings. 2006:81.
  92. Engelmayer Jr, GC, Sales VL, Bischoff, J, Mayer JE, Sacks, MS. Cyclic Flexural Loading of Engineered Heart Valve Tissues Seeded with Endothelial Progenitor Cells. 10th annual International Society for Applied Cardiovascular Biology (ISACB) 2006 Biennial meeting, La Jolla, CA, March 08-11, 2006. Published in the Meeting Proceedings. 2006:100.
  93. Engelmayer Jr, GC, Sales VL, Mayer, Jr. JE, Sacks, MS. Cyclic Flexure and Laminar Flow Synergistically Accelerate Mesenchymal Stem Cell Mediated Engineered Heart Valve Tissue Formation. 2006 Young Investigator's Award. 10th annual International Society for Applied Cardiovascular Biology (ISACB) 2006 Biennial meeting, La Jolla, CA, March 08-11, 2006. Published in the Meeting Proceedings. 2006:100.
  94. Sales, VL, Engelmayer Jr., GC, Gottlieb D, Johnson Jr. JA, Gao, J, Wang, Y, Sacks, MS, Mayer Jr JE. Protein Pre-coating of Elastomeric Tissue-Engineered Scaffolds In Vitro Yields Enhanced Extracellular Matrix Formation and Transdifferentiation of Circulating Endothelial Progenitor Cells into Smooth Muscle Cells. Cardiovascular Cell and Gene Therapy Conference. Royal Sonesta Hotel, Cambridge, MA. April 24-26, 2006. Published in the Meeting Proceedings. 2006.
  95. Sales, VL, Mettler, BA, Lopez-Ilasaca M, Johnson, Jr. JA, Mayer JE Jr. Endothelial Progenitor and Mesenchymal Stem Cells Persist in Tissue- Engineered Patch in vivo: Application of GFP and RFP-Expressing Retroviral Vector. Cardiovascular Cell and Gene Therapy Conf.

- Royal Sonesta Hotel, Cambridge, MA. April 24-26, 2006. Published in the Meeting Proceedings. 2006.
96. Sales, VL, Engelmayr Jr., GC, Gottlieb D, Johnson Jr. JA, Gao, J, Wang, Y, Sacks, MS, Mayer Jr JE. Protein Pre-coating of Elastomeric Tissue-Engineered Scaffolds: Extracellular Matrix Formation and Phenotypic Changes of Circulating Endothelial Progenitor Cells. Harvard Stem Cell Research Institute, Spangler Center, Harvard Business School, Boston, MA. June 16, 2006, Published in Meeting Proceedings. 2006:19.
  97. Sales, VL, Engelmayr Jr., GC, Gottlieb D, Johnson Jr. JA, Gao, J, Wang, Y, Sacks, MS, Mayer Jr JE. Protein Precoating of Elastomeric Tissue-Engineered Scaffolds: Extracellular Matrix Formation and Phenotypic Changes of Circulating Endothelial Progenitor Cells. 1st Annual Conference- Methods in Bioengineering. July 17-18, 2006, Kresge Auditorium, MIT, Cambridge, MA. Published in Meeting Proceedings. 2006:53.
  98. Sales, VL, Engelmayr Jr., GC, Gottlieb D, Johnson Jr. JA, Gao, J, Wang, Y, Sacks, MS, Mayer Jr JE. Protein Precoating of Elastomeric Tissue-Engineered Scaffolds: Extracellular Matrix formation and Phenotypic Changes Of circulating endothelial progenitor cells. Third Annual Symposium of the American Heart Association, Council on Basic Cardiovascular Sciences-Translation of Basic Insights into clinical Practice, July 21-August 3, 2006. Keystone Conference Center, Keystone, CO. Published in meeting proceedings. 2006:35.
  99. Gottlieb D, Schwartz ML, Bischoff K, Gauvreau K, Mayer JE Jr. Preoperative echocardiographic variables are associated with death after arterial switch. American Heart Association Scientific Sessions, Nov. 12-15<sup>th</sup>, 2006, Chicago, IL. Abstract Poster Session.
  100. Gottlieb D,. Aortic Annulus size and coronary artery pattern are associated with RVOTO following arterial switch operation (ASO) for complex D-transposition of the great arteries (D-TGA). Society of Thoracic Surgeons 43<sup>rd</sup> Annual Meeting, January 29-31, 2006, San Diego, CA.

