

**Harvard Medical School/Harvard School of Dental Medicine  
Format for the Curriculum Vitae**

**Date Prepared:** 06/09/2018

**Name:** Rachel Rosen

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**Education**

1994	BA, Magna Cum Laude	Biology	Harvard University
1998	MD	Medicine	Dartmouth Medical School
2004	MPH	Clinical Effectiveness	Harvard School of Public Health

**Postdoctoral Training**

07/98-06/01	Resident	Pediatrics	Duke University Medical Center
07/01-06/04	Fellow	Clinical Pediatric Gastroenterology	Harvard Medical School Boston Children's Hospital

**Faculty Academic Appointments**

07/04-08/08	Instructor	Pediatrics	Harvard Medical School
09/08-11/16	Assistant Professor	Pediatrics	Harvard Medical School
11/16-Present	Associate Professor	Pediatrics	Harvard Medical School

**Appointments at Hospitals/Affiliated Institutions**

07/04-Present	Attending Physician	Pediatric Gastroenterology	Boston Children's Hospital
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**Other Professional Positions**

07/11-06/16	Special Appointee, Gastrointestinal Drug Advisory Panel	Food and Drug Administration
07/16-07/20	Permanent Member, Gastrointestinal Drug Advisory Panel	Food and Drug Administration

**Major Administrative Leadership Positions**

**Local**

07/04-06/12	Co-Director, Center for Aerodigestive Disorders	Boston Children's Hospital
11/09, 11/10	Course Co-Director, What's New in	Harvard Medical School

07/12- Present	Pediatric Aerodigestive Disorders Director, Aerodigestive Center	Boston Children's Hospital
07/13- Present	Associate Director of Clinical Research, Division of Gastroenterology	Boston Children's Hospital
07/14- Present	Member, T32 Gastroenterology Fellowship Steering committee	Boston Children's Hospital
01/15- Present	Member, Gastroenterology Research Committee	Boston Children's Hospital
07/16- Present	Member, Harvard Digestive Disease Center Executive Committee	Boston Children's Hospital
07/16- Present	Scholarship Oversight Committee Co- Director	Boston Children's Hospital
07/18- Present	T32 Co-Investigator/Mentor	Boston Children's Hospital
07/18- Present	Section Chief, Motility, Division of Gastroenterology	Boston Children's Hospital

#### **National and International**

01/15-9/15	Organizer, Pediatric Session	OESO International Annual Meeting
05/15	Elected member, Nominating Committee	American Gastroenterological Association
10/16- Present	Founding Member	Aerodigestive Society
11/16- Present	Founding Chair	Aerodigestive Special Interest Group, NASPGHAN
12/17-Present	Executive Committee Member, Elected	Aerodigestive Society
01/18-10/18	Co-Chair	Motility Single Day Symposium, NASPGHAN Annual Meeting
12/18	Vice Chair, Pediatric Motility and Functional GI Disorders Abstract Review Committee	American Gastroenterological Association

#### **Committee Service**

##### **Local**

2012- Present	T32 Steering Committee	Boston Children's Hospital
2014-2015	Scholarship Oversight Committee, Meena Ganesh	Boston Children's Hospital
2015	GI Statistician Search Committee	Boston Children's Hospital
2013- Present	Lung Transplant Practice Committee	Boston Children's Hospital
2014- Present	Aspiration Evidence Based Guideline Committee	Boston Children's Hospital
2014- Present	Residency Interviewing Committee	Boston Children's Hospital

## Regional

### National and International

2011	International impedance consensus panel	International consortium of investigators Member
2014- Present	Esophageal atresia consensus group	NASPGHAN/ESPGHAN Member
2014- Present	Gastroesophageal reflux consensus group	NASPGHAN/ESPGHAN Member
2015	OESO Annual Conference	Pediatric Conference Organizer
2013-2016	Abstract Reviewer	NASPGHAN Annual Meeting
2016- Present	Aerodigestive Society	Member, Annual Meeting Organizing Committee
2017- Present	Aerodigestive Society	Executive Committee Member, elected
2018- Present	American Society of Pediatric Otolaryngology	Ad Hoc Committee, Appointed Member Contemporary Landscape of Multispecialty Aerodigestive Care and the Pediatric Otolaryngologist's Role

### Professional Societies

2001- Present	North American Society for Pediatric Gastroenterology and Nutrition	
	2010-2012	Member, 3 person expert committee to design the NASPGHAN GERD teaching slideset
	2013-Present	Member, Impedance working group
	2013-2015	Member, Research Committee
	2015-Present	Member, 5 person committee to design GERD slide set for the American Academy of Pediatrics
	2015-Present	Member, 5 person expert committee to create and deliver a GERD webinar for gastroenterologists
	2016-Present	Member, Motility Committee
	2017-Present	Chair, Aerodigestive Interest Group

### Grant Review Activities

2013-2017	Grant Review Committee	North American Society for Pediatric Gastroenterology and Nutrition
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2014- Present	Grant Review Committee	Member Translational Research Program Boston Children's Hospital
2016- Present	Grant Review committee	Harvard Digestive Disease Center

