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Place of Birth: El Paso, Texas

Education

1976	Certificate	Cum Laude	Hospital Corps School, United States Navy
1977	Certificate	With Honors	Field Medical Service School, United States Marine Corps
1978	Diploma	Cum Laude	Naval Academy Prep School
1978-80			United States Naval Academy
1982	B.S.	Biochemistry, Cum Laude	University of California, Davis
1986	M.D.	Medicine	University of California, San Francisco

Postdoctoral Training

1986-1987	Intern	Surgery	University of California
1987-1989	Resident	Surgery	University of California
1989-1992	Research Fellow	Fetal Treatment Laboratory	University of California
1991-1992	Clinical Associate	Surgery	University of California

1992-1993	Senior Resident	Surgery	University of California
1993-1994	Chief Resident	Surgery	University of California
1994-1995	Associate Chief Resident	Surgery	Boston Children's Hospital
1995-1996	Chief Resident	Surgery	Boston Children's Hospital

Faculty Academic Appointments

1994-1996	Clinical Fellow	Pediatric Surgery	Harvard Medical School
1996-1998	Assistant Professor	Surgery	University of California
1998-1999	Assistant Professor	Surgery and Pediatrics	University of California
1999-2007	Assistant Professor	Pediatric Surgery	Harvard Medical School
2007- 2021	Associate Professor	Pediatric Surgery	Harvard Medical School
2021	Faculty	Pediatric Surgery	Johns Hopkins All Children's Hospital

Appointments at Hospital/Affiliated Institution

1996-1999	Attending Surgeon	Kaiser Permanente Medical Center, San Francisco, CA
1996-1999	Attending Surgeon	California Pacific Medical Center, San Francisco, CA
1996-1999	Attending Surgeon	San Francisco General Hospital, San Francisco, CA
1996-1999	Attending Surgeon	University of California, San Francisco, Mt. Zion Hospital, San Francisco, CA
1996-1999	Attending Surgeon	University of California, San Francisco, CA
1999-2009	Fetal Surgeon	Brigham and Women's Hospital, Boston, MA
1999-2005	Assistant in Surgery	Boston Children's Hospital, Boston, MA
2005-2014	Associate in Surgery	Boston Children's Hospital, Boston, MA

2007-2021	Consultant	Boston Medical Center, Boston, MA
2009-2021	Consultant	Beth Israel Deaconess Medical Center, Boston, MA
2009-2021	Consultant Surgeon	Department of Neonatology, Brigham & Women's Hospital
2014-2021	Senior Associate in Surgery	Boston Children's Hospital, Boston, MA
2018	Foundation Chair in Pediatric Surgery	Boston Children's Hospital, Boston, MA

Other Professional Positions

1998	Visiting Professor in Fetal Surgery	Kyushu University, Fukuoka, Japan
2006	Visiting Professor in Fetal Surgery	King Faisal Hospital, Riyadh, Saudi Arabia
2007	Visiting Professor in Pediatrics and Fetal Surgery	Hubei Women's and Children's Hospital, Wuhan, People's Republic of China

Major Administrative Leadership Positions

Local

2000-2009	Director, Advanced Fetal Care Center	Boston Children's Hospital, Boston, MA
2009-2021	Director, Esophageal & Airway Treatment Center	Boston Children's Hospital, Boston, MA
2019	Director of a 2 Day International CME Conference "Diagnosis and Management of Complex Esophageal and Airway Problems" sponsored by the Department of Surgery at Boston Children's Hospital	

Committee Service

Local

1996-1999	Operating Room Committee	University of California San Francisco Medical Center Member
1996-1999	Resident Counsel and Review Committee	University of California San Francisco Medical School Member
1999-2003	Animal Care and Use Committee	Boston Children's Hospital Member
2005-2008	Associate Attending Committee	Boston Children's Hospital Member
2006-2010	Laparoscopic Credentialing Committee	Boston Children's Hospital Member

Professional Societies

1992-2015	International Fetal Medicine and Surgical Society	<ul style="list-style-type: none"> • Member
1996-	American College of Surgeons	<ul style="list-style-type: none"> • Fellow
1996-2021	American Association for the Advancement of Science	<ul style="list-style-type: none"> • Member
1996-	Howard C. Naffziger Surgical Society	<ul style="list-style-type: none"> • Member
1996-1999	Faculty Association, University of California	<ul style="list-style-type: none"> • Member
1997-2021	Society of Laparoscopic and Robotic Surgeons formerly the Society of Laparoendoscopic Surgeons	<ul style="list-style-type: none"> • Member
1997-1999	American College of Surgeons, North California Chapter	<ul style="list-style-type: none"> • Member
1999-2021	American College of Surgeons, Massachusetts Chapter	<ul style="list-style-type: none"> • Member
1998-2015	American Medical Association	<ul style="list-style-type: none"> • Member
2001-2021	New England Surgical Society	<ul style="list-style-type: none"> • Member
2002-2021	Boston Surgical Society	<ul style="list-style-type: none"> • Member
2006-Present	American Academy of Pediatrics, Section on Surgery	<ul style="list-style-type: none"> • Fellow (2006-Present) • Publications Committee (2008-2010)
1996-Present	American Pediatric Surgical Association	

- Member
- Fetal Therapy Committee (2004-2007)
- Workforce Committee (2005-2007)

Honors and Prizes

1977-1978	Director's Scholar's List	Naval Academy Prep School
1979-1980	Commandment's Award "For Combined Excellence in Academic, Athletic, and Military Activities"	United States Naval Academy
1982-	Phi Kappa Phi Honor Society, Member	University of California, Davis
1982	Herbert Craft Scholarship, "In Recognition of Outstanding Academic Record"	University of California, Davis
1982	Biochemistry Departmental Citation, "In Recognition of Outstanding Accomplishment in Biochemistry"	University of California, Davis, College of Letters and Sciences
1986	Alpha Omega Alpha Honor Medical Society, Member	University of California, San Francisco
1986	Nusz Galante Scholarship "To Encourage a Talented Student in Training for a Surgical Career"	University of California, San Francisco
1986	Alpha Omega Alpha Honor Medical Society Nusz Achievement Award, "Outstanding Research Associate"	University of California, San Francisco
1996	Sidney Farber House Staff Award for Excellence in Teaching	Boston Children's Hospital
1997	Kaiser Award for Excellence in Teaching Nomination	University of California, San Francisco
1999	The Kenneth B. Schwartz Center Compassionate Caregiver Award, Honorable Mention	The Kenneth B. Schwartz Center for Compassionate Health Care, Boston, MA
2009	The Kenneth B. Schwartz Center Compassionate Caregiver Award,	The Kenneth B. Schwartz Center for Compassionate Health Care,

	Honorable Mention	Boston, MA
2012	Professor Sztapy Award	Polish Pediatric Surgery Association
2013	“Management of Esophageal Atresia in the 21 st Century”, with Carole Green RN, Blue Ribbon	Association of Operating Room Nurses, San Diego, CA
2018	Charles Ferguson Award, First Place “Innovative Management of Severe Tracheobronchomalacia using Anterior and Posterior Tracheobronchopexy”	Best Clinical Manuscript American Society of Pediatric Otolaryngology (ASPO)
2018	Rare Disease Difference Maker™, nominated	Engage Health, Inc.

Report of Local Teaching and Training

Teaching of Students in Courses

2006-2009	Human Body Core Course 60 medical students	1 hour per year
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Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

1996-1999	Didactic training, case review for pediatric medicine 12 residents	University of California, San Francisco School of Medicine 10 hours/year
1996-1999	Surgical techniques: teaching residents in the OR 1 resident	University of California, San Francisco School of Medicine 1000 hours/year
1996-1999	Attending for weekly radiology rounds 5 residents	University of California, San Francisco School of Medicine 60 hours/year
1996-1999	Surgery 450: attending for resident teaching in OR and on wards 3 residents	University of California, San Francisco School of Medicine 200 hours/year
1996-1999	Surgery 140: pediatric surgery attending, ward teaching, advising 3 residents	University of California, San Francisco School of Medicine 50 hours/year

1996-1999	Surgery 400: direct supervision of residents for surgery conferences, grand rounds, M&M's 10 residents	University of California, San Francisco School of Medicine 150 hours/year
1996-1999	Surgery 110: pediatric surgery lectures and seminars 9 medical students	University of California, San Francisco School of Medicine 12 hours/year
1996-1999	Surgery 403: attending for current pediatric surgery patient management 3 residents	University of California, San Francisco School of Medicine 200 hours/year
1996-1999	Attending for pediatric surgery rounds- weekly review of cases 6 residents	University of California, San Francisco School of Medicine 30 hours/year
1996-1999	Surgery 495: general surgery clinical teaching. Attending for intern seminars and teaching on OR and on wards 3 interns	University of California, San Francisco School of Medicine 250 hours/year
1996-2006	Attending for surgery course on esophageal atresia 4 medical students, 10 residents, 2 fellows	Harvard Medical School/Boston Children's Hospital 4 hours/year
1999-2006	Attending for surgery course on pediatric airway development, assessment and treatment 4 medical students, 10 residents, 2 fellows	Harvard Medical School/Boston Children's Hospital 4 hours/year
2000-2004	Attending for course on obstetrics and gynecology-fetal surgery 30 medical students	Harvard Medical School/Beth Israel Deaconess Medical Center 1 hour/year
2004- 2021	Didactic pediatric surgery lectures 2 medical students, 10 residents, 3 fellows per session	Harvard Medical School/Boston Children's Hospital 4 hours/year

Mentored Trainees

- 1994-1997 George B. Mychaliska Current: Associate Professor of Surgery and Obstetrics and Gynecology; Director, Fetal Diagnosis and Treatment Center; Co-Director, ECMO Program; University of Michigan, Ann Arbor. Career stage: resident. Mentoring role: research advisor. Co-author of 2 papers
- 1996-1997 H. Tamiko Housley, M.D. Current: Urologist, Las Vegas, NV; Career stage: resident. Mentoring role: research advisor. Co-author of 4 papers.
- 1996-1998 T. Richard Beech, M.D. Current: Senior Safety Officer, Johnson & Johnson, USA; Career stage: resident. Mentoring role: research advisor. Co-author of 1 paper
- 1997-1998 Christopher M. Strear, M.D. Current: Emergency Medicine Physician at Legacy Emanuel Medical Center, Portland, OR. Career stage: resident. Mentoring role: research advisor. Co-author of 1 paper
- 1997-1998 C. Corbett Wilkinson, M.D. Assistant Professor, University of Colorado Department of Neurosurgery; Career stage: resident. Mentoring role: research advisor.
- 1997-1999 Toshio Chiba, M.D., PhD Current: Director of Department of Strategic Medicine, National Center for Child Health and Development, Tokyo, Japan; Career stage: fellow. Mentoring role: research advisor. First author on 2 papers
- 1997-1999 Bettina Paek (Westerburg), M.D. Current: Co-Director of Fetal Therapy Program at Eastside Maternal-Fetal Medicine at Evergreen Health, Kirkland, WA; Career stage: resident. Mentoring role: research advisor.
- 1997-1999 John B. Lopoo Jr., M.D. Current: Pediatric Surgeon, Clinical Associate Professor of Surgery at Louisiana State University Health Sciences Center – Baton Rouge, LA Pediatric Surgery of Louisiana. Career stage: resident. Mentoring role: research advisor. Co-author of 8 papers of which he is first author on 3.
- 1997-1999 Tatsuo Ohkubo, M.D., PhD University School of Medicine, Tokyo; Career stage: fellow. Mentoring role: research advisor. Co-author of one

paper.

- 1998-1999 Koshi Asabe, M.D. Fukuoka Children's Hospital, Japan; Career stage: fellow. Mentoring role: research advisor. First author on one paper.
- 2000-2002 Amir Kaviani, M.D. South Bay Surgeons; general and vascular surgeon, chief of staff at Providence Little Company of Mary Medical Center in Torrance, CA; Career stage: resident. Mentoring role: research advisor. Co-author of 5 papers of which he was first author on 2.
- 2005-2006 Shaun Kunisaki, M.D. Associate Professor of Surgery at The Johns Hopkins University and Associate Chief of Strategy and Integration in the Division of General Pediatric Surgery at the Johns Hopkins Children's Center, Robert and Jane Meyerhoff Endowed Professor; Career stage: resident. Mentoring role: research advisor. Co-author on 11 papers of which he was first author on 10 and one chapter.
- 2014-2015 Sigrid Bairdain, MD General Surgeon, Honor Health Surgical and Trauma Specialists; Career stage: resident and fellow. Mentoring role: research advisor. Co-author of 10 papers of which she was first author on 7 and one invited review article.
- 2015-2016 Ali Kamran, MD Surgical Research Fellow, Boston Children's Hospital; Career stage: resident, fellow. Mentoring role: research advisor. Co-author of 6 papers of which he is first author of 5.
- 2016-2017 Wendy J. Svetanoff, MD Surgical Research Fellow, Children's Mercy Hospital; Career stage: resident, fellow. Mentoring role: research advisor. First author of 4 papers.

Local Invited Presentations

No presentations below were sponsored by 3rd parties/outside entities

- 1989 "Fetal Polymorphonuclear Leukocyte Phagocytosis" *Invited Lecturer, Second Annual J. Englebert Dunphy Resident Research Day, University of California, San Francisco, CA*
- 1991 "Fetal Diaphragmatic Wounds Heal with Scar Formation" *Invited Lecturer, Fourth Annual J. Englebert Dunphy Resident Research Day, San Francisco, CA*

- 1991 “In Utero Surgery and the Development of Fetal Intensive Care”
Distinguished Lecturer, Fourth Annual William K. Hamilton, University of California, San Francisco, CA
- 1992 “Advances in Fetal Intensive Care” *Invited Lecturer, Fifth Annual Resident Research Day, Department of Surgery, University of California, San Francisco, CA*
- 1992 “Maternal-fetal Perioperative Monitoring” *Invited Lecturer, Surgical Grand Rounds, University of California, San Francisco, CA*
- 1993 “Ultrasound of the Trauma Surgeon” *Invited Lecturer, Surgical Grand Rounds, University of California, San Francisco, CA*
- 1993 “Maternal-Fetal Intensive Care” *Invited Lecturer, Perinatal Grand Rounds, University of California, San Francisco, CA*
- 1994 “Role of Surgical Treatment in Peptic Ulcer Disease in the Age of Helicobacter Pylori” *Invited Lecturer, Surgical Grand Rounds, University of California, San Francisco, CA*
- 1996 “Airway Developmental Anomalies and Reconstruction” *Invited Lecturer, Otolaryngology Grand Rounds, University of California, San Francisco, CA*
- 1996 “Preterm Labor after Fetal Surgery” *Invited Lecturer, Surgical Grand Rounds, University of California, San Francisco, CA*
- 1998 “Primary Total Reconstruction of Complex Anomalies” *Invited Lecturer, Surgical Grand Rounds, University of California, San Francisco, CA*
- 1999 “Fetal Surgery” *Invited Lecturer, Obstetrics and Gynecology Grand Rounds, Beth Israel Deaconess Medical Center, Boston, MA*
- 1999 "Fetal Surgery" *Invited Lecturer, Division of Newborn Medicine, Brigham & Women's Hospital, Boston, MA*
- 2000 “Fetal Surgery” *Invited Lecturer, Radiology Grand Rounds, Boston Children's Hospital, Boston, MA*
- 2000 “Fetal Surgery” *Invited Lecturer, Department of Continuing Education, Harvard Medical School, Boston, MA*
- 2000 “Practical Aspects of Pediatric Anesthesia” *Invited Lecturer, Department of Continuing Education, Harvard Medical School, Boston, MA*

