

CURRICULUM VITAE

PART I: General Information

Date prepared: July 14, 2006

Name: Emile Bacha, M.D.

Education:

1989 M.D. Ludwig-Maximilians-University, Munich, Germany

Post-doctoral Training:

1989-91 Internship and Residency, General Surgery, Klinikum Grosshadern University Hospital and German Heart Center, Ludwig-Maximilians-University, Munich

1991-93 Residency, General Surgery, Massachusetts General Hospital, Harvard Medical School, Boston

1993-95 Residency, General Surgery, Emory University School of Medicine Affiliated Hospitals, Atlanta

1995-1996 Research Fellowship, Laboratoire de Chirurgie Experimentale, Cardiothoracic Surgery, Hopital Marie-Lannelongue, Paris-Sud University, Paris, France

1996-1998 Clinical Fellowship, Cardiothoracic Surgery, Massachusetts General Hospital and Children's Hospital Boston, Harvard Medical School, Boston

Licensure and Certification:

1987 Germany (Federal License)

1991 ECFMG (397-427-6)

1994 Georgia (039039) (inactive)

1995 Massachusetts (152285)

2000 Illinois (036101834)

1996 American Board of Surgery (41704)

2000 American Board of Thoracic Surgery (6345)

Academic Appointments:

1999 Instructor in Surgery, Harvard Medical School

2000-2002 Clinical Associate, The University of Chicago

2002-4/05 Assistant Professor of Surgery and Pediatrics, The University of Chicago

7/05- Associate Professor of Surgery, Harvard Medical School

Hospital or Affiliated Institution Appointments:

1999 Assistant Surgeon, Cardiac Surgery, The Children's Hospital, Boston
 2000-4/05 Director, Pediatric and Congenital Heart Surgery, The University of Chicago Hospitals, Chicago, IL
 5/05-present Senior Associate, Department of Cardiac Surgery, Children's Hospital, Boston

Other Professional Positions and Major Visiting Appointments:

2001-2005 Staff Surgeon (Affiliated Faculty), Division of Cardiothoracic Surgery, Rush-Presbyterian Medical Center
 2002-2005 Staff Surgeon (Voluntary Attending), Pediatric Cardiac Surgery Cook County Hospital
 2004-present Affiliated Faculty, Miami Center for Patient Safety (MCPS)
 3/06-present Associate Surgeon, Cardiac Surgery, Brigham and Women's Hospital, Boston
 5/06-present Beth Israel-Deaconess Medical Center, Cardiac Surgery, Boston

Major administrative Responsibilities:

2000-2005 Surgical Director, The Congenital Heart Center, The University of Chicago Hospitals, Chicago, IL
 2005-present Physician Liaison, The International Office, Children's Hospital, Boston

Major Committee Assignments:

The University of Chicago:

2000-2001 Credentialing Committee for Advanced Laparoscopic Procedures
 2001-2002 Faculty Compliance Advisory Committee
 2001-2004 Operating Room Steering Committee

Children's Hospital Boston

2005-present Patient Safety and Quality Committee (PSQ)

National Organizations:

1998- International Society for Heart and Lung Transplantation Pediatric Council Member
 2003- Co-Founder, ENTICHS meetings (Emerging New Techniques in Congenital Heart Surgery) and yearly co-Director, PICS-ENTICHS meeting
 2003- Medical Advisory Board Member, The Children's Heart Foundation
 2003- Research Committee Board Member, The Thoracic Surgery Foundation for Research and Education (TSFRE)
 2004- Committee member, International Credentialing and/or Certification in Cardiothoracic Surgery (CTSNet)
 2004- Member, Resource and Development Committee, The Congenital Heart Surgeon's Society (CHSS)
 2005- Taskforce member of Workforce on Patient Advocacy, Communications, and Safety, The Society of Thoracic Surgeons (STS)

Professional Societies:

- 1997- American College of Cardiology (ACC) - Fellow
- 1997-99 American Association for Respiratory Care (AARC) - Member
- 1998- Massachusetts General Hospital Surgical Alumni Society - Member
- 1997- International Society for Heart and Lung Transplantation (ISHLT) - Member
- 1998- The Society of Pediatric Cardiovascular Surgery Aldo R. Castaneda - Member
- 2000- The University of Chicago Surgical Society - Member
- 1999- American International Health Council-Member
- 2003- The Chicago Cardiothoracic Surgical Society - Founding Member
- 2003- Rush Surgical Society - Member
- 2003- The Congenital Heart Surgeon's Society - Member
- 2004- The Society of Thoracic Surgeons (STS) - Member
- 2004- The Lunar Society - Member
- 2005- The American Association for Thoracic Surgery (AATS) - Member