### Editorial Activities

#### **Ad Hoc Reviewer**

American Journal of Physiology - Gastrointestinal and Liver Physiology  
 Journal of Pediatrics  
 PLoS One  
 Neurogastroenterology and Motility  
 Journal of Pediatric Gastroenterology and Nutrition  
 Alimentary Pharmacology and Therapeutics  
 JAMA Pediatrics  
 Pediatric Pulmonology  
 Acta Paediatrica  
 World Journal of Pediatrics  
 Pediatrics  
 American Journal of Gastroenterology

#### **Other Editorial Roles**

2013-2015	Editor	Gastroenterology Division Newsletter
2015-Present	Associate Editor	Journal of Pediatric Gastroenterology and Nutrition

### Honors and Prizes

1994	Summa Cum Laude	Harvard University	Research
1996	Trainee Investigator Award	Biomedicine Conference	Research
1997	Syvertsen Scholar Award	Dartmouth Medical School	Academic
1997	Alpha Omega Alpha	Dartmouth Medical School	Academic
2004	Young Investigator Award	World Congress for Pediatric Gastroenterology and Nutrition	Research
2005	Pediatric Investigator- Clinical Science Award	International Foundations for Functional Gastrointestinal Disorders	Research
2006	Research Excellence in Gastroenterology and Nutrition Award	University of Kansas	Research
2007	Young Faculty Clinical Investigator Award	North American Society for Pediatric Gastroenterology and Nutrition	Research
2013	William F. Ballistreri Award for Excellence	North American Society for Pediatric Gastroenterology and	Research

	in Pediatric Gastroenterology, Hepatology and Nutrition	Nutrition	
2014	Neurogastroenterology and Motility Prize	North American Society for Pediatric Gastroenterology and Nutrition	Research
2015	Attending of the Year	Boston Children's Hospital Division of Gastroenterology	Teaching
2017	Neurogastroenterology and Motility Prize	North American Society for Pediatric Gastroenterology and Nutrition	Research

## **Report of Funded and Unfunded Projects**

### **Funding Information**

#### **Past**

2006-2007	Non-acid reflux and respiratory disease Glaser Pediatric Research Fellowship PI The goal of this research was to determine the relationship between chronic cough and non-acid reflux.
2008-2011	Predictors of Fundoplication outcomes Boston Children's Hospital Career Development Fellowship PI This study will determine historical and clinical predictors of fundoplication outcome in children with gastroesophageal reflux.
2007-2013	Non-acid reflux and respiratory diseases NIDDK/K23 DK073713 PI This study will determine the relationship between non-acid reflux, respiratory disease and long-term clinical prognosis.
2010-2013	Microaspiration as a cause for respiratory disease NIDDK/R03 DK089146 PI

This study will determine, in patients with asthma and cough: (1) if full column reflux results in aspiration of gastric contents into the lung; (2) if aspiration of gastric contents results in lung inflammation; and (3) if the bacterial composition in the lungs mimics the bacterial composition in gastric fluid in children with reflux-related pulmonary disease.

- 2013-2014    Management of Aspiration  
Department of Medicine Evidence Based Guideline Grant  
Boston Children's Hospital  
Co-I  
This project funded the development of hospital guidelines to encourage oral feeding in children that aspirate to reduce the number of gastrostomy tubes placed hospital-wide.
- 2014-2017    Pepsin and bacteria as a trigger for neutrophil trans-epithelial migration: a mechanism behind reflux related lung disease  
NASPGHAN/ASTRA Research Award for Disorders of the Upper Gastrointestinal Tract.  
PI  
The goal of this research is to determine the factors in gastric fluid which trigger neutrophil migration in a lung epithelial model.
- 2012-2017    Acid suppression related changes in microflora  
Boston Children's Hospital Translational Research Junior Investigator Award  
PI  
The goal of this study is to document the changes in gastrointestinal flora related to acid suppression use in children.
- Current**
- 2015-2020    Changes in gastrointestinal flora in children taking PPIs  
NIDDK/R01DK097112-01A1  
PI  
This study will determine the effects of microbiome changes over time in children treated with acid suppression use and will document the microbiome effects which predict infection risk.
- 2016-2017    Microbiome and metabolomics changes in exhaled breath condensate as a marker of extraesophageal reflux disease

Translational Research Program Pilot Award

PI

This study will determine the unique metabolomics and microbiome signatures in exhaled breath condensate in patients with and without gastroesophageal reflux disease.

2017-2020 Microbiome changes in patients taking proton pump inhibitors

Translational Research Program Senior Scientist Award

PI

This study will determine the effects of microbiome changes over time in children treated with acid suppression use.