- 2001 “EXIT Procedure” *Invited Lecturer, Otolaryngology Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2001 “Fetal Surgery: State of the Art 2001” *Invited Lecturer, Ultrasound/Women’s Imaging 2001, Department of Radiology, Brigham & Women’s Hospital, Boston, MA*
- 2001 “The Challenges of Starting a Fetal Surgery Program” *Invited Lecturer, Fetal Surgery Symposium, Boston Children’s Hospital, Boston, MA*
- 2002 “The Advanced Fetal Care Center” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2003 “Advanced Fetal Surgery” *Invited Lecturer, Surgical Grand Rounds, Massachusetts General Hospital, Boston, MA*
- 2003 “Fetal Surgical Advances” *Invited Lecturer, Ultrasound Conference, Brigham & Women’s Hospital, Boston, MA*
- 2003 “History, Rationale and Current Status of Fetal Surgery” *Invited Lecturer, Boston Fetal Cardiac Intervention Program Symposium, Boston, MA*
- 2008 “Update on Fetal Surgery” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2011 “Organ Growth in Vivo” *Invited Lecturer, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Atresia” *Invited Lecturer, Neonatology’s Core Curriculum Lecture Series, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Atresia – Diagnosis and Therapeutic Concepts” *Invited Lecturer, Radiology Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “Treatment of Esophageal Atresia” *Invited Lecturer, OR Nursing Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Atresia” *Invited Lecturer, Intensive Care Unit Teaching Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “In Vivo Organ Growth: New Solutions” *Invited Lecturer, Department of Medicine Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “In Vivo Organ Growth: New Solutions” *Invited Lecturer, NICU/Surgery Lecture Series, Boston Children’s Hospital, Boston, MA*

- 2012 “Intensive Care Unit Management of Esophageal Atresia” *Invited Lecturer, Division of Critical Care Medicine Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Atresia” *Invited Lecturer, NICU Nursing Leadership Meeting, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Atresia Program” *Invited Lecturer, Lecture to Operating Room Nursing Staff, Boston Children’s Hospital, Boston, MA*
- 2012 “Closing the Gaps- The Children’s Esophageal Atresia Program Two Years On” *Invited Lecturer, Department of Surgery Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “Esophageal Growth in Esophageal Atresia” *Invited Lecturer, Radiology Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Esophageal Atresia Treatment Program” *Invited Lecturer with Michael Manfredi MD, Gastroenterology Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Esophageal Atresia” *Invited Lecturer, SICU Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Esophageal Growth and Atresia” *Invited Lecturer, OR Nurses’ Grand Rounds, Boston Children’s Hospital, Boston, MA*
- 2012 “Organ Growth in Vivo” *Invited Lecturer, Urology Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “In Vivo Organ Growth-New Solutions to Old Problems” *Invited Lecturer, Advanced Fetal Care Center Conference, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Advanced Esophageal Atresia Treatment” *Invited Lecturer, PACU Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Closing the Gaps” *Invited Lecturer, Medical Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2012 “Closing the Gaps – The Children’s Esophageal Atresia Program Two Years On” *Invited Lecturer, Department of Surgery Grand Rounds, Children’s Hospital Boston, Boston, MA*

- 2012 “Closing the Gaps-the Esophageal Atresia Treatment Program” *Invited Lecturer, NICU Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2013 “Current Concepts in Esophageal Atresia” *Invited Lecturer, Advanced Fetal Care Center Rounds, Boston Children’s Hospital, Boston, MA*
- 2013 “Esophageal Atresia” *Invited Lecturer, Gastroenterology Surgery Conference, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2013 “Esophageal Atresia Management” *Invited Lecturer, NICU Surgical Lecture Series, Boston Children’s Hospital, Boston, MA*
- 2013 “Closing the Gaps-the Esophageal Atresia Program” *Invited Lecturer, Advanced Fetal Care Center Conference, Boston Children’s Hospital, Harvard Medical School*
- 2013 “Esophageal Atresia Treatment Program-What We Have Learned so Far” *Invited Lecturer, Gastroenterology Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2014 “EAT: The Esophageal & Airway Treatment Program” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2015 “Surgical Management of Tracheomalacia” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2016 “Fetal and Neonatal Esophageal Atresia” *Invited Lecturer, Advanced Fetal Care Center Conference, Boston Children’s Hospital, Boston, MA*
- 2017 “Congenital Airway Malformations-New Approaches to Old Problems” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2018 “Tracheomalacia” *Invited Lecturer, Surgical Grand Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*
- 2019 “Esophageal Atresia” *Invited Lecturer, Critical Care Fellow Rounds, Boston Children’s Hospital, Harvard Medical School, Boston, MA*

Report of Regional, National and International Invited Teaching and Presentations

No presentations below were sponsored by 3rd parties/outside entities
Regional, National and International Invited Presentations and Courses

Regional

- 1990 "Bioengineering Aspects of Endoscopic Surgery" *Invited Lecturer, University of California Bioengineering Seminar, Berkeley, CA*
- 1990 "Update on Fetal Surgery" *Invited Lecturer, Bioengineering Seminar, San Francisco, CA*
- 1993 "Recent Advances in Fetal Surgery" *Invited Lecturer, Surgical Grand Rounds, Mt. Zion Hospital, San Francisco, CA*
- 1993 "Clinical Applications of Fetal Surgery" *Invited Lecturer, Pediatric Grand Rounds, Kaiser San Francisco, San Francisco, CA*
- 1996 "Neonatal Constipation and Anorectal Anomalies" *Invited Lecturer, Pediatric Grand Rounds, Kaiser, San Francisco, CA*
- 1997 "Prenatal Diagnosis of Congenital Diaphragmatic Hernia" *Invited Lecturer, Perinatal Grand Rounds, California Pacific Medical Center, San Francisco, CA*
- 1997 "Cystic Lung Lesions in the Fetus" *Invited Lecturer, Perinatal Grand Rounds, California Pacific Medical Center, San Francisco, CA*
- 1999 "Evaluation of Stridor and New Approaches to Pediatric Airway Reconstruction" *Invited Lecturer, Northern California Pediatric Grand Rounds, Kaiser Hospitals, Vallejo, CA*
- 1999 "Fetal Trauma" *Invited Lecturer, Trauma Conference: Injuries to Children: From Minor to Major and Multiple. Cambridge, MA*
- 1999 "Fetal Surgery- What's New?" *Invited Lecturer, Pediatric Grand Rounds, Beverly Hospital, Beverly, MA*
- 2001 "Fetal Surgery" *Invited Lecturer, New England Regional Trauma Conference, Worcester, MA*
- 2001 "The Perinatal Team Approach to Fetal Treatment" *Invited Lecturer, New England Perinatal Society Annual Meeting, Manchester, VT*
- 2002 "Update on Fetal Surgery" *Invited Lecturer, Pediatric Grand Rounds, St. Elizabeth's Hospital, Boston, MA*

- 2002 "The Advanced Fetal Care Center" *Invited Lecturer, Pediatric and Obstetrical Grand Rounds, St. Elizabeth's Hospital, Boston, MA*
- 2002 "The Advanced Fetal Care Center" *Invited Lecturer, Pediatric and Obstetrical Grand Rounds, Boston Medical Center, Boston, MA*
- 2002 "Fetal Diagnosis and Treatment" *Invited Lecturer, Obstetrical Grand Rounds, Brockton, MA*
- 2003 "Prenatal Presentation of Neonatal Diseases" *Invited Lecturer, Caritas Good Samaritan Medical Center, Brockton, MA*
- 2014 "Innovation in Esophageal Atresia" *Invited Lecturer, Dartmouth Surgery Grand Rounds, Lebanon, NH*
- 2014 "EAT-the Esophageal and Airway Treatment Program" *Invited Lecturer, Dartmouth Surgical Grand Rounds, Lebanon, NH*
- 2015 "Jejunal Interposition after Failed Esophageal Atresia Repair" *Plenary Abstract, New England Surgical Society, Newport, RI*

National

- 1990 "New Concepts in Fetal Intensive Care" *Plenary Abstract, Eleventh Annual Pediatric Surgery Resident's Conference, Chicago, IL*
- 1990 "Reduced Size Lung Transplantation: A Model for Treatment of Congenital Diaphragmatic Hernia" *Plenary Abstract, Sixth Annual CNMC ECMO Symposium, Breckenridge, CO*
- 1991 "Fetal Intraosseous Access: A New Approach to Gain Access to Fetal Circulation During Fetal Surgery" *Surgical Forum Abstract, American College of Surgeons 77th Clinical Congress, Chicago, IL*
- 1991 "Amniotic Fluid Stimulates or Inhibits Fibroblasts, Depending on Gestational Age" *Surgical Forum Abstract, American College of Surgeons 77th Clinical Congress, Chicago, IL*
- 1991 "Fetal Fracture Healing in a Large Animal Model" *Surgical Forum Abstract, American College of Surgeons 77th Clinical Congress, Chicago, IL*
- 1991 "Laboratory Animals are Crucial for In Utero Surgical Research" *Plenary*

Abstract, American Association for Laboratory Animal Science Annual meeting, Redwood City, CA

- 1992 "Vascular Anatomy of Congenital Diaphragmatic Hernia in the Fetus: Implications for In Utero Repair" *Plenary Abstract, Thirteenth Annual Pediatric Surgery Resident's Conference, Kansas City, MO*
- 1992 "Nitric Oxide Inhibits Preterm Labor in the Rhesus Monkey" *Invited Lecturer, Thirteenth Annual Pediatric Surgery Resident's Conference, Kansas City, MO*
- 1992 "Endoscopic Transgastric Fundoplication for Gastroesophageal Reflux" *Plenary Abstract, American Pediatric Surgery Association, Colorado Springs, CO*
- 1992 "Transgastric Endoscopic Fundoplication: A Novel Technique for Preventing Gastroesophageal Reflux" *Seminar, Ethicon, INC., Cincinnati, OH*
- 1992 "Vascular Considerations in Correction of Congenital Diaphragmatic Hernia" *Invited Lecturer, 78th Clinical Congress of the American College of Surgeons, New Orleans, LA*
- 1993 "Perioperative Maternal-Fetal Intensive Care" *Surgical Forum Abstract, 79th Annual Clinical Congress of the American College of Surgeons*
- 1996 "Video Esophagoscopy for Thoracoscopic Esophageal Myotomy in Children" *Invited Lecturer, American Society of Gastrointestinal Endoscopy*
- 1998 "Update on the Status of Fetal Surgery" *Keynote Speaker, Clinical Aspects of Perinatal Medicine, Oak Brook, IL*
- 1998 "The EXIT Technique" *Keynote Speaker, Clinical Aspects of Perinatal Medicine, Oak Brook, IL*
- 1998 "Fetoscopic Therapy for Congenital Diaphragmatic Hernia" *Keynote Speaker, Clinical Aspects of Perinatal Medicine, Oak Brook, IL*
- 1998 "Radio Telemetry Monitoring of the Fetus and Uterus after Fetal Surgery" *Keynote Speaker, NASA's Sensors 2000; and North Carolina Engineering Research Center. Biomedical Sensing*
- 2000 "Debate Surrounding Fetal Surgery", Women & Children's Health Clerkship: "Social, Economic, and Policy Issues Affecting Clinical Care"

Invited Lecturer, National Institute of Health, Washington D.C.

- 2001 "Ultrasound-guided Fetal Tracheal Occlusion" *Invited Lecturer, Thirty-second Annual Meeting of the American Pediatric Surgical Association, Naples, FL*
- 2001 "Lecture on Fetal Surgery" *Invited Lecturer, Utah Fetal Surgery Symposium*
- 2003 "Fetal Surgery, Past, Present and Future: A Celebration of a Century of Neonatal Care" *Invited Lecturer, Baylor University Medical Center, Dallas, TX*
- 2005 "Fetal Surgery – An Update and a Perspective" *Invited Lecturer, Hot Topics in Neonatology, Washington, DC*
- 2005 "Fetal Surgery – One perspective" *Invited Lecturer, Wisconsin Perinatal Association, Appleton, WI*
- 2005 "Value of a Fetal Program" *Invited Lecturer, Wisconsin Perinatal Association, Appleton, WI*
- 2005 "Fetal Surgery – A Perspective and the Value of a Program" *Invited Lecturer, Surgery Grand Rounds, Children's Hospital, Milwaukee, WI*
- 2006 "EXIT-to-ECMO for Severe Congenital Diaphragmatic Hernia" *Plenary Abstract, American Pediatric Surgical Association 37th Annual Conference, May 21-24, 2006, Hilton Head, SC*
- 2006 "Prenatal Repair of Myelomeningocele-Is Fetal Surgery Justified for Non-Lethal Anomalies?" *Invited Lecturer, American Pediatric Surgical Association 37th Annual Meeting, Hilton Head, SC*
- 2006 "Predicting Inadequate Long-Term Lung Development in Children with Congenital Diaphragmatic Hernia" *Invited Lecturer, American Pediatric Surgical Association 37th Annual Meeting, Hilton Head, SC*
- 2010 "Repair of Esophageal Atresia" *Invited Lecturer, 96th Clinical Congress of the American College of Surgeons, Washington D.C.*
- 2011 "Esophageal Atresia" *Invited Lecturer, Pediatric Surgery Grand Rounds, Cincinnati Children's Medical Center, Cincinnati, OH*
- 2011 "Esophageal Growth Induction (Foker Process) for the Treatment of Long Gap Esophageal Atresia: Initial Experience at a Single Institution" *Plenary*

Abstract, American Pediatric Surgical Association

- 2012 “TEF/EA Surgery Aspects” *Invited Lecturer, American Pediatric Surgical Nurses Association, San Antonio, TX*
- 2013 “Aortopexy for Severe Tracheomalacia” *Plenary Abstract, American Pediatric Surgical Association, Marco Island, FL*
- 2014 “Direct Tracheobronchopexy to Correct Airway Collapse Due to Severe Tracheobronchomalacia: Short-Term Outcomes in a Series of 20 Patients” *Invited Lecturer, American Academy of Pediatrics, San Diego, CA*
- 2015 “Surgical Treatment of Severe Tracheomalacia” *Invited Speaker, 3rd Annual Contemporary Management of Aerodigestive Disease in Children, Children’s Hospital, Denver, CO*
- 2017 “Dale G. Johnson Honorary Lecture” *Invited Speaker, Pediatric Grand Rounds, Intermountain Primary Children’s Hospital, Salt Lake City, UT*
- 2017 “Airway Challenged and Innovations” *Invited Speaker, 5th Annual Contemporary Management of Aerodigestive Disease, Denver, CO*
- 2018 “Anterior Posterior Tracheopexy” *Invited Lecturer, American Society of Pediatric Otolaryngology (APSO), National Harbor, MD*
- 2018 “Evaluation and Management of Esophageal Atresia: Tracheoesophageal Fistula, Tracheomalacia, and Laryngeal Cleft; What we Have Learned in the Past Decade: Part I” *Invited Speaker, 122nd American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNS) 2018 Annual Meeting & OTO Experience, Atlanta, GA*
- 2018 “Evaluation and Management of Esophageal Atresia: Tracheoesophageal Fistula, Tracheomalacia, and Laryngeal Cleft; What we Have Learned in the Past Decade: Part II” *Invited Speaker, 122nd American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF) 2018 Annual Meeting & OTO Experience, Atlanta, GA*
- 2018 “Congenital Cardiac Lesions and Aerodigestive Procedures” *Invited Speaker, 6th Annual Contemporary Management of Aerodigestive Disease in Children, Nashville, TN*
- 2019 “Innovative Evaluation and Management of Tracheobronchomalacia” *Invited Speaker, 123rd Annual American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF) and OTO Experience, New Orleans, LA*

