CURRICULUM VITE BIOGRAPHICAL

Name: Alka Goyal, MD Citizenship: United States

Division of Pediatric Gastroenterology, Hepatology and Nutrition Stanford University 750 Welch Road Ste 116 Palo Alto. CA 94304

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Work Phone: 650-723-5070

07/01/1991 - 06/30/1993

07/01/1976 - 12/31/1979	University of Delhi, India	BS (Zoology)
07/01/1979 - 12/31/1984	Lady Harding Medical College, University of Delhi, India	MBBS (Bachelor of Medicine and Bachelor of Surgery)
01/01/1984 - 12/31/1984	Smt. Sucheta Kriplani and Associated Hospitals, Delhi	Internship
01/01/1985 - 06/30/1985	Kalawati Saran Children's Hospital, Delhi	Resident, Pediatrics
07/01/1985 - 12/31/1985	Smt. Sucheta Kriplani Hospital	Resident, ENT
07/29/1986 - 08/04/1988	Kalawati Saran Children's Hospital University of Delhi	MD (Doctorate in Pediatrics)
08/17/1988 - 07/18/1989	Kalawati Saran Children's Hospital	Chief Resident, Pediatrics
01/01/1991 - 05/31/1991	Yorkhill Children's Hospital, Glasgow, United Kingdom	Senior House Officer

University of Connecticut Health Center

Farmington, CT

Resident, Pediatrics

(Program Director: Edward Zalneraitis

MD)

EDUCATION AND TRAINING

07/01/1993 - 06/30/1994 St. Louis Children's Hospital Clinical Fellow,

St. Louis, MO Pediatric

Gastroenterology and Nutrition (Program Director: David Perlmutter MD)

07/01/1994 - 06/30/1998 Washington University School of

Medicine, Gastroenterology

Research Fellow (Mentor: Deborah

Rubin, MD)

APPOINTMENTS AND POSITIONS

CLINICAL

September 1998 - March 2016

Attending Physician, Pediatric Gastroenterology, Hepatology and Nutrition, UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA

April 2016 - January 2020

Attending Physician, Pediatric Gastroenterology, Hepatology and Nutrition, Children's Mercy Kansas City, Kansas City, MO

February 2020 - present

Attending Physician, Pediatric Gastroenterology, Hepatology and Nutrition, Lucile Packard Children's Hospital, Stanford University. Palo Alto, CA

ACADEMIC

September 1998 - November 2012

Assistant Professor of Pediatrics, University of Pittsburgh School of Medicine, Pittsburgh

December 2012 - March 2016

Associate Professor of Pediatrics, University of Pittsburgh School of Medicine

April 2016 - August 2019

Associate Professor of Pediatrics, University of Missouri-Kansas City School of Medicine, Kansas City

September 1, 2019 - January 27, 2020

Professor of Pediatrics, University of Missouri-Kansas City School of Medicine, Kansas City

February 1, 2020 - Present

Clinical Professor of Pediatrics, Stanford University, Palo Alto. California

ADMINISTRATIVE

January 2010 - March 2016

Director, CLIA Laboratory for Gastroenterology Clinic, UPMC Children's Hospital of Pittsburgh

June 2012 - March 2016

Medical Director, Gastroenterology Inpatient Unit, UPMC Children's Hospital of Pittsburgh

June 2013 - March 2016

Medical Director, Infusion Center, UPMC Children's Hospital of Pittsburgh

November 2014 - March 2016

Director, Endoscopy Center, UPMC Children's Hospital of Pittsburgh

April 2016 – January 2020

Director of the Inflammatory Disease Service, Division of Gastroenterology, Hepatology and Nutrition, Children's Mercy Kansas City

CERTIFICATION AND LICENSURE

SPECIALTY CERTIFICATION

1985	Educational	Commission 1	for Foreign	Medical G	raduates, (Certificate

- 1990 Registration, General Medical Council, United Kingdom
- 1991 Diploma in Child Health Foreign Medical Graduate, Royal College of Physicians and Surgeons of Glasgow, United Kingdom
- 1992 State Board of Medical Examiners, Diplomate, United States
- 1995 The American Board of Pediatrics
- 1999 The American Board of Pediatrics Sub-board of Pediatric Gastroenterology (Recertification, 2006, 2016)
- 2017 Pediatric Genomic Medicine Master Class. Genomic Center. Children's Mercy Kansas City

PROFESSIONAL LICENSURE:

1985 -	Medical Council of India
1993 - 1998	Missouri State Board of Registration for the Healing Arts
1998 - 2016	Commonwealth of Pennsylvania, Department of State Bureau of Professional and
	Occupational Affairs
2016 - 2020	Missouri State Board of Registration for the Healing Arts
2016 - 2020	Kansas State Board of Healing Arts
2019-	Medical Board of California

MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

1988 -	Indian Academy of Pediatrics
2000 -	American Gastroenterological Association
2002 -	North American Society for Pediatric Gastroenterology, Hepatology and Nutrition
2006 -	Crohn's & Colitie Foundation

HONORS

1996 -1998	American Digestive Health Foundation Advanced Research Training Award
2004	Outstanding Achievement in Patient Care. UPMC Children's Hospital of Pittsburgh
2010	Award for Commitment and Service (ACES), UPMC, Pittsburgh, PA
2012 – 2014, 2017	Best Doctors, Pediatric Gastroenterology
2018	Golden Apple Mercy Mentor Award. Children's Mercy Kansas City

PUBLICATIONS

PEER REVIEWED: ORIGINAL RESEARCH ARTICLES

- 1. Kumari S, Jain S, Jain RK, **Goyal A**, Shendrunikar N, Kanodia K. Neonatal outcome following cesarean birth: a prospective study. Indian Pediatr. 1990 Apr; 27(4):353-8. PMID: 2210822 *I participated in subject enrollment, the study evaluation, and data collection for this project.*
- 2. **Goyal A**, Treem WR, Hyams JS. Severe upper gastrointestinal bleeding in healthy full-term neonates. Am J Gastroenterol. 1994 Apr; 89(4):613-6. PMID: 8147368

 Case series about three otherwise healthy full-term infants with major upper GI bleeding. This has rarely been reported in the literature.
- 3. Tandon A, Ramji S, Kumari S, **Goyal A**, Chandra D, Nigam VR. Cognitive abilities of asphyxiated survivors beyond 5 years of age. Indian Pediatr. 1998 Jul;35(7):605-12. PMID: 10216669 I performed motor and cognitive developmental assessment in 57 babies who suffered from birth asphyxia and in 50 controls at hospital discharge with follow-up evaluation at 1-3 year of age and correlated outcome with perinatal and maternal factors. This work was a longer-term follow-up report based on my research project for a Doctorate in Pediatrics.
- 4. **Goyal A**, Singh R, Swietlicki EA, Levin MS, Rubin DC. Characterization of rat epimorphin/syntaxin 2 expression suggests a role in crypt-villus morphogenesis. Am J Physiol 1998 Jul;275(1 Pt 1):G114-24. PMID: 9655691

This was the first study to characterize the epimorphin (syntaxin 2) in the embryonic and postnatal gut and in bowel regeneration models.

