

## *CURRICULUM VITAE*

**Date Prepared:** November 21, 2006

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**Place of Birth:** Chicago, IL

### **Education:**

1980-1984 B.S. Northwestern University  
1982-1986 M.D. Northwestern University Medical School

### **Postdoctoral Training:**

1986-1987	Intern	Surgery	University of Pennsylvania, Philadelphia, PA
1987-1992	Resident	Surgery	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1990	Fellow	Surgery	Harrison Department of Surgical Research, University of Pennsylvania School of Medicine, Philadelphia, PA
1992-1994	Fellow	Pediatric Surgery	Children's Hospital Boston, Boston, MA

### **Additional Training and Coursework:**

Pediatric Endoscopy Course November 3-6, 2004	Children's Memorial Hospital Northwestern University Medical School
Intuitive Surgical DaVinci Surgical System Training Workshop	Columbus, OH

June 11-12, 2003

Leadership Development for Physicians and Scientists  
March 31-April 3, 2004

Harvard Medical School,  
Boston, MA

How to Become an Effective Mentor: A Faculty Course  
on Mentorship  
November 15, 2004

Harvard Medical School,  
Boston, MA

Executive Management Program for Academic Surgery  
Leaders  
March 4-6, 2005

The Wharton School  
University of Pennsylvania

### **Licensure and Certification:**

1986	State of Pennsylvania, Medical License (Inactive)	#MD-042663-E
1987	Advanced Trauma Life Support	
1987	National Board of Medical Examiners	#327777
1987	U.S. Drug Enforcement Administration	#BF1605697
1992	State of Massachusetts, Medical License	#75701
1992	State of Massachusetts, Controlled Substances	#MF0471944A
1993	American Board of Surgery, General Surgery	#38199
1996	American Board of Surgery, Certificate of Special Qualifications, Pediatric Surgery	#048480

### **Academic Appointments:**

1989-1991	Assistant Instructor in Surgery, University of Pennsylvania, Philadelphia
1991-1992	Instructor in Surgery, University of Pennsylvania, Philadelphia
1992-1994	Clinical Fellow in Surgery, Harvard Medical School, Boston
1994-2000	Instructor in Surgery, Harvard Medical School, Boston
2001-2005	Assistant Professor in Surgery, Harvard Medical School, Boston
2005-	Associate Professor in Surgery, Harvard Medical School, Boston

### **Hospital or Affiliated Institution Appointments:**

1992-2005	Assistant in Surgery	Children's Hospital Boston, Boston, MA
1994-1996	Attending Pediatric Surgeon	MetroWest Medical Center, Framingham, MA
1996-1999	Associate Staff, Surgery	Boston Medical Center, Boston, MA
2001-	Associate Surgeon, Affiliate Staff Department of Surgery	Brigham & Women's Hospital, Boston, MA
2005-	Senior Associate in Surgery	Children's Hospital Boston, Boston, MA

## Hospital and Health Care Organization Service Responsibilities:

1999-	Director	Vascular Anomalies Center, Children's Hospital Boston, Boston, MA
1999-2004	Treasurer	Medical Staff Association, Children's Hospital Boston, Boston, MA
1999-	Project Sponsor	Clinical Encounter Documentation System, Children's Hospital Boston, Boston, MA
2004-	Director	Medical Student Education Department of Surgery Children's Hospital Boston, Boston, MA

## Major Committee Assignments:

### *Medical School*

1995-1998	Physician's Advisory Committee	Harvard Center for Minimally Invasive Surgery, Harvard Medical School, Boston, MA
1998-2001	Executive Committee	Harvard Center for Minimally Invasive Surgery, Harvard Medical School, Boston, MA

### *Affiliated Institutions*

1989-1990	Invasive Procedures Committee	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1991	Resident Executive Committee	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1991	Housestaff Committee	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1991	Residency Review Committee	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1991	Medical Board	Hospital of the University of Pennsylvania, Philadelphia, PA
1989-1991	Housestaff Association	President Hospital of the University of Pennsylvania, Philadelphia, PA
1990	Idea Action Oversight Committee	Hospital of the University of Pennsylvania, Philadelphia, PA
1991-1992	Council on Graduate	Hospital of the University of