Editorial Boards:

- 2004- Surgical Editor, *Pediatric Cardiology*
- Ad Hoc* Reviewer: *The Annals of Thoracic Surgery*
The Journal of Thoracic and Cardiovascular Surgery
Circulation
The Journal of Invasive Cardiology
Pediatric Cardiology
Expert Review of Cardiovascular Therapy
American Journal of Cardiovascular Drugs
The Journal of Cardiac Surgery
Pediatrics

Honors and Awards:

- 1989 Doctoral Thesis (*Summa Cum Laude*)
- 1985-1989 Scholar of the *German National Scholarship Foundation* (“Studienstiftung des deutschen Volkes”)
- 1995 *Simone et Cino del Duca Foundation Research Award*, Paris, France
- 1998 Finalist, Young Investigators Award, European Association for Cardio-Thoracic Surgery, Brussels, Belgium

Part II: Research, Teaching and Clinical Contributions

A. Narrative report of Research, Teaching and Clinical Contributions
 My laboratory research at the University of Chicago (until 04/05) has focused on the role of glutamine and heat-shock protein regulation in cardiac ischemia-reperfusion injury using a working-heart rat model. I have also served as a resource person and technical consultant to a NIH-sponsored study looking at the possible repression of cardiac-myosin heavy chain gene (alpha-MHC) during heart failure.

My clinical research activity has mainly focused on two areas:

1. Minimally-invasive and hybrid pediatric cardiac surgery
2. Human factors and safety mechanisms in pediatric cardiac surgery.

My work in minimally-invasive surgery aims to render open heart surgery less invasive for children. Two methods are utilized: 1. using available technology such as computer-enhanced telemanipulation systems (robotics) and newly designed instruments, often with partnerships from biotechnology labs, traditional open-heart surgeries are rendered less invasive by reducing the size of the incision, or shortening the period on cardiopulmonary bypass for example. 2. by crossfertilization and collaboration with other fields such as interventional cardiology or imaging, new paradigms of treatments are developed. Those are then tested and applied.

The work in human safety is aimed at first studying why and when adverse events occur in the pediatric cardiac surgical OR. Defense or compensation mechanisms are studied and analyzed. Specially trained observers produce a comprehensive narrative of each case, followed by debriefing of all team members. The second step will involve designing and testing various safety interventions and error reduction strategies. Furthermore, a new tool of evaluation of technical results after congenital heart surgery is being developed and validated. Such a tool does not exist as of yet and should be helpful in developing a comprehensive risk-adjusted method to assess quality and outcomes in congenital heart surgery.

My teaching activities include supervising and instructing clinical residents and fellows in pediatric cardiac surgery. From 2001-2005, I was responsible for the pediatric cardiac surgery training of the Rush-Presbyterian St Luke's cardiothoracic surgery residents who rotate through my service as their only pediatric cardiac exposure. I actively participate in didactic conferences covering laboratory and clinical investigations, and in continuing medical education courses organized by the Departments of Surgery and Pediatrics at the University of Chicago. In Chicago, I used to run a weekly 1-hour bedside teaching conference in the cardiac ICU that is designed for medical students and residents. I am also the surgical editor for the journal Pediatric Cardiology.

My clinical activities have centered around building and expanding the Pediatric Cardiac Surgery program at the University of Chicago. The case volume has expanded from 65 cases in 1999 to 375 cases in 2004. I repair all forms of congenital heart defects in children and adults, including heart transplantation and assist devices. I have pioneered some hybrid techniques that avoid the need for repeated cardiopulmonary bypass runs for children.

In Boston, I have initiated and fostered a monthly telemedical conference with the University of MS, Baton-Rouge and Driscoll Children's Hospital (Corpus Christi, TX). This teleconference now attracts more than 15 physicians at each site. Complex congenital cardiac cases are discussed. Connections to Buffalo, NY, Saudi-Arabia (King Faisal Heart Institute and Military Hospital, both in Riyadh), Lebanon and Kuwait are planned.

