

## Curriculum Vitae

**PART I: General Information** **Date Prepared:** May 2008

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**Place of Birth:** Boston, MA

### Education

1986	B.S.	Brown University	Providence, RI
1991	M.D.	Case Western Reserve School of Medicine	Cleveland, OH

### Post-Doctoral Training

#### Internships and Residency:

1991-1992	Intern in Medicine, Children's Hospital, Boston
1992-1994	Resident in Medicine, Children's Hospital, Boston

#### Fellowships:

1994	Traveling Fellow, Indian Health Service, Shiprock, NM
1994-1996	Clinical Fellow in Cardiology, Children's Hospital, Boston, MA
1996-1997	Chief Fellow, Cardiology, Children's Hospital, Boston, MA
1996-1997	Research Fellow in Anesthesia (hypoxia/cell biology), Brigham and Women's Hospital, Boston, MA
1997-1998	Senior Clinical Fellow-Transplant/Heart Failure/CICU

### Licensure and Certification:

1992	Diplomate, FLEX exam certification
1994	Diplomate, American Board of Pediatrics
1996	Massachusetts Board of Registration in Medicine
1998	Diplomate, American Board of Pediatrics: Sub-board Cardiology
2002	Recertification, American Board of Pediatrics
2005	Recertification, ABP: Sub-board Cardiology

### Academic Appointments:

1991-1998	Clinical Fellow in Pediatrics	Harvard Medical School, Boston, MA
1998- 2001	Instructor of Pediatrics	Harvard Medical School, Boston, MA
2001- 2008	Assistant Professor of Pediatrics	Harvard Medical School, Boston, MA
2008-	Associate Professor of Pediatrics	Harvard Medical School, Boston MA

**Hospital or Affiliated Institution Appointments:**

1995-1998	Pediatric Staff Moonlighter	Franciscan Children's Hospital
1997- 2001	Assistant in Cardiology	Children's Hospital, Boston
1999- 2003	Consultant, Pediatric Cardiology	St. Elizabeth's Medical Center
1999- 2003	Consultant, Pediatric Cardiology	Newton-Wellesley Hospital
2001- 2008	Associate in Cardiology	Children's Hospital, Boston
2003-	Pediatrician Affiliate Staff	Brigham and Women's Hospital
2008-	Senior Associate, Cardiology	Children's Hospital, Boston

**Hospital Clinical Service Responsibilities:**

1998	Attending in Pediatric Cardiology, Children's Hospital Boston
1999	Medical Director, Heart Failure/Transplant Program, Children's Hospital

**Major Administrative Responsibilities:**

1999-	Medical Director, Heart Failure/ Transplant Program, Children's Hospital
1999-2007	Coordinator, Visiting Physician Program, Department of Cardiology, Children's Hospital Boston
2006-	Chair, Ventricular Assist Device Operating Committee, Cardiovascular Program

**Major Committee Assignments:****Medical School:**

1987-1991	President, Student Committee on Medical Education, Case Western Reserve School of Medicine
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**Children's Hospital Boston:**

1991-1995	Member, Residency Training Committee, Children's Hospital
1999-	Residency Advisor, Combined Residency Program Children's Hospital
2001-	Member, Solid Organ Transplant Council/ Pediatric Transplant Council, Children's Hospital, Boston
2002-2004	Member, Ethics Committee, Children's Hospital Boston
2004-	Co-Director, Residency Advisor Leadership Council
2005-2006	Member, Board of Directors, Children's Heart Foundation
2006-2007	Member, Sub-Committee, Benefits, Children's Heart Foundation
2006-	Chair, Ventricular Assist Device Operating Committee.
2007	Chair, CPG committee for dilated cardiomyopathy

**Regional:**

1987-1991	Representative, Cleveland AIDS Commission, Cleveland
1997-	Representative, Boston Consortium of Heart Transplantation
1999-2000	Chairperson, UNOS Region 1 Justification Status Committee
2000-2001	Chairperson, New England Consortium of Heart Transplantation
2004-2005	Chairperson, New England Consortium of Heart Transplantation
2008- 2009	Chairperson, New England Consortium of Heart Transplantation