	Medical Education		Pennsylvania, Philadelphia, PA
1993-1994	Tissue Committee		Children's Hospital, Boston, MA
1993-1994	Cardiopulmonary Resuscitation Committee		Children's Hospital, Boston, MA
1993-1994	Intensive Care Unit Committee		Children's Hospital, Boston, MA
1993-1994	Graduate Medical Education Committee		Children's Hospital, Boston, MA
1994-1997	Integrated Clinical System Committee		Children's Hospital, Boston, MA
1994-2005	Appendicitis Clinical Practice Guidelines Committee	Chair	Children's Hospital, Boston, MA
1997-1998	Pleural Effusion Clinical Committee		Children's Hospital, Boston, MA
1997-1999	Surgical Quality Assurance Committee		Children's Hospital, Boston, MA
1997,1999, 2004,2006	Interventional Radiology Search Committee		Children's Hospital, Boston, MA
1998-2001	Information Services Committee		Physician's Organization, Children's Hospital, Boston, MA
1998-2000	Information Technology Resource Allocation Committee		Children's Hospital, Boston, MA
1998-2000	Adult Patient Committee		Children's Hospital, Boston, MA
1998-2001	Information Technology Evaluation Committee		Children's Hospital, Boston, MA
1999-	Residency Review Committee Adolescent Medicine	Surgery Consultant	Children's Hospital, Boston, MA
1999-2000	Clinical Information Systems Council		Children's Hospital, Boston, MA
1999-2000	Information Services Imaging Group		Children's Hospital, Boston, MA
1999-2002	Perioperative Performance Improvement Committee		Children's Hospital, Boston, MA
2001-2005	Clinical Expansion Building Perioperative Services User Group		Children's Hospital, Boston, MA
2003	Otorhinolaryngology Faculty Search Committee		Children's Hospital, Boston, MA
2003-2005	Advisory Board, Pediatric Product Development Initiative		Children's Hospital, Boston, MA
2003-2005	Outpatient Clinical Practice Committee	Chair	Children's Hospital, Boston, MA

2003-	Senior Physician Advisory Board, Information Systems		Children's Hospital, Boston, MA
2005-	Managed Care Committee		Children's Hospital Boston
2005-	Executive Committee		Physicians Organization Children's Hospital Boston
2005-	Physicians Leadership Council		Physicians Organization Children's Hospital Boston
2006-	Strategic Planning Committee		Physicians Organization Dana-Farber Cancer Institute/ Children's Hospital Boston

***National***

2000-2002	Informatics Committee		American Pediatric Surgical Association, Northbrook, IL
2000	Physician Work Survey Consensus Panel		American Pediatric Surgical Association, Northbrook, IL
2003-	Publications Committee		American Pediatric Surgical Association, Northbrook, IL
2003-	Publications Committee	Vice-Chair (2005-6) Chair (2006-7)	American Academy of Pediatrics, Surgical Section, Elk Grove
2003-	Planning Committee Task Force		Lymphatic Research Foundation, National Tissue/Cell Bank and Patient Registry, Roslyn, NY
2004-	Membership and Credentials Committee		American Pediatric Surgical Association, Northbrook, IL
2005	NIH Center for Scientific Review Special Emphasis Panel – ZRGI Heme-A (10): Clinical Hematology		National Institutes of Health, Bethesda, MD March 18, 2005

***International***

2006-	Executive Committee	Secretary General	International Society for the Study of Vascular Anomalies
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**Professional Societies:**

1986-	Alpha Omega Alpha Medical Honor Society		
1989-1996	Association for Academic Surgery		
1992-	Ravdin-Rhoads Society		
1997-	American Academy of Pediatrics, Fellow		#176113
1997-	International Pediatric Endosurgery Group		
1998-	American College of Surgeons, Massachusetts Chapter		

1998-	American College of Surgeons, Fellow	#03015015
1998-	Boston Surgical Society	
1999-	American Pediatric Surgical Association	
2000-	International Society for the Study of Vascular Anomalies	
2000-	The Society of Laparoendoscopic Surgeons	
2001-	New England Surgical Society	

**Community Service Related to Professional Work:**

2001-	Medical Advisory Board		Hemangioma Newslite
2001-	Medical Advisory Board		Klippel-Trenaunay Foundation
2002	Resident Research Competition	Judge	Children's Hospital, Boston
2002	Ask the Doctor	Group Leader	Klippel-Trenaunay Support Group
2004	Robert Schobinger Prize and John Mulliken Prize Panel	Judge	International Society for the Study of Vascular Anomalies

**Editorial Reviewer:**

1995-	Journal of Parenteral and Enteral Nutrition
1998-	Journal of Pediatric Surgery
1998-	Journal of Pediatric Gastroenterology and Nutrition
1986-	Archives of Pediatrics and Adolescent Medicine
2004-	Pediatrics

