

Curriculum Vitae

Date Prepared: February 26, 2023

Name: Kathleen M. Gura

Office Address: Boston Children's Hospital
300 Longwood Avenue
Department of Pharmacy, Hale SK B-1-430
Boston, MA 02115 United States

Home Address: 5 Barnstable Road
Norfolk, MA 02056

Work Phone: (617) 355-2336

Work Email: kathleen.gura@childrens.harvard.edu

Work FAX: (617) 730-0601

Place of Birth: Worcester, Massachusetts

ORCHID ID: <https://orcid.org/0000-0002-0431-896X>

My Bibliography <https://www.ncbi.nlm.nih.gov/myncbi/kathleen.gura.1/bibliography/public/>

Education

9/1978- 6/1982	B.S. Magna cum laude	Pharmacy	Massachusetts College of Pharmacy and Allied Health Sciences
6/1996- 9/1999	Pharm.D. Summa cum laude	Pharmacy	Massachusetts College of Pharmacy and Health Sciences
01/2021- 7/2021	Certificate	Medical Writing	University of Connecticut, School of Pharmacy

Postgraduate Training

4/1996- 5/1996	Fellow	Nutritional Support Preceptorship	University of Florida, College of Pharmacy, Shand's Clinic, Gainesville, FL
3/1999- 6/1999	Intern	Nutrition Alternative medicine	Marino Center for Progressive Medicine, Cambridge, MA

Faculty Academic Appointments

9/1999- 8/2000	Adjunct Instructor (non-voting)	Pharmacy Practice	Massachusetts College of Pharmacy and Health Sciences, Boston, MA
9/2002- 8/2009	Adjunct Assistant Professor (non-voting)	Pharmacy Practice	Massachusetts College of Pharmacy and Health Sciences, Boston, MA
9/2007- Present	Adjunct Assistant Professor (non-voting)	Pharmacy Practice	Bouvé College of Health Sciences, Northeastern University, Boston, MA
9/2003- 8/2006	Preceptor	Experiential Education	University of North Carolina College of Pharmacy at Chapel Hill, NC
9/2004- Present	Preceptor	Experiential Education	University of Washington, School of Pharmacy, Seattle, WA
9/2004- Present	Preceptor	Experiential Education	Washington State University, College of Pharmacy, Dept. of Pharmacotherapy, Spokane, WA
9/2006- present	Adjunct Assistant Professor (non-voting)	Pharmacotherapy and Experimental Therapeutics	School of Pharmacy, University of North Carolina at Chapel Hill, NC
9/2005- 11/2023	Gratis Adjunct Clinical Assistant Professor of Pharmacy Practice (non-voting)	Pharmacy Practice	School of Pharmacy, University of Connecticut, Storrs, CT
9/2009- 8/2019	Adjunct Associate Professor (non-voting)	Pharmacy Practice	Massachusetts College of Pharmacy and Health Sciences, Boston, MA
9/2013- 8/2018	Adjunct Associate Professor (non-voting)	Pharmacy Practice	MCPHS University, Boston, MA
11/2016-	Assistant Professor	Pediatrics	Harvard Medical School

Present

Boston, MA

Appointments at Hospitals/Affiliated Institutions

10/1982- 3/1984	Clinical Staff Pharmacist	Department of Pharmacy	Children's Hospital National Medical Center, Washington, D.C.
3/1984- 9/1987	Staff Pharmacist II	Department of Pharmacy	Boston Children's Hospital
9/1987- 12/2000	Clinical Pharmacist/ Sterile Products Manager	Department of Pharmacy	Boston Children's Hospital
9/1987- Present	Clinical Pharmacist	Division of Gastroenterology, Hepatology & Nutrition	Boston Children's Hospital
7/1999- Present	Clinical Pharmacist	Department of Surgery, Center for Advanced Intestinal Rehabilitation (CAIR)	Boston Children's Hospital
12/2000- 7/2015	Team Leader	Department of Pharmacy	Boston Children's Hospital
9/2009- Present	Clinical Pharmacist	Division of Critical Medicine (Nutrition)	Boston Children's Hospital
7/2015- Present	Manager, Clinical Research	Department of Pharmacy	Boston Children's Hospital

Other Professional Positions

1996-1998	Pharmaceutical Advisory Board	Baxa Corporation (16 hours/year)
1996-1998	Pharmaceutical Advisory Board	Abbott Pharmaceuticals (16 hours/year)
2007	2007 United States Pharmacopoeia, Disinfectants and Cleaning in the ISO Class 5 Environment USP <797> Ad Hoc Advisory Panel Member	United States Pharmacopeia (USP) (10 hours/year)
2008-2011	Pharmaceutical Advisory Board	Baxa Corporation (16 hours/year)
2008-2009	Professional Advisory Board	Nutrithrive (1 hour/month)
2010-2016	Pharmaceutical Advisory Board	B. Braun (16 hours/year)
2010-2020	Data and Safety Monitoring Board: Compassionate Use of an Intravenous Fat	Texas Children's Hospital, Baylor College of Medicine (1 hour/year)

Emulsion Comprised of Fish Oil in the Treatment of Parenteral Nutrition Induced Liver Disease (PNALD)

2010-2015	Consultant, Global Health Primary Care Initiative	Bach Mai Hospital (Hanoi, Viet Nam), Abbott Fund, Boston University School of Medicine, National Institute of Nutrition and Hanoi Medical University (80 hours/year)
2012-2018	Advisory Board	Pronova Biopharma (BASF) (2 days/year)
2013-2015	Advisory Board	Alkymos (4 hours/year)
2014-2016	Advisory Board	Sancilio and Company Inc. (1 hour/week)
2014-2020	Nutrient Specifications Working Group, Evaluating the evidence base to support guidelines for the nutritional care of preterm infants -“The Pre-B Project”	Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)/NIH (20 hours/year)
2015-2020	Parenteral Nutrition Safety Expert Panel	United States Pharmacopeia (USP) (2 hours/month)
2017- 2020	Special Government Employee (SGE)/Consultant	Pharmacy Compounding Advisory Committee (PCAC). US Food and Drug Administration (FDA)
2018	Consultant	Pfizer Pediatric Center of Excellence and Consumer Health and Healthy Living Work (10 hours/year)
2018-2020	Consultant	Xellia Pharmaceuticals SA LLC (2 hours/month)
2018-Present	Consultant	Fresenius Kabi (2 hours/month)
2018-2019	FDA Network of Experts	AASLD Experts on Cysteine Supplementation on patients with parenteral nutrition (1 hour)
2018-Present	Consultant	NorthSea Therapeutics (1-2days/year)
2018-Present	Consultant	Otsuka Pharmaceutical Factory (2 hours/month)

2018-2019	Advisory Board	US Numeta Advisory Board/Baxter Pharmaceuticals (1 day/year)
2019	Advisory Board	Pfizer Hospital Pharmacist Advisory Board (1 day/year)
2021- 2024	Member	Pharmacy Compounding Advisory Committee, Food and Drug Administration (1 day/year)
2021-present	Consultant	Wolters Kluwer-Kelly (Lexicomp) (2 hours/month)
2021	Visiting Scholar	Takeda Pharmaceutical Company Limited (2 days/single event)
2021-present	Advisory Board/consultant	Alcresta Therapeutics, Inc. (2 hours/month)
2022	Advisory Board	B. Braun (6 hours/year)
2022-2025	Dean's Advisory Board	Massachusetts College of Pharmacy and Health Sciences (4 hours/year)
2022	Advisory Board	Takeda Pharmaceutical Company Limited (1 day/single event)

Patents Issued

February 14, 2017 Patent number: 9566260. Treatment and prevention of liver disease associated with parenteral nutrition (PN) Assignee: Children's Medical Center Corporation Inventors: Mark Puder, Kathleen M. Gura

April 25, 2017 Patent number: 9629821. Treatment and prevention of liver disease associated with parenteral nutrition (PN) Assignee: Children's Medical Center Corporation Inventors: Mark Puder, Kathleen M. Gura

July 16, 2019 Patent number: 10350186. Treatment and prevention of liver disease associated with parenteral nutrition (PN) Assignee: Children's Medical Center Corporation Inventors: Mark Puder, Kathleen M. Gura

May 10, 2022 Patent number: 11324697. Methods and compositions relating to emulsions comprising fish oil and/or omega-3 fatty acids Assignee: Children's Medical Center Corporation Inventors: Mark Puder, Kathleen M. Gura

Major Administrative Leadership Positions

Local

7/2015- Manager Clinical Research, Department of Boston Children's Hospital

Present Pharmacy

Committee Service

Local

1987- Present	Nutrition Advisory Committee	Boston Children's Hospital Member
1987-2014	Nursing Policies and Procedures Committee	Boston Children's Hospital Member
1985- 1999 2001- Present	Nursing-Pharmacy Committee	Boston Children's Hospital Member
1991-1995	Longwood Herbal Task Force	Boston Children's Hospital Member
1991	CVC Occlusion Task Force	Boston Children's Hospital Member
1993-2006	Infection Control Committee	Boston Children's Hospital Member
1993	TPN Clinical Practice Guidelines Group	Boston Children's Hospital Member
1993-1997	NICU Committee	Boston Children's Hospital Member
1993-1997	Medication Systems Task Force	Boston Children's Hospital Member
1993	Enteral Nutrition Task Force	Boston Children's Hospital Member
1994-1997	Burette Use Task Force	Boston Children's Hospital Member
1995-1999	Pharmacy Computer Implementation Committee	Boston Children's Hospital Member
1995-2003	Pharmacy Committee	Children's Extended Care Center, Groton, MA Member
1995-1999 2002-	Clinical Product Evaluation Committee	Boston Children's Hospital

Present		Member
1996	IV Therapy Task Force	Boston Children's Hospital Member
2000- Present	Pharmacy and Therapeutics Committee	Boston Children's Hospital Member
2003	Thrombosis Management Task Force	Boston Children's Hospital Member
2004-2010	CHAMPS (Children's Hospital Applications Maximizing Patient Safety)	Boston Children's Hospital Member
2008-2011	Ureteral Reimplant DRG /Clinical Practice Guidelines Committee	Boston Children's Hospital Member
2008- Present	Phlebitis Task Force	Boston Children's Hospital Member
2008- Present	Parenteral Nutrition Safety Task Force	Boston Children's Hospital Member
2009	Critical Care Enteral Nutrition Task Force	Boston Children's Hospital Member
2009- Present	NICU Parenteral Nutrition Task Force	Boston Children's Hospital Member
2011-2013	Child Healthcare of America (CHCA) IV Infiltrates Collaborative	Boston Children's Hospital Member
2012	Ethanol Lock Task Force	Boston Children's Hospital Member
2012	HPEN Vendor Task Force	Boston Children's Hospital Member
2015- 2018	CLABSI Task Force	Boston Children's Hospital Member
2016- 2017	Data and Safety Monitoring Board Pilot Study: Safety of Chlorhexidine (CHG) Baths in Patients Less Than 2 Months of Age	Boston Children's Hospital Chair

2018- Present	Gene Therapy Scientific Review Committee	Dana-Farber Boston Children's Cancer and Blood Disorders Center Member
2019- Present	Boston Children's Hospital Institutional Centers for Clinical and Translational Research (ICCTR) Education and Training Committee	Boston Children's Hospital Member
2019- Present	Experimental Therapeutics/Interventional Trials (ET/IT) Scientific Review Committee	Boston Children's Hospital Member
2019- Present	Pharmacy Policy Committee	Boston Children's Hospital Member
2020- 2022	Clinical Research Restart Group	Boston Children's Hospital Member
2022- Present	Clinical Research Council	Boston Children's Hospital Member
2022- Present	Data and Safety Monitoring Board Initial Pain Management in Pediatric Pancreatitis: Opioid vs. Non-Opioid	Boston Children's Hospital Member
2020- Present	IBD Boston Planning Committee	Boston University Chobanian & Avedisian School of Medicine Member