### Current Unfunded Projects

## Report of Local Teaching and Training

### Teaching of Students in Courses

2008	Gastrointestinal pathophysiology 2 <sup>nd</sup> year medical students	Harvard Medical School 1 hour
2014- Present	Gastrointestinal pathophysiology 2 <sup>nd</sup> year medical students	Harvard Medical School 1 hour
2016	1 <sup>st</sup> year medical students esophageal physiology	Harvard Medical School 2 hours

### Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2002	Impedance and non-acid reflux Gastroenterology fellows	1 hour lecture Boston Children's Hospital
2003	Intractable GERD 1-3 <sup>rd</sup> year residents	1 hour lecture Boston Children's Hospital
2006- Present	Gastroesophageal Reflux 2 <sup>nd</sup> year residents 4 times a year	1 hour lecture Boston Children's Hospital
2007	Esophageal motor disorders 1-3 <sup>rd</sup> year residents	1 hour lecture Boston Children's Hospital
2010	Aerodigestive cases: when the GI tract impacts the lungs Pulmonary fellows	1 hour lecture Boston Children's Hospital
2011	Esophageal atresia Gastroenterology fellows	1 hour lecture Boston Children's Hospital
2012	Management of supraesophageal reflux symptoms Gastroenterology fellows	1 hour lecture Boston Children's Hospital
2013	Feeding tubes in children with serious illnesses Palliative care fellows	1 hour lecture Dana Farber
2013	Aerodigestive cases: what we do the voodoo that we do Gastroenterology fellows	1 hour lecture Boston Children's Hospital
2012-	GERD	1 hour lecture

Present 2014	Otolaryngology fellows Fundoplication	Boston Children's Hospital 1 hour lecture
2015- Present	Gastroenterology fellows How to succeed in clinical research Gastroenterology fellows	Boston Children's Hospital 1 hour lecture Boston Children's Hospital

### Clinical Supervisory and Training Responsibilities

2004-Present	Attending in Pediatric Gastroenterology consult service	4 weeks per year
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### Laboratory and Other Research Supervisory and Training Responsibilities

#### Formally Supervised Trainees

#### Formal Teaching of Peers (e.g., CME and other continuing education courses)

2009	GERD: Epidemiology and treatment of extraesophageal symptoms	Single presentation Boston
	What's new in pediatric aerodigestive disorders, Harvard Medical School	
2010	Asthma and GERD: Partners in crime	Single presentation Boston
	What's new in pediatric aerodigestive disorders, Harvard Medical School	
2011	GERD in Neonates	Single presentation Boston
	Massachusetts Medical Society, Harvard Medical School	
2012	GERD and Eosinophilic esophagitis	Single presentation Boston
	PriMed, Harvard Medical School	
2012	Diagnostic testing for GERD	Single presentation Boston
	Advances in pediatric gastroenterology, Harvard Medical School	
2012	Are PPIs over prescribed?	Single presentation Boston
	Advances in pediatric gastroenterology, Harvard Medical School	
2012	Non-cardiac chest pain	Single presentation Boston
	GI Motility and Functional Gastrointestinal Disorders, Harvard Medical School	
2012	GERD and sleep disorders	Single presentation Boston
	Update in pediatric sleep disorders, Harvard Medical School	
2013	Non-acid reflux and fundoplication	Single presentation Boston
	GI Motility and Functional Gastrointestinal Disorders, Harvard Medical School	
2013	Fundoplication debate	Single presentation Boston
	Advances in pediatric gastroenterology, Harvard Medical School	



2013	Cases of refractory GERD Advances in pediatric gastroenterology, Harvard Medical School	Single presentation Boston
2014	Esophageal Motility Disorders GI Motility and Functional Gastrointestinal Disorders, Harvard Medical School	Single presentation Boston
2015	Impedance testing: To test or not to test, Advances in pediatric gastroenterology, Harvard Medical School	Single presentation Boston
2015	Esophageal Function Testing, Advances in pediatric gastroenterology, Harvard Medical School	Single presentation Boston
2015	GI issues in the aerodigestive patient Innovative care in pediatric feeding and swallowing, Boston Children's Hospital CME	Single Presentation Boston
2015	The gastric and lung microbiome: The case for gastroesophageal reflux disease, The gut microbiome in health and disease, Harvard Medical School	Single Presentation Boston, MA
2016	Where is the fun in fundoplication, Advances in pediatric gastroenterology, Harvard Medical School	Single Presentation Boston, MA
2016	PPI: To use or not to use, Advances in pediatric gastroenterology, Harvard Medical School	Single Presentation Boston, MA
2017	Aerodigestive Cases, Advances in pediatric gastroenterology, Harvard Medical School	Single Presentation Boston, MA

### Local Invited Presentations

#### **No presentations below were sponsored by outside entities**

2003	Use of impedance in the evaluation of GERD/GI grand rounds Department of Medicine, Boston Children's Hospital
2004	Management and evaluation of GERD/Lunchtime speaker series Harvard Vanguard Medical Associates,
2004	Use of impedance in the evaluation of respiratory symptoms/GI research conference Department of Medicine, Boston Children's Hospital
2005	Esophageal function testing/GI grand rounds Department of Medicine, Boston Children's Hospital
2007	All that wheezes is not reflux/GI grand rounds Department of Medicine, Boston Children's Hospital
2007	What 20 million Americans are clamoring to know: does non-acid reflux matter?/GI retreat Department of Medicine, Boston Children's Hospital
2007	Advances in GERD detection/GI grand rounds Department of Medicine, Boston Children's Hospital
2008	Reflux in children with special needs/ Coordinated Care Service conference Department of Medicine, Boston Children's Hospital
2008	GERD in pediatrics/Anesthesia grand rounds Department of Anesthesia, Boston Children's Hospital
2009	Diagnosis and management of GERD/Surgical ground rounds Department of Surgery/ Boston Children's Hospital
2010	Diagnostic testing for reflux/Pulmonary conference Department of Medicine, Boston Children's Hospital