- 2019 "Tracheopexy for Tracheo-Bronchomalacia: Assessment and Surgical Management" *American Association for Thoracic Surgery (AATS) 99th Annual Meeting, May 4, 2019.*
- International*
- 1989 "Pulmonary Lobar Transplantation in Neonatal Swine" *Plenary Abstract, International Fetal Medicine and Surgery Society Eighth Annual Meeting, Pacific Grove, CA*
- 1991 "New Techniques in Fetal Surgery" *Plenary Abstract, Royal College of Physicians and Surgeons of Canada, Quebec, Canada*
- 1991 "Adult to Neonate Human Lung Transplantation: Anatomic Considerations" *Plenary Abstract, Royal College of Physicians and Surgeons of Canada, Quebec, Canada*
- 1991 "Fetoscopic Surgery for Treatment of Congenital Anomalies: An Experimental Model" *Plenary Abstract, International Fetal Medicine and Surgery Society, Phoenix, AZ*
- 1991 "Fetal Diaphragmatic Wounds Heal with Scar Formation" *Plenary Abstract, International Fetal Medicine and Surgery Society, Phoenix, AZ*
- 1991 "Intraosseous Infusion During Fetal Surgery: A Novel Route for Fetal Intravascular Access" *Plenary Abstract, International Fetal Medicine and Surgery Society, Phoenix, AZ*
- 1991 "Radio-telemetric Fetal Monitoring During and After Open Fetal Surgery" *Plenary Abstract, International Fetal Medicine and Surgery Society, Phoenix, AZ*
- 1992 "Perioperative Maternal Fetal Physiology" *Plenary Abstract, International Fetal Medicine and Surgery Society, Evian, France*
- 1992 "Endoscopic Placental Vessel Catheterization: A Technique for Chronic Fetal Vascular Access" *Plenary Abstract, International Fetal Medicine and Surgery Society, Evian, France*
- 1992 "Neuroblastoma: Prenatal Ultrasound Diagnosis and Natural History" *Plenary Abstract, Canadian Association of Pediatric Surgeons and British Association of Pediatric Surgeons, Ottawa, Canada*
- 1997 "Fetoscopic Techniques for the Treatment of Congenital Diaphragmatic Hernia" *Plenary Abstract, International Fetal Medicine and Surgery Society's 16th Annual Meeting, Alyeska, AK*

- 1997 "Recent Problems in Fetal Surgery" *Keynote Speaker, Eighth Annual International Perinatal Conference, Kyushu University, Fukuoka, Japan*
- 1997 "Current Status of Fetal Surgery in the United States" *Keynote Speaker, Eighth Annual International Perinatal Conference, Kyushu University, Fukuoka, Japan*
- 1997 "Treatment of Congenital Diaphragmatic Hernia Before Birth" *Keynote Speaker, Eighth Annual International Perinatal Conference, Kyushu University, Fukuoka, Japan*
- 2002 "EXIT for Congenital Diaphragmatic Hernia" *Plenary Abstract, International Fetal Medicine and Surgery Society, Quebec, Canada*
- 2002 "Exit Trial of Ventilation in the Treatment of Severe Congenital Diaphragmatic Hernia" *Plenary Abstract, Twenty-first Annual Meeting of the International Fetal Medicine and Surgical Society, Quebec, Canada*
- 2004 "Natural History of Large Volume Chest Masses in the Fetus" *Plenary Abstract, Twenty-second Annual Meeting of the International Fetal Medicine and Surgery Society, Charleston, SC*
- 2004 "EXIT with Trial of Ventilation for High-Risk Congenital Diaphragmatic Hernia" *Plenary Abstract, Twenty-second Annual Meeting of the International Fetal Medicine and Surgery Society, Charleston, SC*
- 2006 "Fetal Cardiac Surgery" *Abstract, International Fetal Medicine and Surgical Society, June 11-15, 2006, Mauna Kea, Hawaii*
- 2007 "Fetal Diagnosis and Treatment in the United States – An Overview" *Abstract, Maternal Fetal Academic Conference, Hubei Women's and Children's Hospital, Wuhan, People's Republic of China*
- 2007 "Minimally Invasive Fetal Surgery" *Maternal Fetal Academic Conference, Abstract, Hubei Women's and Children's Hospital, Wuhan, People's Republic of China*
- 2007 "Overview of Fetal Surgery" *Invited Lecturer, Women and Children's Conference, King Faisal Hospital, Riyadh, Saudi Arabia*
- 2007 "Minimally Invasive Fetal Surgery" *Invited Lecturer, Women and Children's Conference, King Faisal Hospital, Riyadh, Saudi Arabia*
- 2008 "Exit to ECMO for CDH" *Invited Lecturer, 3rd Annual Advances in Fetology*

- Conference, Cincinnati, Ohio*
- 2008 “Fetal Chest Masses” *Invited Lecturer, 3rd Annual Advances in Fetology Conference, Cincinnati, Ohio*
- 2009 “Robotic Fetal Surgery” *Invited Lecturer, Imperial College, London, United Kingdom*
- 2011 “Esophageal Atresia” *Invited Lecturer, 36th Annual Scientific Meeting of the Royal College of Surgeons, Pattaya, Thailand*
- 2012 “Esophageal Growth Induction” *Invited Lecturer, Esophageal Atresia International Conference, Montreal, Canada*
- 2012 “Innovation in Pediatric Surgery” *Invited Lecturer, International Royal College of Surgeons, Pattaya, Thailand*
- 2012 “Ethics in Pediatric Surgery” *Invited Lecturer, International Royal College of Surgeons, Pattaya, Thailand*
- 2012 “Esophageal Atresia” *Invited Lecturer, International Royal College of Surgeons, Pattaya, Thailand*
- 2012 “In Vivo Growth Induction” *Invited Lecturer, International Royal College of Surgeons, Pattaya, Thailand*
- 2014 “Tracheomalacia in Esophageal Atresia” *Invited Lecturer, 3rd International Congress on Esophageal Atresia, Rotterdam, The Netherlands*
- 2014 “Surgical Treatment of Severe Tracheomalacia” *Invited Lecturer, 3rd International Congress on Esophageal Atresia, Rotterdam, The Netherlands*
- 2014 “Endoscopic Classifications of Tracheobronchomalacia” *Invited Lecturer, Pacific Association of Pediatric Surgeons, Banff, Canada*
- 2015 “Options for Long Gap Oesophageal Atresia” *Invited Lecturer, Indian Association of Pediatric Surgeons, 41st National Conference, Mumbai, India*
- 2015 Panel discussion on “Antenatal Diagnosis and Management” *Panelist, Indian Association of Pediatric Surgeons, 41st National Conference, Mumbai, India*
- 2015 “Tracheo-Esophageal Fistula Treatment” *Invited Lecturer, Congreso de Cirurgia Pediátrica del Cono del Sur de América (CIPESUR), Gramado, Brasil*

- 2015 “Jejunum for Esophageal Replacement” *Invited Lecturer, CIPESUR, Gramado, Brazil*
- 2015 “Long Gap Esophageal Atresia-Treatment Options” *Invited Lecturer, CIPESUR, Gramado, Brazil*
- 2015 “Foker Process- For Long Gap Esophageal Atresia” *Invited Lecturer, CIPESUR, Gramado, Brazil*
- 2015 “Evaluation and Treatment of Long-Gap Esophageal Atresia” *Panelist, CIPESUR, Gramado, Brazil*
- 2015 “Congenital Diaphragmatic Hernia, Treatment and Outcomes” *Panelist, CIPESUR, Gramado, Brazil*
- 2015 “Surgical Treatment for Severe Tracheomalacia” *Invited Lecturer, CIPESUR, Gramado, Brazil*
- 2015 “Recurrent Tracheoesophageal Fistula-Treatment” *Invited Lecturer, CIPESUR, Gramado, Brazil*
- 2015 “Course of Updating Chest Surgery and Airways (translated): Foker Process: Step by Step” *Panelist, CIPESUR, Gramado Brazil*
- 2015 “Course of Updating Chest Surgery and Airways (translated): Tracheomalacia” *Panelist, CIPESUR, Gramado, Brazil*
- 2016 “Long Gap Esophageal Atresia” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 Tracheomalacia” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “Techniques for Resection of TEF in Type C Esophageal Atresia” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “TEF: Congenital, Recurrent, and Acquired” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “Tracheal Stenosis” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “Esophageal Strictures – Anastomotic” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*

- 2016 “When to Give Up the Esophagus?” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “Esophageal Replacement Alternatives” *Invited Lecturer, VII Iberoamerican Congress of Pediatric Surgery, Lima, Peru*
- 2016 “Foker’s – Boston Experience” *Invited Lecturer, 4th International Conference on Oesophageal Atresia, Sydney, Australia [Rusty you have used “lecturer on prior items so I have converted back to be consistent]*
- 2016 “Role of Posterior Aortopexy” *Invited Lecturer, 4th International Conference on Oesophageal Atresia, Sydney, Australia*
- 2016 “Airway Challenges and Innovation in 2016” *Invited Lecturer, World Federation of Associations of Pediatric Surgeons 5th World Congress of Pediatric Surgery. Washington, DC*
- 2016 “What to Do with Long Gaps & Replacements of Esophagus in 2016?” *Invited Lecturer, World Federation of Associations of Pediatric Surgeons 5th World Congress of Pediatric Surgery. Washington, DC*
- 2017 “Atresia esofágica. Malformaciones asociadas y aspectos genéticos” *Invited Lecturer, XI Curso Internacional de Cirugía Pediátrica y Neonatal - CLC Las Condes, Santiago, Chile*
- 2017 “Fístula Traqueo esofágica recurrente. Alternativas terapéuticas” *Invited Lecturer, XI Curso Internacional de Cirugía Pediátrica y Neonatal - CLC Las Condes. Santiago, Chile*
- 2017 “La importancia de crear un Centro de Esófago y Tráquea. Modelo de Boston” *Invited Lecturer, XI Curso Internacional de Cirugía Pediátrica y Neonatal - CLC Las Condes, Santiago, Chile*
- 2017 “Esófago long gap. Elongación v/s Reemplazo” *Invited Lecturer, XI Curso Internacional de Cirugía Pediátrica y Neonatal - CLC Las Condes, Santiago, Chile*
- 2017 “The Floppy Airway” *Invited Lecturer, 1st International Meeting of the Pediatric Airway Teams: Facing the Challenge Together. Genoa and Cinque Terre, Italy.*
- 2017 “Requirements for a Pediatric Airway Team” *Round Table Discussant, 1st International Meeting of the Pediatric Airway Teams: Facing the Challenge Together. Genoa and Cinque Terre, Italy.*

- 2017 “Intrathoracic Tracheal Anomalies: Treatment of Tracheomalacia” *Round Table Discussant, 1st International Meeting of the Pediatric Airway Teams: Facing the Challenge Together. Genoa and Cinque Terre, Italy.*
- 2018 “Correction of Severe Tracheobronchomalacia” *Surgical Skills Teaching Workshop. Hospital Infantil Universitario de San Jose, Bogota, Columbia. Aug 16, 2018.*
- 2018 “Rigid and Flexible Dynamic Bronchoscopy” *Surgical Skills Workshop. Hospital Infantil Universitario de San Jose, Bogota, Columbia. Aug 16, 2018.*
- 2018 “Surgery for Severe Tracheobronchomalacia with Descending Aortopexy and Posterior Tracheopexy with Intraoperative Bronchoscopy” *Demonstration and Teaching Workshop. Hospital Infantil Universitario de San Jose, Bogotá, Columbia. Bogotá Columbia Aug 17, 2018*
- 2018 “Developing an Esophageal and Airway Treatment Program” *Grand Rounds. Hospital Infantil Universitario de San Jose, Bogota, Columbia. Aug 18, 2018*
- 2018 “Surgical Treatment of Severe Tracheobronchomalacia and Anterior Descending Aorta” *Surgical Demonstration and Teaching Skills. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 20, 2018*
- 2018 “Tracheo-Esophageal Fistula” *VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 21, 2018*
- 2018 “Surgical Treatment of Severe Tracheobronchomalacia and Anterior Descending Aorta” *Video review of skills. VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 21, 2018*
- 2018 “Tracheobronchomalacia: Treatment Options and Tricks” *VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 21, 2018*
- 2018 “Tracheomalacia in Children – State of the Art” *VII Symposia International de Via Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 21, 2018*
- 2018 “ECMO: Experience at Boston Children’s Hospital” *VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*

- 2018 “Esophageal disease and repercussions on the Airway” *VII Symposia International de Via Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*
- 2018 “Surgical Techniques for Correction of Double Aortic Arch with Esophageal and Tracheal Compression – Vascular Ring Division, Rotation Esophagoplasty, Descending Aortopexy, Posterior Tracheopexy with Intraoperative Bronchoscopy” *Invited Lecturer, Surgical Demonstration and Teaching Session. VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*
- 2018 “Congenital Stridor: Tracheal Causes” *Invited Lecturer, VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil.*
- 2018 “Development of a Multidisciplinary Esophageal and Airway Treatment Center” *Invited Lecturer, Hospital Grand Rounds. VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*
- 2018 “Tracheal Resection” *Invited Lecturer, VII Simposio International de Vía Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*
- 2018 “New Techniques in the Treatment of Congenital Vascular Rings” *Invited Lecturer, VII Symposia International de Via Aera Pediátrica. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 22, 2018*
- 2018 “Resident Surgical Skills” *Invited Lecturer, Teaching Session. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 23, 2018*
- 2018 “Diagnosis and Treatment of Complex Airway Lesions” *Invited Speaker, Surgical Rounds. Hospital de Clínicas de Porto Alegre, Porto Alegre, Brasil. Aug 23, 2018*
- 2019 “Management of ‘Long Gap’ Esophageal Atresia” *Invited Speaker. The 6th World Congress of the World Federation of Associations of Pediatric Surgery (WOFAPS). Doha, Qatar. May 17, 2019*
- 2019 “Management of Tracheomalacia” *Invited Speaker. International Conference on Esophageal Atresia (INoEA) and International Meeting of Pediatric Airway Teams (INPAT), Rome, Italy. June 27, 2019.*

- 2019 “Long Gap Esophageal Atresia: Gap Definition and Management” *Invited Speaker. International Conference on Esophageal Atresia (INoEA) and International Meeting of Pediatric Airway Teams (INPAT), Rome, Italy. June 28, 2019.*
- 2019 “Closure Plenary Conference: Tracheomalacia Update” *Half Course Scientific Program: Hands-On Pediatric Airway Surgery 2nd Edition. Sao Paulo, Brazil. October 4, 2019*
- 2019 “Innovative Evaluation and Management of Tracheobronchomalacia” *Invited Speaker. The 6th World Congress of the World Federation of Associations of Pediatric Surgery (WOFAPS). Doha, Qatar. November 1, 2019*
- 2019 “Surgical Complications and Solutions” *Invited Speaker. The 6th World Congress of the World Federation of Associations of Pediatric Surgery (WOFAPS). Doha, Qatar. November 1, 2019*
- 2019 “Complex Case Evaluation and Solutions” *Invited Speaker. The 6th World Congress of the World Federation of Associations of Pediatric Surgery (WOFAPS). Doha, Qatar. November 2, 2019*
- 2020 “Tracheobronchomalacia: Assessment and Surgical Management” *Invited Speaker. 7th ‘Utrecht Sessions’ on Congenital Heart Disease: Aortic Anomalies. Utrecht, Netherlands. February 7, 2020*
- 2022 “Airway Assessment in Pediatric Tracheo-bronchomalacia” *Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association, Tanta, Egypt. Sept 18, 2022*
- 2022 “Repair of complex Esophageal Atresia” *Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association, Tanta, Egypt. Sept 18, 2022*
- 2022 “Correction of Pediatric Tracheo-bronchomalacia” *Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association, Tanta, Egypt. Sept 19, 2022*
- 2022 “Repair of Primary and Recurrent Tracheo-esophageal fistulas” *Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association, Tanta, Egypt. Sept 19, 2022*
- 2022 “Teaching and Surgical Demonstration of Repair of Complex Airway and Esophageal Problems (with Drs Smithers and Monnier)” *Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association,*