Professional Societies

1979- Present	American Society of Health-Systems Pharmacists (ASHP)	Member 1991-present, Reviewer of submissions for the Annual Meetings and Clinical Midyear 1991, 1999: Served as moderator for platform presentations 1996-2001: Massachusetts representative to ASHP House of Delegates 1998-2000: Member of Council of Professional Affairs 2000: Chair of Council of Professional Affairs 2011: Reviewer, Drug Therapy Research Awards 2017-present, Member, ASHP Section of Clinical Specialists and Scientists, Section Advisory Group (SAG) on Emerging
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		Sciences 2018-2019: Alternate Massachusetts representative to ASHP House of Delegates member, Pharmacy Engagement in Patient Medication Education Survey Panel 2023- ASHP Taskforce on Oral Dose Rounding Standardizaion
1979-Present	Rho Pi Phi Pharmaceutical Fraternity	Member 1980-1981: Secretary
1979-Present	Massachusetts Pharmacists Association	Member
1981-Present	Rho Chi Pharmaceutical Honor Society	Member
1982-1984	District of Columbia Society of Hospital Pharmacists	Member 1983-1984: Program Committee
1984-Present	Massachusetts Society of Health-Systems Pharmacists	Member 1991: Membership committee 1993-2010: Annual Meeting committee 1999: President-elect 2000-2001: President 2005-2010: Board of Directors 2016-present: Nominations Committee 2018-present: Alternate ASHP House of Delegates
1990-Present	American Society for Parenteral and Enteral Nutrition (ASPEN)	Member 1999: Nominations Committee, Pharmacy Practice Section 2000-2001, 2005-2006: Multivitamin Task Force 2002: Reviewer submitted papers 2004: Reviewer, A.S.P.E.N.'s Journal CE programs 2003-2005: Program Committee for 2004-2005 Nutrition Week 2004: Item writer, Self-Assessment Courses 2005-2006: Clinical Practice Awards Task Force 2006-2008: Clinical Guidelines Committee

		2009-present: Selection Committee, Serlick Award 2009-present: Novel Nutrient Task Force 2010-2015: Rhodes Research Foundation Mentor 2010: Reviewer, Pediatric Nutrition Support Core Curriculum 2010: Intravenous Fat Emulsion National Shortage Task Force 2011: Reviewer, Adult Nutrition Support Core Curriculum 3rd Edition 2011: Cysteine Shortage Task Force 2011-2014: Research Committee 2011-2016: CNW Program Committee 2013 vice chairman 2014 CNW 2014 chair 2015 CNW 2012-2022: Clinical Practice Committee 2012-present Educational and Professional Development (EPD) Committee 2012-present: A.S.P.E.N. Corporate Scientific Council IVFE Work group 2014: Reviewer, A.S.P.E.N Nutrition Support Pharmacist Standards Guidelines 2015 - 2021 Fellows Selection Committee 2018- 2020 vice chairman 2020- 2021 chair 2016-2021 Parenteral Nutrition Safety Committee 2016 IV Lipid Task Force 2017-2021 Neonatal Section, leadership council 2021-2023, Board of Directors 2021- present Public Policy Committee 2021- present Informatics Committee
1990-Present	Longwood Medical Area Nutrition Group	Member
1994-Present	Pediatric Pharmacy Association (PPA) [formerly Pediatric Pharmacy Advocacy Group (PPAG)]	Member 1994-2019: Chairman, parenteral nutrition clinical focus group 2000-2004: Board of directors 2004-2005: Vice president, finance 2006-2011: Richard A. Helms Excellence in Pharmacy Practice Award review committee 2006: Representative to the USP Stakeholders Meeting

		2007: Program Committee 2008 Annual Meeting Committee 2015-present Recertification Program Advisory Committee 2022 Executive director search committee 2023 -present, Editorial board, JPPT
1995- Present	Board of Pharmaceutical Specialties	Member Item writer/reviewer, nutrition support pharmacist board certification 2008: BPS Representative APhA Academy of Student Pharmacists Midyear Regional Meeting, Boston, MA 2010-2013: Specialist member, BPS Specialty Council on Nutrition Support Pharmacy
1996-1998	Pharmacy Technician Certification Board (PTCB)	Item writer/reviewer, technician certification examination
1997-1999	Council of Pharmacists, Hospital Pharmacist Report/Drug Topics	Member
1999- Present	American College of Clinical Pharmacy	Member Pediatric Self-Assessment Program (PedSAP) pilot tester
2003-2005	Pharmacy Grand Rounds Steering Committee, Massachusetts College of Pharmacy and Health Sciences, Council of Boston Teaching Hospitals	Member
2005- Present	European Society for Clinical Nutrition and Metabolism	Member
2014	European Academy of Paediatrics (EAP)	Member
2014- Present	American Society for Nutrition (ASN)	Member
2016- Present	Academy of Nutrition and Dietetics Evidence Analysis Workgroup for the Evidence Analysis Library (EAL)	Member
2017- Present	Oley Foundation	Member, Oley Advisory Council

2019- Present	The North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN)	Member. NASPGHAN Council for Pediatric Nutrition Professionals (CPNP) Member, Nutrition Committee (10/22-10/25) - Leader “Food as Medicine” working group Member, Intestinal Failure, Special Interest Group
2021- Present	Society of Neonatal Nutrition Gut & Growth	Founding Member
2021	The Institute for Safe Medication Practices (ISMP)	Expert Advisory Panel, Sterile Compounding Technology Safety Summit

Grant Review Activities

2009- 2016	ASHP Research Foundation	Reviewer
2010	Health Research Board, An Bord Taighde Sláinte, Dublin, Ireland	Reviewer
2011-2014	ASPEN Rhoads Research Foundation	Reviewer
2016- Present	Swiss National Science Foundation	Reviewer

Editorial Activities

Ad hoc Reviewer

American Journal of Health-System Pharmacy
 Nutrition in Clinical Care
 Best Practices for Hospital & Health-System Pharmacy
 Practice Standards Division, American Society of Health-System Pharmacists
 JPEN Journal of Parenteral and Enteral Nutrition
 NCP, Nutrition in Clinical Practice
 JPPT Journal of Pediatric Pharmacology and Therapeutics
 The Annals of Pharmacotherapy
 A.S.P.E.N. Core Curriculum
 Clinical Orthopaedics and Related Research
 Journal of Perinatology
 Nutrition
 Clinical Nutrition
 Pediatrics

The Journal of Pediatrics
 American Journal of Infection Control
 A.S.P.E.N. Pediatric Nutrition Support Core Curriculum 1st edition
 Acta Paediatrica
 British Journal of Nutrition
 Journal of the American Dietetic Association
 A.S.P.E.N. Adult Nutrition Support Core Curriculum
 European Journal of Clinical Nutrition
 The Journal of the Academy of Nutrition and Dietetics
 Nutrients
 International Journal of Medical Sciences
 Applied Physiology, Nutrition, and Metabolism
 Neonatology
 British Journal of Pharmaceutical Research
 European Journal of Pediatrics
 Expert Review of Gastroenterology & Hepatology
 Journal of Medical Case Reports
 A.S.P.E.N. Pediatric Nutrition Support Core Curriculum 2nd edition
 BMC Research Notes
 The Journal of Thrombosis and Haemostasis
 Postgraduate Medicine
 Lifeline Newsletter, Oley Foundation
 Journal of Nutrition and Health
 Jornal de Pediatria (Brazil)
 Expert Opinion on Drug Delivery
 Journal of Infection and Public Health
 International Journal of Drug Safety and Discovery
 Journal of Cardiovascular Pharmacology and Therapeutics
 Nutrition Research
 Clinical Biochemistry
 Hospital Practice
 Pharmaceutics
 Clinical Nutrition ESPEN
 Pharmacy
 Journal of Nutrition & Intermediary Metabolism
 Annals of the New York Academy of Sciences
 Hospital Pharmacist's Letter and Hospital Prescriber's Letter
 Early Human Development
 Journal of Colloid and Interface Science
 Therapeutics and Clinical Risk Management
 Journal of Pediatric Intensive Care
 The Journal of Nutrition
 Scientific Reviews
 EBioMedicine
 BMC Pediatrics
 Frontiers in Pharmacology
 PLOS One
 Frontiers in Pediatrics

Journal of Pediatric Gastroenterology and Nutrition (JPGN)
 Expert Review of Gastroenterology & Hepatology
 JPGN Reports
 Pediatric Transplantation
 Journal of International Medical Research
 Evidence-Based Complementary and Alternative Medicine
 European Journal of Pharmaceutical Sciences for Nutrition and Cancer: An International Journal
 BMC Medicine
 Expert Review of Gastroenterology & Hepatology

Other Editorial Roles

2008- 2016	Editorial Board	ICAN: Infant, Child, & Adolescent Nutrition
2012- 2019	Editorial Board	JPEN: Journal of Parenteral and Enteral Nutrition
2013-2016	Editorial Board	AJIC American Journal of Infection Control
2019-2021	Associate Editor	JPEN: Journal of Parenteral and Enteral Nutrition
2023-present	Editorial Board	JPPT: Journal of Pediatric Pharmacology and Therapeutics

Honors and Prizes

1979	Rho Chi First Year Award	Massachusetts College of Pharmacy (MCP)	National Pharmaceutical Academic Honor Society
1979	Rho Pi Phi First Year Award	MCP	Pharmaceutical Fraternal Society
1980	1st Year Award	Massachusetts Society of Hospital Pharmacists	
1981	Rho Chi Honor Society	MCP	National Pharmaceutical Academic Honor Society
1981	Rho Chi Third Year Award	MCP	National Pharmaceutical Academic Honor Society
1994	Practitioner Excellence Award	Massachusetts Society of Health System Pharmacists	
2001	Fellowship appointment	American Society of Health-	

System Pharmacists

2007	Innovative Pharmacy Practice Award	Massachusetts Pharmaceutical Association	Research
2007	Best of the New Award	Boston Globe	Research
2008	Stanley Serlick Award	American Society for Parenteral and Enteral Nutrition	For significant contributions to improving safe practices for parenteral nutrition
2009	The 2009 Drug Therapy Research Award	American Society of Health Systems Pharmacists	For an Outstanding Contribution to the Research Literature Related to Drug Therapy in Health Systems
2010	2009 Top 5 Papers of the Year	Journal of Parenteral and Enteral Nutrition	
2010	MSHP Outstanding Service Award	Massachusetts Society of Health System Pharmacists	Leadership and Service
2011	2010 Top cited Papers of the Year	Metabolism: Clinical and Experimental	
2011	Fellowship appointment	Pediatric Pharmacy Association (formerly Pediatric Pharmacy Advocacy Group)	
2012	Distinguished Nutrition Support Pharmacist Award	American Society for Parenteral and Enteral Nutrition	Contributions to the practice of nutrition support pharmacy
2013	Fellowship appointment	American Society for Parenteral and Enteral Nutrition	
2018	2018 Clinical Nutrition Team of Distinction Award	American Society for Parenteral and Enteral Nutrition	
2019	2019 Best in Care Award (nominee, CAIR program)	Boston Children's Hospital	
2019	Fellowship appointment	Massachusetts Society of	