2011 Updates in aerodigestive disorders/ GI grand rounds  
Department of Medicine, Boston Children's Hospital

2013 Aerodigestive cases/ GI grand rounds  
Department of Medicine, Boston Children's Hospital

2014 Gastroesophageal Reflux/Neonatal Grand Rounds  
Department of Medicine, Boston Children's Hospital

2014 Aspiration/GI Grand Rounds  
Department of Medicine, Boston Children's Hospital

2014 From Bedside to Bench: Novel biomarkers for reflux related lung disease/Translational  
Research Conference  
Department of Medicine, Boston Children's Hospital

2015 Desperation with Aspiration/Pulmonary Grand Rounds  
Department of Medicine, Boston Children's Hospital

2016 NERD/GI Grand Rounds  
Department of Medicine, Boston Children's Hospital

2016 Biomarkers of GERD/GI Basic Science Conference  
Department of Medicine, Boston Children's Hospital

2016 PPIs: Pros and Cons  
PPOC Webinar, Boston Children's Hospital

2016 Diagnosis and treatment of GERD in neonates/Neonatal Weekly Conference  
Division of Neonatology, Boston Children's Hospital

2016 Upper GI Motility  
GI Fellows Conference, Boston Children's Hospital

2017 GERD  
Pulmonology Fellows Conference, Boston Children's Hospital

2017 Beyond Heartburn: The diagnosis and treatment of extraesophageal reflux  
Department of Medicine Grand Rounds, Boston Children's Hospital

2018 Diagnosis and Management of Aspiration  
OPEN Pediatrics, Boston Children's Hospital

## **Report of Regional, National and International Invited Teaching and Presentations**

### **Invited Presentations and Courses**

#### **Regional**

#### **No presentations below were sponsored by outside entities**

2003 Impedance in pediatrics/Fall course  
New England Society of Gastroenterology Nurses Fall Course, Burlington, MA

2008 Asthma and GERD/ Allergy/Asthma/ENT Annual course  
American Academy of Physician Assistants in Asthma, Allergy and Immunology, Boston, MA

2010 Diagnostic and therapeutic advances in reflux/grand rounds (visiting professor)  
Baystate Medical Center, Springfield, MA

2011 GERD in neonates/Annual course  
Massachusetts Medical Society, Waltham, MA

2014 GERD in neonates/Annual course  
Massachusetts Medical Society, Waltham, MA

## National

### No presentations below were sponsored by outside entities

- 1996 Granulocyte-macrophage colony stimulating factor preferentially activates the 94-kD STAT 5A and an 80-kD STAT 5A isoform in human peripheral blood monocytes/ Research forum (abstract)  
Biomedicine Conference, Washington, DC
- 2004 Components of gastroesophageal reflux (GER) that contribute to respiratory symptoms: A study using multichannel intraluminal impedance (MII) with pH/ Research forum (abstract)  
Digestive Disease Week, New Orleans, LA
- 2005 Pharmacology of Gut Motility/ Meet-the-Professor speaker  
NASPGHAN Annual Conference, Salt Lake City, UT
- 2005 Impedance: A new phenomenon/ Postgraduate course  
NASPGHAN Annual Postgraduate Course, Salt Lake City, UT
- 2006 LLMI does not accurately predict reflux-related respiratory disease/ Research forum (abstract)  
NASPGHAN Annual Conference, Orlando, FL
- 2007 New technologies to diagnose esophageal motor disorders/ Postgraduate Course  
APGNN Annual Nursing Conference, Salt Lake City, UT
- 2007 pH-MII does not predict outcomes after fundoplication/ Research forum (abstract)  
Digestive Disease Week, Washington, DC
- 2008 Anatomic Considerations in the Aerodigestive Patient/ Invited speaker  
NASPGHAN Annual Meeting, San Diego, CA
- 2009 Chronic Cough in Pediatrics/ Invited Speaker  
American Academy of Allergy, Asthma and Immunology Annual Meeting, Washington, D.C.
- 2009 Definitions, Diagnostic Testing, and Direct Exposure to the Airway/ Invited Speaker,  
NASPGHAN Satellite Symposium, Washington DC
- 2010 Chronic Cough in Children/ Invited Speaker  
American Academy of Allergy, Asthma and Immunology National Meeting, New Orleans, LA
- 2010 Pepsin is correlated with non-acid reflux burden but not disease severity/Research forum (abstract)  
NASPGHAN annual meeting, New Orleans, LA
- 2011 GERD and Eosinophilic Esophagitis/Invited Speaker  
Primed Annual Conference, Boston, MA
- 2012 GERD in Infants/Invited Speaker  
Pediatric Academic Societies Annual Meeting, Boston, MA
- 2012 Desperation with Aspiration: The role of reflux in the aspirating child/ Invited speaker  
NASPGHAN Annual Meeting, Salt Lake City, UT
- 2012 Coming up for air: the diagnosis and management of gastroesophageal reflux disease/ Invited speaker  
Aerodigestive Conference, Cincinnati, OH
- 2013 Aspiration of gastric contents can occur in the presence of an intact swallow mechanism/ Research forum (abstract)  
Digestive Disease Week Annual Conference, Orlando, FL