**Awards and Honors:**

1980	Honors Program in Medical Education, Northwestern University
1985	Alpha Omega Alpha Medical Honor Society
1985	Alpha Omega Alpha Medical Student, Research Competition (Finalist)
1988	Society of University Surgeons/Ethicon, Research Competition (Finalist)
1990	William Inouye Resident Teaching Award, University of Pennsylvania
1990	Ravdin-Rhoads Society Research Award
1991	Resident Scholar Award, Department of Surgery, University of Pennsylvania
1993	Von L. Meyer Traveling Award, Children's Hospital, Boston, MA
1994	Sidney Farber Outstanding Housestaff Award, Children's Hospital, Boston
1997	Best of the Pediatric Internet, American Academy of Pediatrics (Correlapaedia- A Correlative Encyclopedia of Pediatric Imaging, Surgery and Pathology)
1987-	European Union of Medical Specialists (U.E.M.S.), Section of Paediatric Surgery Recognition for Web site of relevant educational value (Correlapaedia- A Correlative Encyclopedia of Pediatric Imaging, Surgery and Pathology)

2003	Research Executive Committee Pilot Award, Children's Hospital, Boston, MA
2005	Best Doctors in America
2006	Best Doctors in America
2006	Global Directory of Who's Who

### **Research, Teaching and Clinical Contributions:**

I am a full-time pediatric surgeon with a particular research and clinical interest in vascular anomalies, including hemangiomas and vascular malformations. This field is not well taught or studied in any of the classic disciplines of medicine. As a participant in and Co-Director of the multidisciplinary Vascular Anomalies Center at Children's Hospital Boston, I have worked to centralize an interdisciplinary coordinated effort to better understand these anomalies, at both a basic and clinical level. Our center tracks the largest clinical volume of vascular anomaly patients in the world. We also have active participation by a large group of basic vascular biologists under the direction of Dr. Judah Folkman. I am working to enhance the translational research capacity of the clinical and basic science efforts at our center. My particular area of focus within vascular anomalies is to develop an understanding and approach to visceral vascular anomalies. Though these anomalies are extremely rare, an international referral practice has allowed me to begin discerning patterns of clinical presentation and opportunities for treatment. I have worked to define the clinical indicators for intervention as well as attempted to define appropriate diagnostic and interventional methods. The utility of a modified endorectal pull-through technique for the treatment of colorectal venous malformations has been demonstrated. A surgical technique to eradicate gastrointestinal bleeding in the Blue Rubber Bleb Nevus Syndrome has been developed and proven successful. In addition, the role of dynamic contrast lymphangiography of the thoracic duct has allowed for novel treatments and reconstruction of thoracic duct anomalies. Recognizing the limitations of surgical techniques, I am also focusing on understanding the biologic mechanisms involved in the development and progression of these lesions. In this regard, I have focused on known angiogenic modulators as well as metalloproteinases. We have recently identified the likely importance of high molecular weight matrix metalloproteinases in patients with aggressive vascular anomalies. I am the principle investigator on a phase I clinical trial which is well under way of a metalloproteinase inhibitor in patients with devastating lesions.

Another area of research and clinical interest is in minimally invasive surgical techniques. As the first pediatric surgeon in Boston to perform minimally invasive procedures in infants and children, I have actively participated in the evolution of these techniques to the pediatric age group. In addition, I have been interested in the adaptation of minimally invasive techniques to fetal evaluation and intervention. These investigations have focused on both the physiologic effect of intra-uterine videofetoscopy as well as the development of clinical applications of these techniques. I am now applying robotic surgical techniques in pediatric procedures and am attempting to define their role.

As an actively practicing pediatric surgeon, I participate in teaching activities on a daily basis. All of my patient care (with the exception of a small percentage in a Children's Hospital community satellite facility) occurs in an academic teaching environment. I participate in the day to day education of rotating medical students, surgical residents, and pediatric surgical fellows. This occurs at the bedside, in the clinic, and in the operating room. My clinical practice entails the breadth of pediatric surgery, with a particular emphasis on vascular anomalies. I actively participate in the lecture series that is part of the didactic curriculum for our trainees. Outside of the hospital and medical school environment, I

participate in the national and international education of specialists from multiple disciplines interested in the field of vascular anomalies as an invited lecturer in various postgraduate symposia.

During the latter part of surgical residency, I and a colleague conceived and completed a textbook, *Essentials of Basic Science for Surgeons*. It served as a reference for many surgical residents to provide background understanding in the pathophysiology of surgical diseases as well as a study aide in preparation for in-training and board certification examinations. The success of this text led to a second edition (which we thought would be best continued with resident editors chosen from the University of Pennsylvania housestaff) which remains popular today.