Tanta, Egypt. Sept 20-21, 2022

2022 “Surgical Lab Teaching Session on Airway Surgery using Goat Trachea”
Invited Speaker. 2nd Annual Airway Conference, Egyptian Pediatric Surgery Association, Tanta, Egypt. Sept 20, 2022

2022 “Surgical Teaching and Demonstrations” *Invited Speaker. Schneider Children’s Medical Center, Tel Aviv, Israel. Sept 2-11, 2022.*

2023 “Tracheo-Broncho Malacia: Assessment and Surgical Management” *Invited Speaker. Indian Association of Cardiothoracic Surgeons (IATSCON 2023), Le Meridian, Columbatore, India. Feb 17, 2023. (Remote by Zoom)*

Report of Clinical Activities and Innovations

Current Licensure and Certification

- 1988 U.S. Drug Enforcement Administration
- 1991 Basic Laparoscopic Surgery
- 1991 Scientific Statistics
- 1991 Scientific Writing
- 1993 Surgical Ultrasound
- 1994 State of Massachusetts Medical License
- 1994 Advanced Techniques in Laparoscopic Surgery
- 1995 Pediatric Airway Endoscopy
- 1995 American Board of Surgery; General Surgery (Recertified: 2005; 2013)
- 1996 Advanced Videoscopic Surgery
- 1998 American Board of Surgery: Special Competence in Pediatric Surgery (Recertified: 2007, 2015)
- 2005 Robotic Certification Boston Children’s Hospital
- 2006 Laser Certification Boston Children’s Hospital
- 2007 Pediatric Advanced Life Support
- 2008 Fundamentals of Laparoscopic Surgery

Practice Activities

Surgery	Operating Room	John Hopkins All Children’s Hospital	8 days/month
Outpatient Care	Clinic	John Hopkins All Children’s Hospital	2 days/month
Patient Care Conferences	Clinics and Conference Rooms	John Hopkins All Children’s Hospital	½ day/month
Research and	Operating Room,	John Hopkins All	½ day/month

Teachings

Clinics & Conference Children's Hospital
Rooms

1999-2021 Pediatric Surgery, Fetal Surgery Boston Children's Hospital
Clinical Activity Description: General pediatric surgery practice based at Boston Children's Hospital. I perform routine pediatric surgical procedures as well as correction and amelioration of complex anomalies. My practice has particular emphasis on neonatal anomalies and prenatal management of fetal anomalies- particularly abdominal, anorectal, thoracic, and airway anomalies. I have developed expertise in the treatment of congenital diaphragmatic hernia, neck tumors, mediastinal masses, airway anomalies and complex developmental anomalies. I was the Founder and the Director of the Advanced Fetal Care Center at Boston Children's Hospital and worked closely with all pediatric specialists and the high-risk maternal fetal medicine services at the affiliated Harvard hospitals. We designed and implemented a multi-institutional multi-disciplinary fetal diagnosis and treatment program. My emphasis was on establishing the accurate prenatal diagnosis and fetal surgical treatment of severe and life-threatening congenital diseases.

I have since transitioned to Founder and Director of the Esophageal and Airway Treatment Center for the multidisciplinary diagnosis, treatment and follow-up of simple and complex airway, esophageal and vascular conditions in neonates, children and young adults. This is an innovative program that accurately diagnoses and treats many previously untreatable conditions of the esophagus and airway with novel treatments developed by an innovative highly motivated team. We have become the world's foremost program for the management of severe and complex airway and esophageal diseases.

Patient Load: 15-25 inpatients, up to 15 operations and 10-20 clinic patients a week.

2021-Present Pediatric Thoracic Surgery John Hopkins All Children's Hospital.

Clinical Innovations

Innovations:

1. Development, testing, and implementation of an implantable radio telemetry system for monitoring of the fetus during and after fetal surgery which resulted in the granting of 3 patents (#1,3,5)
[Ref 13, 16]
2. Development of a novel method to perform an endoscopic fundoplication for the treatment of gastroesophageal reflux which resulted in the granting of a patent (#2).
[Ref 15]

3. Developed methods to control labor during and after fetal surgery using nitric oxide which resulted in the granting of one patent (# 4).
[Ref 21]
4. Developed models to create fetal myelomeningocele, Chiari malformation, and developed techniques for surgical repair.
[Ref 26, 36, 37, 38]
5. Established the multidisciplinary Esophageal and Airway Treatment Center at Boston Children's Hospital.
 - a. Built program on successful collaboration between the Pulmonary, Gastrointestinal, Pediatric Surgical, Cardiovascular Surgical, Cardiology, Neonatology, Pediatric Intensive Care, Pediatric Anesthesiology, Pediatric Pain, Feeding Team, Nutrition, Social Work, Radiology, Plastic Surgery/Microvascular, Nursing, Pediatric Orthopedics, Quality, Oto-Rhino-Laryngology and Interventional Radiology services.
 - b. The EAT Center is now a recognized world leader in the diagnosis, management and surgical treatment of complex pediatric esophageal and tracheal diseases.
 - c. This includes a lifelong clinical follow-up program for all airway and esophageal patients to track outcomes and optimize patients' quality of life, as well as track and report on quality of care and quality improvement initiatives.
 - d. This center has spawned developments in many other areas including endoscopic management of esophageal strictures Ref 86, 97, 107, 119, 123, 126], the use of an esophageal sponge for management of esophageal perforation [Ref 108, Other peer reviewed publications 37], identification of other associated entities such as laryngeal cleft Ref 88, 102] and advances in the utilization of minimally invasive techniques Ref 110, Other 27, 32].
6. Adopted the previously described technique of biologic growth induction treatment for long- gap esophageal atresia initially reported by John Foker in 1997. [Foker JE et al. Development of a true primary repair for the full spectrum of esophageal atresia. *Ann Surg* 1997;226: 533-43.] This technique was not adopted by pediatric surgeons until modifications were developed and our results were reported. Critical elements which were developed to allow broader use of this technique included the use of pledgeted traction sutures placed in the upper and lower esophageal segments for external traction using bovine pericardium to prevent ingrowth. Sutures were placed through the muscular and submucosal layers of the esophagus and then brought out the chest wall to allow the application of traction on the two esophageal remnants. The esophageal segments were placed in silastic sheeting to prevent the formation of adhesions to other intrathoracic structures. Increased tension was applied less frequently than the daily application utilized by Foker. We increased the tension every two to three days. More recent innovations include increased use of internal traction which avoided the need for continued sedation and paralysis, increased use of thoracoscopic techniques for placement of the sutures and the use of recurrent laryngeal nerve monitoring. While a Nissen fundoplication was utilized in nearly all of the initial patients within a few months following the Foker process, we now restrict its use to infants with failure to thrive despite maximal medical therapy or in

whom their reflux appears to be injurious to their anastomotic outcome. This has reduced the use of Nissen fundoplication to about a quarter of the infants. [Ref 90, 132]

7. Tracheobronchomalacia is characterized by dynamic airway collapse with spontaneous breathing with anterior vascular compression, posterior membranous tracheal intrusion or both. It is frequently present in association with esophageal atresia and congenital heart disease. Traditional treatment was anterior aortopexy, securing the aorta to the posterior wall of the anterior chest which elevates both the aorta and the underlying trachea anteriorly as described by Benjamin and associates in 1976 [Benjamin B, Cohen D, Glasson M. Tracheomalacia in association with congenital tracheoesophageal fistula. *Surgery* 1976; 79:504-8]. While this could resolve the anterior vascular compression, it does not directly address posterior membranous tracheal intrusion. It has a reported failure rate of 19-25%. Early and accurate diagnosis of tracheomalacia is important because excessive airway collapse leads to ineffective ventilation and poor clearance of secretions, resulting in chronic respiratory symptoms that can progress to bronchiectasis. I developed a novel technique for the successful treatment of tracheobronchomalacia which does not resolve with aortopexy alone, after I noted that securing the posterior wall of the trachea to the underlying anterior longitudinal spinal ligament in a patient with a recurrent tracheoesophageal fistula also prevented posterior intrusion of the tracheal wall. [Ref 92, 99]

8. Multiple techniques have been utilized by pediatric surgeons to replace the esophagus all of which have their shortcomings. Use of a jejunal segment was first reported in the French literature in 1907 but it was never widely adopted for use in adults due to its many technical challenges. I have refined and popularized the use of jejunal interposition for esophageal replacement in children which avoids the issues of acid reflux seen with the gastric tube and/or gastric pullup reconstruction. Sand stasis and redundancy are often encountered with the colon conduit as well as aspiration. I have achieved improved technical success in children by using a sternotomy to place the jejunal conduit in the anterior mediastinum out of the pleural space, and resecting a portion of the manubrium and clavicle to avoid conduit compression at the thoracic inlet. In the first cohort of 10 patients, we defined the cohort of children who required microsurgical techniques to provide additional arterial input and venous drainage, “supercharging”, to the most superior portion of the conduit to improve perfusion. We have recently reported a total cohort of 55 patients in which additional modifications to our original technique were made to further enhance the success of the conduit. We have demonstrated that the “supercharging” has dramatically decreased the incidence of anastomotic leaks and strictures. We now routinely remove the thymus to allow placement of the anastomosis to the side of the trachea to avoid compression. This allows us to avoid removal of the manubrium and portion of the clavicle performed in the initial cohort of 10 patients. We have also moved to a Roux-en-Y reconstruction in most cases, routine use of recurrent laryngeal nerve monitoring as injury to the recurrent laryngeal nerves significantly complicates efforts at feeding, and routine use of an end-to-end jejunal-esophageal anastomosis to avoid progressive distension of the

blind-end of the jejunum resulting from an end of esophagus to side of jejunal anastomosis. Our results have encouraged other centers to utilize this technique. The jejunal interposition went from an almost unknown technique in pediatric surgery, to now the preferred technique by a majority of expert pediatric esophageal surgeons, according to the International Network on Esophageal Atresia (INOEA) released a consensus statement in 2017 in which they stated that “Jejunal interposition is proposed as the best option among the major EA centers”. [van der Zee, et al. Position paper of INoEA working group on long-gap esophageal atresia: For better care. Front Pediatric 2017]. [Ref 95, 109, 111, 130]

9. Recurrence of a tracheoesophageal fistula (recTEF) is reported in up to 10 - 15% of infants and children following repair of an esophageal atresia (EA) and trachea-esophageal fistula. Recurrent TEFs rarely close spontaneously and typically require intervention, either surgical or endoscopic. Given the perceived risks of re-operative surgical intervention, most recTEFs are first approached via endoscopic means with therapies that range from cauterization to injection of adhesive, sclerosant, or irritating substances into the fistula. Unfortunately, these efforts often require multiple interventions, and the reported re-recurrence rates for endoscopic interventions remain problematic, ranging from 45% to 63%, in small patient series with short term follow-up. Re-operative surgical interventions seek to separate the repaired fistula and place vascularized tissue (e.g., muscle, pleura) or prosthetic material (mesh) between the closed fistula to prevent re-recurrence. Unfortunately, published results of surgical interventions are also limited to small series, short term follow-up, and re-recurrence rates, albeit better than endoscopic interventions, still that range from 11% to 22%. Developed a new and more anatomically and functionally appropriate classification model for tracheoesophageal fistulas. Using this system, we I developed a novel technique to repair congenital, acquired and recurrent tracheoesophageal fistulas. The key steps are complete separation of the airway from the esophagus, complete resection and flush repair of the trachea side flush with the tracheal wall under bronchoscopic guidance, performing a posterior tracheopexy to the spine, and a flush repair of the esophagus often with rotation of the esophageal repair away from the airway. This technique has vastly superior results compared to prior techniques, and there have been no recurrences to date. A subsequent series with 62 patients, again with no identified recurrences has been published in the Journal of the American College of Surgeons. Compared to reported recurrence rates of 5-50% and higher. [Ref 98, 131]
10. Bronchomalacia of the left mainstem bronchus was a particular challenge often produced by intrusion of the descending aorta into the bronchus which could not be addressed by anterior suspension of the ascending aorta. Displacement of the descending aorta laterally was previously reported by Arcieri and colleagues, but they described residual bronchomalacia in 44% of the patients in their series [Arcieri L et al. Interact CardioVasc Thorac Surg. 16:23:699-704.]. I demonstrated that displacement of the descending aorta posteriorly paired with posterior bronchopexy had a much higher success rate in achieving resolution of the airway symptoms. [104]

Bronchomalacia of the left mainstem bronchus was a particular challenge often produced by intrusion of the descending aorta into the bronchus which could not be addressed by anterior suspension of the ascending aorta. Displacement of the descending aorta laterally was previously reported by Arcieri and colleagues, but they described residual bronchomalacia in 44% of the patients in their series [Arcieri L et al. Interact CardioVasc Thorac Surg. 16:23:699-704.]. I demonstrated that displacement of the descending aorta posteriorly paired with posterior bronchopexy had a much higher success rate in achieving resolution of the airway symptoms. [Ref 104,127]

Report of Technological and Other Scientific Innovations

Patents

1. Monitoring Uterine Contractions by Radiotelemetric Transmission. US patent 5,373,852. 1994 Dec 24.
2. Method for Performing a Gastric Wrap of the Esophagus for Use in Esophageal Reflux. US Patent 5,403,32. 1995 Apr 4.
3. Monitoring Fetal Characteristics by Radiotelemetric Transmission. US Patent 5,431,171. 1995 Jul 11.
4. Methods and Agents for Control and Management of Labor During Pregnancy. US Patent 5,508,045. 1996 May 16.
5. Method for Monitoring Fetal Characteristics by Radiotelemetric Transmission. US Patent 5,538,005. 1996 Jul 23.