- 2013 Beyond Reflux: A Team Approach To Explicate The Esophageal Impact On Respiratory Disease / Invited speaker  
American Thoracic Society Annual Meeting, Philadelphia, PA
- 2013 Failure of gastroesophageal reflux therapies: All that refluxes is not acid/Invited speaker  
Hot Topics in Neonatology, Washington, DC
- 2014 The impact of full column, non-acid reflux on oropharyngeal flora and its implications for acid suppression use/Research Forum (abstract)  
Digestive Disease Week, Chicago, IL  
Complications of Reflux Therapies/Invited Speaker
- 2014 Contemporary Management of Aerodigestive Disorders, Nashville, TN  
Extraesophageal Reflux Diagnosis and Treatment/Invited Speaker
- 2014 Contemporary Management of Aerodigestive Disorders, Nashville, TN  
The impact of full column nonacid reflux on oropharyngeal flora and its implications for acid suppression use/Research Forum (abstract)
- 2014 NASPGHAN Annual Meeting, Atlanta, GA  
Gastroesophageal reflux, even in children who aspirate, does not increase risk of Hospitalization/ Research Forum (abstract)  
NASPGHAN Annual Meeting, Atlanta, GA
- 2015 NERD: A four letter word/Invited Speaker  
NASPGHAN Annual Meeting, Washington, DC
- 2015 GERD: Are we over treating/Invited Speaker  
Hot Topics in Pediatrics, Orlando, FL
- 2015 Abdominal Pain: It's not in your head/Invited Speaker  
Hot Topics in Pediatrics, Orlando FL
- 2015 GERD and Feeding in the child with interstitial lung disease/Invited speaker  
Interstitial Lung Disease Annual Conference, Boston MA
- 2015 GERD in Neonates/Invited speaker  
John J Fangman endowed lectureship, Neonatal Grand Rounds, Minneapolis, MN
- 2015 Diagnostic testing for GERD: More than acid/ Invited speaker  
Pediatric Grand Rounds, Children's Hospitals of Minnesota, Minneapolis, MN
- 2015 Aerodigestive disorders: Beyond reflux/ Invited speaker  
Mayo Pediatric Grand Rounds, Rochester, MN
- 2015 Novel uses for impedance and high resolution manometry/ Invited speaker  
Mayo Pediatric Gastroenterology Division, Rochester, MN
- 2015 GERD—Esophageal and Extra-Esophageal Manifestations, Evidence-Based Diagnosis and Treatment/Invited speaker, Denver, CO
- 2016 Laryngeal Inflammation does not correlate with gastroesophageal reflux by pH-MII/Invited Speaker  
Digestive Disease Week Annual Meeting, San Diego, CA
- 2016 Esophageal function testing: When, why and how?/Invited speaker  
American Neurogastroenterology and Motility Postgraduate Course, San Francisco, CA
- 2016 Diagnosis and Treatment of Gastroesophageal Reflux/Invited Speaker  
Contemporary Management of Aerodigestive Disorders, Nashville, TN
- 2016 Blenderized Diets in the Aerodigestive Patient/Invited Speaker  
Contemporary Management of Aerodigestive Disorders, Nashville, TN
- 2016 Cough, Sputter, Gag: A Tutorial in Pediatric Gastroenterology/Invited Speaker  
American Speech Language Hearing Association, Philadelphia, PA
- 2017 Vomiting/Invited Speaker

2017 NASPGHAN Board Review Course, Phoenix, AZ  
 Functional Gastrointestinal Disorders/Invited Speaker  
 NASPGHAN Board Review Course, Phoenix, AZ  
 2017 GERD/Invited Speaker  
 NASPGHAN Board Review Course, Phoenix, AZ  
 2017 Pediatric Motility Disorders in Aerodigestive Patients/Invited Speaker  
 American Thoracic Society, Washington, DC  
 2017 The oropharynx rather than the stomach is the primary driver of lung microbiome  
 changes in aspirating children/Invited Speaker  
 Digestive Disease Week, Chicago, IL  
 2017 The quest for the holy grail: Accurately diagnosing and treating extraesophageal reflux/  
 Invited Speaker  
 NASPGHAN Postgraduate Course, Las Vegas NV  
 2017 Treatment of GERD: What's New/Invited Speaker  
 NASPGHAN Postgraduate Course, Las Vegas NV  
 2017 The oropharynx rather than the stomach is the primary driver of lung microbiome  
 changes in aspirating children/Invited Speaker/Invited Speaker  
 NASPGHAN Annual Meeting, Las Vegas NV  
 2017 Oropharyngeal dysphagia: a fluid situation/Invited Speaker  
 NASPGHAN Annual Meeting, Las Vegas NV  
 2017 Advanced Impedance Cases/Invited Speaker  
 Hands on Motility Course, NASPGHAN Annual Meeting, Las Vegas NV  
 2017 Paths to Success in Clinical and Translational Research  
 NASPGHAN Annual Meeting, Las Vegas NV  
 2017 Beyond Heartburn: The diagnosis and treatment of extraesophageal reflux/Invited Speaker  
 Department of Medicine Grand Rounds, Yale Medical School, New Haven, CT  
 2017 The Microbiome in Aerodigestive Disorders/Invited Speaker  
 Contemporary Management of Aerodigestive Disorders Annual Meeting, Denver, CO  
 2017 The Aerodigestive Year In Review: The Gastroenterologists Perspective/Invited Speaker  
 Contemporary Management of Aerodigestive Disorders Annual Meeting, Denver, CO  
 2018 How to Succeed in Academic Medicine/Invited Speaker  
 NASPGHAN second year fellows conference, Phoenix, AZ  
 2018 Aspiration: the gastroenterologists perspective/Invited Speaker  
 American Thoracic Society Annual Meeting, San Diego, CA  
 2018 Multidisciplinary Care of the Aerodigestive Patient/Invited Speaker  
 American Thoracic Society Annual Meeting, San Diego, CA  
 2018 GERD Guidelines/Invited Speaker  
 NASPGHAN Postgraduate Course, Hollywood, FL  
 2018 Motility Meets Aerodigestive  
 Single Topic Symposium, NASPGHAN Annual Meeting, Hollywood, FL  
 2018 The importance of aerodigestive medicine: Beyond gastroesophageal reflux/  
 Visiting Professor, Jim Wright Endowed Lectureship  
 University of Alabama, Birmingham, AB  
 2018 The diagnosis and treatment of extraesophageal reflux disease/Visiting Professor  
 Columbia University, New York, New York