As a contribution to medical student education, I serve as the director of Medical Student Education for the Department of Surgery at Children's Hospital Boston. I coordinate rotations of third and fourth year students and participate in the didactic curriculum development in the General Surgery rotations at the Brigham and Women's and Beth Israel Deaconess hospitals. I also proposed, initiated and annually deliver a new lecture on functional anatomy of the GI tract in the second year gastrointestinal physiology course at Harvard Medical School beginning February 2001.

***Funding Information***

1989-1990	Harrison Department of Surgical Research Fellowship Grant, University of Pennsylvania	Fellow	Blood-Surface Interactions In Extracorporeal Circuits
1989-1991	American Heart Association	PI	Effects of Cyclosporin on Endothelial Cell Physiology
1996-2000	NIH MOI RR02172/GCRC	Co-PI	Treatment of Hemangiomas With Alpha Interferon
2000-2004	NIH MOI RR02172/GCRC	PI	Phase I Trial of Marimastat for Disabling Vascular Malformations
2003-2004	Research Executive Committee Children's Hospital Boston, Pilot Award	PI	Amniotic Fluid Feeding to Prevent Necrotizing Enterocolitis

***Report of Current Research Activities***

Phase I Trial of Metalloproteinase Inhibition in Vascular Anomalies	PI
Role of the Placenta in the Etiology of Hemangioma	PI
A Tissue-Engineering Approach to Improve Sclerotherapy of Vascular Malformations	PI
Role of Amniotic Fluid in Maturation of the Developing Gastrointestinal	PI

Tract and the Prevention of Necrotizing Enterocolitis	
Correction of Ischemic Leg Length Discrepancy	PI
Pressure Induced Growth of the Atretic Esophagus	PI
Endocrine Regulation in Vascular Anomalies	Co-PI

## ***Report of Teaching***

### ***1. Local Contributions***

#### *Harvard Medical School*

- 2001- HMS II Gastrointestinal Pathophysiology. Lecture on functional anatomy of the gastrointestinal tract. Entire second year HMS class. One lecture per year. One hour. Preparation time approximately 12 hours.
- 2003- Objective Structural Clinical Examination. Examiner. Selected students, second and fourth year HMS classes. Twice per year. 3 hours each exam.
- 2005- Director, Medical Student Education, Department of Surgery, Children's Hospital Boston. 2-4 students on rotation year-round.

#### *Graduate Medical Course*

- 1994- Pediatric Surgery Lecture Series, Children's Hospital, Boston. Lecturer to medical students, surgical residents, and pediatric surgical fellows. 6 lectures per year. 1 hour each. Preparation time approximately 2 hours per lecture.

#### *Local Invited Teaching Presentations*

Each of these lectures was directed primarily toward physicians, medical students, and/or nurses. Each presentation lasted approximately one hour and required an average of ten hours preparation.

- 1991 Effects of Cyclosporine A on Vascular Tone and Platelet Reactivity. Harrison Surgical Research Lecture. University of Pennsylvania, Philadelphia, PA. March 20, 1991.
- Evaluation of the Acute Abdomen. Department of Medicine. University of Pennsylvania, Philadelphia, PA. April 12, 1991.
- 1994 The Year in Review. Surgical Grand Rounds. Children's Hospital, Boston, MA. June 29, 1994.
- 1995 Central Venous Lines. Pediatric Oncology Grand Rounds. Children's Hospital, Boston, MA. January 26, 1995.
- 1997 Surgical Emergencies. Gastroenterology Clinical Conference, Children's Hospital,