**National:**

1998-	Member, National Pediatric Heart Transplant Study Group
2001-2006	Member, Heart Failure/Transplant Committee, Am College of Cardiology
2003-2005	Region 1 Representative, OPTN/UNOS Pediatric Transplantation Comm
2004-2006	Chair, Pediatric VAD Advisory Council, Micromed Technologies
2004-	Steering Committee, Coreg randomized Trial, University of Utah
2005-	Chair, Pediatric Subcommittee, Intermacs Registry NIH contract
2005	Member, AHA writing group; Indications for Heart Transplantation in Children and In Adults with Congenital Heart Disease Region 1
2006-	Elected Member, Society for Pediatric Research Council

2005-2007 Vice-President, North American Pediatric Heart Transplant Study group  
2008-2010 President- North American Pediatric Heart Transplant Study group

**Professional Societies:**

1991- Massachusetts Medical Society  
1991- American Academy of Pediatrics  
1994- American College of Cardiology (Fellow,1999)  
1997 - American Heart Association  
1997 - International Society for Heart and Lung Transplant  
2002- International Pediatric Transplantation Association  
2006 Society for Pediatric Research, Elected council member

**Editorial Boards:**

Reviewer

2000- American Journal of Cardiology  
2000- Circulation  
2002- Journal of Heart and Lung Transplantation  
2003- Pediatric Transplantation  
2005- American Journal of Transplantation  
2005- ISHLT, Abstract Reviewer  
2006- Pediatric Cardiology  
2007- Journal of Pediatrics  
2007- Pediatric Research  
2007- Congenital Heart Disease  
2007- Journal of Thoracic and Cardiovascular Surgery

Editorial Board:

2004- Editorial Board, Experience Journal, Children's Hospital Boston

**Awards and Honors:**

1986 Sigma Xi Honor Society, Brown University  
1986 Joslin Award for Community Service, Brown University  
1991 AOA Honor Medical Society, CWRU  
1991 Alice Paige Prize for Leadership, CWRU  
1991 Henry Saunders Award for Outstanding Pediatric Performance, CWRU  
1994 Von Meyer Travel Fellowship Award, Children's Hospital, Boston  
1996 National Research Scholarship Award, NIH, (#T32-HL07572-12C)  
2006 Commissioner's Award, Commonwealth of Massachusetts Department of Social Services, Boston

**Part III: Bibliography**

**Original Articles**

1. **Blume ED**, Nelson DP, Gauvreau K, Walsh AZ, Plumb C, Neufeld EJ, Hickey PR, Mayer JE, Newburger JW. Soluble Adhesion Molecules in Infants and Children Undergoing Cardiopulmonary Bypass. *Circulation* 1997; 96: II-352-II-357.
2. **Blume ED**, Taylor CT, Lennon PF, Stahl GL, Colgan SP. Activated Endothelial Cells Elicit Paracrine Induction of Epithelial Chloride Secretion. *J Clin Invest* 1998; 192:1161-1172.