## **International**

### **No presentations below were sponsored by outside entities**

- 2004 Components of gastroesophageal reflux (GER) that contribute to respiratory symptoms, A study using multichannel intraluminal impedance with pH/ Research forum (abstract)  
World Congress for Pediatric Gastroenterology and Nutrition, Paris, France
- 2009 New Diagnostic Tests for Gastroesophageal Reflux Disease/ Invited Speaker  
International Conference on Extraesophageal Manifestations of Reflux, Milwaukee WI
- 2009 Extraesophageal manifestations of reflux and how to treat them/ Invited Speaker  
European Pediatric Motility Meeting, Amsterdam, Holland
- 2012 How do you evaluate GERD/Invited speaker  
OESO Annual conference, Bellagio IT
- 2012 What is the best method for determining symptom association?/ Invited speaker  
OESO Annual conference, Bellagio IT
- 2012 Biomarkers of GERD/Invited Speaker  
OESO Annual conference, Bellagio IT
- 2014 Feeding Issues in patients with esophageal atresia/Invited Speaker  
International Network of Esophageal Atresia Annual Conference, Rotterdam, Netherlands
- 2015 Novel diagnostic testing for GERD/Invited Speaker  
OESO Annual conference, Monaco
- 2015 Biomarkers of Reflux: Do they change outcome?/Invited Speaker  
OESO Annual conference, Monaco
- 2015 PPIs: Pros and Cons/Invited Speaker  
National Gastroenterology Week, Queretaro, Mexico
- 2015 Impedance: To use or not to use/Invited Speaker  
National Gastroenterology Week, Queretaro, Mexico
- 2016 Aerodigestive Disorders/Invited Speaker  
World Congress for Pediatric Gastroenterology and Nutrition, Montreal, Canada
- 2016 Impedance Hands-On Cases/Invited Speaker  
World Congress for Pediatric Gastroenterology and Nutrition, Montreal, Canada
- 2016 Pepsin and Bacteria trigger trans-epithelial neutrophil migration/Invited Speaker  
World Congress for Pediatric Gastroenterology and Nutrition, Montreal, Canada
- 2016 Aerodigestive Disorders/Invited Speaker  
Israeli Pediatric Gastroenterology Society and Pediatric Pulmonology Joint Meeting/Invited  
Speaker, Tel Aviv, Israel
- 2016 Gastroesophageal Reflux Disease/Invited Speaker  
Israeli Pediatric Gastroenterology Society and Pediatric Pulmonology Joint Meeting  
Tel Aviv, Israel
- 2016 The Impact of Motility on the Lung/Invited Speaker  
Gastroenterology Division, Hadassah Hospital, Jerusalem, Israel
- 2016 Creation of an Aerodigestive Center: Nuts and Bolts/Invited Speaker  
Schneider Children's Hospital, Tel Aviv, Israel
- 2018 Impedance: Gold or Old/Invited Speaker  
Annual Pediatric European Motility Meeting, London, UK

## **Report of Clinical Activities and Innovations**

## Current Licensure and Certification

2001 Massachusetts Medical License

## Practice Activities

2004- Present	Ambulatory Care	Pediatric Gastroenterology, Boston Children's Hospital	1.5 Sessions per week
2004- Present	Consult Attending	Pediatric Gastroenterology, Boston Children's Hospital	Four weeks per year
2004- Present	Procedures	Pediatric Gastroenterology, Boston Children's Hospital	2 sessions per month
2004- Present	Impedance interpretation	Pediatric Gastroenterology, Boston Children's Hospital	0.5 sessions per week