- Goyal A, Langer JC, Zutter M, Swanson P, Kraus MD, Bartlett N, Shackelford GD, Longtine JA, Perlmutter DH. Primary gastric plasmacytoma: a rare cause of hypertrophic gastritis in an adolescent. J Pediatr Gastroenterol Nutr. 1999 Oct;29(4):424-30. PMID: 10512402
 I participated in the care of this patient and wrote the manuscript.
- Charron M, Di Lorenzo C, Kocoshis SA, Hickeson MP, Orenstein SR, Goyal A, Khan S, Collins L. (99m)Tc antigranulocyte monoclonal antibody imaging for the detection and assessment of inflammatory bowel disease newly diagnosed by colonoscopy in children. Pediatr Radiol. 2001 Nov;31(11):796-800. PMID: 11692237

My participation was in patient enrollment and a critical review of the manuscript prior to its submission.

- 7. Charron M, Kocoshis S, Rosario FD, **Goyal A**, Orenstein S. Poor Imaging Technique Produces Poor Results: again! J Pediatr. 2000 Dec;137(6):888-9. PMID: 11113851

 I participated in the review of draft manuscript and its finalization.
- 8. Saps M, Slivka A, Khan S, Meza M.P, **Goyal A**, Di Lorenzo C. Pancreatic ascites in an infant: lack of symptoms and normal amylase. Dig Dis Sci. 2003 Sep;48(9):1701-4. PMID: 14560986

 I primarily took care of this patient and mentored our GI fellow Dr. Saps in writing the manuscript.
- Martin N, Prince JM, Kane TD, Goyal A, Mehta D. Congenital cricopharyngeal achalasia in a 4.5year-old managed by cervical myotomy: a case report. Int J Pediatr Otorhinolaryngol. 2011 Feb;75(2):289-92. PMID: 21131062

I was the primary gastroenterologist who took care of this patient and participated in writing this manuscript.

10. Otteson TD, Mantle BA, Casselbrant ML, **Goyal A**. The otolaryngologic manifestations in children with eosinophilic esophagitis. Int J Pediatr Otorhinolaryngol. 2012 Jan;76(1): 116-9. PMID: 22093742

I mentored the Otolaryngology fellow Dr. Otteson for this project. Additionally, I participated in data gathering and a critical review of the manuscript prior to its submission.

11. Zimmerman LA, Srinath AI, **Goyal A**, Bousvaros A, Ducharme P, Szigethy E, Nurko S. The overlap of functional abdominal pain in pediatric Crohn's disease. Inflamm Bowel Dis. 2013 Mar-Apr;19(4):826-31. PMID: 23407043

I was a faculty mentor for Drs. Zimmerman and Srinath for this project. I assisted in subject recruitment and data collection. I helped in a critical review of the manuscript prior to its submission.

12. Goyal A, Hyams JS, Lerer T, Leleiko NS, Otley AR, Griffiths AM, Rosh JR, Cabrera JM, Oliva-Hemker MM, Mack DR, Rick JN, Pfefferkorn MD, Carvalho R, Grossman AB, Hitch MC, Sudel B, Kappelman MD, Saeed SA, Faubion WA, Schaefer ME, Markowitz JF, Keljo DJ; Pediatric Inflammatory Bowel Disease Collaborative Research Group. Liver enzyme elevations within 3 months of diagnosis of inflammatory bowel disease and likelihood of liver disease. J Pediatr Gastroenterol Nutr 2014 Sep;59(3):321-3. PMID: 24796799

This paper reported the novel finding of abnormal liver functions tests in a large cohort of children (n=1569) who were recently diagnosed with IBD. I conceived the project, analyzed the data and wrote this paper.

- 13. Srinath AI, Goyal A, Zimmerman LA, Newara MC, McCarthy FN, Keljo D, Bousvaros A, DeMaso DR, Youk A, Szigethy EM. Predictors of abdominal pain in depressed pediatric inflammatory bowel disease patients. Inflamm Bowel Dis. 2014 Aug;20(8):1329-40. PMID: 24983975
 I was a faculty mentor for Drs. Srinath and Zimmerman for this project. I assisted in subject recruitment
- 14. Regueiro MD, Greer JB, Binion DG, Schraut WH, **Goyal A**, Keljo DJ, Cross RK, Williams ED, Herfarth HH, Siegel CA, Oikinomou I, Brand MH, Hartman DJ, Tublin ME, Davis PL, Baidoo L, Szigethy E, Watson AR; IBD LIVE Physician Group. The inflammatory bowel disease live

and data collection. I helped in a critical review of this article prior to its submission.

interinstitutional and interdisciplinary videoconference education (IBD LIVE) Series. Inflamm Bowel Dis 2014 Oct;20(10):1687-95. PMID: 25167213

I performed a critical review of this manuscript prior to its submission.

- 15. Rajan D, Greer JB, Regueiro MD, Baidoo L, Binion DG, Herfarth HH, Siegel CA, Hartman DJ, Farraye FA, Koutroubakis IE, Brand MH, Williams ED, Goyal A, Cross RK. IBD LIVE Case Series-Case 6: Persistent Skin Lesions in a Patient with Crohn's Disease: You Hear Hoof Beats and Discover a Zebra. Inflamm Bowel Dis. 2016 Nov;22(11):2754-2764. PMID: 27755273
 I participated in the clinical discussion of this case and performed a critical review of this manuscript prior to its submission.
- 16. **Goyal A**, Yeh A, Bush BR, Firek BA, Siebold LM, Rogers MB, Kufen AD, Morowitz MJ. Safety, Clinical Response, and Microbiome findings Following Fecal Microbiota Transplant in Children with Inflammatory Bowel Disease. Inflamm Bowel Dis. 2018 Jan 18;24(2):410-421. PMID: 29361092 This was the largest prospective pediatric trial to date to study the microbiome and the clinical response to fecal transplant in clostridium difficile negative medically refractory IBD. It was awarded for being in the top ten cited articles in the journal Inflammatory Bowel Diseases of 2018. I conceived and designed this protocol and served as the principal investigator for this interventional trial (NCT02108821).
- 17. Proksell SS, Greer JB, Theisen BK, Davis PL, Rosh JR, Keljo DJ, Goyal A, Shah SA, Brand MH, Herfarth HH, Cross RK, Siegel CA, Koltun WA, Isaacs KL, Regueiro MD. IBD LIVE Case Series: Case 9: Do Race and Extraintestinal Manifestations Affect Treatment of Severe Crohn's Colitis? Inflamm Bowel Dis. 2018 Mar 19;24(4):698-713. PMID: 29562279

I participated in the clinical discussion of this case and performed a critical review of this manuscript prior to its submission.