		Health System Pharmacists	
2020	ASPEN Champion	American society for Parenteral and Enteral Nutrition	
2020	HPN Research Prize	Oley Foundation	For the manuscript, “Intravenous Fish Oil Monotherapy as a Source of Calories and Fatty Acids Promotes Age-Appropriate Growth in Pediatric Patients with Intestinal Failure-Associated Liver Disease”
2020	The Richard A. Helms Award of Excellence in Pediatric Pharmacy Practice	Pediatric Pharmacy Association	For exemplary pediatric patient care, sustained and meritorious contributions to pediatric pharmacy practice, sustained and meritorious contributions to PPA, contributions to education, precepting, and/or mentorship, and contributions of new knowledge (scholarship)
2021	HPN Research Prize	Oley Foundation	For the manuscript, “Fish Oil Emulsion Reduces Liver Injury and Liver Transplantation in Children with Intestinal Failure-Associated Liver Disease: A Multicenter Integrated Study”
2022	Nutrition Prize	NASPGHAN	For the abstract, “An In-line Digestive Cartridge Reduces Dependence on Parenteral Nutrition and Increases Intestinal Growth in a Porcine Model of Short Bowel Syndrome”

Report of Funded and Unfunded Projects

Funding Information

Past

- 2006-2009 Efficacy of Omega-3 enriched fat emulsions in the prevention of parenteral nutrition induced liver injury in infants (Prospective randomized trial)
March of Dimes (Puder, PI)
Co-PI (\$256,086/total directs)
Efficacy of Omega-3 enriched fat emulsion in the prevention of PNALD in infants.
The goals of this project were 1.) To determine whether the parenteral administration of an omega-3 fatty acid based fat emulsion reduces the proportion of cholestasis in infants. 2.) Describe biochemical tests of liver function profiles over time in the two treatment groups. 3.) To assess the safety and tolerability of an omega-3 fatty acid based fat emulsion (Omegaven) as opposed to a conventional fat emulsion (Intralipid®).
- 2008-2012 Cholestasis Prevention: Efficacy of IV Fish Oil
FDA, R01 FD003436
Co-PI (\$262,745/total direct) (Puder, PI)
The goals of this project were: To determine the safety and efficacy of preventing parenteral nutrition associated liver disease with a fish oil-based emulsion.
- 2010-2012 An initial trial of enteral fish oil supplementation in the treatment of intestinal failure-associated liver disease.
Harvard Catalyst | The Harvard Clinical and Translational Science Center (NIH Award #UL1 RR025758)
Co-PI (\$50,000/total direct)
The goal was to determine whether oral omega-3 fatty acids will reverse continued liver injury after patients are weaned from parenteral nutrition.
- 2008-2013 Cholestasis Reversal: Efficacy of IV Fish Oil
FDA R01 FD003460
Co-PI (\$462,053/total direct) (Puder, PI)
The goals of this project were: To determine the safety and efficacy of treating parenteral nutrition associated liver disease with a fish oil-based emulsion.
- 2014-2015 Co-investigator, Abbott Fund facilitated by BU, USA, Nutrition status of children with congenital heart disease (CHD) before and after corrective cardiac surgery in Children's Hospital 1, Viet Nam (Lenders/Tang)
- 2015-2016 Safety and tolerability of intravenous fish oil lipid emulsion during hematopoietic cell transplantation in children.
Inquiry Investment Drives Evidence into Action Grant Program
PI (\$49,500 total direct)

The goal of this project is to determine the safety of a fish oil lipid emulsion in children undergoing hematopoietic cell transplantation. This is a randomized, controlled pilot study to test the safety and tolerability of FOLE, compared to soybean oil lipid emulsion, in 20 children requiring PN during hospitalization for HCT

2015-2016 Safety and tolerability of intravenous fish oil lipid emulsion during hematopoietic cell transplantation in children.
American Society for Parenteral and Enteral Nutrition
Co-PI (\$30,000 /total direct)

2016-2018 The Safety and Tolerability of Intravenous Fish Oil Lipid Emulsion in Children Undergoing Hematopoietic Cell Transplantation.
Gateway for Cancer Research
Co-PI (\$256,745/ total direct)

2017-2018 Production and Evaluation of a New Intravenous Lipid Emulsion
Otsuka Pharmaceutical Group
Role: Co-investigator (\$165,227/total direct) (Puder PI)

2018-2020 A 90 day, Phase 3, Open Labeled Exploratory Study of RELiZORB to Evaluate Safety, Tolerability, and Nutrient Absorption in Children with Short Bowel Syndrome who are Dependent on Parenteral Nutrition
Alcresta
Role: Co-investigator (\$673,000/total direct) (Puder PI)

Current

2015 Safety and tolerability of intravenous fish oil lipid emulsion during hematopoietic cell transplantation in children (STARFISH).
Role: Co-Investigator (Carey PI)

2018 The role of GPR120 signaling and treatment with a modified fatty acid molecule in high fat diet-induced murine model of insulin-resistance and hepatic steatosis.
Northsea Therapeutics
Role: Co-investigator (\$104,184/total direct) (Puder PI)

2018 Structurally engineered fatty acid, PRB-06179 in a murine model of parenteral nutrition associated liver injury.
Northsea Therapeutics
Role: Co-investigator (38,225/total direct) (Puder PI)

2020 Kitelock for prevention of Central venous line infections
Sterilecare
Role: Co-investigator (Puder PI)

2020 Variables Associated with Central Line Occlusions
IDEA grant
Role: Co-investigator (DeGrazia, PI)

2021 - 2025 A 90 day, Phase 3, Open Labeled Exploratory Study of RELiZORB to Evaluate Safety, Tolerability, and Nutrient Absorption in Children with Short Bowel Syndrome who are Dependent on Parenteral Nutrition. FDA, R01 FD006349-01A2
Role: Co-investigator (\$660,139/total direct) (Puder PI)

Past Unfunded Projects

2004-2018 Compassionate use of Intravenous Fish Oil in the Management of PN Induced Liver Injury (Puder)

2013-2017 Development of Infants and Aluminum Levels: DIALS (Woolf)

Report of Local Teaching and Training

Teaching of Students in Courses

1994	Pharmaceutical Technology	Health Technician Group, Massasoit Community College, Brockton, MA Two 2 hour sessions per week for 10 weeks
1995-1996	Sterile Products Pharmacy Practice 4 th year pharmacy students	Northeastern University One 2 hour session
1996	Sterile Products Pharmacy Practice 4 th year pharmacy students	Northeastern University One 2 hour session
1999	Vascular Access Devices 4 th year pharmacy students	Massachusetts College of Pharmacy One 1 hour session
1999	Compounding of Sterile Products/ Aseptic Technique	Massachusetts College of Pharmacy 1 session per week for 12 weeks
1999- Present	Fluid and Electrolytes 5 th year pharmacy students, non-traditional doctor of pharmacy students (NTPD)	Massachusetts College of Pharmacy One 2 hour session
1999- Present	Parenteral and Enteral Nutrition 5 th year pharmacy students, NTPD	Massachusetts College of Pharmacy Three 2 hour sessions
2003-2016	Special Topics in Pediatric GI Nurse Practitioner/Physician's Assistant	Northeastern University Two 2 hour sessions
2005	Overview of Pediatric Nutrition 5 th year pharmacy students	School of Pharmacy, University of Connecticut, Storrs, CT

		One 2 hour session
2006	Pediatric Nutrition 5 th year pharmacy students	School of Pharmacy, University of Connecticut, Storrs, CT One 2 hour session
2014- Present	Parenteral and Enteral Nutrition 5 th year pharmacy students	Northeastern University Two 2 hour sessions

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

1997	Drug-Nutrient Interactions Interns-Fellows	Boston Children's Hospital One hour lecture
1997	Overview of Incompatibilities Interns-Fellows	Boston Children's Hospital One hour lecture
1999	Gastroesophageal Reflux Disease Interns	Marino Center for Progressive Health, Cambridge, MA One hour lecture
2001	Aminoglycosides Pharmacokinetics in Cystic Fibrosis Patients Interns-Fellows	Boston Children's Hospital One hour lecture
2002	Essential Fatty Acid Deficiency Interns-Fellows	Boston Children's Hospital One hour lecture
2003	Patient Compliance Interns-Fellows	Boston Children's Hospital One 1 hour lectures
2003	Secondary Dyslipidemia Interns-Fellows	Boston Children's Hospital One hour lecture
2003	Aluminum Toxicity Interns-Fellows	Boston Children's Hospital One hour lecture
2004	Metabolic Bone Disease in the NICU Interns-Fellows	Boston Children's Hospital One 1 hour lectures
2005	Overview of Commonly Medications Used to Treat GERD Interns-Fellows	Boston Children's Hospital Two 1 hour lectures
2006	Reversal of Parenteral Nutrition Associated Cholestasis in Two Infants Using Parenteral Fish Oil Interns-Fellows	Boston Children's Hospital One-hour lecture

2008	IBD Drug Review Interns- Fellows	Boston Children's Hospital One 2-hour lecture
2009	Medication Review: Gastroesophageal Reflux Disease Fellows	Boston Children's Hospital One-hour lecture
2009	Management of Catheter Occlusions Interns-Fellows	Boston Children's Hospital One-hour lecture
2010	Omegaven Interns-Fellows	Boston Children's Hospital One-hour lecture
2012	Overview of Amino Acid Products Interns-Fellows	Boston Children's Hospital One-hour lecture
2013	Vitamins and Nutritional Supplements Interns-Fellows	Boston Children's Hospital One-hour lecture
Ongoing	Introduction to Parenteral Nutrition Interns-Fellows	Boston Children's Hospital One hour orientation

Clinical Supervisory and Training Responsibilities

7/1999- present	Clinic preceptor/ pharmacy practice Boston Children's Hospital	Twenty-four weeks per year with doctor of pharmacy students, PGY2 pharmacy residents, and international pharmacists and physicians participating in nutrition fellowships. Direct contact and interactions at minimum 20 hours per week.
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Laboratory and Other Research Supervisory and Training Responsibilities

7/2002- present	Research Collaborator/ Boston Children's Hospital	Collaborated with research fellows in both basic and clinical research. Direct contact and interactions 2 hours per week.
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Formally Supervised Trainees at Boston Children's Hospital

2001-2002	Jenna Garza M.D./ Pediatric Surgeon, McAllen TX Published 2 manuscripts	
2002-2003	Patrick Javid, M.D./ Pediatric Surgeon, Associate Professor University of Washington, Seattle Published 4 manuscripts	