3. **Blume ED**, Altmann KA, Mayer JE, Colan SD, Gauvreau K, Geva T. Evolution of Risk Factors Influencing Early Mortality of the Arterial Switch Operation. *JACC* 1999; 33:1702-1709.
4. Geggel RL, Perry SB, **Blume ED**, Baker CM. Left Superior Vena Cava Connection to Unroofed Coronary Sinus Associated with Positional Cyanosis: Successful transcatheter treatment using Gianturco-Grifka Vascular Occlusion Device. *Cathet Cardiovasc Intervent* 1999; 48:369-373.
5. Wattanasirichaigoon D, Vesely MR, Duggal P, Levine JC, **Blume ED**, Wolff GS, Edwards SB, Beggs AH. Sodium channel abnormalities are infrequent in patients with long QT syndrome: identification of two novel SCN5A mutations. *Am J Med Genet* 1999; 86:470-476.
6. Ibrahim AE, **Blume ED**, Duncan BW, Jonas RA. Long-term Follow-up of Pediatric Cardiac Patients Requiring Mechanical Circulatory Support. *Annals of Thoracic Surgery* 2000; 69:186-92.
7. Schermerhorn ML, Nelson DP, **Blume ED**, Phillips L, Mayer JE. Sialyl Lewis X Oligosaccharide Preserves Myocardial and Endothelial Function During Cardioplegic Ischemia. *Annals of Thoracic Surgery* 2000; 70:890-4.
8. Goff D, **Blume ED**, Gauvreau K, Mayer JE, Lock JE, Jenkins KJ. Clinical Outcome of Fenestrated Fontan Patients after Closure: the first 10 years. *Circulation* 2000; 102:2094-2099.
9. Bruns LA, Kickuk M, Lamour J, Shaddy R, Pahl E, **Blume ED**, Addonizio L, Canter CE. Carvedilol as Therapy in Pediatric Heart Failure: an Initial Multicenter Experience. *J Pediatrics* 2001; 138:505-11.
10. Powell, AJ, Gauvreau KA, Jenkins KJ, **Blume ED**, Mayer JE, Lock JE. Perioperative Risk Factors for the Development of Protein Losing Enteropathy Following a Fontan Procedure. *Am J Cardio* 2001; 88(10):1206-9.
11. Rakhit A, Nurko S, Gauvreau KA, Mayer JE, **Blume ED**. Gastrointestinal Complications after Pediatric Cardiac Transplantation. *Journal of Heart Lung Transplant* 2002; 21(7):751-759.
12. Scheule AM, Zurakowski D, **BlumeED**, Stamm C, delNido PJ, Mayer JE, Jonas RA. Arterial Switch Operation with Single Coronary Artery. *J Thorac Cardiovasc Surg* 2002; 123(6):1164-72.
13. Collins KK, Thiagarajan RR, Chin C, Dubin AM, , Van Hare GF, Robbins RC, Mayer JE, Bernstein D, Berul CI, **Blume ED**. Atrial Tachyarrhythmias and Permanent Pacing after Pediatric Heart Transplantation. *J of Heart Lung Transplant* 2003; 22:1082-1090.
14. Chin C, Naftel DC, Singh TP, **Blume ED**, Luikart H, Bernstein D, Gamberg P, Kirlkin JK, Morrow WR. Risk Factors for Recurrent Rejection in Pediatric Heart Transplantation: a multicentered experience. *J of Heart and Lung Transplant* 2004; 23:178-185