## INVITED LECTURES

1. Myocardial Preservation into the 21<sup>st</sup> Century, Oxford, England. Invited Speaker: "Myocardial Preservation." August 12-15, 1990.
2. XIV Seminar of Pediatric Cardiology. Invited Speaker: "Transposition of the great vessels." Paris, France, March 18-20, 1992.
3. Postgraduate Course on Congenital Heart Disease, American Association for Thoracic Surgery. Invited Speaker: "Myocardial Preservation and Cardiopulmonary Bypass in Infants." April 1993.
4. Surgical Grand Rounds at the New England Deaconess Hospital. Invited Speaker: "Adhesion Molecules in Reperfusion Injury." Boston, MA. February 16, 1994.
5. Grand Rounds at Hasbro Children's Hospital. "Cardiac Transplantation in Infants". Providence, RI, October 14, 1994.
6. Myocardial Preservation: Looking Toward the 21st Century II International Symposium. "The Role of Vascular Events in the Outcome After A Period of Hypothermic Ischemia and Reperfusion." October 7, 1994.
7. American Association for Thoracic Surgery-Postgraduate Course in Congenital Heart Disease. "The Role of Vascular Events in Hypothermia Ischemia/Reperfusion." April 23, 1995.
8. The New York Society for Thoracic Surgery Postgraduate Course. Invited Speaker: ASD, VSD, and AVSD Lesions. And Tricuspid Atresia & Hypoplast Syndromes. The New York Hospital-Cornell Medical Center , New York, NY. January 21, 1996.
9. 16<sup>th</sup> Annual San Diego Cardiothoracic Surgery Symposium, *Pathophysiology & Techniques of Cardiopulmonary Bypass*. Invited Speaker: Myocardial Preservation for Neonates and Infants. San Diego, CA. February 29 to March 3, 1996.
10. American Association for Thoracic Surgery Post Graduate Course on Congenital Heart Disease. Invited Speaker: "Stroke and Developmental Delay Following the Fontan Procedure." April 28, 1996.
11. Stroke and Developmental Delay Following the Fontan Procedure. Invited Speaker: "Cardiac Surgery: Fetal and Neonatal Interventions" and "Cardiac Surgery in Adults with Congenital Heart Disease." Orlando,

Florida, January 24 to 27, 1996.

12. American College of Surgeons. Invited Speaker: "Cardiopulmonary Bypass in Myocardial Ischemia." San Francisco, CA. October 6-11, 1996.
13. The New York Society for Thoracic Surgery. The Annual Post-Graduate Course in Cardiothoracic Surgery. Invited Speaker: VSD, and AVSD Lesions. New York, NY. January 17-19, 1997.
14. The 1997 Harvey-Hufnagel Cardiovascular Symposium. Invited Speaker: "Advances in surgery for congenital heart disease." Georgetown University Medical Center. September 12-13, 1997.
15. The Second World Congress of Pediatric Cardiology and Cardiac Surgery. Invited Speaker: "Pathophysiologic aspects of Myocardial Protection." Honolulu, Hawaii, May 11-15, 1997.
16. Myocardial Protection from Surgical Ischemic-Reperfusion Injury, An International Symposium. Protection of the Immature Myocardium September 21-24, 1997. The Bowman Gray School Of Medicine of Wake Forest University, Asheville, North Carolina.
17. Fourth Annual Update on Pediatric Cardiology Conference. Presented by the Arnold Palmer Hospital for Children and Women, and Children's Hospital of Philadelphia, Walt Disney World, Lake Buena Vista, Florida, January 22-25, 1997.
18. The Annual Post-Graduate Course in Cardiothoracic Surgery: A State-of-the-Art Review, 1998, January 16-18, 1998, Montefiore Medical Ctr., Bronx, NY.
19. Keynote Lecture, Tissue Engineering Presented at Cardiac Surgery Science & Practice 1998, May 11-15, London, United Kingdom.
20. Multi-Institutional Quality Efforts: Collaboration vs. Competition. Grand Rounds for the Upstate Thoracic Surgical Society, April 9 & 10, 1999. University Hospital Medical Center, Syracuse, NY.
21. The Northeast Pediatric Cardiology Nurses Association. 15<sup>th</sup> Anniversary Conference. Tissue Valve Research. October 14, 2000, Boston, MA.
22. Evolution of the Fontan Procedure. 2000 Frances Rather Seybold visiting professor. Texas Children's Hospital, Houston, TX, November 11, 2000.
23. Tissue Engineering of Cardiovascular Structures. The