18. **Goyal A**. Morowitz. Author's reply to Drs. Franco Scaldaferri and Valentina Petito, PhDs. Inflamm Bowel Dis. 2019 Mar 6. PMID: 30840761

This response was written by me and reviewed by Dr. Morowitz before its submission.

19. Goldstein-Leever A, Bass JA, **Goyal A**, Maddux MH. Health-related quality of life predicts psychology referral in youths with inflammatory bowel disease. J Pediatr Nurs.2019 May 1;47:73-77. PMID: 31054370

I participated in patient recruitment for this study from our weekly multidisciplinary IBD clinic. I also performed a critical review of this publication prior to its submission.

20. Maddux MH, Drovetta M, Hasenkamp R, Carpenter E, McCullough J, Goyal A, Bass J. Using a Mixed-method Approach to Develop a Transition Program for Young Adults With Inflammatory Bowel Disease. J Pediatr Gastroenterol Nutr. 2019 Aug 20. PMID 31436701

I participated in planning the transition program and performed a critical review of this publication prior to its submission.

21. Gupta N, Lustig R, Andrews H, Sylvester F, Keljo D, Rosh J, Goyal A, Gokhale R, Patel A, Guthrey S, Leu C. Introduction to and Screening Visit Results of the Multicenter Pediatric Crohn's Disease Growth Study. Accepted in Inflamm Bowel Dis. January 2020

I was the site PI for Children's Mercy and participated in patient recruitment, data collection, editing and revising the manuscript.

22. Kerur B., Benchimol E., Fiedler K., Stahl M., Hyams J., Stephens M., Lu Y., Pfefferkon M., Alkhouri R., Strople J., Kelsen J., Siebold L., **Goyal A**., Rosh J., Leleiko N., Limbergen J. V., Guerrerio A., Maltz R., Karam L., Crowley E., Griffiths A., Heyman M., Deneau M., Benkov K., Noe J., Moulton D., Pappa H., Galanko J., Snapper S., Muise A., Kappelman M.Natural History of Very Early Onset Inflammatory Bowel Disease in North America: A Retrospective Cohort Study. Inflamm Bowel Dis. 2020 May 9. PMID 32386060

I contributed to data collection by performing retrospective chart review of patients at our center

23. Goyal A., Zheng Y., Albenberg L., Stoner N., Hart L., Alkhouri R., Hampson K., Ali S., Cho-Dorado M., Goyal R., Grossman A. Anemia in Children with Inflammatory Bowel Disease: A Position Paper by the IBD Committee of the North American society of Pediatric Gastroenterology, Hepatology and Nutrition. J Pediatr Gastroenterol Nutr.2020 Oct;71(4):563-582. PMID 32947565.

I was the leader for the project, Abstract, introduction, treatment goals, symptoms, pathogenesis, diagnosis, treatment, future directions, conclusions, bibliography and editing and revising all contributions. Finalization and putting together the individual sections.

This is the first guideline paper for anemia in pediatric IBD. It was conceived when I served on the IBD

- 24. Gupta N, Lustig R, Andrews H, Sylvester F, Keljo D, Rosh J, Goyal A, Gokhale R, Patel A, Guthrey S, Sylvester F., Siebold L., Leu C. Clinical Variables Associated with Statural Growth in Pediatric Crohn's Disease Differ by Sex (The Growth Study). Accepted for publication in Inflamm Bowel Dis. July 2020
 I was the site PI for Children's Mercy and participated in patient recruitment, data collection,
 - I was the site PI for Children's Mercy and participated in patient recruitment, data collection, editing and revising the manuscript.
- 25. Adler J., Eder S., Gebremariam A., French K., Moncion I., Singer A., Bass L., Moran C., Picoraro J., Moses J., Lewis J., Sandberg K., Mar S., Ebach D., Saeed S., Rosh J., Neef H., Kaplan J., Goyal A., Del Rosario F., Zacur G. Development and Testing of a New Simplified Endoscopic Mucosal Assessment for Crohn's Disease: The SEMA-CD. Accepted for publication IBD December 2020.

PEER REVIEWED ARTICLES: INVITED PUBLICATIONS

- **1. Goyal A**, Nadler EP, Ford HR, Keljo DJ. Treatment of Fistulizing Crohn's Disease in Children. Curr Treat Options Gastroenterol. 2003 Oct;6(5):391-402. PMID: 12954146
- 2.Szigethy E, McLafferty L, **Goyal A**. Inflammatory bowel disease. Pediatr Clin North Am. 2011 Aug;58(4):903-20. PMID: 21855713
- 3.Szigethy E, McLafferty L, **Goyal A**. Inflammatory bowel disease. Child Adolesc Psychiatr Clin N Am. 2010 Apr;19(2):301-18, PMID: 20478501
- 4.Yellon RF, **Goyal A**. What is the best test for pediatric gastroesophageal reflux disease? Larvngoscope. 2013 Dec;123(12):2925-7. PMID: 24114940
- 5.Singhi AD, **Goyal A**, Davison JM, Regueiro MD, Roche RL, Ranganathan S. Pediatric autoimmune enteropathy: an entity frequently associated with immunodeficiency disorders. Mod Pathol. 2014 Apr;27(4):543-53. PMID: 24051695

I participated in planning of this paper and performed a critical review of the manuscript prior to its submission.