Report of Education of Patients and Service to the Community

Education Materials for Patients and the Lay Community

1. **Jennings RW.** Severe tracheomalacia assessment and treatment. Video explains the current diagnostic methods for children with noisy breathing, with a focus on tracheomalacia. Discusses some of the current effective treatment techniques, including the posterior tracheopexy. 2015. <https://www.youtube.com/watch?v=YotyMFLMM0>
2. **Jennings RW.** Surgical management of tracheomalacia. Video at Surgical Grand Rounds on the assessment and treatment of tracheomalacia in the pediatric population. 2015. <https://www.youtube.com/watch?v=lnaClaNJjX8>
3. **Jennings RW.** Long gap esophageal atresia options. Video briefly explains the major options for the treatment of long gap esophageal atresia available in 2015. 2015 https
4. **Jennings RW.** Foker Process for Esophageal Growth. Video that explains technique of the

tension induced growth of the esophagus. 2015.
https://www.youtube.com/watch?v=zWLB7q_-h7w

5. **Jennings RW.** Video on esophageal atresia for educational and documentary purposes. 2015.
<https://www.youtube.com/watch?v=NtQeCrJv8Ek&index=1&list=PL812D991E2B1DF800>
6. **Jennings RW.** Surgery to save baby born with esophageal defect. Video on *The Doctors TV*. 2015. <http://www.thedoctorstv.com/articles/2887-surgery-to-save-baby-born-with-esophageal-defect?sf35549927=1>
7. **Jennings RW.** Families can safely choose antibiotics over appendix surgery for kids.
<http://www.reuters.com/article/us-health-surgery-appendicitis-idUSKBN0TZ33N20151216>
8. **Jennings RW.** Aberrant Right Subclavian Artery (ARSA) Explained | Ask Dr. Jennings #1. 2022. <https://youtu.be/2dlUCc1AcEU>
9. **Jennings RW.** Double Aortic Arch (DAA) Repair Explained | Ask Dr. Jennings #2. 2022.
<https://youtu.be/2dlUCc1AcEU>

Recognition

2009	Top Doctors, <i>Boston Magazine</i>
2010	Top Doctors, <i>Boston Magazine</i>
2011	Top Doctors, <i>Boston Magazine</i>
2012	Top Doctors, <i>Boston Magazine</i>
2013	Top Doctors, <i>Boston Magazine</i>
2014	Top Doctors, <i>Boston Magazine</i>
2015	Top Doctors, <i>Boston Magazine</i>
2016	Top Doctors, <i>Boston Magazine</i>
2017	Top Doctors, <i>Boston Magazine</i>
2018	Top Doctors, <i>Boston Magazine</i>
2019	Top Doctors, <i>Boston Magazine</i>
2020	Top Doctors, <i>Boston Magazine</i>

Report of Scholarship

Publications:

Peer Reviewed Publications in print or other media:

Research Investigations

1. Harrison MR, Adzick NS, **Jennings RW**, Duncan BW, Rosen MA, Filly RA, Goldberg JD, deLorimier AA, Golbus MS. Antenatal intervention for congenital cystic adenomatoid malformation. *Lancet*. 1990; 336(8721):965-7.
2. Bradley SM, Hanley FL, Duncan BW, **Jennings RW**, Jester JA, Verrier ED. Regional myocardial blood flow during cardiopulmonary bypass in the fetal lamb. *Surgical Forum*. 1990; 41:203-5.
3. Bradley SM, Hanley FL, **Jennings RW**, Duncan BW, Jester JA, Verrier ED. Regional blood flows during cardiopulmonary bypass in fetal lambs-the effect of nitroprusside. *Circulation*. 1990;82(4):413.
4. Crombleholme TM, Adzick NS, Longaker MT, Bradley SM, Duncan BW, **Jennings R**, Verrier ED, Harrison MR. Pulmonary vascular-resistance in neonatal swine-response to right pulmonary-artery occlusion, isoproterenol, and prostaglandin-E1. *J Pediatr Surg*. 1990;25(8):861-6.
5. Harrison MR, Adzick NS, **Jennings RW**, Duncan BW, Rosen MA, Filly RA, Goldberg JD, Delorimier AA, Golbus MS. Antenatal intervention for congenital cystic adenomatoid malformation. *Lancet*. 1990;336(8721):965-7.
6. Duncan BW, Harrison MR, Zanjani ED, Tarantal AF, Adzick NS, Bradley SM, Longaker MT, **Jennings RW**, Roberts LJ, Bigler ME. Immunologic evaluation of hematopoietic chimeric rhesus monkeys. *Transplant Proc*. 1991; 23(1 Pt 1):841-3.
7. Longaker MT, Whitby DJ, **Jennings RW**, Duncan BW, Ferguson MW, Harrison MR, Adzick NS. Fetal diaphragmatic wounds heal with scar formation. *J Surg Res*. 1991; 50(4):375-85.
8. **Jennings RW**, Adzick NS, Longaker MT, Duncan BW, Scheuenstuhl H, Hunt TK. Ontogeny of fetal sheep polymorphonuclear leukocyte phagocytosis. *J Pediatr Surg*. 1991; 26(7):853-5.
9. Longaker MT, Burd DAR, Gown AM, Yen TS, **Jennings RW**, Duncan BW, Harrison MR, Adzick NS. Midgestational excisional fetal lamb wounds contract in utero. *J Pediatr Surg*. 1991; 26(8):942-7; discussion 947-8.
10. Lorenz HP, Longaker MT, Perkocha LA, **Jennings RW**, Harrison MR, Adzick NS. Scarless wound repair: A human fetal skin model. *Development*. 1992; 114(1):253-9.
11. Longaker MT, Moelleken BR, Cheng JC, **Jennings RW**, Adzick NS, Mintorovich J, Levinsohn DG, Gordon L, Harrison MR, Simmons DJ. Fetal fracture healing in a lamb model. *Plast Reconstr Surg*. 1992; 90(2):161-71; discussion 172-3.
12. Bradley SM, Hanley FL, Duncan BW, **Jennings RW**, Jester JA, Harrison MR, Verrier ED. Fetal cardiac bypass alters regional blood flows, arterial blood gases, and hemodynamics in sheep. *Am*

- J Physiol. 1992; 263(3 Pt 2):H919-28.
13. **Jennings RW**, Adzick NS, Longaker MT, Lorenz HP, Estes JM, Harrison MR. New techniques in fetal surgery. *J Pediatr Surg.* 1992; 27(10):1329-33.
 14. **Jennings RW**, Lorenz HP, Duncan BW, Bradley SM, Harrison MR, Adzick NS. Adult-to-neonate lung transplantation: Anatomic considerations. *J Pediatr Surg.* 1992; 27(10):1285-90.
 15. **Jennings RW**, Flake AW, Mussan G, Harrison MR, Adzick NS, Pellegrini CA. A novel endoscopic transgastric fundoplication procedure for gastroesophageal reflux: An initial animal evaluation. *J Laparoendosc Surg.* 1992; 2(5):207-13.
 16. **Jennings RW**, Adzick NS, Longaker MT, Lorenz HP, Harrison MR. Radiotelemetric fetal monitoring during and after open fetal operation. *Surg Gynecol Obstet.* 1993; 176(1):59-64.
 17. Harrison MR, Adzick NS, Flake AW, **Jennings RW**. The CDH two-step: a dance of necessity. *J Pediatr Surg.* 1993; 28(6):813-6.
 18. Harrison MR, Adzick NS, Flake AW, **Jennings RW**, Estes JM, MacGillivray TE, Chueh JT, Goldberg JD, Filly RA, Goldstein RB, et al. Correction of congenital diaphragmatic hernia in utero: VI. Hard-earned lessons. *J Pediatr Surg.* 1993; 28(10):1411-7; discussion 1417-8.
 19. **Jennings RW**, Laquaglia MP, Leong K, Hendren WH, Adzick NS. Fetal neuroblastoma-prenatal-diagnosis and natural-history. *J Pediatr Surg.* 1993;28(9):1168-74.
 20. Hedrick MH, **Jennings RW**, MacGillivray TE, Rice HE, Flake AW, Adzick NS, Harrison MR. Chronic fetal vascular access. *Lancet.* 1993; 342(8879):1086-7.
 21. **Jennings RW**, MacGillivray TE, Harrison MR. Nitric oxide inhibits preterm labor in the rhesus monkey. *J Matern Fetal Investig.* 1993;2(4):170-5.
 22. Sabik JF, Assad RS, Hanley FL, Lerman J, **Jennings R**, Minifee P. Halothane as an anesthetic for fetal surgery. *J Pediatr Surg.* 1993;(4):542-7
 23. Piscatelli SJ, Michaels BM, Gregory P, **Jennings RW**, Longaker MT, Harrison MR, Siebert JW. Fetal fibroblast contraction of collagen matrices in vitro: The effects of epidermal growth factor and transforming growth factor-beta. *Ann Plast Surg.* 1994; 33(1):38-45.
 24. MacGillivray TE, **Jennings RW**, Rudolph AM, Ring EJ, Adzick NS, Harrison MR. Vascular changes with in utero correction of diaphragmatic hernia. *J Pediatr Surg.* 1994; 29(8):992-6.
 25. Fox VL, **Jennings RW**, Fishman S. Video esophagoscopy for thoracoscopic esophageal myotomy in children with achalasia: Initial experience. *Gastrointest Endosc.* 1996;43(4)142-.

26. Housley HT, Graf JL, Lipshutz GS, Calvano CJ, Harrison MR, **Jennings RW**. Creation of myelomeningocele in the fetal rabbit. *Pediatrics*. 1997;100(3):559-60.
27. Lipshutz GS, Albanese CT, Feldstein VA, **Jennings RW**, Housley HT, Beech R, Farrell JA, Harrison MR. Prospective analysis of lung-to-head ratio predicts survival for patients with prenatally diagnosed congenital diaphragmatic hernia. *J Pediatr Surg*. 1997; 32(11):1634-6.
28. Calvano CJ, Reddy PP, Moran ME, Boyle KE, Housley HT, **Jennings RW**, Harrison MR, Mandell J. Initial studies of holmium: YAG laser creation of spinal defects in fetal rabbits: model for urologic effects of myelomeningocele. *J Endourol*. 1998; 12(2):199-203.
29. Harrison MR, Mychaliska GB, Albanese CT, **Jennings RW**, Farrell JA, Hawgood S, Sandberg P, Levine AH, Lobo E, Filly RA. Correction of congenital diaphragmatic hernia in utero IX: fetuses with poor prognosis (liver herniation and low lung-to-head ratio) can be saved by fetoscopic temporary tracheal occlusion. *J Pediatr Surg*. 1998; 33(7):1017-22; discussion 1022-3.
30. Albanese CT, Lopoo J, Goldstein RB, Filly RA, Feldstein VA, Calen PW, **Jennings RW**, Farrell JA, Harrison MR. Fetal liver position and perinatal outcome for congenital diaphragmatic hernia. *Prenat Diagn*. 1998; 18(11):1138-42.
31. Albanese CT, **Jennings RW**, Bratton BJ, Harrison MR. One stage correction of high imperforate anus in the male neonate. *Pediatrics*. 1998;102(3):808-.
32. Albanese CT, **Jennings RW**, Filly RA, Mychaliska G, Levine A, Farrell JA, Lindsey KJ, Harrison MR. Endoscopic fetal tracheal occlusion: Evolution of techniques. *Pediatr Endosurg Innovative Tech*. 1998;2(2):47-53.
33. Albanese CT, **Jennings RW**, Smith B, Bratton B, Harrison MR. Perineal one-stage pull-through for Hirschsprung's disease. *J Pediatr Surg*. 1999; 34(3):377-80.
34. Chiba T, Harrison MR, Ohkubo T, Rollins MD, Albanese CT, **Jennings RW**. Transabdominal oxygenation using perfluorocarbons. *J Pediatr Surg*. 1999; 34(5):895-900; discussion 900-1.
35. Farrell JA, Albanese CT, **Jennings RW**, Kilpatrick SJ, Bratton BJ, Harrison MR. Maternal fertility is not affected by fetal surgery. *Fetal Diagn Ther*. 1999; 14(3):190-2.
36. Vasudevan S, Chinnici C, Wilkinson C, **Jennings RW**. Assessment of fetal spinal cord cell death due to amniotic fluid urea concentrations. *J Invest Med*. 1999;47(2)31A-A.
37. Housley HT, Graf JL, Lipshultz GS, Calvano CJ, Harrison MR, Farmer DL, **Jennings RW**. Creation of myelomeningocele in the fetal rabbit. *Fetal Diagn Ther*. 2000; 15(5):275-9.
38. Paek BW, Farmer DL, Wilkinson CC, Albanese CT, Peacock W, Harrison MR, **Jennings RW**.

- Hindbrain herniation develops in surgically created myelomeningocele but is absent after repair in fetal lambs. *Am J Obstet Gynecol.* 2000; 183(5):1119-23.
39. Paek BW, Lopoo JB, **Jennings RW**, Farmer DL, Albanese CT, Harrison MR. Safety of chronic fetal vascular access in the sheep model. *Fetal Diagn Ther.* 2001; 16(2):98-100.
 40. Kaviani A, Perry TE, Dzakovic A, **Jennings RW**, Ziegler MM, Fauza DO. The amniotic fluid as a source of cells for fetal tissue engineering. *J Pediatr Surg.* 2001; 36(11):1662-5.
 41. Marler JJ, Fishman SJ, Upton J, Burrows PE, Paltiel HJ, **Jennings RW**, Mulliken JB. Prenatal diagnosis of vascular anomalies. *J Pediatr Surg.* 2002; 37(3):318-26.
 42. Fauza DO, Barnewolt C, Brown SD, **Jennings RW**. Ultrasound-guided fetal tracheal occlusion. *J Pediatr Surg.* 2002; 37(3):300-2.
 43. Dzakovic A, Kaviani A, **Jennings RW**, Wilson JM, Fauza DO. Positive intrapulmonary oncotic pressure enhances short-term lung growth acceleration after fetal tracheal occlusion. *J Pediatr Surg.* 2002; 37(7):1007-10.
 44. Kaviani A, Guleserian K, Perry TE, **Jennings RW**, Ziegler MM, Fauza DO. Fetal tissue engineering from amniotic fluid. *J Am Coll Surg.* 2003; 196(4):592-7.
 45. Bulich LA, Myers LB, **Jennings RW**, Nemes L, Lawrence P. The EXIT-ECMO procedure for severe CDH. *Anesthesiology.* 2003;98:67-.
 46. Downard CD, Jaksic T, Garza JJ, Dzakovic A, Nemes L, **Jennings RW**, Wilson JM. Analysis of an improved survival rate for congenital diaphragmatic hernia. *J Pediatr Surg.* 2003; 38(5):729-32.
 47. Tworetzky W, **Jennings RW**, Wilkins-Huag LE, Benson CB, Marshall AC, Colan SD, van der Velde M, Perry SB, Lock JE. Balloon dilation of severe aortic stenosis in the fetus: Technical advances. *J Am Coll Card.* 2003;41(6):496A-A.
 48. Chang R, Komura M, Andreoli S, Klingenberg M, **Jennings R**, Wilson J, Fauza D. Hyperoncotic enhancement of pulmonary growth after fetal tracheal occlusion: A comparison between dextran and albumin. *J Pediatr Surg.* 2004; 39(3):324-8.
 49. Chang R, Komura M, Andreoli S, **Jennings R**, Wilson J, Fauza D. Rapidly polymerizing hydrogel prevents balloon dislodgement in model of fetal tracheal occlusion. *J Pediatr Surg.* 2004; 39(4):557-60.
 50. Asabe K, **Jennings RW**, Harrison MR, Suita S. Quantitative study of pulmonary endocrine cells in fetal, postnatal and adult sheep. *J Vet Med Sci.* 2004; 66(4):373-80.