- Boston, MA. February 3, 1997.
- Visceral Vascular Anomalies. Surgical Grand Rounds. Children's Hospital, Boston, MA  
October 22, 1997.
- Vascular Anomalies. ICU Nursing Education Day. Children's Hospital, Boston, MA.  
December 5, 1997.
- 1998 How to Approach the Acute Abdomen. Core Conference for Medical Residents. Children's  
Hospital, Boston, MA. February 3, 1998.
- Vascular Anomalies. Nursing Rounds, Operating Room. Children's Hospital, Boston, MA  
June 10, 1998.
- Vascular Anomalies. Department of Surgery, Grand Rounds. Children's Hospital, Boston,  
MA. June 10, 1998.
- Vascular Anomalies: A Spectrum. Department of Anesthesia, Grand Rounds. Children's  
Hospital, Boston, MA. November 25, 1998.
- Evaluation of the Acute Abdomen. Core Conference for Pediatric Residents. Children's  
Hospital, Boston, MA. December 3, 1998.
- Newborn Surgical Emergencies. Pediatric Resident Lecture. Children's Hospital, Boston,  
MA. December 10, 1998.
- 1999 Newborn Surgical Emergencies. Department of Medicine, Clinical Conference, Children's  
Hospital, Boston, MA. November 18, 1999.
- 2000 Visceral Vascular Anomalies: A Guided Tour. Surgical Grand Rounds. Children's  
Hospital, Boston, MA. January 4, 2000.
- Vascular Anomalies of the Trunk. Department of Radiology. Children's Hospital, Boston,  
MA. March 3, 2000.
- Vascular Anomalies of the Viscera. Department of Radiology. Children's Hospital,  
Boston, MA. April 4, 2000.
- 2001 Vascular Anomalies in Children. Advances in Pediatric Health Care. Children's Hospital,  
Boston, MA. May 15, 2001.
- Vascular Anomalies of the Torso, Viscera and Genitalia. Grand Rounds. Department of  
Surgery. Children's Hospital, Boston, MA. October 3, 2001.
- Arteriovenous Malformations. Nursing Rounds, Operating Room. Children's Hospital,  
Boston, MA. November 28, 2001.

- 2002 Gallbladder Diseases and Vascular Anomalies. Meet the Doctor. Department of Surgery, Children's Hospital, Boston, MA. March 4, 2002.
- Vascular Anomalies. Department of Anesthesia, Grand Rounds. Children's Hospital, Boston, MA. October 23, 2002.
- "Cystic Hygroma"- A Dirty Word? Advanced Fetal Care Center Conference. Children's Hospital, Boston, MA. November 26, 2002.
- 2003 Vascular Anomalies. ICU Nursing Education Day. Children's Hospital, Boston, MA. March 21, 2003.
- Surgical Management of Hirschsprung's Disease. Surgical Grand Rounds (Faculty Mentor and Discussant for Julie Fuchs, M.D.). Beth Israel Deaconess Medical Center, Boston, MA. May 7, 2003.
- Vascular Anomalies: Hemangiomas and Malformations. Neonatal Pearls in Critical Care Nursing. Children's Hospital, Boston, MA. December 12, 2003.
- 2004 Mediastinal Masses and Airway Emergencies. Nursing Rounds, Operating Room. Children's Hospital, Boston, MA. April 28, 2004.
- Hemangiomas and Vascular Malformations. Grand Rounds. Department of Pediatrics. MetroWest Medical Center. Framingham, MA. May 13, 2004.
- Surgical View of Biliary Tract Disorders. Pediatric Gastroenterology Fellowship Lecture Series. Children's Hospital Boston. Boston, MA. June 1, 2004.
- Vascular Anomalies. Grand Rounds. Department of Pediatrics. Cambridge Health Alliance and Mount Auburn Hospital. Cambridge, MA. June 10, 2004.
- 2005 Evaluation and Management of Hemangiomas in Neonates. Grand Rounds. Division of Newborn Medicine. Harvard Medical School. Children's Hospital, Boston. Boston, MA. January 31, 2005.
- Vascular Anomalies in the Fetus and Newborn. Advances in Fetal Care 2005. Advanced Fetal Care Center, Children's Hospital Boston and Harvard Medical School. Boston, MA. April 30, 2005.
- Beyond the White Coat and the Johnnie: What Makes for a Compassionate Patient-Caregiver Relationship? Schwartz Center Rounds. Children's Hospital Boston. Boston, MA. July 26, 2005.
- Vascular Anomalies. Firm Rounds. Department of Pediatrics. Children's Hospital Boston. Boston, MA. November 7, 2005.

### *Advisory and Supervisory Responsibilities*

- 1994- As an attending surgeon, I have supervised pediatric surgical fellows, surgical residents, and medical students on a continuous basis in the clinics, operating room, and inpatient wards. Virtually all of my patients are cared for and operated on with the active participation of fellows and residents.
- 1999- Having initiated a fellowship in Vascular Anomalies, I have supervised the clinical and research activities of the fellow. Estimated time commitment: 350 hours/year.