B. Funding Information:

2001-2006

NIH, Resource Person and Consultant, *Repression of cardiac-myosin heavy chain gene during heart failure* (RO1 HL68083)

- 2002-2005 American Heart Association, co-Principal Investigator, *Human factors and patient safety during infant cardiac surgery* (0330274N)
- 2004 NIH, Consultant, *Development of a pediatric percutaneous Ventricular Assist Device*, (1 R43 HL078077-01)

C. Report of Current Research Activities

- *Role of glutamine in cardiac ischemia-reperfusion injury*: The goal of this project is to study, in an isolated working-heart rat model, the effects of glutamine on hemodynamic parameters after myocardial ischemia-reperfusion injury. Role: Co-investigator
- *Hybrid approaches to difficult problems in congenital heart surgery*: The goal of this project is to approach some difficult problems such as multiple ventricular septal defects and hypoplastic left heart syndrome with new ideas and solutions, using a cross between interventional techniques and traditional surgical techniques. The patients thus treated are followed and worked up periodically, including the nervous system to determine whether less invasive techniques resulted in improved neurological outcomes. Role: Principal Investigator
- *Prospective Human Factors Study in Pediatric Cardiac Surgery: Implications for Patient Outcomes*: The goals of this study is to analyze why and when adverse events occur in the pediatric cardiac OR, how the team or individuals respond (compensate) to them, and whether the number, timing or type of adverse events are related to patient complexity and outcomes. Specially trained observers are positioned during cases. They produce a comprehensive narrative of each case and de-brief all team members after each case. Role: co-Principal Investigator
- *Multi-site pacing after congenital heart surgery*: This is a clinical study that looks at the effects of multi-site pacing applied after congenital heart surgery. Measures of ventricular function and real-time 3D echocardiography data are analyzed for each patient. Role: Principal Investigator

D. report of Teaching

1. Local contributions:

Invited Teaching Seminars:

- 2000-2004 University of Chicago Pritzker School of Medicine: Core Curriculum lectures “Cardiac Surgery” for 3^d and 4th year medical students
- 2000-2004 Neonatology Teaching Rounds, The University of Chicago Hospitals, Cardiac pathophysiology and embryology, Chicago, IL
- 4/2000 Cardiac Seminar, The University of Chicago Hospitals, Invited speaker: “Congenital heart disease in children and adults”. Chicago, IL

- 5/2000 Surgery Grand Rounds, The University of Chicago Hospitals, Invited speaker: “Recent advances in neonatal cardiac surgery”. Chicago, IL
- 5/2000 Pediatrics Grand Rounds, The University of Chicago Children’s Hospital, Invited speaker: “Improving outcomes in neonatal cardiac surgery”. Chicago, IL
- 8/2000 Pediatrics Grand Rounds, St Elizabeth Hospital, Invited speaker: “Improving outcomes in neonatal cardiac surgery”. Chicago, IL
- 9/2001 Perinatology Rounds, Good Samaritan Advocate Hospital, Invited speaker: “Hypoplastic left heart syndrome: clinical and ethical considerations”. Chicago, IL
- 7/2003 Cook County Hospital Neonatology Grand Rounds, Invited speaker: “Advances in Congenital Heart Surgery. Chicago, IL
- 3/2004 Pediatric Grand Rounds, Cook County Stroger Hospital. Invited speaker: “Hybrid Pediatric Cardiac Surgery”. Chicago, IL
- 5/2006 Pediatric Care Summit, South Shore Hospital, Boston. Invited speaker: The Future of Pediatric Cardiac Surgery.”

Continuing Medical Education:

- 2003 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-I) Orlando, FL, Co-Founder
- 2/2003 American Association of Critical Care Nursing, 6th Cardiovascular Symposium, Chicago, IL, Lecturer
- 2004 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-II) (in conjunction with PICS-VII), Chicago, IL, Lecturer
- 10/2004 90th Annual American College of Surgeons Clinical Congress Postgraduate Course, New Orleans, LA
- 10/2004 Great Wall International Congress of Cardiology, Seminar: Symposium on Congenital Heart Disease, Beijing, China
- 2005 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-III) (in conjunction with PICS-VIII), Buenos Aires, Argentina, Lecturer
- 2/2005 The 4th Charleston Mini-Symposium on Congenital Heart Disease, Charleston, SC, Lecturer
- 2006 Session Moderator, Post-Graduate Course in Pediatric Cardiac Surgery, The American Association of Thoracic Surgery (AATS), Philadelphia, PA, Lecturer

- 2006 State of the Art Care of the neonate and infant with cardiovascular disease, Scottsdale, Arizona, Lecturer
- 2006 Editor of special Congenital Heart Surgery Issue for “Pediatric Cardiology”