6. **Goyal A.** Clostridium difficile and Increased Risk of Surgery in Crohn's Disease. Can Early Microbial Signatures Forecast Risk of Disease Progression? Inflamm Bowel Dis. 2019 Nov 14. PMID 31725870

DISSERTATION

Alka Goyal (1987). Neonatal Outcome and Developmental Assessment of Babies Having Hypoxic Ischaemic Encephalopathy Following Perinatal Asphyxia. Doctoral Dissertation, Delhi University. (Unpublished)

BOOK CHAPTERS

- 1. **Goyal A**. Chapter: Giardiasis. Mosby's Pediatric Clinical Advisor. Garfunkel L, Kaczorowski J, Christy C, Editors. 2002:338-339
- 2. **Goyal A**, Keljo DJ. History and Physical Exam. Pediatric Inflammatory Bowel Disease. 2013. 2nd edition. Edited by Mamula P
- 3. **Goyal A**, History and Physical Exam. Pediatric Inflammatory Bowel Disease, 2017. 3rd edition. Edited by Mamula P, Grossman AB, Baldassano RN, Kelsen JR, Markowitz JE

4. Otteson T, **Goyal A**. Eosinophilic Esophagitis. Bluestone and Stool's: Pediatric Otolaryngology, 5th edition, 2015

DIGITAL PUBLICATIONS

1. App: PCDAI[®] (2015)

This app is a fast and easy to use method to calculate the Pediatric Crohn's Disease Activity Index.

Author: **Alka Goyal**. App designed by Manu Goyal. Available at - App Store (448 downloads to date) and Google Play (83 downloads to date).

2. App: PUCAI® (2015)

This app is a fast and easy to use method to calculate the Pediatric Ulcerative Colitis Activity Index.

Author: **Alka Goyal**. App designed by Manu Goyal. Available at App Store (1147 downlooads to date) and Google Play (175 downloads to date)

3. Podcast (2018)

Alka Goyal. Title: Is There a Role for Fecal Transplant in IBD? on "Children's Mercy - Kansas City" podcast.

4. Video summary (2018)

Alka Goyal. Clinical Response, and Microbiome findings Following Fecal Microbiota Transplant in Children with Inflammatory Bowel Disease. Inflamm Bowel Dis. 2018 Jan 18;24(2):410-421. PMID: 29361092. <u>Link</u>

5. Newsletter: The Link (2019)

Goyal, A: Novel Concepts in Pediatric Inflammatory Bowel Disease.

The Link is a monthly print and digital newsletter distributed by Children's Mercy Kansas City that provides education to an audience of local, regional and national pediatric providers, on a subject related to current medical trends, developments in best practices and analysis of hot topics. February 2019. <u>Link</u>

6. AudioAbstracts®, (2019)

Alka Goyal. Paper reviewed: El-Matary et al. Higher Postinduction infliximab Serum Trough Levels Are Associated with Healing of Fistulizing Perianal Crohn's Disease in Children. PMID: 29912413. <u>Link</u>

ABSTRACTS

 Goyal A, Grapperhaus K, Swietlicki E, Rubin DC. Characterization of rat intestinal epimorphin expression suggests a role in crypt-villus morphogenesis. Plenary poster presentation. Digestive Diseases Week. May 1995, San Diego, California

- Khan S, Henderson WA, Goyal A, Kocoshis SA, Di Lorenzo C. Infliximab use in pediatric Crohn's disease: a longitudinal review. Poster presentation. J Pediatr Gastroenterol Nutr 2001. 33: 374-375
- 3. Tiwari U, **Goyal A**. Trends for Hospitalization in Children with Inflammatory Bowel Disease (IBD) From 1997 2006 In United States: A National Representative Survey. Poster presentation. American Academy of Pediatrics Annual Meeting. 2010, San Francisco, California
- 4. **Goyal A**, Srinath AI, Zimmerman LA, Nurko S, Keljo DJ, Binion DG, Szigethy EM. Predictors of Abdominal Pain in Pediatric Crohn's Disease. **Oral presentation**. Advances in Inflammatory Bowel Diseases: Crohn's and Colitis Foundation's Clinical and Research Conference. 2010, Miami. Florida
- 5. Srinath AI, Ranganathan S, **Goyal A**. Milk Protein Allergy Mimicking Autoimmune Enteropathy. Clinical Vignette Poster Session. Advances in Inflammatory Bowel Diseases: Crohn's and Colitis Foundation's Clinical and Research Conference. 2011, Miami, Florida
- 6. Srinath AI, Seibold LM, **Goyal A**. Crohn's Disease Complicated by Pancreatic Atrophy. Poster presentation. Advances in Inflammatory Bowel Diseases: Crohn's and Colitis Foundation's Clinical and Research Conference. 2011, Miami, Florida
- 7. Srinath AI, Zimmerman LA, **Goyal A**, Nurko S, Binion DG, Regueiro MD, Keljo DJ, Szigethy EM. Examining the Relationship Between Depression and Pain in Pediatric Crohn's Disease. **Oral presentation.** Digestive Disease Week. 2011, Chicago, Illinois. Gastroenterology 2011. Vol. 140, Issue 5, Supplement 1, Page S-51
- 8. Zimmerman LA, Srinath AI, Nurko S, **Goyal A**, Bousvaros A, Gonzalez-Heydrich J, Szigethy EM. Characterization of Functional Abdominal Pain in Pediatric Crohn's Disease. Poster presentation. Digestive Disease Week. 2011, Chicago, Illinois. Gastroenterology 2011. Vol. 140, Issue 5, Supplement 1, Page S-510
- 9. Tobey A, Yellon R and **Goyal A**. Diagnosis and Treatment of Delayed Gastric Emptying in Children with Refractory Gastroesophageal Reflux Disease. Poster presentation. American Society of Pediatric Otolaryngology Annual Meeting. 2012, San Diego, California
- 10. Goyal A, Hyams JS, Lerer T, Leleiko NS, Otley AR, Griffiths AM, Evans J, Rosh JR, Stephens MC, Bousvaros A, Oliva-Hemker MM, Mack DR, Farhat N, Khan A, Pfefferkorn MD, Carvalho R, Grossman AB, Hitch MC, Sudel B, Kappelman MD, Saeed SA, Faubion WA, Kay MH, Schaefer ME, Markowitz JF, Keljo DJ. Prospective Multicenter Pediatric Cohort Study: Patients with Liver Enzyme Elevations in the First 3 Months After Diagnosis of Inflammatory Bowel Disease Are at Increased Risk of Chronic Liver Disease. Oral presentation. Digestive Disease Week. May 2012, San Diego, California