51. Fuchs JR, Kaviani A, Oh JT, LaVan D, Udagawa T, **Jennings RW**, Wilson JM, Fauza DO. Diaphragmatic reconstruction with autologous tendon engineered from mesenchymal amniocytes. *J Pediatr Surg*. 2004; 39(6):834-8.
52. Marshall AC, van der Velde ME, Tworetzky W, Gomez CA, Wilkins-Haug L, Benson CB, **Jennings RW**, Locke JE. Creation of an atrial septal defect in utero for fetuses with hypoplastic left heart syndrome and intact or highly restrictive atrial septum. *Circulation*. 2004; 110(3):253-8.
53. Riedlinger WFJ, Vargas SO, **Jennings RW**, Estroff J, Barnwolt CE, Allmendinger N, Kozakewich HPW. Bronchial atresia (BA) is common to extralobar sequestration (ELS), intralobar sequestration (ILS), congenital cystic adenomatoid malformation (CCAM), and lobar emphysema. *Pediatr Dev Pathol*. 2004;17(2):272-.
54. Tworetzky W, Wilkins-Haug L, **Jennings RW**, van der Velde ME, Marshall AC, Marx GR, Colan SD, Benson CB, Lock JE, Perry SB. Balloon dilation of severe aortic stenosis in the fetus: potential for prevention of hypoplastic left heart syndrome: Candidate selection, technique, and results of successful intervention. *Circulation*. 2004; 110(15):2125-31.
55. Rahbar R, Vogel A, Myers LB, Bulich LA, Wilkins-Haug L, Benson CB, Grable IA, Levine D, Fishman SJ, **Jennings RW**, Estroff JA, Barnwolt CE. Fetal surgery in otolaryngology: A new era in the diagnosis and management of fetal airway obstruction because of advances in prenatal imaging. *Arch Otolaryngol Head Neck Surg*. 2005; 131(5):393-8.
56. Marshall AC, Tworetzky W, Bergersen L, McElhinney DB, Benson CB, **Jennings RW**, Wilkins-Haug LE, Marx GR, Lock JE. Aortic valvuloplasty in the fetus: Technical characteristics of successful balloon dilation. *J Pediatr*. 2005; 147(4):535-9.
57. Marshall AC, Tworetzky W, Bergersen L, McElhinney DB, Benson CB, **Jennings RW**, Wilkins-Haug LE, Marx GR, Lock JE. Technical aspects of fetal aortic valve dilation. *J Am Coll Cardiol*. 2005;45(3):329A-A.
58. Kunisaki SM, Fauza DO, Nemes LP, Barnwolt CE, Estroff JA, Kozakewich HP, **Jennings RW**. Bronchial atresia: The hidden pathology within a spectrum of prenatally diagnosed lung masses. *J Pediatr Surg*. 2006; 41(1):61-5.
59. Kantarci S, Casavant D, Prada C, Russell M, Byrne J, Haug LW, **Jennings R**, Manning S, Blaise F, Boyd TK, Fryns JP, Holmes LB, Donahoe PK, Lee C, Kimonis V, Pober BR. Findings from aCGH in patients with congenital diaphragmatic hernia (CDH): A possible locus for Fryns syndrome. *Am J Med Genet A*. 2006; 140(1):17-23.
60. Asabe K, **Jennings RW**, Harrison MR. Pulmonary endocrine cells in hypoplastic lungs due to fetal urinary tract obstruction: A microscopic immunohistochemical study. *Asian J Surg*. 2006; 29(1):31-5.

61. Kunisaki SM, **Jennings RW**, Fauza DO. Fetal cartilage engineering from amniotic mesenchymal progenitor cells. *Stem Cells Dev.* 2006; 15(2):245-53.
62. Kunisaki SM, Chang RW, Andreoli S, Lewicke S, Pena-Peterson S, **Jennings RW**, Fauza DO. Hyperoncotic enhancement of fetal pulmonary growth after tracheal occlusion: An alveolar and capillary morphometric analysis. *J Pediatr Surg.* 2006; 41(7):1214-8.
63. Wilkins-Haug LE, Tworetzky W, Benson CB, Marshall AC, **Jennings RW**, Lock JE. Factors affecting technical success of fetal aortic valve dilation. *Ultrasound Obstet Gynecol.* 2006; 28(1):47-52.
64. Riedlinger WF, Vargas SO, **Jennings RW**, Estroff JA, Barnewolt CE, Lillehei CW, Wilson JM, Colin AA, Reid LM, Kozakewich HP. Bronchial atresia is common to extralobar sequestration, intralobar sequestration, congenital cystic adenomatoid malformation, and lobar emphysema. *Pediatr Dev Pathol.* 2006; 9(5):361-73.
65. Kunisaki SM, Barnewolt CE, Estroff JA, Myers LB, Fauza DO, Wilkins-Haug LE, Grable IA, Ringer SA, Benson CB, Nemes LP, Morash D, Buchmiller TL, Wilson JM, **Jennings RW**. Ex utero intrapartum treatment with extracorporeal membrane oxygenation for severe congenital diaphragmatic hernia. *J Pediatr Surg.* 2007; 42(1):98-104; discussion 104-6
66. Barnewolt CE, Kunisaki SM, Fauza DO, Nemes LP, Estroff JA, **Jennings RW**. Percent predicted lung volumes as measured on fetal magnetic resonance imaging: A useful biometric parameter for risk stratification in congenital diaphragmatic hernia. *J Pediatr Surg.* 2007; 42(1):193-7
67. Kunisaki SM; Barnewolt CE; Estroff JA; Ward VL; Nemes LP; Fauza DO; **Jennings RW**. Large fetal congenital cystic adenomatoid malformations: Growth trends and patient survival. *J Pediatr Surg.* 2007; 42(2): 404-10.
68. Kunisaki SM; Fauza DO; Barnewolt CE; Estroff JA; Myers LB; Bulich LA; Wong G; Levine D; Wilkins-Haug LE; Benson CB; **Jennings RW**. Ex utero intrapartum treatment with placement on extracorporeal membrane oxygenation (EXIT-to-ECMO) for fetal thoracic masses. *J Pediatr Surg.* 2007; 42(2):420-5.
69. Hayward MJ, Kharasch V, Sheils C, Friedman S, Dunleavy MJ, Utter S, Zurakowski D, **Jennings R**, Wilson JM. Predicting inadequate long-term lung development in children with congenital diaphragmatic hernia: An analysis of longitudinal changes in ventilation and perfusion. *J Pediatr Surg.* 2007;42(1):112-6.
70. Kunisaki SM, Barnewolt CE, Estroff JA, Nemes LP, **Jennings RW**, Wilson JM, Fauza DO. Liver position is a prenatal predictive factor of prosthetic repair in congenital diaphragmatic hernia. *Fetal Diagn Ther.* 2008; 23(4):258-62.
71. Noonan KM, Russell M, VanMarcke, RP, Longoni M, Furey A, **Jennings RW**, Wilson JM, Pober

- BR, Lee C, Donahoe PK. Identification and characterization of genetic hotspots and potential candidate genes for congenital diaphragmatic hernia by high density array comparative genomic hybridization. *J Am Coll Surg*. 2008;207(3):S44-S5.
72. Kunisaki SM, Fauza DO, Craig N, **Jennings RW**. Extracorporeal membrane oxygenation as a bridge to definitive tracheal reconstruction in neonates. *J Pediatr Surg*. 2008; 43(5): 800-4.
73. Fauza DO, **Jennings RW**, Teng YD, Snyder EY. Neural stem cell delivery to the spinal cord in an ovine model of fetal surgery for spina bifida. *Surgery*. 2008; 144(3):367-73.
74. Steigman SA, Nemes L, Barnewolt CE, Estroff JA, Valim C, **Jennings RW**, Fauza DO. Differential risk for neonatal surgical airway intervention in prenatally diagnosed neck masses. *J Pediatr Surg*. 2009; 44(1):76-9.
75. Bae DS, Barnewolt CE, **Jennings RW**. Prenatal diagnosis and treatment of congenital differences of the hand and upper limb. *J Bone Joint Surg Am*. 2009; 91-A: 31-39.
76. Vogel M, McElhinney DB, Marcus E, Morash D, **Jennings RW**, Tworetzky W. Significance and outcome of left heart hypoplasia in fetal congenital diaphragmatic hernia. *Ultrasound Obstet Gynecol*. 2010; 35(3):310-7.
77. Stoffan AP, Wilson JM, **Jennings RW**, Wilkins-Haug LE, Buchmiller TL. Does the ex-utero intrapartum treatment to extracorporeal membrane oxygenation procedure change outcomes for high-risk patients with congenital diaphragmatic hernia? *J Pediatr Surg*. 2012; 47(6):1053-7.
78. Ackerman KG, Vargas SO, Wilson JA, **Jennings RW**, Kozakewich HPW, Pober BR. Congenital diaphragmatic defects: Proposals for a new classification based on observations in 234 patients. *Pediatr Dev Path*. 2012;15(4):265-74.
79. Adams SR, Durfee S, Pettigrew C, Katz D, **Jennings R**, Ecker J, House M, Benson CB, Wolfberg A. Accuracy of sonography to predict estimated weight in fetuses with gastroschisis. *J Ultrasound Med*. 2012;31(11):1753-8.
80. Scholl J, Durfee SM, Russell MA, Heard AJ, Iyer C, Alammari R, Coletta J, Craigo SD, Fuchs KM, D'Alton M, House M, **Jennings RW**, Ecker J, Panda B, Tanner C, Wolfberg A, Benson CB. First-trimester cystic hygroma: Relationship of nuchal translucency thickness and outcomes. *Obstet Gynecol*. 2012;120(3):551-9.
81. Durfee SM, Benson CB, Adams SR, Ecker J, House M, **Jennings R**, Katz D, Pettigrew C, Wolfberg A. Postnatal outcome of fetuses with the prenatal diagnosis of gastroschisis. *J Ultrasound Med*. 2013; 32(3):407-12.
82. **Jennings RW**, Hamilton TE, Smithers CJ, Ngercham M, Foker JE. Surgical approaches to aortopathy for severe tracheomalacia. *J Pediatr Surg* 2014; 49(1); 66-70.

83. Bairdain S, Kelly DP, Tan C, Dodson B, Zurakowski D, **Jennings RW**, Trenor CC, High incidence of catheter-associated venous thromboembolic events in patients with long gap esophageal atresia treated with the Foker process. *J Pediatr Surg*. 2014; 49(2):370-3.
84. Manfredi MA, **Jennings RW**, Anjum MW, Hamilton TE, Smithers CJ, Lightdale JR Externally removable stents in the treatment of benign recalcitrant strictures and esophageal perforations in pediatric patients with esophageal atresia. *Gastrointest Endosc*. 2014; 80(2): 246-52.
85. Liszewski MC, Bairdain S, Buonomo C, **Jennings RW**, Taylor GA. Imaging of long gap esophageal atresia and the Foker process: Expected findings and complications. *Pediatr Radiol*. 2014; 44(4):467-75.
86. Manfredi MA, **Jennings R**, Ngo PD. Endoscopic electrocautery incisional therapy as a treatment for refractory pediatric esophageal strictures. *Gastrointest Endosc*. 2014;79(5):AB140.
87. Ngercham M, Lee EY, Zurakowski D, Tracy DA, **Jennings R**. Tracheobronchomalacia in pediatric patients with esophageal atresia: Comparison of diagnostic laryngoscopy/bronchoscopy and dynamic airway multidetector computed tomography. *J Pediatr Surg*. 2015; 50(3):402-7.
88. Fraga JC, Adil EA, Kacprowicz A, Skinner ML, **Jennings R**, Lillehei C, Rahbar R. The association between laryngeal cleft and tracheoesophageal fistula: Myth or reality? *Laryngoscope*. 2015; 125(2):469-74.
89. Hseu A, Recko T, **Jennings R**, Nuss R. Upper airway anomalies in congenital tracheoesophageal fistula and esophageal atresia patients. *Ann Otol Rhinol Laryngol*. 2015; 124(10):808-13.
90. Bairdain S,* Hamilton TE*, Smithers CJ, Manfredi M, Ngo P, Gallagher D, Zurakowski D, Foker JE, **Jennings RW**. Foker process for the correction of long gap esophageal atresia: Primary treatment versus secondary treatment after prior esophageal surgery. *J Pediatr Surg*. 2015; 50(6):933-7. *Indicated co-first authors
91. Bairdain S, Dodson B, Zurakowski D, Rhein L, Snyder BD, Putman M, **Jennings RW**. High incidence of fracture events in patients with long-gap esophageal atresia (LGEA): A retrospective review prompting implementation of standardized protocol. *Bone Reports*. 2015;3:1-4.
92. Bairdain S, Smithers CJ, Hamilton TE, Zurakowski D, Rhein L, Foker JE, Baird C, **Jennings RW**. Direct tracheobronchopexy to correct airway collapse due to severe tracheobronchomalacia: Short-term outcomes in a series of 20 patients. *J Pediatr Surg*. 2015; 50(6):972-977.
93. Algarrahi K, Franck D, Ghezzi CE, Cristofaro V, Yang X, Sullivan MP, Chung YG, Affas S, **Jennings R**, Kaplan DL, Estrada CR Jr, Mauney JR. Acellular bi-layer silk fibroin scaffolds support functional tissue regeneration in a rat model of onlay esophageal atresia. *Biomaterials* 2015; 53:149-59.

94. Bairdain S, Dodson B, Zurakowski D, Waisel DB, **Jennings RW**, Boretsky KR. Paravertebral nerve block catheters using chloroprocaine in infants with prolonged mechanical ventilation for treatment of long-gap esophageal atresia. *Paediatr Anesth*. 2015; 25(11):1151-7.
95. Bairdain S, Foker JE, Smithers CJ, Hamilton TE, Labow BI, Baird CW, Taghinia AH, Feins N, Manfredi M, **Jennings RW**. Jejunal interposition after failed esophageal atresia repair. *J Am Coll Surg*. 2015; Vol 22(6) 1001-1008.
96. Kelly DP, Bairdain S, Zurakowski D, Dodson B, Harney KM, **Jennings RW**, Trenor CC. Quality improvement program reduces venous thromboembolism in infants and children with long-gap esophageal atresia (LGEA). *Pediatr Surg Int*. 2016;32(7):691-6.
97. Manfredi MA, Hall AM, Ngo P, Smithers CJ, Hamilton TE, **Jennings RW**. The utility of volumetric laser endomicroscopy in the evaluation of esophageal wall layers in patients with esophageal atresia. *Gastrointest Endosc*. 2016; 83(5): AB299.
98. Smithers CJ, Hamilton TE, Manfredi MA, Rhein L, Ngo P, Gallagher D, Foker JE, **Jennings RW**. Categorization and repair of recurrent and acquired tracheoesophageal fistulae occurring after esophageal atresia repair. *J Pediatr Surg*. 2016; 52(3), 424-430.
99. Shieh HF, Smithers CJ, Hamilton TE, Zurakowski D, Rhein L, Manfredi M, Baird C, **Jennings RW**. Posterior tracheopexy for severe tracheomalacia. *J Pediatr Surg* 2017;52:22-5.
100. Bairdain, S, Zurakowski, D, Vargas SO, Stenquist, McDonald M, Towne MC, Miller DT, **Jennings RW**, Kantor DB, Agrawal PB. Long-gap esophageal atresia is a unique entity within the esophageal atresia defect spectrum. *Neonatology*. 2017; 111: 140-144.
101. Shieh HF, Smithers CJ, Hamilton TE, Zurakowski D, Visner GA, Manfredi MA, Baird CW, **Jennings RW**. Posterior tracheopexy for severe tracheomalacia associated with esophageal atresia (EA): Primary treatment at the time of initial EA repair versus secondary treatment. *Front Surg*. 2017;4:00080.
102. Londahl M, Irace AL, Kawai K, Dombowski ND, **Jennings R**, Rahbar R. Prevalence of laryngeal cleft in pediatric patients with esophageal atresia. *JAMA Otolaryngol Head Neck Surg*. 2018;144(2):164-168.
103. Algarrahi K, Franck D, Cristofaro V, Yang X, Savarino A, Affas S, Schaäfer FM, Ghezzi C, **Jennings R**, Nedder A, Kaplan DL, Sullivan MP, Estrada CR Jr, Mauney J. Bi-layer silk fibroin grafts support functional tissue regeneration in a porcine model of onlay esophagoplasty. *J Tissue Eng Regen Med*. 2018;12(2): e894-e904.