Advisory and Supervisory responsibility in Clinical Setting:

- 1999 Children’s Hospital, Harvard Medical School. Supervisory and teaching responsibility to residents in the area of pediatric cardiac surgery
- 2000-2005 The University of Chicago Hospitals. Supervisory and teaching responsibility to residents and fellows in the area of pediatric cardiac surgery
- 2005 Children’s Hospital, Harvard Medical School. Supervisory and teaching responsibility to students and residents in the area of pediatric cardiac surgery

Teaching Leadership Role in Department:

- 2000-2004 Cardiothoracic Surgery Section “Tuesday morning conference” covering a broad range of topics relevant to CT surgery, education and research
- 2003 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-I) Orlando, FL, Co-Founder and Course Director
- 2003 Mediterranean Association of Cardiology and Cardiac Surgery, Beirut, Lebanon, Organizing Committee Member
- 2004 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-II) (in conjunction with PICS-VII), Chicago, IL, Course Co-director
- 2005 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-III) (in conjunction with PICS-VIII), Buenos Aires, Argentina, Course Co-director
- 2006 Emerging New Technologies in Congenital Heart Surgery (ENTICHS-IV) (in conjunction with PICS-IX), Las Vegas, Nevada, Course Co-director
- 2006 Post-Graduate Course in Pediatric Cardiac Surgery, The American Association of Thoracic Surgery (AATS), Philadelphia, PA, Lecturer
- 2007 Post-Graduate course in Congenital Heart Surgery, The Society for Thoracic Surgery (STS), San Diego, CA, Lecturer

Advisees or trainees in Laboratory Setting:

- 2002 Ashraf Darwish (Current position: Medical Student, Southern Illinois University)

- 2003-2004 Cynthia Galvan, (Current position: Medical Student, University of Chicago/Pritzker School of Medicine)
- 2004-2005 Asima Khan (Current position: Medical Student, University of Chicago/Pritzker School of Medicine)
- 2005-2006 Alesandro Larrazabal, MD

2. Regional, National, or International Contributions (since 2000):

Regional: Invited presentation

- 10/2002 Plenary presentation: “Patch pulmonary valvuloplasty during primary correction of tetralogy of Fallot.” Midwest Pediatric Cardiology Society, Chicago, IL
- 1/2003 Lecture, “Biventricular repair after prenatal diagnosis” 2d CAPP meeting (Chicagoland Association of Prenatal and Postnatal Professionals), Chicago, IL
- 9/2003 Plenary presentation: “Periventricular Device Closure of Muscular VSDs on the Beating Heart”. 27th Midwest Pediatric Cardiology Meeting, Rochester, MN
- 3/2006 Invited lecture: Hybrid procedures in Pediatric cardiac surgery. Northern New England Pediatric Cardiologists, Boston, MA
- 5/2006 Invited lecture: Temporary and permanent epicardial CRT. “SYNCHRONICITY – A multidisciplinary approach to cardiac resynchronization in congenital heart disease”, Boston, MA

National: Invited presentation

- 4/2000 Lecture, “Aortic valve repair for congenital aortic regurgitation: Precise and varying surgical intervention based on preoperative 2-D and 3-D echocardiographic imaging and surgical inspection”, The American College of Cardiology, Anaheim, CA
- 5/2000 Lecture, “Long-Term Follow-Up after Early Primary Repair of Tetralogy of Fallot”. The American Association of Thoracic Surgery, Toronto, Canada
- 9/2000 Plenary session lecture, “Surgical management of peripheral pulmonary stenosis”. The Fourth Pediatric Interventional Cardiac Symposium (PICS-IV), Plenary session: Chicago, IL