## Clinical Innovations

## Report of Education of Patients and Service to the Community

### Activities

2011 Moderator and Discussant on GERD educational CD/Washington University School of Medicine

## Educational Material for Patients and the Lay Community

### **Patient educational material**

2006	Symptoms arising from non-acid reflux in children.	Author	<i>Digestive Health Matters</i> 2006; 15:23.
2011	Treating gastroesophageal reflux in kids: Fact vs. sensationalism.	Author	<a href="http://childrenshospitalblog.org/treating-gastroesophageal-reflux-in-kids-fact-vs-sensationalism/">http://childrenshospitalblog.org/treating-gastroesophageal-reflux-in-kids-fact-vs-sensationalism/</a> .
2015	Can bacteria travel between the stomach and lungs in GERD	Author	<a href="http://notes.childrenshospital.org/can-bacteria-travel-between-the-stomach-and-lungs-in-gerd/">http://notes.childrenshospital.org/can-bacteria-travel-between-the-stomach-and-lungs-in-gerd/</a>

## Recognition

2014 Research featured in "Do Antacids Pose Infection Risk in The Gupta Guide, Editor Sanjay Gupta

2014	Kids?” Research featured in “Acid suppressing drugs may be linked to infection risk in children”	Formulary Watch
2014	Research featured in “Higher than Normal Bacterial Growth Found in Kids Using Antacids”	Today in Medicine
2015	Research quoted in a blog article “No effect of proton pump inhibitors in crying infants.”	Gutsandgrowth.com blog
2015	Quoted by the Associated Press in article about the intestinal microbiome and the impact on the lungs	<a href="http://www.ksl.com/?nid=157&amp;sid=36755664&amp;title=study-good-gut-bacteria-may-affect-babies-risk-of-asthma">http://www.ksl.com/?nid=157&amp;sid=36755664&amp;title=study-good-gut-bacteria-may-affect-babies-risk-of-asthma</a>
2015	Research highlighted in the VECTOR blog through Boston Children’s Hospital	<a href="http://vector.childrenshospital.org/2015/09/respiratory-illness-in-children-with-gastroesophageal-reflux-are-acid-blockers-part-of-the-problem/">http://vector.childrenshospital.org/2015/09/respiratory-illness-in-children-with-gastroesophageal-reflux-are-acid-blockers-part-of-the-problem/</a>
2015	Research highlighted in Gastroenterology and Endoscopy News	<a href="http://www.gastroendonews.com/In-the-News/Article/11-15/Antibiotics-Push-Overgrowth-of-Potentially-Harmful-Bacteria-in-Peds-on-PPIs/34174">http://www.gastroendonews.com/In-the-News/Article/11-15/Antibiotics-Push-Overgrowth-of-Potentially-Harmful-Bacteria-in-Peds-on-PPIs/34174</a>
2016	Research highlighted in a blog Article “Linking reflux to tooth erosion”	Gutandgrowth.com blog <a href="https://gutsandgrowth.wordpress.com/2016/05/04/linking-reflux-and-tooth-erosion/">https://gutsandgrowth.wordpress.com/2016/05/04/linking-reflux-and-tooth-erosion/</a>
2016	Research highlighted in a blog article “Does reflux lead to aspiration pneumonia?”	Gutsandgrowth.com blog <a href="https://gutsandgrowth.wordpress.com/2016/09/03/does-reflux-lead-to-increased-aspiration-pneumonia/">https://gutsandgrowth.wordpress.com/2016/09/03/does-reflux-lead-to-increased-aspiration-pneumonia/</a>
2017	Research highlighted in a blog article “Better to Do a Coin Toss than an ENT Examination to Determine Reflux”	Gutsandgrowth.com blog <a href="https://gutsandgrowth.wordpress.com/2017/04/18/better-to-do-a-coin-toss-than-an-ent-examination-to-determine-reflux/">https://gutsandgrowth.wordpress.com/2017/04/18/better-to-do-a-coin-toss-than-an-ent-examination-to-determine-reflux/</a>
2017	Research highlighted in a blog article “How many kids with reflux actually have reflux?”	Gutsandgrowth.com blog <a href="https://gutsandgrowth.wordpress.com/2017/10/19/how-many-kids-with-reflux-actually-have-reflux/">https://gutsandgrowth.wordpress.com/2017/10/19/how-many-kids-with-reflux-actually-have-reflux/</a>
2017	Invited expert	Pediatrics News



commentator on the risk of fractures with PPI use in children  
2018 Research highlighted in a blog article "What should an aerodigestive program look like?"  
<http://www.mdedge.com/pediatricnews/article/137815/gastroenterology/antacid-use-infants-linked-increased-fracture-risk>  
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## **Report of Scholarship**