- **11.** Zimmerman LA, Srinath AI, **Goyal A**, Bousvaros A, Szigethy EM, Nurko S. The Risk of Depression in Children with Crohn's Disease and Overlapping Functional Abdominal Pain. **Oral presentation.** Digestive Disease Week . May 2012, San Diego, California
- 12. Srinath AI, Walter C, Kirshner MA, Newara M, Dewan S, McCarthy FN, **Goyal A**, Keljo DJ, Youk A, Szigethy E. Examining the Role of Psychological Factors, Disease Severity, Corticosteroid Usage, and Abdominal Pain in Obesity and Crohn's Disease. Poster presentation. Digestive Disease Week. May 2012, San Diego, California
- 13. Abdel-Wahab A, Ranganathan S, Margaretha C, **Goyal A**. Histological Response to Proton-Pump Inhibitor Therapy of Eosinophilic Esophagitis in Children. Poster presentation. NASPGHAN Annual Meeting. October 2012, Salt Lake City, Utah
- 14. Harris K, Binion DG and Goyal A. No Show Clinic Visits in Pediatric GI: Impact of Wait Time, Insurance Status, and Rising Gasoline Prices. Poster presentation. ACG Annual Scientific Meeting. October 2012, Las Vegas, Nevada
- 15. Srinath AI, Carroll E, Ozolek J and **Goyal A**. Age Stratification of presenting symptoms and Biochemical Markers of Pediatric Patients with Celiac Disease. Poster presentation. Digestive Disease Week. May 2013, Orlando, Florida
- 16. Patel P, Keljo DJ and Goyal A. Safety and Efficacy of Fecal Microbiome Transplantation by Nasojejunal and/or Endoscopic Route in Pediatric Patients with recurrent Clostridium Difficile Infection. Poster presentation. NASPGHAN. October 2015, Washington DC
- 17. **Goyal A**, Kufen A, Jackson Z and Morowitz MJ. A Study of Fecal Microbiota Transplantation in Pediatric Patients with Inflammatory bowel Disease. Poster presentation. Advances in Inflammatory Bowel Diseases: Crohn's and Colitis Foundation's Clinical and Research Conference. December 2015, Orlando, Florida
- 18. Patel P and **Goyal A**. A comparative Analysis of the efficacy of Fecal Transplantation in Pediatric Patients with inflammatory Bowel Disease with and without Recurrent Clostridium Difficile Infection. Poster presentation. Advances in Inflammatory Bowel Diseases: Crohn's and Colitis Foundation's Clinical and Research Conference, December 2015, Orlando, Florida
- 19. Bush BR, Rogers MB, Firek BA, Kufen AD, Jackson Z, Morowitz MJ and **Goyal A**. Dynamic Changes in the Intestinal Microbiota Following Fecal Microbiota Transplantation for Refractory Inflammatory bowel disease in children. Poster presentation. Digestive Disease Week. May 2016, San Diego, California
- 20. Regueiro MD, Greer JB, Cross RK, Williams ED, Tinsley A, Herfarth HH, Siegel CA, Brand MH, Goyal A, Keljo DJ, Binion DG, Farraye FA, Iskandar H, Shah SA, Hashash JG, Schraut WH, Hartman DJ, Davis PL, Szigethy EM, Watson AR. A virtual Case Management Program for a new Era of Healthcare: The inflammatory Bowel Disease Live Inter-Institutional and Interdisciplinary Videoconference Education (IBD LIVE) Series Improves Quality of Care. Oral presentation Digestive Disease Week. May 2016, San Diego, California

- 21. **Goyal A**, Chu A, Calabro K, Firek BA, Bush BR and Morowitz MJ. Safety and Efficacy of Fecal Microbiota transplant in Children with Inflammatory Bowel Disease. **Poster of distinction**. World Congress of Pediatric Gastroenterology. October 2016, Montreal, Canada
- 22. **Goyal A**, Yeh A, Siebold LM, Calabro K, Firek BA, Bush BR and Morowitz MJ. Clinical Efficacy and Microbiome findings following Fecal Microbiota Transplant in Children with Refractory Inflammatory Bowel Disease. Poster presentation, Digestive Disease Week. May 2017, Chicago, IL
- 23. Vadlamani S, **Goyal A**, Kucera E, Robinson AL, Chan SS. Methotrexate Therapy Increases Hepatic Stiffness in Patients with Inflammatory Bowel Disease. **Oral presentation**. Society of Pediatric Radiology. May 2018, Nashville, TN
- 24. Adler J., Gebremariam A., Eder J., French K.R., Singer A.A., Lewis J.D., Sandberg K.C., Picoraro J.A., Moran C.J., **Goyal A**, Rosh J., Bousvaros A., Zacur G. Validation of a New Physician Global Assessment Colonoscopy Score (PGA-CS) For Pediatric Crohn's Disease Activity Assessment. Crohn's and Colitis Congress, February 2019, Las Vegas, NV
- 25. **Goyal A.**, Noel-Macdonnell J., Vadlamani S., Kuchera E., Robinson A., Chan S. Utility of Shear Wave Elastography To Screen for Hepatic Fibrosis in Patients Receiving Methotrexate for Pediatric Inflammatory Bowel Disease. Poster presentation Digestive Disease Week San Diego, 2019.
- 26. Kerur B., Benchimol E., Fiedler K., Gallant M., Hyams J., Stephens M., Lu Y., Pfefferkon M., Alkhouri R., Strople J., Kelsen J., Siebold L., **Goyal A**., Rosh J., Leleiko N., Limbergen J. V., Guerrerio A., Maltz R., Karam L., Crowley E., Griffiths A., Heyman M., Deneau M., Benkov K., Noe J., Moulton D., Pappa H., Galanko J., Snapper S., Muise A., Kappelman M. Utilization of Anti-TNF
 - Therapy (Biologics) In Children with Very Early Onset Inflammatory Bowel Disease (VEOIBD) in A Large North American Cohort. Poster presentation. Digestive Disease Week San Diego, 2019.
- 27. Kerur B., Benchimol E., Fiedler K., Gallant M., Hyams J., Stephens M., Lu Y., Pfefferkon M., Alkhouri R., Strople J., Kelsen J., Siebold L., **Goyal A**., Rosh J., Leleiko N., Limbergen J. V., Guerrerio A., Maltz R., Karam L., Crowley E., Griffiths A., Heyman M., Deneau M., Benkov K., Noe J., Moulton D., Pappa H., Galanko J., Snapper S., Muise A., Kappelman M. Surgery in Very Early Onset Inflammatory Bowel Disease (VEOIBD): Results From a Large, Multi-Center North American Cohort. **Oral presentation**. Digestive Disease Week San Diego, 2019.
- 28. Morrow R., Srivastave T., Cully B., Goyal, A. Fragility Fractures in Children with Inflammatory Bowel Disease: X-ray and DEXA scan Can be Misleading. Accepted for Poster presentation. NASPGHAN. October 2019, Chicago