104. Shieh HF, Smithers CJ, Hamilton TE, Zurakowski D, Visner GA, Manfredi MA, **Jennings RW***, Baird CW*. Descending aortopexy and posterior tracheopexy for severe tracheomalacia and left mainstem bronchomalacia. *Semin Thorac Surg.* 2018;31:479-85, 2018 *Denotes co-senior author
105. Kamran A, Smithers CJ, Manfredi MA, Hamilton TE, Ngo PD, Zurakowski D, **Jennings RW**. Slide esophagoplasty vs end-to-end anastomosis for recalcitrant esophageal stricture after esophageal atresia repair. *J Am Coll Surg.* 2018;226:1045-50 Dec 7.
106. Svetanoff WJ, Smithers CJ, **Jennings R**. Weighted abdominal traction for assistance in abdominal closure. *J Pediatr Surg Case Reports.* 2018;29:59-62.
107. Manfredi MA, Clark SJ, Medford S, Staffa SJ, Ngo P, Hamilton TE, Smithers CJ, **Jennings RW**. Endoscopic electrocautery incisional therapy as a treatment for refractory benign pediatric esophageal strictures. *J Pediatr Gastroenterol Nutr.* 2018 Oct; 67(4): 464-468.
108. Manfredi MA, Clark SJ, Staffa SJ, Ngo PD, Smithers CJ, Hamilton TE, **Jennings RW**. Endoscopic esophageal vacuum therapy: A novel therapy for esophageal perforations in pediatric patients. *J Pediatr Gastroenterol Nutr.* 2018 Dec; 67(6): 706-712.
109. Ganske IM, Firriolo JM, Nuzzi LC1, Ganor O, Hamilton TE, Smithers CJ, **Jennings RW**, Upton J3rd, Labow BI, Taghinia AH. Double supercharged jejunal interposition for late salvage of long-gap esophageal atresia. *Ann Plast Surg.* 2018 Jun 13; 81(5): 553-559.
110. Kamran A, Hamilton TE, Zendejas B, Nath B, **Jennings RW**, Smithers CJ. Minimally invasive surgical approach for posterior tracheopexy to treat severe tracheomalacia: Lessons learned from initial case series. *J Laparoendosc Adv Surg Tech A.* 2018 Dec; 28(12):1525-1530.
111. Firriolo JM, Nuzzi LC, Ganske IM, Hamilton TE, Smithers CJ, Ganor O, Upton J, Taghinia AH, **Jennings RW***, Labow BI*. Supercharged jejunal interposition: A reliable esophageal replacement in pediatric patients. *Plast Reconstr Surg.* 2019; 143(6): 1266e-1276e.
112. Lawlor C, Smithers CJ, Hamilton T, Baird C, Rahbar R, Choi S*, **Jennings R***. Innovative management of severe tracheobronchomalacia using anterior and posterior tracheobronchopexy. *Laryngoscope* 2019 Mar 25. *Indicated co-senior authors
113. Mongerson CRL, **Jennings RW**, Zurakowski D, Bajic D. Quantitative MRI study of infant regional brain size following surgery for long-gap esophageal atresia requiring prolonged critical care. *Int J Dev Neurosci.* 2019 Sep 26

114. Solodiuk JC, **Jennings RW**, Bajic D. Evaluation of postnatal sedation in full-term infants. *Brain Sci.* 2019 May 17; 9(5).
115. Mongerson CRL, Wilcox SL, Goins SM, Pier DB, Zurakowski D, **Jennings RW**, Bajic D. Infant brain structural MRI analysis in the context of thoracic non-cardiac surgery and critical care. *Front Pediatr.* 2019 Aug 2;7:315. Article 315
116. Rudisill SS, Wang JT, Jaimes C, Mongerson CRL, Hansen AR, **Jennings RW**, Bajic D. Neurologic injury and brain growth in the setting of long-gape esophageal atresia perioperative critical care: A Pilot Study. *Brain Sci.* 2019 Dec 17;9(12):383. PMID:31861169
117. Muensterer OJ, Sterlin A, Oetzmann von Sochaczewski C, Lindner A, Heimann A, Balus A, Dickmann J, Nuber M, Patel VH, Manfredi MA, **Jennings RW**, Smithers CJ, Fauza DO, Harrison MR. An experimental study on magnetic esophageal compression anastomosis in piglets. *J Pediatr Surg.* 2020 Mar 55(3):425-432.
118. Svetanoff WJ, Zendejas, Smithers CJ, Prabhu SP, Baird CW, **Jennings RJ**, Hamilton TE. Great vessel anomalies and their impact on the surgical treatment of tracheobronchomalacia. *J Pediatr Surg.* 2020 Jul(7):1302-1308.
119. Ngo PD, Kamran A, Clark SJ, **Jennings RW**, Hamilton TE, Smithers CJ, Zendejas B, Yasuda JL, Zurakowski D, Manfredi MA. Intralesional steroid injection therapy for esophageal anastomotic stricture following esophageal atresia repair. *J Pediatr Surg Gastroenterol Nutr.* 2020 Apr; 70(4):462-467.
120. Yasuda, JL, Staffa SJ, Clark SJ, Ngo PD, Zendejas B, Hamilton TE, **Jennings RW**, Manfredi MA. Endoscopic incisional therapy and other novel strategies for effective treatment of congenital esophageal stenosis. *J Pediatr Surg.* 2020 Jan 30:S0022-3468(20)30050-6. PMID: 32057439
121. Mongerson CRL, Jaimes C, Zurakowski D, **Jennings RW**, Bajic D. Infant corpus callosum size after surgery and critical care for long-gape esophageal atresia: Qualitative and quantitative MRI. *Sci Rep.* 2020 Apr 14;10(1):6408.
122. Yasuda JL, Staffa SJ, Ngo PD, Clark SJ, **Jennings RW**, Manfredi MA. Comparison of detection methods for tracheoesophageal fistulae with a novel method: Capnography with CO2 insufflation. *J Pediatr Gastroenterol Nutr.* 2020 May; 70(5): e88-e93.
123. Clark SJ, Staffa SJ, Ngo PD, Yasuda JL, Zendejas B, Hamilton TE, **Jennings RW**, Manfredi MA. Rules are meant to be broken: Examining the “Rule of 3” for esophageal dilations in pediatric stricture patients. *J Pediatr Gastroenterol Nutr.* 2020 Jul; 71(1):e1-e5.

124. Chow OS, Hoganson DM, Kaza AK, Chavez M, Altin FH, Marx GR, Friedman KG, **Jennings RW**, Baird CW. Early infant symptomatic patients with TOF-APV: Pulmonary artery management and airway stabilization. *Ann Thorac Surg.* 2020 11;110(5):1644-1650.
125. Svetanoff JW, Zendejas B, Ngo P, Manfredi M, Hamilton TE, **Jennings RW**, Smithers CJ. The left-sided repair: An alternative approach for difficult esophageal atresia repair. *J Pediatr Surg.* 2020 Nov 13.
126. Yasuda JL, Taslitsky GN, Staffa SJ, Clark SJ, Ngo PD, Hamilton TE, Zendejas B, **Jennings RW**, Manfredi MA. Utility of repeated therapeutic endoscopies for pediatric esophageal anastomotic strictures. *Dis Esophagus.* 2020; Dec 07;33(12).
127. Svetanoff WJ, Zendejas B, Frain L, Visner G, Smithers CJ, Baird CW, Prabhu SP, **Jennings RW**, Hamilton TE. When to consider a posterolateral descending aortopexy in addition to a posterior tracheopexy for the surgical treatment of symptomatic tracheobronchomalacia. *J Pediatr Surg.* 2020 Dec; 55(12):2682-2689.
128. Yasuda JL, Svetanoff WJ, Staffa SJ, Zendejas B, Hamilton TE, **Jennings RW**, Ngo PD, Smithers CJ, Manfredi MA. Prophylactic negative vacuum therapy of high-risk esophageal anastomoses in pediatric patients. *J Pediatr Surg.* 2020 Dec 13.
129. Yasuda JL, Ngo PD, Staffa SJ, Zendejas B, Hamilton TE, **Jennings RW**, Manfredi MA. Commentary on “Break the Rule of Three: Critical thoughts from a tertiary care experience with Bougie dilators”. *J Pediatr Gastroenterol Nutr.* 2021 Jan 01;72(1):e29.
130. Thompson K, Zendejas B, Svetanoff WJ, Labow B, Taghinia A, Ganor O, Manfredi M, Ngo P, Smithers J, Hamilton T, **Jennings RW**. Evolution, Lessons learned and contemporary outcomes of esophageal replacement with jejunum for children. *Surg* (in press).
131. Kamran A, Zendejas B*, Meisner J, Choi SS, Munoz-San Julian C, Ngo P, Manfredi M, Yasuda C, Smithers CJ, Hamilton TE, **Jennings RW**. Posterior tracheopexy eliminates the risk of recurrence in children following repair of a recurrent trachea-esophageal fistula. *J Am Coll Surg* (in press).
132. Svetanoff WJ, Zendejas B, Hernandez K, Davidson K, Ngo P, Manfredi M, Clark S, Hamilton TE, **Jennings RW**, Smithers CJ. Contemporary outcomes of the Foker process and evolution of treatment algorithms for long-gap esophageal atresia. *J Pediatr Surg* (in press).
133. Kagan MS, Wang JT, Pier DB, Zurakowski D, **Jennings RW**, Bajic D. Infant Perioperative Risk Factors and Adverse Brain Findings Following Long-Gap Esophageal Atresia Repair. *Journal of Clinical Medicine.* 2023; 12(5):1807. <https://doi.org/10.3390/jcm12051807>

Other Peer-Reviewed Publications

1. Murray KF, **Jennings RW**, Fox VL. Endoscopic band ligation of a Dieulafoy lesion in the small intestine of a child. *Gastrointest Endosc.* 1996;44(3):336-339.

2. Graf JL, Strear C, Bratton B, Housley HT, **Jennings RW**, Harrison MR, Albanese CT. The antegrade continence enema procedure: A review of the literature. *J Pediatr Surg.* 1998; 33(8):1294-6.
3. Lipshutz GS, Albanese CT, Harrison MR, **Jennings RW**. Anterior cervical approach for repair of laryngotracheoesophageal cleft. *J Pediatr Surg.* 1998;33(2):400-2.
4. Strear CM, Graf JL, Albanese CT, Harrison MR, **Jennings RW**. Successful treatment of liver hemorrhage in the premature infant. *J Pediatr Surg.* 1998;33(6):849-51.
5. Lopoo JB, Albanese CT, **Jennings RW**, Tyrell D, Harrison MR, Duh QY. Laparoscopic adrenalectomy in children. *Pediatr Endosurg Innovative Tech.* 1998;2(3):107-10.
7. Lipshutz GS, Albanese CT, **Jennings RW**, Bratton BJ, Harrison MR. A strategy for primary reconstruction of long gap esophageal atresia using neonatal colon esophagoplasty: A case report. *J Pediatr Surg.* 1999; 34(1):75-7; discussion 77-8.
8. Lipshutz GS, Lopoo JB, **Jennings RW**, Farrell J, Harrison MR, Albanese CT. Are bilateral fetal lung masses double trouble? *Fetal Diagn Ther.* 1999;14(6):348-50.
9. Lopoo JB, Tyrell D, **Jennings RW**, Harrison MR, Safadi B, Bratton B, Albanese CT. Combined laparoscopic splenectomy and cholecystectomy in pediatric patients: A three-port technique. *Pediatr Endosurg Innovative Tech.* 1999;3(2):79-82.
10. Wilkinson CC, Albanese CT, **Jennings RW**, Feldstein VA, Goldberg JD, Baehner FL, Farrell JA, Peacock WJ, Harrison MR. Fetal neurenteric cyst causing hydrops: Case report and review of the literature. *Prenat Diagn.* 1999;19(2):118-21.
11. Graf JL, Paek BW, Albanese CT, Farrell JA, Kitterman JA, **Jennings RW**, Harrison MR. Successful resuscitation during fetal surgery. *J Pediatr Surg.* 2000;35(9):1388-9.
12. Lipshutz GS, **Jennings RW**, Lopoo JB, Farmer D, Harrison MR, Albanese CT. Slide tracheoplasty for congenital tracheal stenosis: A case report. *J Pediatr Surg.* 2000;35(2):259-61.
13. Chiba T, Albanese CT, **Jennings RW**, Filly RA, Farrell JA, Harrison MR. In utero repair of rectal atresia after complete resection of a sacrococcygeal teratoma. *Fetal Diagn Ther.* 2000;15(3):187-90.

14. Graf JL, Albanese CT, **Jennings RW**, Farrell JA, Harrison MR. Successful fetal sacrococcygeal teratoma resection in a hydropic fetus. *J Pediatr Surg*. 2000;35(10):1489-91.
15. Lopoo JB, Paek BW, Maichin GA, Lipshutz GS, **Jennings RW**, Farmer DL, Sandberg PL, Feldstein VA, Filly RA, Farrell JA, Harrison MR, Albanese CT. Cord ultrasonic transection procedure for selective termination of a monochorionic twin. *Fetal Diagn Ther*. 2000;15(3):177-9.
16. Levine D, **Jennings R**, Barnewolt C, Mehta T, Wilson J, Wong G. Progressive fetal bronchial obstruction caused by a bronchogenic cyst diagnosed using prenatal MR imaging. *AJR Am J Roentgenol*. 2001;176(1):49-52.
17. Seefelder C, Elango S, Rosbe KW, **Jennings RW**. Oesophageal perforation presenting as esophageal atresia in a premature neonate following difficult intubation. *Paediatr Anesth*. 2001;11(1):112-8.
18. Paek BW, **Jennings RW**, Harrison MR, Filly RA, Tacy TA, Farmer DL, Albanese CT. Radiofrequency ablation of human fetal sacrococcygeal teratoma. *Am J Obstet Gynecol*. 2001;184(3):503-7.
19. Fishman SJ, **Jennings RW**, Johnson SM, Kim HB. Contouring buttock reconstruction after sacrococcygeal teratoma resection. *J Pediatr Surg*. 2004;39(3):439-41.
20. Myers LB, Bulich LA, Mizrahi A, Barnewolt C, Estroff J, Benson C, Kim HB, **Jennings R**. Ultrasonographic guidance for location of the trachea during the EXIT procedure for cervical teratoma. *J Pediatr Surg*. 2003;38(4):E12.
21. Morof D, Levine D, Grable I, Barnewolt C, Estroff J, Fishman S, Rahbar R, **Jennings RW**. Oropharyngeal teratoma: Prenatal diagnosis and assessment using sonography, MRI, and CT with management by ex utero intrapartum treatment procedure. *AJR Am J Roentgenol*. 2004;183(2):493-6.
22. Gura KM, Duggan CP, Collier SB, **Jennings RW**, Folkman J, Bistran BR, Puder M. Reversal of parenteral nutrition-associated liver disease in two infants with short bowel syndrome using parenteral fish oil: Implications for future management. *Pediatrics*. 2006;118(1):197-201.
23. Kunisaki SM, **Jennings RW**. Fetal surgery. *J Intensive Care Med* 2008;23(1):33-51.
24. Suhr M, **Jennings RW**, Miller J, Ryan K. Retrospective case study of team approach to omphalacele orthosis fabrication and implementation. *Pediatr Phys*

Ther. 2008;20 (3): 284-7.