- 9/2000 Plenary session lecture, “Improving outcomes in neonatal cardiac surgery”
22d Meeting of the National Arab American Medical Association
(NAAMA), Chicago, IL
- 10/2000 Lecture, “Comprehensive management of swiss cheese septum:
Intraoperative device placement and patch closure”. Congenital Heart
Surgeon’s Society Annual Meeting, Chicago, IL
- 11/2000 Lecture, “Valve repair for congenital aortic regurgitation: successful short-
term results indicate reduced ventricular size and magnitude of aortic
regurgitation and improved left ventricular remodeling”, American Heart
Association, New Orleans, LA
- 2/2003 Lecture, “Adult congenital heart disease: surgical issues” American
Association of Critical Care Nursing, Sixth Cardiovascular
Symposium. Chicago, IL
- 5/2003 Lecture, “Perventricular device closure of muscular ventricular septal
defects on the beating heart: Technique and results”. The Society of
Pediatric Cardiovascular Surgery Aldo R. Castaneda, Boston, MA
- 5/2003 Invited discussant on: “Intraoperative Device Closure of Membranous
VSD: Results of the Perventricular Approach”. The 83d American
Association of Thoracic Surgery, Boston, MA
- 6/2003 Plenary presentation: “Hybrid Congenital Cardiac Surgery: New
Therapeutic Avenues”. The International Society for Minimally Invasive
Cardiac Surgery, San Francisco, CA
- 7/2003 Participation as Invited Expert, Senate Governmental Affairs Committee
Hearing on Tissue Banks, Washington, DC
- 9/2003 Plenary lecture: “Peratrial and perventricular device closure of heart
defects”, 7th Pediatric Interventional Cardiac Symposium (PICS),
Orlando, FL
- 9/2003 Lecture, “Robotic Pediatric Cardiac Surgery”. The Congenital Heart
Surgeon’s Society Annual Meeting. Chicago, IL
- 9/2003 Lecture, “Current status of the Ross Procedure”. Annual Clinical
Assembly of Osteopathic Specialists, Chicago, IL
- 11/2003 Plenary lecture: “Results of perventricular device closure of muscular
VSDs on the beating heart”. American Heart Association Meeting,
Orlando, FL

- 1/2004 Plenary presentation: “Ventricular resynchronization by multisite pacing improves myocardial performance in the post-operative single ventricle patient” The Society of Thoracic Surgeons, San Antonio, TX
- 9/2004 Invited speaker: “Hybrid stage I palliation for HLHS”. 8th Pediatric Interventional Cardiac Symposium (PICS) and 2d Emerging New Techniques in Congenital Heart Surgery (ENTICHS), Chicago, IL
- 10/2004 Invited lecture: “Update In Congenital Heart Surgery”, 90th Annual American College of Surgeons Clinical Congress Postgraduate Course, New Orleans, LA
- 10/2004 Lecture: “Hybrid Palliation for HLHS”, American Medical Association 23rd Science Reporters Conference, Washington, DC
- 2/2005 Lectures: 1. “Hybrid Approaches to HLHS”
2. “Surgical Approaches to D-TGA”
The 4th Charleston Mini-Symposium on Congenital Heart Disease, Charleston, SC
- 4/2005 Lecture: “Single ventricle palliation in high-risk neonates: the emergence of an alternative hybrid stage I strategy.” 85th Meeting of The American Association of Thoracic Surgery, San Francisco, CA
- 5/2005 Lecture: “Changing indications in the use of Allografts”. Cardiac Surgery Fellows Program, Cryolife, Atlanta, GA
- 1/2006 Lecture: “Homograft Downsizing: how to increase the use of homografts” Cardiac Homograft Meeting, Cryolife, Salt Lake City, UT
- 2/2006 Lectures: 1. “Maintaining safety for the adult with congenital heart disease”
2. “Hybrid procedures for hypoplastic left heart syndrome”
3. “Conduits and prosthetic valves in young infants”
State of the Art Care of the neonate and infant with cardiovascular disease, Scottsdale, Arizona
- 2/2006 Lecture: “Intraoperative complications and human factors”. STS Congenital Database Taskforce Meeting, Chicago, IL
- 4/2006 Lecture: “Current Status of Hybrid Procedures in Pediatric Cardiac Surgery”.
Post-Graduate Course in Pediatric Cardiac Surgery, Meeting of The American Association of Thoracic Surgery, Philadelphia, PA
Also: session IV chairman (“Evolving developments in Congenital Heart Surgery”)

My main clinical contribution have been the study and propagation of hybrid and minimally-invasive techniques in an effort to render pediatric cardiac surgery less invasive as well as the study of safety and human factors in the pediatric cardiac OR.