- 29. Ibrahimi N., Wermers J., Ahmed A., Juang D., August K., Goyal, A. Appendiceal Carcinoid, A Rare Mimicker of Crohn's Disease. Accepted for Poster presentation. NASPGHAN. October 2019, Chicago
- 30. Kerur R; Benchimol E, Fiedler K, Gallant M, Hyams J, Stephens M, Ying Lu, Pfefferkorn M, Alkhouri R, Strople J, Kelsen J, Siebold L, **Goyal A**, Rosh J, LeLeiko N, Van Limbergen J, Guerrerio A, Maltz R, Karam L, Crowley E, Griffiths A, Heyman M, Deneau M, Benkov K, Noe J, Mouton D, Pappa H, Galanko J, Snapper S, Muise A, Kappelman M. Durability Of Infliximab Therapy in Very Early Onset Inflammatory Bowel Disease. Poster presentation. NASPGHAN. October 2019, Chicago
- 31. Bass J, Goyal A. Successful Use of Combination Biologic Therapy in Medically Refractory Pediatric Crohn's Disease and Sacroiliitis. Poster presentation in Advances in Inflammatory Bowel Diseases. Orlando December 2019
- 32. Goyal A, Bass J. Safety and Efficacy of Combining Biologicals in Children with Inflammatory Bowel Disease. Accepted for Poster presentation in CCFA annual IBD conference, Austin Texas January 2020.
- 33. Gupta N, Lustig R, Andrews H, Sylvester F, Keljo D, Patel A, Guthery S, Gokhale R, Goyal A, Rosh J, Leu C. Sex Differences in Statural Growth Impairment in Pediatric Crohn's Disease: Early Findings from The Growth Study. Poster presentation in CCFA annual IBD conference, Austin Texas January 2020.
- 34. Issa A., Kaur P., Harris J., Goyal A., Sharma M. Improving Thromboprophylaxis in Hospitalized Pediatric Inflammatory Bowel Disease Patients-A Quality Improvement Project. Poster presentation NASPGHAN November 2020. San Diego
- 35. Opipari-Arrigan L., Yang J., Schmiid C., Saeed S., Braly K., Murphy L., Dodds C., Pilley S., Stone J., Woodward G., Yokois N., Goyal A., Lee D., Yeh AM., Lee P., Gold B., Molle-Rios Z., Zwiener R., Ali S., Chavannes M., Linville T., Patel A., Ayers T., Bassett., Boyle B., Palomo., Verstraete S., Dorsey J., Kaplan J., Steiner S., Nguyen K., Burgis J., Suskind D. Personalized Research on Diet in Ulcerative Colitis and Crohn's Disease (PRODUCE): A Series of N-of-1 Trials Comparing The Effectiveness of The Two Diets. Poster presentation NASPGHAN November 2020. San Diego
- 36. Sessions J., Purington N., McGhee S., Goyal A., Bass D., Khavari N. Pediatric Eosinophilic Esophagitis: Cohort Characterization and Outcomes Investigations. Poster presentation NASPGHAN November 2020. San Diego
- 37. Joseph M., Goyal A., Khavari N. Children and Young Adults with Inflammatory Bowel Disease and Celiac Disease: A Descriptive Analysis. Poster presentation NASPGHAN November 2020. San Diego
- 38. Conover K., Ballal S., Cho S., Doby E., Goyal A., Jensen K., Kaplan J., Kellermayer R., Kociolek L., Olivia-Hemker M., Reed A., Weatherly M., Kahn S., Nicholson M. Safety and Efficacy of Fecal Microbiota Transplantation for recurrent Clostridioides Difficile Infection in

Immunocompromised Pediatric Patients. Poster presentation NASPGHAN November 2020. San Diego.

- 39. Sessions J., Purington N., McGhee S., Goyal A., Bass D., Khavari N. Novel Subtyping of Pediatric Eosinophilic Esophagitis. Poster presentation NASPGHAN November 2020. San Diego
- 40. Patel N., Patel A., Sebastian T., Kugathasan S., Goyal A., Ali S. Inflammatory Bowel Disease Characteristics in Pediatric Patients of South Asian Origin in United States. Poster presentation NASPGHAN November 2020. San Diego

PROFESSIONAL ACTIVITIES

TEACHING

Medical Students

- 1. Clinical Skills Course. (2003-2012)Two-three students per session (MS-2)
- 2. Common GI Problems: Lecture (2003-2016), 1-2 times/year. Attended by 15-20 students (MS-3)
- 3. Integrative Clinical Case Studies (2007-2009). Attended by 15-20 students (MS-2)
- 4. Course Master, Pediatric Gastroenterology and Nutrition Rotation (2007-2012). 1-2 students every month (MS-1 or MS-2)
- 5. Bedside teaching and training during clinical gastroenterology rotation
- 6. Research Mentor:
 - Undergraduate student: Zachary Jackson (2015), University of Pittsburgh
 - Medical Student: Brian Bush (2015-2016), University of Pittsburgh
 - Medical Student: Shweta Vadlamani (2017), Kansas University

House Staff

- 1. Supervision and clinical teaching during inpatient service and clinic rotations
- 2. Course Master, Pediatric Gastroenterology and Nutrition Rotation (2007-2012), 1-2 residents/month
- 3. Mentor, resident scholarly projects
 - Kimberly Harris, MD (2011)
 - Amir Abdel-Wahab MD (2011)
 - Eric Carroll, MD (2012)
 - Ryan Morrow (2018-2019)
 - David Simon (2018-2019)

Gastroenterology Fellows

- 1. Supervision and clinical teaching during inpatient service
- 2. Teaching in clinics, procedures, conferences
- 3. Course Master, Topics in Pediatric Gastroenterology and Nutrition lecture series (2007-2016)
- 4. Member, Scholarship Oversight Committee

- Arvind Srinath (July 2010 June 2012)
- Dalya El Tawil (July 2017)
- Karishma Rao (July 2018)