### *Teaching Leadership Role in Department/Institution*

1989-1990	Co-Director, Surgical Basic Science Course	Hospital of the University of Pennsylvania, Philadelphia, PA
1991-1992	Director, Surgical Basic Science Course	Hospital of the University of Pennsylvania, Philadelphia, PA
1999-	Fellowship Director, Vascular Anomalies Center	Children's Hospital, Boston, MA

### *Names of Principal Advisees or Trainees (excluding Pediatric Surgical Fellows)*

1996-1997	Dario Fauza, M.D.	Fellow	Harvard Center for Minimally Invasive Surgery, Boston, MA
1999-2000	Jennifer Marler, M.D.	Fellow	Vascular Anomalies Center Children's Hospital, Boston, MA
2001-2002	Annouk Bisdorf, M.D.	Fellow	Vascular Anomalies Center Children's Hospital, Boston, MA
2001-2003	Douglas Smink, M.D.	Fellow	Harvard Pediatric Health Services, Research Fellowship, Harvard School of Public Health, Boston, MA
2002-2003	Julie Fuchs, M.D.	Surgical Resident	Beth Israel Deaconess Medical Center, Boston, MA
2002-2004	C. Jason Smithers, M.D.	Research Fellow	Vascular Anomalies Center Children's Hospital, Boston, MA
2003-2004	June Wu, M.D.	Fellow	Vascular Anomalies Center Children's Hospital, Boston, MA
2004	Julia Alesbury	Undergraduate Research Intern	Department of Surgery Children's Hospital, Boston, MA
2003-2005	Adam Vogel, M.D.	Research Fellow	Department of Surgery Children's Hospital, Boston, MA
2005-	Emily Christison-Lagay, M.D.	Research Fellow	Department of Surgery Children's Hospital, Boston, MA

## **2. Regional, National, or International Contributions**

*Invited Presentations*

1995 Laparoscopic Surgery in Pediatrics. Grand Rounds. Sturdy Memorial Hospital, Attleboro, MA. May 3, 1995.

1998 Vascular Anomalies. Department of Surgery, Grand Rounds. Hospital of the University of Pennsylvania, Philadelphia, PA. April 25, 1998.

Distinguished Visiting Professor Lectureship. Vascular Anomalies-Angiogenesis and Surgical Approach. Professor Lectureship. 12<sup>th</sup> Annual Pediatric Surgery Symposium. Uniformed Services University of Health Sciences, Bethesda, MD. June 11, 1998.

Vascular Anomalies. Department of Surgery, Grand Rounds. New England Medical Center, Tufts University School of Medicine, Boston, MA. September 23, 1998.

1999 Conjoined Twins. OB/GYN Teaching Conference. Brigham & Women's Hospital, Boston, MA. April 25, 1999.

2000 Truncal/Visceral Vascular Anomalies. Pediatric Vascular Anomalies & Pigmented Lesions Symposium. American Society of Plastic and Reconstructive Surgeons. La Jolla, CA. February 14, 2000.

Surgical Approach to Visceral Vascular Anomalies. Vascular Anomalies Symposium. New York University, New York, NY. April 7-8, 2000.

2001 Diagnosis and Treatment of Hemangiomas: What Works and What Doesn't. American Venous Forum 13<sup>th</sup> Annual Meeting. Fort Myers, FL. February 25, 2001.

Vascular Anomalies, Hemangiomas and Vascular Malformations. Greater Fall River Physician CME Program. St. Anne's Hospital, Fall River, MA. March 23, 2001.

Thoracoscopic Esophagomyotomy for Achalasia in Children. (Video). American Pediatric Surgical Association 32<sup>nd</sup> Annual Meeting. Naples, FL. May 20, 2001.

Management of Truncal, Visceral and Genital Vascular Anomalies. Hemangioma Newsline and Vascular Malformation Conference. Charlotte, NC. May 5, 2001.

Surgical Management of Gastrointestinal Vascular Anomalies. Vascular Anomalies 2001. New York University, New York, NY. May 19, 2001.

Neck Masses in Children. American College of Surgeons 87<sup>th</sup> Annual Clinical Congress Pediatric Postgraduate Course. Panelist, Specialist Session in Otorhinolaryngology. New Orleans, LA. October 8, 2001.