2003-2004	Ian Alwayn M.D., Ph.D./ Transplant Surgeon/Research Associate, Associate Professor Published 5 manuscripts
2005-2007	Sendia Kim, M.D./ Plastic Surgeon, MD Anderson Cancer Center, Houston TX Published 5 manuscripts.
2005-2007	Sang Lee, M.D./ Pediatric Surgeon, Assistant Professor, University of North Carolina, Chapel Hill Published 8 manuscripts
2007-2010	Hau Le, M.D./ Assistant Professor, University of Wisconsin, Madison WI Published 16 manuscripts
2007-2009	Jonathan Meisel, M.D./ Surgery Resident, Beth Israel Deaconess Medical Center Published 11 manuscripts/Currently Assistant Professor Emory University
2007-2009	Vincent de Meijer, M.D./ Ph.D./Surgery Resident Erasmus MC, Netherlands Published 13 manuscripts
2008-2010	Alpin Malkan, M.D./ Surgery Resident Danbury Hospital Published 2 manuscripts
2009-2012	Erica Fallon, M.D./ Pediatric Surgery Fellow, Toronto Sick Kids Published 14 manuscripts
2010-2012	Deepika Nehra, M.D./ General Surgery Resident, Massachusetts General Hospital Published 7 manuscripts
2011-2013	Brian Kalish/ Harvard Medical Student Neonatology and Research Fellow, Boston Children's Hospital Published 5 manuscripts
2011-2014	Sarah Carlson, M.D./General Surgery Resident, Beth Israel Deaconess Hospital Published 11 manuscripts
2012-2015	Prathima Nandivada M.D./ Surgery Resident Beth Israel Deaconess Hospital Published 16 manuscripts
2012-2014	Melissa Chang, M.D./General Surgery Resident Mount Sinai Hospital, New York, NY. Published 8 manuscripts
2012-2014	Eileen Cowan, M.D./Neonatologist Assist. Professor University of Wisconsin, Madison Published 7 manuscripts
2014-2017	Gillian Fell, M.D., Ph.D./ Research Fellow, Boston Children's Hospital and General Surgery Resident, Brigham and Women's Hospital, Boston MA Published 20 manuscripts

2015-2017	Meredith Baker, M.D./ Research Fellow, Boston Children's Hospital and General Surgery Resident, Beth Deaconess Hospital, Boston, MA Published 17 manuscripts
2015-2019	Duy Dao, M.D./ Research Fellow, Boston Children's Hospital and General Surgery Resident, NYU Langone Medical Center, New York, NY Published 18 manuscripts.
2015-2019	Lorenzo Anez-Bustillos, M.D./Research Fellow and General Surgery Resident, Beth Deaconess Hospital, Boston, MA Published 18 manuscripts
2016-2019	Bennet Cho/Harvard Medical School Surgical Research Fellow, Boston Children's Hospital Published 9 manuscripts
2016	Zhiling Li PhD Visiting pediatrician, Shanghai Children's Hospital, Shanghai Jiao Tong University Published 1 manuscript
2018	Paul Anthony McGregor Crowley, MD Fellow in Gastroenterology, Hepatology, and Nutrition, Boston Children's Hospital Published 1 manuscript
2018-2020	Victoria Ko, M.D. Surgical Research Fellow, Boston Children's Hospital Published 2 manuscripts
2018-2022	Jenny Yu, MD Research Fellow Sandra and Richard Cumming Research Fellowship (BIDMC) Published 4 manuscripts
2018-2022	Jordan Secor, MD Surgical Research Fellow, Boston Children's Hospital Published 5 manuscripts
2020-present	Savas Tsikis, MD/Research Fellow Surgical Research Fellow, Boston Children's Hospital Published 5 manuscripts
2020-present	Scott Fligor, MD Surgical Research Fellow, Boston Children's Hospital Published 5 manuscripts
2020-2022	Kristin Leone, MD/Research

Harvard Neonatal-Perinatal Medicine Fellowship Program, Scholarship Oversight Committee

2021-present Thomas Hirsch, MD
Surgical Research Fellow, Boston Children's Hospital
Published 1 manuscript

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

2007	Enhancing the Safety of Parenteral and Enteral Nutrition "Home Parenteral Nutrition in the Pediatric Patient: Special Considerations" Harvard Medical School Continuing Education	Lecture Cambridge, MA
2007	Enhancing the Safety of Parenteral and Enteral Nutrition "Calcium- Phosphate Compatibility" Harvard Medical School Continuing Education	Roundtable discussion Cambridge, MA
2008	Enhancing the Safety of Parenteral and Enteral Nutrition, "Is there a Role for Peripheral Parenteral Nutrition?" Harvard Medical School Continuing Education	Lecture Cambridge, MA
2008	Enhancing the Safety of Parenteral and Enteral Nutrition, "Issues in Calcium-Phosphate Compatibility," Harvard Medical School Continuing Education	Roundtable discussion Cambridge, MA
2020-present	"Parenteral Nutrition," OPENPediatrics:Online Medical Education, Boston Children's Hospital/Harvard Medical School	Online Course Boston, MA
2022	15th Annual Inflammatory Bowel Disease: The Art and Science in the Diagnosis and Treatment 2022 Boston IBD Conference, Boston University School of Medicine/Continuing Medical Education	Symposium Boston, MA

Local Invited Presentations

Those presentations below sponsored by outside entities are so noted and the sponsor identified.

1991 "Variations in Compounding Practices Among Home Care Companies," Longwood

Nutrition Rounds, February, 1991

- 1993 “Incidence of Cholestasis in Infants Receiving Parenteral Nutrition: Comparison of Aminosyn PF and TrophAmine.” Deaconess Home Health Care, Boston, MA
- 1996 “Quality Assurance of Sterile Products.” Presented to members of the department of pharmacy, Children's Hospital, Boston, MA
- 1996 “Management of Catheter Occlusions,” Massachusetts Society of Health Systems Pharmacists Annual Meeting in Boxborough, MA
- 1997 “Medication Errors,” presented to nursing staff in conjunction with Risk Management staff of Children's Hospital, Children's Extended Care Center, Groton, MA
- 1998 “Minimizing Incompatibilities,” presented to the pharmacy staff, Children's Hospital, Boston, MA
- 1998 “Issues with Parenteral Drug Therapy,” presented to the pharmacy staff, Beverly Hospital, Beverly, MA and the staff of Children's Hospital, Boston, MA.
- 1998 “Update on Extravasations,” presented to the pharmacy staff, Brigham & Women’s Hospital, Boston, MA
- 2000 “2000: An Antimicrobial Odyssey: New uses for Old Therapies and Review of New Agents,” with Roger Dionne, presented at the 1st Annual Cardiology Nursing Educational Day, Children’s Hospital, Boston, MA
- 2000 “Management of Catheter Occlusions,” presented to the pharmacy staff, Brigham and Women’s Hospital, Boston, MA
- 2003 “Essential Fatty Acid Deficiency,” Longwood Nutrition Conference, Division of Nutrition at Harvard, Harvard Medical School, Boston, MA
- 2003 “Secondary Dyslipidemia in the ICU,” Longwood Nutrition Conference, Division of Nutrition at Harvard, Harvard Medical School, Boston, MA
- 2016 “Fluids, Electrolytes and Acid-Base,” Department of Clinical Nutrition, Boston Medical Center, Boston, MA
- 2019 “Alternative Lipid Emulsions,” Center for Nutrition, Division of Gastroenterology, Hepatology, and Nutrition, Boston Children’s Hospital, Boston, MA.
- 2020 “How to Survive an FDA Site Visit (and live to tell about it),” Clinical Research Regulatory Education Series, Boston Children’s Hospital, Boston, MA.
- 2020 “Medication Compatibility and Lipid Emulsions,” Clinical Nutrition Service, Boston Children’s Hospital, Boston, MA.

- 2020 “Hypertriglyceridemia, Essential Fatty Acid and Lipid Infusion: Case and discussion,” Clinical Nutrition Service, Boston Children’s Hospital, Boston, MA.
- 2021 “Are you interested in learning about the electronic research orders safety system (ROSS)?” Boston Children’s Hospital, Boston, MA.
- 2021 “The Role of Premedications in Managing Infliximab Reactions,” IBD Conference, Division of Gastroenterology, Hepatology and Nutrition, Boston Children’s Hospital, Boston, MA.
- 2022 “How Not to Conduct a Drug Trial: Lessons Learned from Omegaven Approval,” Institutional Centers for Clinical and Translational Research, Boston Children’s Hospital, Boston, MA.
- 2023 “Pharmacologic Management of Intestinal Failure Associated Complications,” Nursing Surgical Programs, Boston Children's Hospital, Boston, MA.

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

Those presentations below sponsored by outside entities are so noted and the sponsor identified.

Regional

- 1993 Pharmacy Technicians, Chemotherapy Preparation, as part of the NEAPT IV Proficiency Certification Course
- 1994 Pharmacy Technicians, review of drug classes and anatomy/physiology, as part of a NEAPT review program for technician certification exam
- 1995 “Drug-Nutrient Interactions/Compatibility of Medications with Enteral Feedings,” Monthly meeting of the Massachusetts Pediatric Dietitians Association, Boston, MA
- 1999 “Management of Catheter Occlusions,” Yankee Alliance Group Purchasing Organization, Nashua, New Hampshire
- 2000 “Managing the Urokinase Shortage,” New Hampshire Society of Health Systems Pharmacists, Manchester, New Hampshire
- 2001 “Management of Catheter Occlusions,” presented at monthly society meeting, RI Intravenous Nursing Society, Warwick, RI
- 2001 “Parenteral Nutrition Basics,” Department of Pharmacy’s monthly continuing education series, St. Vincent’s Medical Center, Worcester, MA
- 2002 “Abstract Preparation,” presented as a workshop to the staff of Baystate Medical Center, Massachusetts Society of Health-System Pharmacists Sturbridge, MA

- 2003 “FDA Aluminum Mandate,” Nutrition Case Conference, Connecticut Children's Hospital, Hartford, CT
- 2003 “Update on Incompatibilities/FDA Aluminum Mandate,” Apria Healthcare, Norwood, MA
- 2004 “Aluminum Exposure and Parenteral Nutrition,” Department of Pharmacy, Women’s and Infants Hospital, Providence, RI (Mayne Pharma)
- 2004 “Aluminum Toxicity,” New England Vascular Access Network, Concord, NH
- 2006 “USP Chapter 797 Update,” First Regional HOPA/MSHP Fall Meeting, Worcester, MA
- 2006 “Reversal of Parenteral Nutrition Associated Cholestasis in Two Infants Using Parenteral Fish Oil,” Pharmacy Grand Rounds, Northeastern University, Boston, MA
- 2008 “Current Challenges in Pediatric Pharmacy Practice,” Massachusetts Pharmacists Association 2008 Spring Conference, Norwood, MA
- 2009 “The Role of Intravenous Fish Oil Lipid Emulsions in the Treatment of TPN-Induced Liver Disease,” 20th Annual Conference of the Connecticut Organization of Neonatal Nurses, Plantsville CT
- 2009 “An Evening in Pediatrics,” Northeastern University Alumnae, Boston, MA.
- 2010 “Parenteral Lipid Emulsions: Nutrition or Drug? A Changing Paradigm,” Massachusetts Dietetics Association, MDA Annual Nutrition Convention 2010, Norwood. MA
- 2010 “Role of Parenteral Fish Oil in Metabolic Support,” Massachusetts Society of Health Systems Pharmacists Annual Meeting, Newton MA
- 2010 “Current Research in Pediatric Nutrition Support,” Introduction to Pediatric Nutrition, Children's Hospital, Boston, Boston, MA
- 2013 “Drug Therapy and Short Bowel Syndrome: What every pharmacist should know,” Massachusetts Pharmacists Association 2013 Spring Conference, Norwood, MA, April 26, 2013
- 2014 “Drug Delivery in Pediatric Patients: Current Challenges in Pharmacy Practice,” MCPHS University Reed Refresher, Foxboro, MA
- 2016 “Nutrition Support Pharmacy,” AACP Student Chapter, Northeastern University, Boston, MA.
- 2017 “Pediatric Challenges in Sterile Products Compounding,” Massachusetts Pharmacists Association, Norwood, MA, January 17, 2017.