PRESENTATIONS

Invited presentations

- 1. Eosinophilic Esophagitis: From Rookie of the Year to Household Name. Pediatric Grand Rounds. Children's Hospital of Pittsburgh of UPMC. 2010, Pittsburgh Pennsylvania. **Regional**
- 2. Overview of IBD: Turkish Society of National Pediatric Gastroenterology, Hepatology and Nutrition Congress. May 2014, Malatya, Turkey. **International**
- 3. Wilson's Disease. 2nd Kunwar Viren Oswal Course in Pediatric Gastroenterology, Hepatology, Liver Transplantation and Nutrition and Workshop in Basic and Advanced Endoscopy. September 2014. New Delhi, India. **International**
- 4. ENT Manifestations of GERD: CME symposium for ENT specialists. 2009, Pittsburgh, Pennsylvania. **Regional**
- 5. Acid Reflux and Eosinophilic Esophagitis, An Overview. Spring summit for Pediatricians. Children's Hospital of Pittsburgh of UPMC. 2013, Pittsburgh, Pennsylvania. **Regional**
- 6. Overview of IBD: CME meeting at Hollidaysburg for Pediatricians December 2013. Hollidaysburg Pennsylvania. **Regional**
- 7. Pittsburgh Patient and Family Education Symposiums held in conjunction with the Crohn's and Colitis Foundation. Once-twice a year. (2003-2016) Pittsburgh, Pennsylvania. **Regional**
- 8. Eosinophilic Esophagitis. National Physician Assistant course for ENT. April 2014, Pittsburgh Pennsylvania. **Regional**
- 9. Patient and Family Education Symposium. Crohn's and Colitis Foundation. Twice a year (2016-2019). Kansas City, Missouri. **Regional**
- 10. Fecal Microbiota Transplantation. CME Lecture Series for nurses. Children's Mercy Kansas City. May 2018. **Regional**
- 11. Fecal Microbiota Transplantation. CME lecture for Transplant Education Series. Children's Mercy Kansas City. February 2019. **Regional**

- 12. Celiac Disease. Continuing Education Series for Department of Pathology and Laboratory Medicine. Children's Mercy Kansas City. June 2019. **Regional**
- 13. Safety, Clinical Response and Microbiome Findings Following Fecal Microbiota Transplant in Children With IBD. Seventh Annual Pediatric IBD Research Day at Weill Cornell on Friday, September 27, 2019. **National**
- 14. Pediatric Inflammatory Bowel Disease, Freeman Pediatric Quarterly Grand Rounds. Joplin, Missouri. November 6, 2019. **Regional**

Conference Faculty/Moderator

- 15. **IBD Live:** The Inflammatory Bowel Disease Live Interinstitutional and Interdisciplinary Videoconference Education (IBD LIVE) Series. **Founded in 2009, this weekly educational online video conference serves as a platform for specialized case-based training for residents, fellows, and gastroenterologists. Accredited by The Cleveland Clinic to provide continuing medical education for physicians. Activity Director: Miguel Regueiro, MD. I serve as a resident faculty and regularly contribute to the discussions. At present, over 200 gastroenterologists, surgeons, radiologists, and pathologists over 25 sites that include international programs participate in this conference. Nine IBD LIVE Series cases have been published in the IBD journal for CME activity, to date.**
- 16. Invited Moderator. Clinical Convergence Educational CME symposium: Patient and provider Perspectives in IBD. CME conference Organized by CCFA, and RMEI Medical Education. September 2017, Kansas City, Missouri. Regional
- 17. Moderator for oral session: Inflammatory Bowel Disease. NASPGHAN Annual meeting, Las Vegas. November 2017. **National**
- Moderator for oral session: Treating the Entire IBD Patient. NASPGHAN Annual meeting, Chicago. October, 2019. National

Other presentations

- 19. Topics in Gastroenterology 1-2 times/year for Pediatric Gastroenterology Division at UPMC Children's Hospital of Pittsburgh. **Institutional**
- 20. Eosinophilic Esophagitis: Allergy and Immunology Division and ENT Division. Children's Hospital of Pittsburgh of UPMC. 2007-2016 (once a year), Pittsburgh Pennsylvania. **Institutional**
- 21. Obstructive Sleep Apnea: ENT Division. Children's Hospital of Pittsburgh of UPMC. 2010, Pittsburgh Pennsylvania. **Institutional**

- 22. Abdominal pain and Constipation in Children. Emergency Department CME lecture at Children's Hospital of Pittsburgh of UPMC. February 2014. **Institutional**
- 23. IBD emergencies: Emergency Department CME lecture at Children's Hospital of Pittsburgh of UPMC. February 2014. **Institutional**
- 24. Pathogenesis of IBD. Gastroenterology Conference for Division of Gastroenterology Hepatology and Nutrition, Children's Mercy Kansas City. December 2016. **Institutional**
- 25. HIDA scan: Use but Don't Abuse. (Debate) Gastroenterology Conference for Division of Gastroenterology Hepatology and Nutrition, Children's Mercy Kansas City. March 2017. **Institutional**
- 26. Treatment of Clostridium Difficile. Gastroenterology Conference for Division of Gastroenterology Hepatology and Nutrition, Children's Mercy Kansas City. December 2018. **Institutional**
- 27. Very Early Onset Inflammatory Bowel Disease. Gastroenterology Conference for Division of Gastroenterology Hepatology and Nutrition, Children's Mercy Kansas City. May 2019. Institutional

CLINICAL TRIALS AND OTHER RESEARCH STUDIES

Recent Studies

1. Sex Differences in Statural Growth Impairment in Pediatric Crohn's Disease. NIH RO1 award. PI: Neera Gupta.

Role: Site Pl.

Effective 11/16/2016 - 01/27/2020

Status: Recruitment completed, follow-up enrolled subjects until June 2021

2. PRODUCE: Personalized Research on Diet in Ulcerative Colitis and Crohn's Disease. Funded by PCORI. NCT03301311. PI: Heather C. Kaplan.

Role. Site PI Status: Recruiting

Effective 04/10/2018- 01/27/2020

3. <u>NEOPICS</u>: The interNational Early Onset Paediatric IBD Cohort Study. Sponsored by: University of Toronto. PI: Aleixo Muise MD.

Role: Site PI Status: Recruiting

Effective 03/31/2017-01/27/2020

4. COMBINE: Low Dose Methotrexate in Pediatric Crohn's patients initiating Anti-Tumor necrosis factor therapy. Funded by PCORI. PI: Michael Kappelman MD.

Role: Site co- PI Status: Recruiting

Effective 01/05/2016-01/27/2020

5. PRO-IMPACT Study. A study of patient reported outcomes in children with IBD. Sponsored by ICN Collaborative. PI: Lisa Opipari.

Role: Site Co-PI

Effective 07/13/2018- 01/27/2020

Status: Recruitment completed. Study is active for analysis

6. Physician Global Assessment Colonoscopy Score. Funded by Pro-KIIDS. PI: Jeremy Adler MD.

Role: Site PI

Effective August 2018-01/27/2020

Status: Recruitment complete. Manuscript being submitted

7. Genomic Diagnosis of Inflammatory Bowel Disease. Center for Genomic Medicine. Children's Mercy Kansas City. Internal Funding. PI: Tomi Pastinen.