### **Publications**

#### **Peer reviewed publications in print or other media**

##### **Research Investigations**

1. **Rosen R**, Winestock K, Chen G, Liu X, Hennighausen L, Finbloom D: Granulocyte-macrophage colony stimulating factor preferentially activates the 94-kD STAT 5A and an 80-kD STAT 5A isoform in human peripheral blood monocytes. *Blood* 1996; 88: 1206-14.
2. **Rosen R**, Integlia M, Bousvaros A. Severe pancytopenia from thiopurine methyltransferase deficiency: a preventable complication of 6-mercaptopurine therapy in children with Crohn's disease. *Journal of Pediatric Gastroenterology & Nutrition* 2002; 35: 695-9.
3. **Rosen R**, Buonomo C, Andrade R, Nurko S. Incidence of spinal cord lesions in children with intractable constipation. *Journal of Pediatrics* 2004; 145: 409-411.
4. **Rosen R**, Nurko S. The importance of multi-channel intraluminal impedance in the evaluation of children with persistent respiratory symptoms. *American Journal of Gastroenterology* 2004; 99: 2452-2548.
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6. **Rosen R**, Furuta G, Fritz J, Donovan K, Nurko S. The role of non-acid reflux in children with eosinophilic esophagitis compared to GERD and control patients. *Journal of Pediatric Gastroenterology and Nutrition* 2008; 46: 520-523.
7. **Rosen R**, Fritz J, Nurko A, Simon D, Nurko S. The lipid laden macrophage index is not an indicator of gastroesophageal reflux-related respiratory disease in children. *Pediatrics* 2008; 121: e879-e884.
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14. Chiou E, **Rosen R**, Nurko S. The impact of different pH criteria on dual-sensor pH-monitoring in the evaluation of supraesophageal gastric reflux in children. *Journal of Pediatric Gastroenterology and Nutrition* 2011; 52: 399-403.
15. Siddiqui A, **Rosen R**, Nurko S. Anorectal manometry may identify children with spinal cord lesions. *Journal of Pediatric Gastroenterology and Nutrition* 2011; 53:507-511.
16. Chiou E, **Rosen R**, Jiang H, Nurko S. Diagnosis of supra-esophageal gastric reflux: Correlation of oropharyngeal pH with esophageal impedance monitoring for gastroesophageal reflux. *Neurogastroenterology and Motility* 2011; 23: 717-725
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44. **Rosen R**, Garza J, Tipnis N, Nurko S. An ANMS-NASPGHAN consensus document on esophageal and antroduodenal manometry in children. In Press. *Neurogastroenterol Motil.* 2017 Nov 27. Epub ahead of print.
45. McSweeney M, Kerr J, Mitchell P, Fishman E, **Rosen R**. Preoperative evaluation is not predictive of transpyloric feeding conversion in gastrostomy dependent pediatric patients. *J Pediatr Gastroenterol Nutr* 2017 Dec 19. Epub ahead of print.
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5. Mahoney L and **Rosen R**. Feeding Difficulties in Children with Esophageal Atresia. *Pulmonary Reviews*. 2016 ;19:21-7.
6. **Rosen R**. Symptom association: An imperfect pairing. *J Pediatr Gastroenterol Nutr*. 2016; 62:517-8.
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10. **Rosen R**, Krishnan U, Mousa H, Dall'oglio L, Faure C, Gottrand F. The case for thoughtful prescribing of PPIs. *J Pediatr Gastroenterol Nutr*. 2017 Oct 17.
11. **Rosen R**, Rahbar R. Proton pump inhibitor use and outcomes in children with respiratory symptoms. *JAMA Otolaryngol Head Neck Surg* 2018 May 3.

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

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4. **Rosen R**, Nurko S. Reflux and Pulmonary Disease: The Pediatric Perspective In Toohill et al, editors. Effects, Diagnosis and Management of Extraesophageal Reflux, 1<sup>st</sup> edition, Nova Scientific; 2010, 457-474.
5. Khatwa U, **Rosen R**, Chiou E, Licamelli G. In Kothare and Katagal editors. Sleep in Childhood Neurological Disorders, 1<sup>st</sup> edition, Demos Publishers; 2011, 399-416.
6. Desai N, **Rosen R**. Congenital anomalies of the esophagus. In Sondheimer and Hurtado editors. The NASPGHAN Fellows Concise Review of Pediatric Gastroenterology and Hepatology and Nutrition, 1<sup>st</sup> edition, Castle Connolly Graduate Medical Publishing; 2011, 15-17.
7. Desai N, **Rosen R**. Gastroesophageal reflux and gastroesophageal reflux disease. In Sondheimer and Hurtado editors. The NASPGHAN Fellows Concise Review of Pediatric Gastroenterology and Hepatology and Nutrition, 1<sup>st</sup> edition, Castle Connolly Graduate Medical Publishing; 2011, 15-17.
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13. Duncan DR, Rosen RL. “Swallowing and Oropharyngeal Disorders” in Faure, Thapar, and Di Lorenzo's *Pediatric Neurogastroenterology: Gastrointestinal Motility and Functional Disorders in Children*, Second Edition (Springer International, New York, 2017), pp 235-242.
14. **Rosen R**. Gastroesophageal Reflux and Other Causes of Esophageal Inflammation. In Cohen editors. *Rudolph's Pediatrics*, 23<sup>rd</sup> edition; 2017, In Press.
15. Duncan DR, **Rosen RL**. “Gastroesophageal reflux and respiratory symptoms” in Vandenplas' *Pediatric Gastroesophageal Reflux in Children* (Springer International, New York, 2017), pp 183-201.
16. **Rosen R**. “A critical first step” in *Pediatrics News*, July 2017, p.8.  
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#### Clinical Guidelines and Reports:

1. Krishnan U, Mousa H, Dall'Oglio L, Homaira N, **Rosen R**, Faure C, Gottrand F. ESPGHAN-NASPGHAN Guidelines for the Evaluation and Treatment of Gastrointestinal and Nutritional Complications in Children with Esophageal Atresia- Tracheoesophageal Fistula. *J Pediatr Gastroenterol Nutr*. 2016;63:550-570.
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