- 2018 “The Perils and Practical Pearls of Publishing at the Daily Planet,” Massachusetts Society of Health Systems Pharmacists Annual Meeting, Framingham, MA.
- 2018 “Nutrition Support Pharmacy Practice,” MCPHS University, Boston MA.
- 2018 “ASHP Delegate Gotham Town Hall: Pharmacy Issues Relevant to You,” Massachusetts Society of Health Systems Pharmacists Annual Meeting, Framingham, MA.
- 2018 “Pharmacologic Management of Intestinal Failure,” The Salah Foundation Children’s Hospital, Fort Lauderdale, FL, September 28, 2018.
- 2018 “Drug Shortages: Focus on Parenteral Nutrition,” The Oley Foundation Regional Conference, Bentley University, Waltham, MA, October 6, 2018.
- 2018 “Lessons Learned from Omegaven,” Longwood Nutrition Rounds, Harvard Medical School, Boston, MA, November 6, 2018.
- 2021 “The History & Basics of Sterile Compounding,” MCPHS University, Boston, MA, October 22, 2021. [webinar]
- 2021 “Sterile Compounding: Ensuring Safe Prep of Parenteral Nutrition CSPs - 2021/2022 Update,” MCPHS University, Boston, MA, December 3, 2021. [webinar]
- 2022 “The History of Intravenous Lipid Emulsions and Deciding to Know When to Use Which Product in the Pediatric Patient,” New England Chapter American Society for Parenteral and Enteral Nutrition (NEASPEN), May 2, 2022. [webinar]

National

- 1995 “Controversies in Pediatric Parenteral Nutrition,” Pediatric Pharmacy Advocacy Group Annual Meeting, Las Vegas, Nevada
- 1996 “Medication Errors,” Annual meeting of the Abbott Laboratories Advisory Panel, Chicago, Illinois
- 1996 “Management of Catheter Occlusions,” Pediatric Pharmacy Advocacy Group’s Annual Meeting in Beaver Creek, Colorado
- 1996 “Emerging Technologies,” Annual meeting of the Abbott Laboratories Advisory Panel, Chicago, Illinois
- 1996 “Issues in Pediatric Nutrition,” Pediatric Pharmacy Advocacy Group, 5th Annual Pediatric Technology Conference, Scottsdale, AZ
- 1998 “Evolving technologies,” presented to the Abbott Advisory Board, Abbott

Laboratories, Deerfield Park, IL

- 1999 “Administration of Medications to Patients on Parenteral Nutrition,” presented at the Midyear Clinical Meeting, American Society of Health Systems Pharmacists, Orlando, FL
- 1999 “Pharmacist Role in Error Prevention,” presented at the Midyear Clinical Meeting, American Society of Health Systems Pharmacists, Orlando, FL
- 1999 “Implementation of the NAG's TPN Guidelines: Pediatric Considerations,” presented at the 23rd Clinical Congress, American Society for Parenteral & Enteral Nutrition, San Diego, CA
- 2000 “Management of Central Venous Catheter Occlusions,” presented as an open forum discussion at the 9th Annual Meeting, Pediatric Pharmacy Advocacy Group, San Antonio, TX
- 2001 “Sweet Relief: Use of Sucrose as an Analgesic in Neonates,” presented as a clinical pearl at the Midyear Clinical Meeting, American Society of Health-System Pharmacists New Orleans, LA
- 2003 “Incidence and Nature of Epidemic Nosocomial Infections,” INS Fall Meeting, Infusion Nurses Society, Boston, MA
- 2003 “Aluminum Exposure in the Pediatric Parenteral Nutrition Therapy: A New Safety Mandate Important in Clinical Practice,” presented with Dr. Winston Koo, CMGI Global, Dallas, TX, and repeated in Houston, TX and Miami, FL
- 2003 “Aluminum Toxicity: Hysteria or Cause for Concern,” American Society of Health-System Pharmacists, Midyear Clinical Meeting, New Orleans, LA
- 2004 “Pediatrics: Acute Complications Associated with Parenteral Nutrition,” Nutrition Week, Las Vegas, NV
- 2004 “Impact of Nutrition on Pharmacokinetics,” Nutrition Week, Las Vegas, NV
- 2004 Issues in Aluminum and DEHP Toxicity,” Annual Meeting, Pediatric Pharmacy Advocacy Group, St., Petersburg, FL
- 2004 “Albumin and Low-Aluminum Therapies: A Hospital Pharmacists’ Perspective,” Orlando, FL (sponsored by JL Associates)
- 2005 “Aluminum Toxicity,” Nutrition Week, American Society for Parenteral and Enteral Nutrition, Orlando, FL
- 2005 “Overview of Pediatric Nutrition,” Pediatric Pharmacy Advocacy Group 14th Annual Meeting, Chicago, IL

- 2005 “Pediatric Nutrition,” American Society of Health-System Pharmacists, Clinical Midyear Meeting, Las Vegas, NV
- 2006 “Secondary Dyslipidemia,” American Society for Parenteral and Enteral Nutrition, Clinical Nutrition Week, Dallas, TX
- 2007 “Pharmacological Management of Intestinal Failure,” American Society for Parenteral and Enteral Nutrition, Clinical Nutrition Week, Phoenix, AZ
- 2007 “Soy Allergy,” American Society for Parenteral and Enteral Nutrition, Nutrition Week, Phoenix, AZ
- 2007 “CPOE vs. Pediatric Parenteral Nutrition: Challenges and Opportunities,” Pediatric Pharmacy Advocacy Group, Pediatric Medication Safety and Technology Conference, Austin, TX
- 2007 “Treatment of TPN Liver Injury,” Oley Foundation 22nd Annual Consumer/Clinician Conference, Hyannis, MA
- 2007 “Treatment of Parenteral Nutrition Associated Cholestasis,” Pediatric Pharmacy Advocacy Group, 16th Annual Meeting, Portsmouth, VA
- 2007 “Clinical Status of Omega-3 Fatty Acids in Special Patient Populations,” American College of Clinical Pharmacy Annual Meeting, Denver, CO
- 2007 Pediatric Parenteral Nutrition,” American Society of Health-System Pharmacists, Clinical Midyear Meeting. Las Vegas, NV
- 2008 “Omegaven in TPN liver disease,” Expert Workshop on Lipid Emulsions in TPN Liver Disease, Institute of Human Nutrition. Columbia University Medical Center, New York, NY
- 2008 “Omegaven Update,” HomeTPN Consumer Education Conference 2008, Boston MA
- 2008 “Use of Omegaven in Parenteral Nutrition Associated Liver Disease,” NutriThrive Consumer Symposium, Pittsburgh, PA
- 2008 “The Role of Omega-3 Fatty Acids in Lipid Emulsion,” 28th Annual FSPEN Symposium, September 19, 2008, Melbourne, FL
- 2008 "Overview of Parental Nutrition in the Pediatric Patient," pre conference symposium, 17th PPAG Annual Meeting, Baltimore, MD
- 2008 “Issues in Pediatric Standardization,” presented to the Pharmacy Advisory Board, Baxa Corporation, Englewood, Colorado
- 2008 “Clinical Role of Omega 3 Fatty Acids in Special Patient Populations,” New

York/Long Island Society for Parenteral and Enteral Nutrition , Annual Meeting
2008, Hixsville, New York

- 2008 “Pediatric Parenteral Nutrition,” American Society of Health-System Pharmacists, Clinical Midyear Meeting. Orlando Florida
- 2009 “Liver Function Tests,” American Society for Parenteral and Enteral Nutrition – Clinical Nutrition Week, 2009, New Orleans, LA
- 2009 “In Case You Missed It: Notable Papers in Pediatric Nutrition 2008” American Society for Parenteral and Enteral Nutrition –Clinical Nutrition Week, 2009, New Orleans, LA
- 2009 “A Whale of a Tale: Use of Fish Oil in PN Liver Disease,” 2009 Pediatric Nutrition Symposium: Putting Pediatric Nutrition into Practice, Pediatric Nutrition Dietetic Practice Group (PNPG) of the American Dietetic Association, Raleigh, North Carolina
- 2009 “The Role of Fish Oil Lipid Emulsions and Omega-3 Fatty Acids in Parenteral Nutrition Associated Liver Disease,” Ohio Society for Parenteral and Enteral Nutrition (OSPEN), Columbus, Ohio
- 2009 “Intravenous Fish Oil Lipid Emulsions: Management of TPN-Induced Liver Disease,” Neonatal Advanced Practice Nursing Forum 2009, Washington, DC
- 2009 “What’s Up with Omegaven?” 24th Annual Oley Consumer/Clinician Conference, St. Petersburg, FL
- 2009 “Case Studies in Nutrition Across the Life Cycle: Neonatal Case Study,” ASHP Midyear Clinical Meeting, Las Vegas, NV
- 2009 “Fish vs. Vegetable: An Update on the IV Lipid Content Debate,” Greater Pittsburgh chapter of the American Society for Parenteral and Enteral Nutrition, Fall Meeting, Pittsburgh, PA
- 2010 “Parenteral Nutrition Associated Liver Disease (PNALD): What are the prevention and treatment options?” American Society for Parenteral and Enteral Nutrition – Clinical Nutrition Week, 2010, Las Vegas, NV
- 2010 “Pharmaconutrient considerations for the critically ill child - a new paradigm,” American Society for Parenteral and Enteral Nutrition, Clinical Nutrition Week, 2010, Las Vegas, NV
- 2010 “Parenteral Lipid Emulsions: Nutrition or Drug? A Changing Paradigm,” Michigan Chapter of the American Society for Enteral and Parenteral Nutrition (MSPEN) Annual Meeting, Livonia, Michigan
- 2011 “Challenges in Medication Administration in PN Dependent Patients,” American

Society for Parenteral and Enteral Nutrition –Clinical Nutrition Week, 2011,
Vancouver, BC, Canada

- 2011 “Management of Complications of SBS and Intestinal Failure: Drug Therapy,” Holtz Children’s Hospital, University of Miami, Miami, Florida
- 2011 “Efficacy of Parenteral Fish Oil Lipid Emulsions in Parenteral Nutrition Associated Liver Disease: Where are we at?” Annual Meeting, Virginia Society for Parenteral and Enteral Nutrition (VASPEN)
- 2012 “Bringing in unapproved drugs into the market-- Humanitarian exemptions – like HDE- Compassionate use via IRB and Importation,” an A.S.P.E.N. Corporate Scientific Council Informational: How to Get Nutrition Products to Market, November 27, 2012
- 2012 “Don’t Hold the Salt...Impact of Hyponatremia on Growth in Infants Receiving Adequate Calories,” ASHP Midyear Clinical Meeting 2012, Las Vegas, NV
- 2013 “Pediatric Considerations in PN compounding,” 2013 Clinical Nutrition Week, ASPEN, Phoenix, NV
- 2013 “Summary, Recommendations and A.S.P.E.N. Position Statement on the Clinical Role for Alternative IVFE,” 2013 Clinical Nutrition Week, ASPEN, Phoenix, NV
- 2013 “Neonatal Nutrition,” 22nd Annual Meeting of the Pediatric Pharmacy Advocacy Group (PPAG), Indianapolis, Indiana
- 2013 “Pediatric/Neonatal Parenteral Nutrition: The Ins and Outs for the Non-Pediatric Clinician,” American Society for Parenteral and Enteral Nutrition, Webinar August 14, 2013
- 2013 “Lipid Emulsion Update,” B Braun Pharmaceutical Advisory Board Meeting, Bethlehem, PA
- 2013 “Pediatric Considerations in PN compounding,” 2013 Clinical Nutrition Week, ASPEN, Clinical Nutrition Week 2014, Phoenix, NV
- 2014 “Intravenous Fat Emulsions: Nutritional Source or Therapeutic Modality?” American Society for Parenteral and Enteral Nutrition Webinar, June 18, 2014
- 2014 “Swimming with CVCs and G Tubes: yeah or nay?” 2014 Oley Conference, Orlando, Florida
- 2014 “Review of Intravenous Fat Emulsions in Parenteral Nutrition: Past, Present and Future,” B. Braun/CAPS Annual Training Session, Bethlehem, PA
- 2014 “Parenteral Nutrition Associated Liver Disease: It’s the Type of Lipid,” Guts and the City: Intestinal Failure, Rehabilitation and Transplantation Symposium, Icahn