- Frances Rather Seybold Memorial Lecture. Texas Medical Center. Houston, TX, November 11, 2000.
24. A Team approach to Pediatric Cardiac Disease, Presented by Denver Children's Hospital at The Vail Cascade Resort, Vail, Colorado. Talks: Tissue Engineering: Creating a Heart Valve; Late Outcomes of The Arterial Switch Operation - Success and Problems; Perfusion Strategies in Neonatal Surgery, Feb. 25-28, 2001.
  25. American Institute for Medical and Biological Engineering Tenth Annual Event (AIMBE) Lecture: "The Promise of Tissue Engineering: Biological Heart Valves", March 1, 2001. Washington, D.C.
  26. Tissue Engineering. Grand Rounds at the University of Texas, Dallas, TX, March 16-17, 2001.
  27. Tissue Engineering of Cardiac Valves and Arteries. Bioengineering Symposia, Univ. of Pittsburgh, Pittsburgh, PA, March 23, 2001.
  28. Tissue Engineering of cardiovascular structures. Janet Baldwin Lecture for the Pediatric Cardiology Society of Greater New York. January 23, 2002.
  29. Tissue Engineering of cardiovascular structures. Florida Society of Thoracic and Cardiovascular Surgery. St. Pete Beach, Florida. February 23, 2002.
  30. Symposium on "Cardiac Surgery in the Future - What can be expected". Klinikum der Universitat Munchen, Munich, Germany, January 17 to 19, 2003
  31. Management of the Single Ventricle: Update on long-term results and re-evaluation of patient selection. Frontiers in Diagnosis and Management of Congenital Heart Disease, Boston, MA. May 1-3, 2003.
  32. Management of Pediatric coronary anomalies: Surgical management of anomalous origin of the left coronary artery from a pulmonary artery. Frontiers in Diagnosis and Management of Congenital Heart Disease, Boston, MA. May 1-3, 2003.
  33. Socioeconomic Issues Confronting Cardiothoracic Surgeons. Summer Conference and Annual Meeting of The Michigan Society of Thoracic & Cardiovascular Surgeons. Grand Traverse Resort, Traverse City, Michigan, August 1 & 2, 2003.
  34. Long term outcome of the child with single ventricle. Cardiovascular Update 2003, Cardiovascular Disease in Children and Young Adults. The Heart Institute of Spokane and Sacred Heart Medical Center's Children's Hospital. Spokane, Washington. October 10 & 11, 2003.

35. Tissue Replacement for cardiac surgeries. The First International Conference on Heart Failure in Children and Young Adults: From Molecular Mechanisms to Medical and Surgical Strategies. Baylor College of Medicine, Department of Pediatrics and Texas Children's Hospital, Houston, TX, December 3-6, 2003.
36. Tissue Engineered Pulmonary Valve. International Society for Applied Cardiovascular Biology's 9<sup>th</sup> Biennial Meeting, Savannah, Georgia. March 10-13, 2004.
37. Use of Progenitor Cells for Tissue Engineered Heart Valves. Seminar given at the University of Pittsburgh, McGowan Institute for Regenerative Medicine. Pittsburgh, PA, September 9<sup>th</sup> 2004.
38. Progress Toward Tissue Engineered Valves and Conduits. Congenital Cardiovascular Surgery: San Diego 2004. Children's Hospital and Health Center, San Diego, California, October 15-16, 2004.
39. Progress Toward a Tissue Engineered Heart Valve. Yale University School of Medicine, New Haven, CT. May 2, 2005.
40. Talk for New Jersey Society of Cardiothoracic Surgeons. May 13, 2005, Belleville, NJ.