Part III. BIBLIOGRAPHY

Peer-reviewed Original Articles:

1. Jauch KW, Bacha EA, Denecke H, Anthuber M, Schildberg FW. Esophageal carcinoma: Prognostic features and comparison between blunt transhiatal dissection and transthoracic resection. *European Journal of Surgical Oncology* 1992; 18:553-562
2. Jordan WD, Smith RB, Salam AS, Dodson TF, Lumsden AB, Bacha EA, Chaikof EL. The occluded renal artery: An ongoing surgical challenge. *Annals of Vascular Surgery* 1995; 9:344-351
3. Hughes JD, Bacha EA, Dodson TF, Smith RB, Chaikof EL. Peripheral vascular complications of aortic dissection. *American Journal of Surgery* 1995; 170:209-212
4. Lumsden AB, Mattar SG, Allen RC, Bacha EA. Hepatic artery aneurysms: An account of the management of 22 patients. *Journal of Surgical Research* 1996; 60:345-350
5. Chapelier A, Danel C, Mazmanian M, Bacha EA, Sellak H, Herve P, Lemarchand P. Gene therapy in lung transplantation: Feasibility of ex vivo adenovirus –mediated gene transfer to the graft. *Human Gene Therapy* 1996; 7:1837-1845
6. Bacha EA, Herve P, Murakami S, Chapelier A, Mazmanian M, de Montpreville V, Detruit H, Libert JM, Darteville P. Lasting beneficial effect of short term inhaled nitric oxide on graft function after lung transplantation. *Journal of Thoracic and Cardiovascular Surgery* 1996; 112:590-8
7. Murakami S, Bacha EA, Herve P, Detruit H, Chapelier A, Darteville P, Mazmanian M. Prevention of reperfusion injury by inhaled nitric oxide in lungs harvested from non-heart-beating cadavers. *Annals of Thoracic Surgery* 1996; 62:1632-38
8. Murakami S, Bacha EA, Herve P, Detruit H, Chapelier AR, Darteville PG, Mazmanian GM. Inhaled nitric oxide and pentoxifylline in rat lung transplantation from non-heart-beating donors. *Journal of Thoracic and Cardiovascular Surgery* 1997; 113:821-9
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10. Murakami S, Bacha EA, Mazmanian GM, Chapelier AR, Darteville P, Herve P. Effect of various timings and concentrations of inhaled nitric oxide on lung ischemia-reperfusion. *American Journal of Respiratory and Critical Care Medicine* 1997; 156:454-58

11. Chapelier A, Bacha EA, de Montpreville V, Dulmet E, Rietjens M, Margulis A, Macchiarini P, Darteville P. Radical resection of radiation-induced sarcoma of the chest wall: Report of 15 cases. *Annals of Thoracic Surgery* 1997; 63:214-19
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14. Bacha EA, Chapelier AR, Macchiarini P, Fadel E, Darteville P. Surgery for invasive primary mediastinal tumors. *Annals of Thoracic Surgery* 1998; 66:234-9
15. Fadel E, Riou JY, Mazmanian M, Brenot P, Dulmet E, Detruit H, Serraf A, Bacha EA, Herve P, Darteville P. Pulmonary thrombendarterectomy for chronic thromboembolic obstruction of the pulmonary artery in piglets. *J Thorac Cardiovasc Surg* 1999; 117:787-93
16. Bacha EA, Wright CD, Grillo HC, Moncure AC, Wain JC, Keel SB, Donahue DM, Mathisen DM. Surgical management of primary pulmonary sarcomas. *European Journal of Cardio-Thoracic Surgery* 1999; 15:456-460
17. Fadel E, Chapelier A, Bacha EA, Macchiarini P, Darteville P. Subclavian artery resection and reconstruction for thoracic inlet cancers. *Journal of Vascular Surgery* 1999; 29:581-588
18. Keel SB, Bacha E, Mark EJ, Rosenberg AE. Primary pulmonary sarcoma: a clinicopathologic study of 26 cases. *Modern Pathology* 1999; 12:1124-31
19. Bacha EA, Mayer JE Jr., del Nido P, Perry S, Jonas RA. Pulmonary arteriovenous malformations in complex congenital heart disease: management spectrum. *J Thorac Cardiovasc Surg* 2000; 119:175-78
20. Bichell DP, Geva T, Bacha EA, Mayer JE, Jonas RA, del Nido PJ. Minimal access approach for the repair of atrial septal defect: The initial 135 patients. *Ann Thorac Surg* 2000; 70:115-8
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29. Waight DJ, Bacha EA, Kahana M, Cao QL, Hijazi ZM. Catheter therapy of swiss cheese ventricular septal defects using the Amplatzer muscular VSD occluder. *Cathet Cardiovasc Intervent* 2002; 55:355-361
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40. Bacha EA, Hijazi ZM, Cao QL, Abdulla R, Starr JP, Quinones J, Koenig P, Agarwala B. Hybrid pediatric cardiac surgery. *Pediatric Cardiology*. 2005;26:315-22.
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