School of Medicine at Mount Sinai, New York City, NY

- 2014 “Oils Well That Ends Well, Update on Intravenous Lipid Emulsions,” Annual Meeting, Long Island Society for Parenteral and Enteral Nutrition, Hicksville, NY
- 2014 “Pharmacological Issues with Bacterial Overgrowth: Causes and Treatment Strategies,” Thrive 3rd Annual Professional Short Bowel Conference, Nashville, TN
- 2015 “Lipid Management Strategies in PNALD: Dose Minimization vs. Type of Oil,” Contemporary Forums, Neonatal Pharmacology, Scottsdale, Arizona
- 2015 “Nutritional Considerations in Short Bowel Syndrome,” Contemporary Forums, Neonatal Pharmacology, Scottsdale, Arizona
- 2015 “Compounding Considerations of Neonatal Parenteral Nutrition,” Contemporary Forums, Neonatal Pharmacology, Scottsdale, Arizona
- 2015 “Understanding Lipid Emulsions,” ThriveRx Professional Webinar Series, June 11, 2015
- 2015 “What’s New in Biologics, Premixed Parenteral Nutrition and Lipid Emulsions,” breakout session, Oley Foundation 30th Annual Consumer Conference, Saratoga Springs, New York
- 2015 “Pharmacological Issues with Bacterial Overgrowth: Causes and Treatment Strategies,” Oley Foundation 30th Annual Consumer Conference, Saratoga Springs, New York
- 2015 “Lock it Up: Ethanol Lock,” ASHP Midyear Clinical Meeting, New Orleans, LA
- 2016 “Liver Disease Among Infants Receiving Parenteral Nutrition,” Drug-Induced Liver Injury (DILI) Conference XVI, College Park, MD
- 2016 “The Link Between PN Liver Injury and Fat: Is it the Dose or Type of Oil?,” PPAG Annual Meeting, Atlanta, GA
- 2016 “Navigating the Seas: Electrolytes, Minerals and Acid-Base Balance,” Academy of Nutrition and Dietetics, FNCE Food and Nutrition Conference Expo, Boston, MA.
- 2017 “Current Approach and Emerging Therapies in the Management of Intestinal Failure and Parenteral Nutrition Associated Liver Disease,” Clinical Nutrition Week, Orlando, FL.
- 2017 “Drug-Nutrient Interactions,” Clinical Nutrition Week, Orlando, FL.
- 2017 “Intestinal Failure,” presented to the staff of Children FIRST (Florida Intestinal Rehabilitation Support and Treatment), Salah Children’s Hospital, Fort Lauderdale, FL.

- 2017 “Developments in Home Parenteral Nutrition: Preventing and Managing Complications in Adult and Pediatric Patients,” 2017 National Home Infusion Association (NHIA) Annual Conference and Exposition, Orlando, FL.
- 2017 “Oils Well That Ends Well (Lipids That Is!)” 32nd Annual Consumer/Clinician Conference, The Oley Foundation, Old Greenwich, CT.
- 2017 “To Swim with a Central Line...or Not? You Decide!” 32nd Annual Consumer/Clinician Conference, The Oley Foundation, Old Greenwich, CT.
- 2017 “Pediatric Nutrition,” Pediatric Pharmacy Advocacy Group Specialty Meeting/Board Prep Course, Cincinnati, Ohio.
- 2017 “Developments in Home Parenteral Nutrition: Preventing and Managing Complications in Pediatric Patients,” National Home Infusion Association (NHIA) [webinar]
- 2018 “Drug Nutrient Interactions: Pediatric Issues,” ASPEN 2018 Nutrition Science & Practice Conference, Las Vegas, NV, January 24, 2018.
- 2018 “Optimizing TPN in the Face of Shortages,” Neonatal Pharmacology, Contemporary Forums, Philadelphia, PA, April 19, 2018.
- 2018 “Lipid Emulsions in the Neonate,” Neonatal Pharmacology, Contemporary Forums, Philadelphia, PA, April 19, 2018.
- 2018 “Challenges in Pediatric PN: New Products, New Rule,” Pediatric Pharmacy Advocacy Group 27th Annual Meeting, Salt Lake City, UT, April 26, 2018.
- 2018 “General Overview: Nutrition in the Pediatric Population,” Global Medical Affairs Wellness, Pfizer, Inc., May 2, 2018 [webinar]
- 2018 “Pediatric Intestinal Failure-Associated Liver Disease: Challenges in Identifying Clinically Relevant Biomarkers,” ASHP Emerging Sciences SAG Meeting, Clinical Pearl, May 15, 2018. [webinar]
- 2018 “Alternative Medicine in the Pediatric Patient: Focus on Herbals,” Global Medical Affairs Wellness, Pfizer, Inc., July 11, 2018 [webinar]
- 2018 “Pediatric Nutrition,” PPAG University 2018, Philadelphia, PA, September 14, 2018.
- 2018 “Drug Shortages: Focus on Parenteral Nutrition,” Oley Foundation, October 16, 2018, [webinar]
- 2018 “Neonatal PN: Safety and Stability Considerations,” US Numeta Advisory Board, Chicago, IL, November 9, 2018.

- 2018 “A Whale of a Tale: Making Sense of Lipid Emulsions,” Northwest Chapter of ASPEN, Seattle, WA, December 12, 2018. [webinar]
- 2019 “Facts About Fats: SMOF, Omegaven, Intralipid: Which One For PNALD, BPD, ROP,” Pediatric Pharmacy Advocacy Group (PPAG), January 23, 2019, [webinar]
- 2019 “Practical Implications of the Use of Omegaven and SMOF IV Lipids in the NICU, PICU and Beyond,” Children's Hospital of The King's Daughters, Norfolk, VA, March 8, 2019.
- 2019 “Alternative Lipid Emulsions in Children,” American Society for Parenteral and Enteral Nutrition, ASPEN2019 Nutrition Science and Practice Conference, Phoenix, AZ, March 26, 2019.
- 2019 “Identifying and Managing Intestinal Failure-Related Liver Disease,” 2019 Oley/UI Health Combined Conference, June 23, 2019, Lincolnshire, IL.
- 2019 “Minimizing Errors in Pediatric Patients Receiving Home Parenteral Nutrition at Transitions of Care,” ASHP Midyear Clinical Meeting, December 9, 2019, Las Vegas, NV.
- 2020 “Nutrient Deficiencies in the Neonate Transitioning from Parenteral to Enteral Nutrition,” ASPEN 2020 Nutrition Science and Practice Conference, March 31, 2020. [virtual]
- 2020 “The Ifs, Ands and Buts of Vitamin Supplementation in the NICU,” Pediatric Pharmacy Association Annual Meeting, May 2, 2020. [virtual]
- 2020 “ASPEN Best Practices in Parenteral Nutrition Training Series: Compounding Parenteral Nutrition Admixtures,” June 4, 2020. [webinar]
- 2020 “Intravenous Fish Oil Monotherapy as a Source of Calories and Fatty Acids Promotes Age-Appropriate Growth in Pediatric Patients with Intestinal Failure-Associated Liver Disease,” Oley 2020 Virtual Conference, August 6, 2020. [virtual]
- 2020 “The Power of Networking and Lessons Learned from Omegaven,” Helms Lecture, PPA Fall Meeting, September 24, 2020. [virtual]
- 2021 “Dudrick Symposium: Advances in Preventing Parenteral Nutrition Associated Side Effects,” ASPEN 2021 Nutrition Science & Practice Conference, March 22, 2021. [virtual]
- 2021 “Neonatal Interventions: Balancing Short and Long-term Outcomes – Zooming in on Neurodevelopment,” ASPEN 2021 Nutrition Science & Practice Conference, March 23, 2021.[virtual]
- 2021 “Micronutrient Needs of the Preterm Infant,” ASPEN, Spring 2021[virtual]

- 2021 “Central Line Care and TPN Set Up,” Pediatric Intestinal Rehabilitation Center at Columbia University Irving Medical Center (CUMC), New York, NY.
- 2021 “Clinical Pearls and the Correlation and Considerations for Parenteral Nutrition Compounding,” NHIA 2021 Annual Conference, April 20, 2021.[virtual]
- 2021 “The History of Intravenous Lipid Emulsions and Deciding to Know When to Use Which Product in the Pediatric IF Patient,” LIFT-ECHO Learn Intestinal Failure TeleECHO, June 1, 2021.[virtual]
- 2021 “Intravenous Lipid Emulsions and IFALD: Different Products and Different Approaches,” Oley2021, June 21, 2021. [virtual]
- 2021 “Fish Oil Emulsion reduces Liver Injury and Liver Transplantation in Children with Intestinal Failure-Associated Liver Disease: A Multicenter Integrated Study,” Oley2021, June 21, 2021. [virtual]
- 2022 “Transitions of Care and Lipid Emulsions: Factors for Consideration, ASPEN 2022 Nutrition Science & Practice Conference,” Seattle, WA. March 28, 2022.
- 2022 “Challenges in Drug Delivery: Influence of Anatomical Differences in Short Bowel Syndrome and Intestinal Failure,” Pediatric Pharmacy Association (PPA) Annual Meeting, Norfolk, VA, May 6, 2022.
- 2022 “Drug Delivery in Pediatric Patients: Current Challenges in Pharmacy Practice,” University of Washington, Seattle, WA, March 1, 2022. [webinar]
- 2022 “Home TPN Pearls and Pitfalls,” Digestive Disease Week DDW2022, San Diego, CA, May 21, 2022.
- 2023 “Differences Between Adults and Kids Meds,” University of Washington, February 21, 2022.

International

- 1997 “Quality Assurance of Total Parenteral Nutrition Solutions, “presented to pharmacy staff, Royal Hospital for Sick Children, Edinburgh, Scotland.
- 1997 “Automated Compounding of TPN,” Alder Hey Children’s Hospital, Liverpool, England.
- 1997 “Automated compounding of TPN,” Great Ormand Street Children’s Hospital, London, England.
- 2000 “Automated Compounding of Parenteral Nutrition Solutions,” presented to the

pharmacy staff, Taiwan University Hospital, Taipei, Taiwan, R.O.C.