Role: Co-investigator

Status: Closed

Effective 6/8/2015 - 6/4/2019

8. Training GI Providers to Deliver Adherence-Focused Intervention during Routine Medical Care: An Evaluation of Feasibility and Efficacy Funding: Paul Henson Endowment Clinical Scholar Award

PI: Michele Maddux PhD Role: Co-investigator

Effective 01/08/2019 - 01/27/2020

9. Combination Biologicals in IBD

Unfunded

Retrospective review

Role: Site PI

Effective 09/19/2019 - 01/27/2020

10. A Study of Fecal Microbiota Transplant in Pediatric Patients with Relapsed Inflammatory Bowel Disease (NCT02108821) (2014 - 2016). Funding: Children's Hospital of Pittsburgh Foundation.

Role: PI

Status: Completed. Results published. PMID: 29361092

Completed Studies

11. A Randomized, Assessor-Blind, Multicenter, Dose-Ranging Study Comparing the Safety and Efficacy of Prepopik® Versus Polyethylene Glycol Preparation (Local Standard of Care) In Children Aged 9 to 16 Years (NCT01928862)(2013 - 2016). Funding: Ferring Pharmaceuticals.

Role: Site PI

Status: Recruitment completed

- 12. A Study of Fecal Microbiota Transplant in Pediatric Patients with Relapsed Inflammatory Bowel
- 13. Age Stratification of Serologic Markers of Celiac Disease and the Correlation with Biopsy Severity: A Retrospective Analysis (2010 2011). Internal Funding. Resident Project: Eric Carroll, MD.

Role: PI mentor

Status: Completed. Results presented at the Digestive Disease Week meeting. May 2013

14. Understanding the Biopsychosocial Underpinnings of Abdominal Pain in Inflammatory Bowel Disease and Functional Abdominal Pain: A prospective observational study. (2012 - 2016). Funding T32 (NIH). PI: Arvind Srinath, MD.

Role: Co-mentor

Status: Completed. Results published. PMID: 24983975

15. Autologous Stem Cell Transplantation with CD34-Selected Peripheral Blood Stem Cells in Pediatric and Young Adult Patients with Severe Crohn's Disease. (NCT00692939)(2011-2016). Funding: Internal. PI: Paul Szabolcs, MD.

Role: Co-investigator

Status: Recruiting

16. Predictors of eosinophilic esophagitis versus reflux esophagitis (2010 – 2011). Funding: Internal. Resident Project: Amir Abdel-Wahab, MD.

Role: Pl Mentor

Status: Completed. Results presented at the NASPGHAN Annual Meeting in October

2012

17. PROTECT: Predicting Response to Standardized Pediatric Colitis Therapy (NCT01536535) (2012 - 2015). Funded by Connecticut Children's Medical Center and National Institute of Diabetes and Digestive and Kidney Diseases. PI: Jeffrey Hyams.

Role: Site Co-investigator

Status: Completed. Results published. PMID: 30935734

18. Risk Stratification and Identification of Immunogenetic and Microbial Markers of Rapid Disease Progression in Children with Crohn's Disease (NCT00790543)(2008-2012). Funded by Crohn's and Colitis Foundation. PI: Subra Kugathasan.

Role: Site Co-investigator

Status: Recruitment completed

> Role of Epimorphin in Rat Gut Morphogenesis (1994-1998). PI Mentor: Deborah Rubin, MD.
> Funding: American Digestive Health Foundation, Advanced Research Training Award to Alka Goyal

> > Role: Co-investigator

Status: Completed. Results published. PMID: 29361092

20. Dose Effect Relationship of Methotrexate and Hepatic Fibrosis in Patients with Inflammatory Bowel Disease (December 2016-December 2018). Funding: Children's Mercy Kansas City.

Role: PI: Alka Goyal

Status: Recruitment completed. Preliminary data presented at the 2019 Digestive Disease

Week meeting, 2019

21. NEOPICS: Defining Very Early Onset IBD. (2016-2017). Funded by Crohn's and Colitis

Foundation. PI: Michael Kappelman.

Role: Site PI

Status: Recruitment completed. Preliminary data presented at the 2019 Digestive Disease

Week. Annual meeting, 2019, NASPGHAN 2019

22. Iron Infusion and anemia in IBD patients: Quality improvement project

Status: Active

Effective 2/25/2019 - 1/27/2020

Role: Mentor

23. Efficacy and Safety of combination Antibiotics in Refractory IBD: A retrospective review. Internal funding. Resident project (David Simon).

Role: PI mentor

24. Safety, Efficacy and Cost Effectiveness of ferric Carboxymaltose in Pediatric patients

Unfunded

Retrospective review, single center

Status: 11/01/2019-1/27/2020

Role: Site PI

25. IBD Phenotype in South Asian Ethnicity

Unfunded

Retrospective review

Multicenter

Effective:01/12/2020-01/27/2020

Status: completed

Role: Site PI

- Inflammatory bowel disease
- Fecal microbiota transplantation
- Very-early onset IBD

EDITORIAL SERVICE

Journal Reviewer

- 2012- Journal of Pediatric Gastroenterology and Nutrition
- 2016- Inflammatory Bowel Disease
- 2017- Digestive Diseases and Science
- 2018- The Lancet Infectious Diseases

SERVICE

University/Hospital Administrative Service

- Pediatric Aerodigestive Center, Consultant Gastroenterologist: 2010 2016
- Autism Treatment Network Center of Excellence, Children's Hospital of Pittsburgh, Consultant Gastroenterologist: 2010 – 2016
- Operative and Invasive Committee, Member: 2002 2016
- Pharmacy and Therapeutic Committee: Children's Mercy Kansas City: 2018 2019

Service to Professional Organizations

- Inflammatory Bowel Disease Committee, NASPGHAN: 2014 2018
- Fecal Transplant Interest Group, NASPGHAN: 2015 –
- Kansas City Inflammatory Bowel Disease Advisory Committee for Educational Activities Crohn's and Colitis Foundation (CCF): 2016 – 2020
- Public Education committee: NASPGHAN: 2018 –
- Pediatric Affairs Section of National Scientific Advisory Committee CCF: 2018 –
- Committee Chair in AGA Institute's abstract review process for Digestive Disease Week 2020

Community Service

- South Asian Pediatric Gastroenterology committee
 - I am the chairperson of this group
 - This committee was created with the goals of networking and enabling research and professional mentorship among the members of this group. Currently it has participation from about 75 pediatric gastroenterologists of South Asian Origin. We organize an annual meeting and are planning to

closely collaborate with NASPGHAN and the Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition (ISPGHAN).

- Crohn's and Colitis Foundation (2002-)
 - Annual fund-raising walks
 - Educational events
 - Planning committee
 - Volunteer physician at Crohn's and Colitis camp