Visceral Vascular Anomalies. American College of Surgeons 87<sup>th</sup> Annual Clinical

- Congress Pediatric Postgraduate Course-Complex Hemangiomas and Vascular Malformations. New Orleans, LA. October 10, 2001.
- Vascular Anomalies of the Newborn. American Academy of Pediatrics, National Conference and Exhibition. Surgical Section, Oncology Symposium. San Francisco, CA. October 19, 2001.
- Vascular Anomalies: Hemangiomas and Vascular Malformations. Grand Rounds. Caritas Good Samaritan Medical Center. Brockton, MA. October 24, 2001.
- 2002 Debulking Procedures. Klippel-Trenaunay Support Group National Meeting. Rochester, MN. July 26, 2002.
- Management of Abdominal and Pelvic Vascular Lesions. Klippel-Trenaunay Support Group National Meeting. Rochester, MN. July 26, 2002.
- Management of Truncal, Visceral and Genital Vascular Anomalies. Hemangioma Newline Conference. Raleigh, NC. September 21, 2002.
- Achalasia. American College of Surgeons 88<sup>th</sup> Annual Clinical Congress Pediatric Postgraduate Course- Esophageal Disorders and Anomalies in Infancy and Childhood. San Francisco, CA. October 9, 2002.
- Practical Advances in Anti-Angiogenesis Treatment. American Academy of Pediatrics National Conference and Exhibition. Seminar. Boston, MA. October 20, 2002.
- 2003 Surgical Issues in Visceral Vascular Anomalies and Complex Lymphatic Lesions. Vascular Anomalies 2003. New York University, New York, NY. May 16, 2003.
- The Multidisciplinary Approach to a Vascular Anomalies Program (Panel Discussion). Vascular Anomalies 2003. New York University, New York, NY. May 16, 2003.
- Vascular Anomalies: Hemangiomas and Vascular Malformations. Grand Rounds. AI DuPont Hospital for Children, Thomas Jefferson University, Wilmington, DE. October 15, 2003.
- 2004 Visiting Professor Lecture. Management of Vascular and Lymphatic Malformations. The Hospital for Sick Children. University of Toronto, Toronto, Ontario, Canada. January 14, 2004.
- Keynote Lecture. International Society for the Study of Vascular Anomalies. 15<sup>th</sup> International Workshop. Surgical Treatment of Vascular Anomalies Involving the Viscera. Wellington, New Zealand. February 25, 2004.
- Gordon Research Conference-Molecular Mechanisms in Lymphatic Function and Disease. Clinical Manifestations and Current Management of Lymphatic Anomalies. Ventura, CA. March 11, 2004.

- Visiting Professor Seminar. The Doctor-Patient Relationship and Informed Consent. Department of Surgery. Children's Hospital of New York, Columbia University. New York, NY. April 29, 2004.
- John Shullinger Endowed Lecture. Vascular Anomalies: Hemangiomas and Malformations. Columbia University and Children's Hospital of New York. New York, NY. April 30, 2004.
- AORN (Association of Operating Registered Nurses) 2004 Clinical Conference. Venous Malformations. Las Vegas, NV. October 16, 2004.
- 2005 Visiting Professor Lecture. Vascular Anomalies: Tumors and Malformations. Department of Pediatrics. Children's Medical Center, The University of Texas Southwestern Medical Center at Dallas. Dallas, TX. January 19, 2005.
- Visiting Professor Seminar. Case Studies in Vascular Anomalies. Department of Pediatrics. Children's Medical Center, The University of Texas Southwestern Medical Center at Dallas. Dallas, TX. January 19, 2005.
- Hepatic Hemangiomas. Infantile Hemangiomas: Current Knowledge, Future Directions. National Institutes of Health. Bethesda, MD. April 8, 2005.
- The Pediatric Surgeon's Role in Treatment of Vascular Anomalies. Section on Plastic Surgery. American Academy of Pediatrics. 2005 National Conference and Exhibition. Washington, D.C. October 8, 2005.
- Difficult Case? Ask the Experts. Section on Plastic Surgery. American Academy of Pediatrics. 2005 National Conference and Exhibition. Washington, D.C. October 8, 2005.
- Vascular Anomalies. Grand Rounds. South Shore Hospital, South Weymouth, MA. December 7, 2005.
- 2006 Vascular Malformations. Meet the Expert. 7<sup>th</sup> European Congress of Paediatric Surgery. European Association of Pediatric Surgeons. Maastricht, The Netherlands. May 12, 2006.
- Birthmark Bingo: Vascular Malformations. General Seminar sponsored by the Sections of Dermatology and Plastic Surgery. American Academy of Pediatrics. 2006 National Conference and Exhibition. Atlanta, GA. October 8, 2006.
- Evaluation of Pediatric Neck Masses: Vascular Anomalies. Otolaryngology Specialty Session. American College of Surgeons 92<sup>nd</sup> Annual Clinical Congress. Chicago, IL. October 10, 2006.
- Abdominal Surgical Emergencies in Children for the General Surgeon: Inguinal Hernias in Children With or Without Incarceration. General Session. American College of Surgeons 92<sup>nd</sup> Annual Clinical Congress. Chicago, IL. October 12, 2006.