- 2000 "Update on the National Advisory Group Recommendations and ASHP Guidelines Regarding Parenteral Nutrition," 20th Annual meeting of the Korean Society of Health-System Pharmacists, Muju, South Korea.
- 2004 "Co-Administration of Medications with PN Solutions in the Paediatric Patient," Parenteral and Enteral Nutrition Society of Malaysia, Penang, Malaysia.
- 2004 "The Boston Children's Hospital Experience in Paediatric Nutrition," Parenteral and Enteral Nutrition Society of Malaysia, Penang, Malaysia.
- 2004 "Automation in TPN Compounding," Parenteral and Enteral Nutrition Society of Malaysia, Penang, Malaysia.
- 2004 Pharmaceutical Issues in Compounding," Parenteral and Enteral Nutrition Society of Malaysia, Penang, Malaysia.
- 2004 "Pediatric Medications: What is the Problem? Current Challenges in Pediatric Pharmacy Practice," Federation Internationale Pharmaceutique (International Pharmaceutical Federation), 2004 Congress, New Orleans, LA.
- 2005 "Avoiding Aluminum Contamination," An IPANEMA Satellite Symposium for ESPIG-BPNG, 27th Congress of European Society for Clinical Nutrition and Metabolism, Brussels, Belgium.
- 2007 "Prevention and Treatment of Parenteral Nutrition Associated Liver Disease", FRANC International Pediatric Nutrition Symposium, Bad Homburg, Germany (Fresenius-Kabi Sponsor).
- 2011 "The Essentiality of AA and DHA," III Simpsio Internacional de Nutricion Neonatal, Cartagena de Indias, Colombia.
- 2011 "Fish Oil-Based Lipid Emulsions Prevent & Reverse Parenteral Nutrition-Associated Liver Disease: The Boston Experience," III Simpsio Internacional de Nutricion Neonatal, Cartagena de Indias, Colombia.
- 2011 "Vitamins and Trace Elements," "Overview of Parenteral and Enteral Nutrition," "Compounding Parenteral Nutrition Solutions," "Complications of Specialized Nutrition Support," "Selection of IV Fluids," "Vascular Access Devices," "Review of Calculations for Parenteral Nutrition," presented to the Medical/Surgical Staff in conjunction with the Clinical Nutrition Center, Bach Mai Hospital, Hanoi, Viet Nam.
- 2011 "Liver Disease: Lessons Learned from Omegaven from the Bedside to the Bench: The Role of Inflammation in Pediatric Intestinal Failure Associated Studies," International Expert Meeting on Inflammation, Orlando, Florida.

- 2012 “Pharmacy Practice in the United States,” presented to the Department of Pharmacy, Bach Mai Hospital, Hanoi, Viet Nam.
- 2012 “Nutrition Support Formulary Review Process,” presented to the Medical/Surgical Staff in conjunction with the Clinical Nutrition Center, Bach Mai Hospital, Hanoi, Viet Nam.
- 2012 “Complications of Parenteral Nutrition,” presented to the Medical/Surgical Staff, Nhi Dong Children’s Hospital, Ho Chi Minh City, Viet Nam.
- 2012 “Complications of Parenteral Nutrition,” presented to the Medical/Surgical Staff, Bach Mai Hospital, Ha Noi, Viet Nam.
- 2015 “Parenteral and Enteral Nutrition,” and “Vitamins and Trace Elements,” Nhi Dong 1, Children’s Hospital Number 1, Ho Chi Minh City, Viet Nam.
- 2015 “Special Topics in Surgical Nutrition,” Departments of Nutrition and Surgery, Hanoi Medical University, Ha Noi, Viet Nam.
- 2015 “Understanding Lipid Emulsions: Focus on SMOFlipid,” Neonatology Group of Wuhan, China, Wuhan, China.
- 2015 “Parenteral Nutrition Associated Liver Disease (PNALD): What are the prevention and treatment options? “The Third International Symposium on Paediatric Digestion and Nutrition,” Shanghai, China.
- 2016 “Compounding Considerations of Neonatal Parenteral Nutrition,” “Lipid Management Strategies in IFALD: Dose Minimization vs. Type of Oil,” and “Nutritional Considerations in Short Bowel Syndrome,” Primera Jornada Epic Latino. Cruzando Fronteras en Nutrición Neonatal, Quito, Ecuador.
- 2016 “Update on Pediatric GI Pharmacology,” American Pediatric Gastroenterology and Nutrition Nurses (APGNN) Annual Meeting as part of the World Congress of Pediatric Gastroenterology, Hepatology and Nutrition, Montreal, Canada.
- 2016 “History of Lipid Emulsions in the United States,” 9th International Pediatric Intestinal Failure and Rehabilitation Symposium, Los Angeles CA.
- 2017 “Let’s Getting Moving (or Not),” 4th Annual TPN Conference, Concord Specialty Pharmacy, Toronto, Canada.
- 2018 “Principles of Healthy Nutrition,” Nutritional Assessment,” “Enteral Nutrition,” “Parenteral Nutrition,” “Nutrition in Metabolic Disorder and Chronic Diseases,” “Nutritional Support in Preoperative and Post-Surgical Patients,” “Nutrition in Oncology,” “Critical Care Nutrition,” “ Pediatric Nutrition,” and “World Trends in Clinical Nutrition & Clinical Nutrition Model in Boston Hospital,” presented as part of a training course on clinical nutrition for health care providers at Vinmec International Hospital and affiliates, Ha Noi, Vietnam, January 15-17, 2018.

- 2018 “Pharmacologic Therapies in the Treatment of Intestinal Failure Associated Complications” and “Transition of the Intestinal Failure Patient from Hospital to Home,” Multidisciplinary Management on Intestinal Rehabilitation, Hong Kong Children’s Hospital, Commissioned Training 2018, Queen Elizabeth Hospital, Hong Kong.
- 2018 “Fish oil based parental nutrition for children with intestinal failure,” The Hong Kong Society of Paediatric Surgery, Hong Kong, February 7, 2018.
- 2018 “Fish oil in parenteral nutrition associated liver disease (PNALD),” 19th Congress of the Parenteral and Enteral Nutrition Society of ASIA (PENSA), Seoul, Korea, June 14, 2018.
- 2018 “Pharmacologic management of intestinal failure associate complications,” 19th Congress of the Parenteral and Enteral Nutrition Society of ASIA (PENSA), Seoul, Korea, June 15, 2018.
- 2019 “Managing motility,” 6th Annual Concord Specialty Pharmacy TPN Conference, Concord, ON, Canada, October 5, 2019.
- 2021 “The Role of Intravenous Lipid Emulsions in the NICU,” GOLD Neonatal Online Conference Vancouver, B.C. Canada June 8, 2021. [virtual]
- 2021 “Understanding the Differences with Intravenous Lipid Emulsions: Focus on Adverse Effects,” Closing the Gap, 7th Annual TPN Conference, Concord Specialty Pharmacy, Mississauga, Canada. [virtual]
- 2021 “Catheter Lock Solutions: The U.S. Perspective,” AAVA CVAA Collabinar: Locking Solutions: Current Application in Clinical Practice in Canada and the United States, November 16, 2021. [virtual]
- 2022 “Intravenous Fish Oil for PNALD from the Basics to the State-of-Art,” 2nd International Congress, the 21st Annual Congress of Korean Society for Parenteral and Enteral Nutrition (KSPEN 2022), June 11, 2022. [virtual]
- 2022 “Line Locking Solutions (when you can’t get ethanol),” 12th International Pediatric Intestinal Failure and Rehabilitation Symposium (PIFRS), Toronto, Canada, September 30, 2022.
- 2022 “Locking Solutions and Unusual Omegaven Dosing,” Moving Forward: Changing the Model, 8th Annual TPN Conference, Concord Specialty Pharmacy, Mississauga, Canada. November 12, 2022.

Report of Clinical Activities and Innovations

Current Licensure and Certification

- 1982 Registered Pharmacist, Massachusetts Board of Pharmacy
- 1983 Registered Pharmacist, District of Columbia, Board of Pharmacy
- 1993 Board Certified Nutrition Support Pharmacist

2000	Basic Life Support Certified (Healthcare Provider)
2001	Pediatric Advanced Life Support, Provider Certification
2003	Smallpox Vaccination Team Training, Boston Public Health Commission
2003	Pharmacy-Based Immunization Delivery Certificate Program for Pharmacists (Northeastern University)
2005-2025	CITI Course in the Protection of Human Subjects
2012	CITI Course in Biomedical Responsible Conduct of Research
2015	IS-00100.hcb Introduction to the Incident Command System (ICS 100) for Healthcare/Hospitals
2015	IS-00700.a National Incident Management System (NIMS) An Introduction
2016-2025	CITI Good Clinical Practice Course
2020	BCH Clinical Research Operations Certification Exam
2022	FDA Clinical Investigator Course

Practice Activities

1982- 1984	Pharmacy	Distributive Pharmacy Practice Children's National Medical Center, Washington, DC
1984- present	Pharmacy	Clinical Pharmacy (Nutrition) Boston Children's Hospital

Clinical Innovations

My academic time is spent in the laboratory and clinical research. My primary focus in the laboratory is the study of parenteral nutrition and its toxic effects on the liver. This liver disease was responsible for 1.4% of all deaths of children age 4 and under. Our laboratory work has demonstrated injury results, in part, from the intravenous lipid solution that is given to our patients. We have discovered two approaches for prevention of the liver injury. One, the replacement of the lipid emulsion with a second less toxic emulsion, has been made available for compassionate use by the FDA to over 200 patients at Boston Children's Hospital. Following implementation of this therapy, the previous 38% mortality rate for this disease drastically decreased from 2 – 6 deaths and transplants per year to only 1 transplant over the past 7 years. Since receiving FDA approval in July 2018, it is now being used in over 100 institutions in the United States and now worldwide. Previously, the primary treatment for this disease was liver small bowel or multivisceral transplants. At its peak in 2006, there were 15 small bowel liver transplants performed in the U.S. (children under 1 year of age) and 0 were performed in 2010. This therapy is now used around the world for this entity, which previously was often fatal without transplantation. This experience has led to further investigations into developing new alternative intravenous lipid emulsions for other indications and patient populations, including critical illness and complications associated with preterm birth.

Report of Technological and Other Scientific Innovations

Treatment and Prevention of Fatty Liver Disease Associated with Total Parenteral Nutrition (TPN) 2004 Nov 5 Application number 20080275119
Awarded: 2011 Australia Awarded: 2013 Canada
Awarded: 2017 United States

Report of Education of Patients and Service to the Community

Activities

2006-Present Oley Foundation
Participate in annual consumer conference for patients requiring specialized nutritional support; serve as a resource for pharmaceutical issues. Appointed to their advisory board in 2017.