15. DeMaso DR, Kelley SD, Bastardi H, OBrien P, **Blume ED**. The Longitudinal Impact of Psychological Functioning, Medical Severity, and Family Functioning in Pediatric Heart Transplantation. *J of Heart Lung Transplant* 2004; 23(4):473-480.
16. Rosenthal D, Chrisant MR, Edens E, Mahony L, Canter C, Colan S, Dubin A, Lamour J, Ross R, Shaddy R, Addonizio, Beerman L, Berger S, Bernstein D, **Blume E**, Boucek M, Checchia P, Dipchand A, Drummond-Webb J, Fricker J, Friedman R, Hallowell S, Jaquiss R, Mital S, Pahl E, Pearce R, Rhodes L, Rotondo K, Rusconi P, Scheel J, Singh TP, Towbin J. International Society for Heart and Lung Transplantation: Practice Guidelines for Management of Heart Failure in Children. *J Heart Lung Transplant* 2004; 23(12):1313-1333.
17. Webber SA, Bowan P, Naftel D, Fricker FJ, **Blume ED**, Addonizio L, Kirklin JK, Canter CE. Lymphoproliferative disorders after paediatric heart transplantation: a multi-institutional study. *Lancet* 2006; 367(9506):233-9.
18. Almond CA, Harrington J, Duncan CN, Lapierre R, **Blume ED**, del Nido PJ, Neufeld EJ, McGowan, FX. Successful Use of Bivalirudin for Cardiac Transplantation in a Child with Heparin-Induced Thrombocytopenia. *J Heart Lung Transplant* 2006; 25(11):1376-79.
19. **Blume ED**, CE Canter, R. Spicer, SD Colan, K Jenkins. Prospective multi-center protocol of adjunct carvedilol in pediatric patients with moderate ventricular dysfunction. *Pediatric Cardiology* 2006; 27(3):336-42.
20. **Blume ED**, Naftel DC, Bastardi HJ, Duncan BW, Kirklin JK, Webber SA for the PHTS Investigators. Outcomes of Children Bridged to Heart Transplant with Ventricular Assist Devices: A Multi-Institutional Study. *Circulation* 2006; 113(19):2313-2319.
21. Bernstein D, Naftel DC, Chin C, Addonizio LJ, Gamberg PL, **Blume ED**, , Hsu DT, Canter CE, Kirklin JK, Morrow WR. Outcome of listing for cardiac transplantation for failed fontan: A Multi-Institutional Study. *Circulation* 2006; 114(4):273-80.
22. Nathan M, Baird C, Fynn-Thompson F, Almond C, Thiagarajan R, Laussen P, **Blume ED**, Pigula F. Successful implantation of a Berlin heart biventricular assist device in a failing single ventricle. *J Thorac Cardiovasc Surg* 2006; 131(6):1407-8.
23. Farley LM, DeMaso DR, D'Angelo E, Kinnamon C, Bastardi H, Hill CE, **Blume ED**, Logan DE. Parenting stress and parental post-traumatic stress disorder in families after pediatric heart transplantation. *J Heart Lung Transplant* 2007; 26(2):120-6.
24. Canter CE, Shaddy RE, Bernstein D, Hsu DT, Chrisant M, Kirklin JK, Kanter KR, Higgins SD, **Blume ED**, Rosenthal DN, Boucek MM, Uzark KC, Friedman AH, and Young JK. Indications for Heart Transplantation in Pediatric Heart Disease: a scientific statement from the American Heart Association Council on Cardiovascular Disease in the Young; the Councils on Clinical Cardiology, Cardiovascular Nursing, and Cardiovascular Surgery and Anesthesia; and the Quality of Care and Outcomes Research Interdisciplinary Working Group. *Circulation* 2007; 115(5):658-76.
25. Almond CS, Mayer JE Jr, Thiagarajan RR, **Blume ED**, del Nido PJ, McElhinney DB. Outcome after Fontan failure and takedown to an intermediate palliative circulation. *Ann Thorac Surg* 2007; 84(3):880-7.

26. Shaddy RE, Boucek MM, Hsu DT, Boucek RJ, Canter CE, Mahony L, Ross RD, Pahl E, **Blume ED**, Dodd DA, Rosenthal DN, Burr J, LaSalle B, Holubkov R, Lukas MA, Tani LY. for the Pediatric Carvedilol Study Group. Carvedilol for children and adolescents with heart failure: a randomized controlled trial. *JAMA* 2007; 298(10):1171-9.
27. Singh TP, Gauvreau K, Rhodes J, **Blume ED**. Longitudinal changes in Heart Rate Recovery Following Maximal Exercise in Pediatric Heart Transplant Recipients: Evidence of Autonomic Re-innervation. *J Heart Lung Transplant* 2007; 26(12):1306-12.
28. Moran AM, **Blume ED**, Quinn R. Intra-aortic balloon pump use in Fontan circulation. *Congenit Heart Dis* 2008; 3(1):60-2.