Visiting Professor. Department of Surgery, Pontificia Universidad Católica de Chile. Santiago, Chile. Live Telecast – operation to debulk lower extremity vascular malformation in a child with Klippel-Trenaunay Syndrome. November 14, 2006.

Organization of a Vascular Anomalies Center. Visiting Professor Lecture. Department of Surgery, Pontificia Universidad Católica de Chile. November 14, 2006.

Classification of Vascular Anomalies. Visiting Professor Lecture. Department of Surgery, Pontificia Universidad Católica de Chile. November 14, 2006.

Vascular Tumors. Visiting Professor Lecture. Department of Surgery, Pontificia Universidad Católica de Chile. November 15, 2006.

Vascular Malformations. Visiting Professor Lecture. Department of Surgery, Pontificia Universidad Católica de Chile. November 15, 2006.

Live Clinic in Vascular Malformations. Department of Surgery, Pontificia Universidad Católica de Chile. November 14-15, 2006.

*Professional and Educational Leadership Role Related to Teaching*

2001 American College of Surgeons 87<sup>th</sup> Annual Clinical Congress Program Chair. Pediatric Postgraduate Course. Complex Hemangiomas and Vascular Malformations. New Orleans, LA. October 10, 2001.

2002 International Society for the Study of Vascular Anomalies. 14<sup>th</sup> International Workshop on Vascular Anomalies. Moderator-Vascular Tumors. Nijmegen, The Netherlands. June 28, 2002.

2003 Vascular Anomalies 2003. Chair- Surgery Study Group. New York University. New York, NY. May 17, 2003.

2004 International Society for the Study of Vascular Anomalies. 15<sup>th</sup> International Workshop on Vascular Anomalies. Chair- Venous Malformations, Lymphatic Malformations and Complex Anomalies: Difficult Case Session. Wellington, New Zealand. February 25, 2004.

2005 Infantile Hemangiomas: Current Knowledge, Future Directions. National Institutes of Health Workshop. Workshop Organizing Committee. National Institute of Health. Bethesda, MD. April 7-9, 2005.

Endangering Hemangiomas – Risk Stratification and Management. Moderator – Break Out Session. Infantile Hemangiomas: Current Knowledge, Future Directions. National Institutes of Health Workshop. National Institute of Health. Bethesda, MD. April 9, 2005.

2006- International Society for the Study of Vascular Anomalies. Chair – 17<sup>th</sup> International Workshop Organizing Committee (Boston, 2008).

### ***3. Teaching Awards Received***

1990 William Inouye Resident Teaching Award, University of Pennsylvania School of Medicine

### ***Report of Clinical Activities***

I am a full time pediatric surgeon practicing at Children's Hospital Boston. My practice includes the full range of newborn and pediatric surgical care. My primary area of focus is in the treatment of vascular anomalies, including hemangiomas and vascular malformations. I have also focused on gastrointestinal motility disorders and contributed to the adaptation of minimally invasive surgical techniques to pediatric patients.

My operative case load is generally between 300-500 cases annually. These cases tend to be skewed toward the more complex. In addition to pre- and postoperative care and critical care of my patients, I am extensively involved in the evaluation of patients with complex vascular anomalies from around the world. These patients often come to Boston for treatment. Thus, I have a relatively large proportion of patients who are from outside the New England region.

Clinical contributions have included formalization and growth of the Vascular Anomalies Center at Children's Hospital. I serve as the administrative clinical director of the Center. I have focused on developing evaluation and intervention techniques including innovative operative procedures for the treatment of visceral vascular anomalies.

As the first to perform minimally invasive pediatric surgical procedures at Children's Hospital in Boston, I introduced several techniques to the institution. These include biliary tract procedures, thoracoscopic esophageal myotomy for achalasia, Meckel's diverticulectomy, and splenectomy. I also introduced the use of botulinum toxin injection in the internal anal sphincter for refractory Hirschsprung's disease and other anal sphincter motility disorders in Boston. In addition, I was one of the first to introduce the non-refluxing continent appendicocostomy to this country. This has been very useful for the treatment of patients with fecal incontinence and constipation due to colorectal neuromotor abnormalities.

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### ***Books, Monographs and Text Books***

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### ***Clinical Communications***

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### ***Patents***

1. U.S. Patent 6,066,856                      Radiation protective device                      Issued: May 23, 2000

### ***Abstracts (excluding those with published manuscripts)***

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