25. Kunisaki SM, Fauza DO, Craig N, **Jennings RW**. Extracorporeal membrane oxygenation as a bridge to definitive tracheal reconstruction in neonates. *J Pediatr Surg*. 2008;43(5):800-4.
26. Marino M, **Jennings RW**, Seefelder C. Correspondence: Cephalad migration of a thoracic epidural catheter in a 15-month-old. *J Clin Anesth*. 2009; 21:538-546.
27. Perger L, Kim HB, Jaksic T, **Jennings RW**, Linden BC. Thoracoscopic aortopexy for treatment of tracheomalacia in infants and children. *J Laparoendosc Adv Surg Tech A*. 2009; 19 Suppl 1:S249-54.
28. Yu DC, Voss SD, Javid PJ, **Jennings RW**, Weldon CB. In utero diagnosis of congenital pyloric atresia in a single twin using MRI and ultrasound. *J Pediatr Surg* 2009; 44(11): e21-4.
29. Nakamura Y, **Jennings RW**, Connolly S, Diamond DA. Fetal diagnosis of penoscrotal transposition associated with perineal lipoma in one twin. *Fetal Diagn Ther*. 2010;27(3):164-7.
30. Hinich E, **Jennings RW**, Clendenin D. Intermittent single lung ventilation in a 620-gram micropremie during postintubation carinal laceration repair. *Pediatr Anesth*. 2010;27(3):164-7.
31. Smithers CJ, Javid PJ, Turner CG, Klein JD, **Jennings RW**. Damage control operation for massive sacrococcygeal teratoma. *J Pediatr Surg* 2011;46(3):566-9.
32. Gray FL, **Jennings RW**. Thoracoscopic aortopexy for the treatment of pediatric tracheomalacia: A right-sided approach. *J Thorac Cardiovasc Surg* 2011; 16(4): 322-330.
33. Klein JD, Turner CG, Dobson LJ, Kozakewich H, **Jennings RW**. Familial case of prenatally diagnosed intralobar and extralobar sequestrations with cystadenomatoid change. *J Pediatr Surg*. 2011;46(2):e27-31.
34. Dionigi B, Bairdain S, Smithers CJ, **Jennings RW**, Hamilton TE. Restoring esophageal continuity following a failed colonic interposition for long-gap esophageal atresia. *J Surg Case Rep*. 2015;2015(4).
35. Baird CW, Prabhu S, Buchmiller TL, Smithers C, **Jennings R**. Direct tracheobronchopexy and posterior descending aortopexy for severe left mainstem bronchomalacia associated with congenital pulmonary airway malformation and left circumflex aortic arch. *Ann Thorac Surg*. 2016;102(1):e1-4.

36. Van der Zee DC, Barolan P, Faure C, Gottrand F, **Jennings R**, Laberge JM, Martinez Ferro MH, Parmentier B, Sfeir R, Teague W. Position paper of INoEA working group on long-gap esophageal atresia: For better care. *Front Pediatr* 2017;5(63).
37. Fraga JC, Nunes DL, Andreolio C, Ferreira J, Holanda F, Isolan PS, **Jennings R**. Endoscopic vacuum sponge therapy for an infant with an esophageal leak. *J Thorac Cardiovasc Surg*. 2018;156(5):e193-e195.
38. Svetanoff WJ, Smithers CJ, **Jennings R**. Weighted abdominal traction for assistance in abdominal closure. *J Pediatr Surg Case Reports*. 2018;29:59-62.
39. Hodkinson DJ, Mongerson CRL, **Jennings RW**, Bajic D. Neonatal functional brain maturation in the context of perioperative critical care and pain management: A case report. 2019 Aug 23;5(8):e02350.
40. Kamran A, Friedman KG, **Jennings RW**, Baird CW. Aortic uncrossing and tracheobroncopexy corrects tracheal compression and tracheobronchomalacia associated with circumflex aortic arch. *J Thoracic Cardiovasc Surg* 2020 Sept; 160(3):796-804.

Non-peer reviewed scientific or medical publications/materials in print or other media:

Reviews, chapters, monographs and editorials

1. **Jennings RW**, Adzick NS, Harrison MR. Fetal surgery. In: Evans MI (ed): *Reproductive Risks and Prenatal Diagnosis*. Norwalk: Appleton and Lange; 1991. p. 311-320.
2. **Jennings RW**, Adzick NS, Harrison MR. Fetal surgery. In: Atwell JD, Burge DM, Freeman NV, Griffiths M (eds): *Surgery of the Newborn*. London: Churchill-Livingstone; 1991. p. 320-331.
3. **Jennings RW**, Hunt TK. Overview of postnatal wound healing. In: Adzick NS, Longaker MT (eds): *Fetal Wound Healing*. New York: Elsevier Scientific; 1991. p. 25-53.
4. **Jennings RW**, Adzick NS, Harrison MR. Fetal intervention for obstructive uropathy. In: O'Donnell BA, Koff SA (eds): *Pediatric Urology*. Surrey: Butterworth Scientific; 1994. p. 330-338.
5. Tendick F, **Jennings RW**, Tharp G, Stark L. Perception and manipulation problems in endoscopic surgery: Experiment, analysis, and observation. In: Taylor R, Lavalley S, Burdick G, Moesges R (eds): *Computer Integrated Surgery*. MIT Press; 1995. p. 567-576.

6. **Jennings RW**. Recent problems in fetal surgery. In: Proceedings of the 8th Annual Fukuoka International Symposium on Perinatal Medicine; 1997.
7. **Jennings RW**. Prune belly syndrome. *Semin Pediatr Surg.* 2000; 9(3):115-20.
8. Manning SM, **Jennings RW**, Madsen JR. Pathophysiology, prevention, and potential treatment of neural tube defects. *Ment Retard Dev Disabil Res Rev.* 2000;6(1):6-14. Review.
9. Wilkins-Huang L, **Jennings RW**, Ponkey SE. Fetal Therapy. In: Sokol, RJ. ACOG Update Program; 2001.
10. Cauldwell CB, Rosen MA, **Jennings RW**. Anesthesia and monitoring for fetal intervention. In: Harrison MR, Evans MI, Adzick NS, Holzgreve W (eds): *The Unborn Patient: The Art and Science of Fetal Therapy.* Saunders, 2001. p. 149-69.
11. Wilkins-Haug LE, Benson CB, Tworetzky W, Marshall AC, **Jennings RW**, Lock JE. In utero intervention for hypoplastic left heart syndrome: A perinatologist's perspective. *Ultrasound Obstet Gynecol.* 2005; 26(5):481-6.
12. Kunisaki SM, **Jennings RW**. Fetal surgery. *Operative Obstetrics*, 2nd Edition. 2008:638-62.
13. Kunisaki SM, **Jennings RW**. Fetal surgery. *J Intensiv Care Med.* 2008;23(1):33-51.
14. Klein JD, Barnewolt CE, **Jennings RW**. Current and future treatment of fetal thoracic masses. *Expert Review of Obstetrics and Gynecology.* 2009;4(2):201-17.
15. Turner CGB, Tworetzky W, Wilkins-Haug LE, **Jennings RW**. Cardiac Anomalies in the Fetus. *Clinics in Perinatology.* 2009;36(2)439-.
16. Turner C, Wilkins-Haug L, Tworetzky W, **Jennings R**. Cardiac anomalies in the fetus. *Clinics in Perinatology* 2009; 36 (2): 439-449.
17. Fraga JC, Jennings RW, Kim PC. Pediatric tracheomalacia. *Semin Pediatr Surg.* 2016; 25: 156-167
18. Bairdain S, Zurakowski D, Baird C, **Jennings RW**. Surgical treatment of tracheobronchomalacia: A novel approach. *Paediatr Respir Rev.* 2016;19:16-20.
20. Shieh HF, **Jennings RW**. Long-gap esophageal atresia. *Semin Pediatr Surg.* 2017; 26: 72-77.

21. Shieh HF, **Jennings RW**. Three-dimensional printing of external airway splints for tracheomalacia. *J Thorac Dis* 2017;9(3):414-416.
22. Choi S, Lawlor C, Rahbar R, **Jennings R**. Diagnosis, classification, and management of pediatric tracheobronchomalacia: A review. *JAMA Otolaryngol Head Neck Surg*. 2018 Dec 27. [Epub ahead of print]
23. Kamran A, Baird CW, **Jennings RW**. Tracheobronchomalacia, tracheobronchial compression, and tracheobronchial malformations: Diagnostic and treatment strategies. *Semin Thorac Cardiovasc Surg Pediatr Card Surg Annu*. 2020;23:53-61.
24. Claire M. Lawlor, Benjamin Zendejas, Christopher Baird, Carlos Munoz-San Julian, **Russell W. Jennings**, Sukgi S. Choi. Intraoperative recurrent laryngeal nerve monitoring during pediatric cardiac and thoracic surgery: A mini review. *Front. Pediatr.*, 27 November 2020. PMID: 587177

Letters to the Editor

1. Wilkins-Haug LE, Benson CB, Tworetzky W, Marshall AC, **Jennings RW**, Lock JE. Re: In-utero intervention for hypoplastic left heart syndrome: For which fetus and for what? Reply. *Ultrasound Obstet Gynecol*. 2006;27(1):101-2.
2. Wilkins-Haug LE, Tworetzky W, Benson CB, Marshall AC, **Jennings RW**, Lock JE. In-utero intervention for hypoplastic left heart syndrome-a perinatologist's perspective-Reply. *Ultrasound Obstet Gynecol*. 2006;27(3):333.
3. Wilkins-Haug LE, Tworetzky W, Benson CB, Marshall AC, **Jennings RW**, Lock JE. Reply [3]. *Ultrasound Obstet Gynecol*. 2006;27(3):333.
4. **Jennings R**. Reply to letter to the editor. *J Pediatr Surg*. 2015;50(3)402-7.

Professional Educational Materials or Reports, in print or other media

1. Ali Kamran, Richard N. Yu, Thomas E. Hamilton, Bharath Nath, Benjamin Zendejas, **Russell W. Jennings**, Charles J. Smithers, First Report of Robot-Assisted Thoracoscopic Posterior Tracheopexy to Treat Severe Tracheomalacia, Videoscope. XXXX, DOI: 10.1089/vor.2018.0543.

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings: (Last three years)

3. Manfredi MA, Clark SJ, Ngo PD, Smithers CJ, Hamilton TE, Medford S, **Jennings RW**. Endoscopic vacuum sponge therapy for the treatment of esophageal perforations in pediatric

patients. Annual NASPGHN Meeting, Las Vegas, NV, 2017. *winner of NASPGHAN 2017 Endoscopy Prize.*

Narrative report of Research, Teaching, and Clinical Contributions

Intense curiosity, a deep desire to solve previously unsolvable surgical conundrums and improve surgical outcomes beyond expectations, and my unquestioned tenacity – on these building blocks I have built my career as a surgical innovator in the field of pediatric and fetal surgery. This work has been both immensely rewarding and extremely challenging, and has resulted in critical advancements in fetal and pediatric surgery.

Throughout my career at Boston Children's Hospital, I have instituted key programs and practices. As the founder and Director of the Advanced Fetal Care Center (AFCC) until 2009, my major focus was the development of surgical treatment options for prenatally identified congenital anomalies. These included fetal as well as intrapartum procedures; I helped establish the world's first fetal cardiac surgery program as well as conducted Boston's first Ex Utero Intrapartum Treatment (EXIT) procedure - both of which are now routine at Boston Children's and other major fetal centers. The AFCC continues as the preeminent fetal consult program in New England serving as a conduit for neonatal surgical cases as well as a unique training venue for several pediatric specialties and obstetrical trainees.

In 2002 I developed the giant omphalocele program as the only program in the world that treats huge abdominal wall defects by growing the abdominal wall, resulting in many previously hopeless children now leading normal lives. In 2004 I started the diaphragm pacing program which provides a minimally invasive treatment for children with breathing dysfunction allowing them to gain freedom from ventilators and tracheostomies. This was the largest program in New England.

In 2009 my focus turned to the then-unsolved problem of long-gap esophageal atresia through induction of esophageal growth. Building on the Foker Process, I was able to improve beyond the then current standard of care for patients with complex esophageal atresia. Along these lines, I have also developed a variety of jejunal conduit replacement options for patients with unsalvageable esophageal conditions, including caustic ingestion as well as extremely complicated post-surgical esophageal reconstruction. Furthermore, my work with the esophagus frequently involves extensive airway reconstruction, and subsequently led to the development of the first clinically relevant classification systems for tracheoesophageal fistulas and for tracheobronchomalacia. This seminal approach to understanding these conditions allowed us to redefine the underlying diseases and pathophysiology develop several novel surgical treatments for tracheoesophageal fistulas and airway problems with outcomes that far exceed current standards of care.

In the last couple of years, we have identified more complex problems in esophageal dysfunction and airway compression.

Working closely with orthopedic surgery, Dr. Brian Snyder, and have developed techniques to expand the A-P diameter of the chest to reduce compression. The manuscript is under revision.

We have also identified a serious complication of recurrent laryngeal nerve injury with airway, cardiac and esophageal surgery. We have now developed techniques and tracheal/esophageal and

trained cardiac anesthesia, nurses and surgeons to place these monitors to protect the recurrent laryngeal nerves during cervical, mediastinal and thoracic surgery – even in small babies.

We are also working intensely with cardiac surgery and have developed new surgical approaches to improve outcomes of vascular ring repairs of all types. This is now rolling out as every Tuesday cardiac surgery room.

In addition, often the cardiac surgeons and cardiologists identify problems with airway anomalies – some postoperative such as left mainstem compression from coarctation repair, tracheal compression from dilated aorta, etc. We are actively developing new approaches to improve airway function in these vascular compression syndromes.

Our success with these patients has transcended expectations: With fewer complications and proven superior outcomes, the Esophageal and Airway Treatment (EAT) Center in Boston Children’s Hospital has become the world’s leader in the diagnosis and treatment of complex esophageal and airway anomalies. My approach to solving the most refractory cases – first as individual operations and then through the development of standardized protocols, has allowed the previously considered unsolvable cases to be routinely treated successfully. I am repeating the success of the Boston EAT center at the EAT center at Johns Hopkins All Children’s Hospital where we continue to innovate with pharyngeal reconstruction; laryngeal reconstruction for type ... My lectures and mentoring in and out of the operating room serve to teach and inspire surgeons, fellows and residents – in many disciplines, from across the United States and around the globe – to think deeply, to remain curious, to understand the problem, to creatively define the solution, and employ technical skills, team building and tenacity to solve the problem.

The future of this unique approach to diagnosis and treatment of complex esophageal and airway problems is bright. There is enthusiasm for development of centers of excellence in North America, South America and Europe. We have helped establish a successful esophageal program in Gdansk, Poland. Genoa, Italy is working to set up an EAT Center in the Gaslini Children’s Hospital. We are in the early stages of working with Santiago, Chile and Porto Alegre, Brazil, and we are supporting the efforts to start a program in Salt Lake City, Utah. As a further effort at education of families, parents, and all specialists caring for these problems, we are arranging for the first International Conference on Management of Complex Esophageal and Airway Anomalies in October 2018.

I have been deeply involved in medical student, resident, fellow and surgeon education. The vast majority of this has been “case-based” either in the clinics or in the operating room. My goal has been to instill in the trainees a culture of understanding the problems deeply, innovative problem solving and superb technical skills.