### Reviews and Chapters:

1. **Blume ED** and Wernovsky, G. "Long-term Results of the Arterial Switch Operation for Repair of Transposition of the Great Vessels" in *Pediatric Cardiology Surgery Annual, Seminars in Thoracic and Cardiovascular Surgery*, Vol 1, 1998:129-137.
2. Colgan SP, Taylor CT, Narravula S, Synnestvedt K, and **Blume, ED**. Endothelial COX-2 Induction by Hypoxia Liberates 6-keto-PGF1, A Potent Epithelial Secretagogue. *Advances in Experimental Medicine and Biology*. 507:107-12, 2002.
3. **Blume ED**. "Current Status of Heart Transplantation In Children: Update 2003" *Pediatric Clinics of North America*. 50 (2003) 1375-1391.
4. **Blume ED** and Forbess JM. Cardiovascular Issues Chapter 6. *Manual of Neonatal Surgical Intensive Care*. BC Decker Inc. Hamilton 2003.
5. Treves ST, **Blume ED**, Armsby L. Cardiovascular System. In: Treves ST, ed. *Pediatric Nuclear Medicine*, 3rd Edition. New York: Springer-Verlag, 2005.
6. **Blume ED** and Colan SD. "Congestive Heart Failure" In Keane, Fyler, Lock Eds. *Nadas' Pediatric Cardiology* 2nd edition. Saunders, 2006.
7. Mayer JE and **Blume ED**. "Current and Future Cardiovascular Organ and Tissue Replacement Therapies." In Keane, Fyler, Lock Eds. *Nadas' Pediatric Cardiology* 2nd edition. Saunders, 2006.
8. **Blume ED** and Duncan B. Pediatric Mechanical Support, Chapter 3. In: Frazier and Kirklin ed. *Mechanical Circulatory Support*. Philadelphia: Elsevier, 2006.
9. **Blume ED** and Peter Laussen. "Mechanical Support Therapies" in Allen HD, Driscoll DJ, Shaddy RE, and Feltes TF (Eds) *Moss and Adams' Heart Disease in Infants, Children, and Adolescents*. Philadelphia, Lippincott Williams & Wilkins, 2008.

### Clinical Communications:

1. **Blume ED**, Chung T, Hoffer FA, and Geva T. Anatomically Corrected Malposition of the Great Arteries {S,D,L}. *Circulation* 1998;97:1207.
2. Laufs H, Nigrovic PA, Schneider LC, Oettgen H, Del NP, Moskowitz IP, **Blume ED**, Perez-Atayde AR. Giant cell myocarditis in a 12-year-old girl with common variable immunodeficiency. *Mayo Clinic Proceedings* 2002; 77(1):92-6.
3. Thiagarajan RR, Roth SJ, Margossian S, Mackie AS, Neufeld EJ, Laussen PC, Forbess JM, and **Blume ED**. Extracorporeal membrane oxygenation as a bridge to cardiac transplantation in a patient with cardiomyopathy and hemophilia A. *Intensive Care Medicine* 2003; (29):985-988

4. Bastardi HJ, Naftel DC, Webber SA, Dillis S, Kirklin JK, **Blume ED**. Ventricular assist devices as a bridge to heart transplantation in children. *J Cardiovasc Nurs* 2008; 23(1):25-9

**Abstracts:**

1. Almond, McElhinney, Piercey, Singh, Wood, Bastardi, Fynn-Thompson, Milford, **Blume**. Class I and II HLA Sensitization Pre-Transplant by Solid-Phase Assay and Early Outcome after Pediatric Heart Transplantation. *J Heart Lung Transplant* 2008; 27(2S):S173.
2. Fynn-Thompson, Almond, Bastardi, Gauvreau, Singh, Smoot, Bacha, Pigula, mayer, DelNido, and **Blume**. Heart Transplantation for Failed Fontan Circulation. *J Heart Lung Transplant* 2008; 27(2S):S242.
3. Satoh, **Blume**, DeMaso, Gonzalez, Bers. A Virtual Community for Post-Transplant Pediatric Patients (Zora). *J Heart Lung Transplant* 2008; 27(2S):S233.
4. Singh **Blume**, Almond, and Mayer Socioeconomic Position and Graft Failure in Pediatric Heart Transplant Recipients. *J Heart Lung Transplant* 2008; 27(2S):S129.
5. Davies, Chen, Naftel, Boyle, Zangwill, Gajarski, Robinson, Kirk, Hsu, and **Blume**. The Impact of High-Risk Criteria on Mortality Following Heart Transplantation in Children: A Multi-Institutional Study. *J Heart Lung Transplant* 2008; 27(2S):S255.
6. Holman, Kormos, Miller, Pagani, **Blume**, Cleeton, Koenig, Naftel, Kirklin, Edwards. Predictors of Death and Transplant in Patients with a Mechanical Circulatory Support Device- a Multi-institutional study. *J Heart Lung Transplant* 2008; 27(2S):S244.
7. Naftel, Kirklin, Hsu, **Blume**, Webber, Morrow, Canter. Pediatric Heart Transplantation: 14 Years of Improving Results Illustrated by Patient Specific Predictions. *J Heart Lung Transplant* 2008; 27(2S):S253.