Educational Material for Patients and the Lay Community

Books, monographs, articles and presentations in other media

Educational material or curricula developed for non-professional audiences

2006	Tools for living better on home IV & tube feedings: HPN-Associated Liver Disease in Infants	Co-author (Puder M, Lee S)	Oley Foundation Lifeline Newsletter
2014	Swimming with Lines and Tubes: It's a Team Effort	Gura KM	Oley Foundation Lifeline Newsletter
2018	Omegaven Receives FDA Approval	Gura KM, Puder M	Oley Foundation Lifeline Newsletter

Patient educational material

Recognition

2004-12	Who's Who in Medicine and Healthcare	
2006-12	Who's Who in Science and Engineering	
2007	2007 Best of the New Award: "Nutrition Solution"	The Boston Globe
2009-2017,2020	Who's Who in America	
2009-2010,2020	Who's Who in the World	
2010-2011	Who's Who of American Women	
2017-2019	Who's Who in the World	

2018 Albert Nelson Marquis Lifetime
Achievement Award/Marquis Who's
Who

Report of Scholarship

Publications

Peer reviewed publications in print or other media

Research Investigations

1. Forchielli ML. **Gura KM**. Sandler R. Lo C Aminosyn PF or TrophAmine: Which provides more protection from cholestasis associated with total parenteral nutrition? J Pediatr Gastroenterol Nutr. 1995; 21(4):374-82. PMID: 8583287.
2. Forchielli ML. Lo CW. Richardson D. **Gura K**. Walker WA. Tonelli E. Central venous line related bacteremia during total parenteral nutrition and/or chemotherapy infusions in children. Annali Di Igiene Medicina Preventiva e di Comunita. 1997; 9(1):35-40. PMID: 9284587.
3. Forchielli ML. **Gura K**. Anessi-Pessina E. Richardson D. Cai W. Lo CW Success rates and cost-effectiveness of antibiotic combinations for initial treatment of central-venous-line infections during total parenteral nutrition. J Parenter Enteral Nutr. 2000; 24:119-125. PMID: 10772193.
4. Duggan C. Rizzo C. Cooper A. Klavon S. Fuchs V. **Gura K**. Richardson D. Collier S. Lo C Effectiveness of Clinical Practice Guideline for Parenteral Nutrition: A 5-Year Follow-up Study in a Pediatric Teaching Hospital, J Parenter Enteral Nutr. 2002; 26:377-381. PMID: 12405650.
5. Duggan C. Stark AR. Auestad N. Collier S. Fulhan J. **Gura K**. Utter S. Teixeira-Pinto A. Donovan K. Lund D Glutamine Supplementation in Infants with Gastrointestinal Disease: A Randomized, Placebo-Controlled Pilot Trial, Nutrition: The International Journal of Applied and Basic Nutritional Sciences, Nutrition. 2004; 20:752- 756. PMID: 15325681.
6. Alwayn IP, Javid PJ, **Gura KM**, Nosé V, Ollero M, Puder M. Do polyunsaturated fatty acids ameliorate hepatic steatosis in obese mice by SREPB-1 suppression or by correcting essential fatty acid deficiency. Hepatology. 2004;39(4):1176-7; author reply 1177-8. PMID: 15057926.
7. Alwayn IP, **Gura KM**, Nosé V, Zausche B, Javid P, Garza J, Verbesey J, Voss S, Ollero M, Andersson C, Bistran B, Folkman J, Puder M. Omega-3 fatty acid supplementation prevents hepatic steatosis in a murine model of nonalcoholic fatty liver disease. Pediatr Res. 2005;57(3):445-52. PMID: 15659701.
8. Alwayn IP, Andersson C, Zauscher B, **Gura KM**, Nosé V, Puder M. Omega-3 fatty acids improve hepatic steatosis in a murine model: potential implications for the marginal steatotic liver donor. Transplantation. 2005; 79(5):606-8. PMID: 15753852.
9. Javid PJ, Greene AK, Garza J, **Gura KM**, Alwayn IP, Voss S, Nose V, Satchi-Fainaro R, Zausche B, Mulkern RV, Jaksic T, Bistran B, Folkman J, Puder M. The route of lipid administration affects

parenteral nutrition-induced hepatic steatosis in a mouse model. *J Pediatr Surg*. 2005; 40(9):1446-53. PMID: 16150347.

10. **Gura KM**, Duggan CP, Collier SB, Jennings RW, Folkman J, Bistrian 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): e197-201. PMID: 16818533.

11. Alwayn IP, Andersson C, Lee S, Arsenault DA, Bistrian BR, **Gura KM**, Nose V, Zauscher B, Moses M, Puder M. Inhibition of matrix metalloproteinases increases PPAR- α and IL-6 and prevents dietary-induced hepatic steatosis and injury in a murine model. *Am J Physiol Gastrointest Liver Physiol*. 2006; 291(6): G1011-9. PMID: 16844679.

12. **Gura KM**, Strijbosch R, Arnold S, McPherson C, Puder M. The Role of an Intravenous Fat Emulsion Comprised of Fish Oil in a PN Dependent Patient with Hypertriglyceridemia. *Nutr Clin Pract*. 2007; 22(6): 664-672. PMID: 18042955.

13. Lee S, **Gura KM** Puder M. Re: Influence of different intravenous lipid emulsions on hepatobiliary dysfunction in a rabbit model. *J Pediatr Gastroenterol Nutr*. 2008 Feb;46(2):224-225. PMID: 18223386.

14. **Gura KM**, Lee S, Valim C, Zhou J, Kim S, Modi BP, Arsenault DA, Strijbosch RA, Lopes S, Duggan C, Puder M. Safety and efficacy of a fish oil-based fat emulsion in the treatment of parenteral nutrition-associated Liver Disease. *Pediatrics*. 2008; 121: e678-e686. PMID: 18310188.

15. Strijbosch RAM, Lee S, Arsenault DA, Andersson C, **Gura KM**, Bistrian BR, Puder M. Fish oil prevents essential fatty acid deficiency and enhances growth: clinical and biochemical implications. *Metabolism*. 2008 May;57(5):698-707. PMID: PMC3364597.

16. de Meijer VE, **Gura KM**, Le HD, Meisel JA, Puder M. Fish oil-based lipid emulsions prevent and reverse parenteral nutrition-associated liver disease: The Boston experience. *JPEN J Parenter Enteral Nutr*, 2009 Sep-Oct; 33(5):541-7. Epub July 2009. PMID: 19571170.

17. Yang CF, Lee M, Valim C, Hull MA, Zhou J, Jones BA, **Gura K**, Collier S, Lo C, Duggan C, Jaksic T. Persistent alanine aminotransferase elevations in children with parenteral nutrition-associated liver disease. *J Pediatr Surg*. 2009 Jun; 44(6):1084-7. PMID: 19524721.

18. Puder M, Valim C, Meisel JA, Le HD, deMeijer VE, Robinson EM, Zhou J, Duggan C, **Gura KM**. Parenteral fish oil improves outcomes in patients with parenteral nutrition associated liver injury, *Ann Surg*. 2009 Sep;250(3):395-402. Epub Aug 2009. PMID: PMC3366279.

19. Le HD, Meisel JA, de Meijer VE, **Gura KM**, Puder M. The essentiality of arachidonic acid and docosahexaenoic acid. *Prostaglandins Leukot Essent Fatty Acids*. 2009 Aug-Sep;81(2-3):165-70. Epub June 18 2009. PMID: PMC3361712.

20. Lee S, Valim C, Johnston P, Le HD, Meisel J, Arsenault DA, **Gura KM**, Puder M. Impact of fish oil-based lipid emulsion on serum triglyceride, bilirubin and albumin levels in children with parenteral nutrition-associated liver disease. *Ped Res*. 2009 Dec; 66(6):698-703. Epub Aug 14 2009. PMID: PMC3377973.

21. de Meijer VE, Lee HD, Meisel JA, **Gura KM**, Puder M. Parenteral fish oil as monotherapy prevents essential fatty acid deficiency in parenteral nutrition dependent patients. *J Pediatr Gastroenterol Nutr*. 2010 Feb; 50(2):212-8. Epub 2009 Dec 22. PMCID: PMC3365554.
22. Le HD, de Meijer VE, Zurakowski D, Meisel JA, **Gura KM**, Puder M. Parenteral fish oil as monotherapy improves lipid profiles in patients with parenteral nutrition-associated liver disease. *JPEN J Parenter Enteral Nutri*. 2010 Jan;46(1):122-7. PMID: 20852175.
23. Bechard L, Feldman H, Gordon C, **Gura KM**, Sonis A, Leung K, Venick R, Guinan E, Duggan CS. A multi-center, randomized, controlled trial of parenteral nutrition titrated to resting energy expenditure in children undergoing hematopoietic stem cell transplantation ("PNTREE"): rationale and design. *Contemporary Clinical Trials* Dec 15 2009 [Epub ahead of print] PMID: 20004739.
24. Ling PR Andersson C, Strijbosch R, Lee S, Silvestri A, **Gura KM**, Puder M, Bistrian BR. Effects of glucose or fat calories in TPN on systemic inflammation and fat metabolism in rats. *Metabolism*. 2011 Feb;60(2):195-205. Epub. 2010 Jan 25. PMID: 20096898.
25. de Meijer VE, **Gura KM**, Meisel JA, Le HD, Puder M. Parenteral fish oil monotherapy in the management of patients with parenteral nutrition-associated liver disease. *Arch Surg*. 2010 June;145(6):547-551. PMID: 20566974.
26. **Gura KM**, Puder M. Rapid infusion of fish oil based emulsion in infants does not appear to be associated with fat overload syndrome. *Nutr Clin Pract*. 2010 Aug; 25(4):399-402 PMID: 20702846.
27. Jones BA, Hull MA, Richardson DS, Zurakowski D, **Gura K**, Fitzgibbons SC, Duro D, Lo CW, Duggan C, Jaksic T. Efficacy of ethanol locks in reducing central venous catheter infections in pediatric patients with intestinal failure. *Journal of Pediatric Surgery*. 2010; 45:1287-1293. PMID: 20620333.
28. Jones BA, Hull MA, Richardson DS, Zurakowski D, **Gura K**, Fitzgibbons SC, Duro D, Lo CW, Duggan C, Jaksic T. Efficacy of ethanol locks in reducing central venous catheter infections in pediatric patients with intestinal failure. *Journal of Pediatric Surgery*. 2010; 45:1287-1293. PMID: 20620333.
29. Meisel JA, Le HD, De Meijer, VE, Nose V, **Gura KM**, Mulkern RV, Sharif MRA, Puder M. Comparison of five intravenous lipid emulsions and their effects on hepatic steatosis in a murine model. *J Pediatr Surg*. 2011 Apr; 46(4):666-73. PMID: 21496535.
30. Le HD, Meisel JA, Meijer VE, Fallon EM, **Gura KM**, Nose V, Bistrian BR, Puder M. Docosahexaenoic acid and arachidonic acid prevent essential fatty acid deficiency and hepatic steatosis. *JPEN J Parenter Enteral Nutri*. 2012 Jul;36(4):431-41. Epub. 2011 Oct 30. PMCID: PMC3380148.
31. Le HD, de Meijer VE, Robinson EM, Zurakowski D, Potemkin AK, Arsenault DA, Fallon EM, Malkan A, Bistrian B, **Gura KM**, Puder M. Parenteral fish oil-based lipid emulsion improves fatty acid profiles and lipids in parenteral nutrition-dependent children. *Am J Clin Nutr*. 2011 Sep;94(3):749-58. Epub. 2011 Jul 20. PMID: 21775562.
32. Fuchs J, Fallon EM, **Gura KM**, Puder M. Use of omega-3 fatty acid based emulsions in the treatment of parenteral nutrition induced cholestasis in patient with microvillous inclusion disease. *J. Ped Surg*. 2011 Dec; 46(12):2376-2382. PMID: 22152886.

33. Sharma TS, Bechard LJ, Feldman HA, Venick R, **Gura K**, Gordon CM, Sonis A, Guinan EC, Duggan C. Effect of titrated parenteral nutrition on body composition after allogeneic hematopoietic stem cell transplantation in children: a double-blind, randomized, multicenter trial. *Am J Clin Nutr*. 2012 Feb; 95(2):342-51. [Epub ahead of print] PMID: 22205317.
34. Bechard LJ, Feldman HA, Venick R, **Gura K**, Gordon C, Sonis A, Mehta N, Guinan EC, Duggan C. Attenuation of resting energy expenditure following hematopoietic SCT in children. *Bone Marrow Transplant*. 2012 Oct; 47(10):1301-6. PMID: 22343669
35. Nehra D, Fallon EM, Carlson SJ, Potemkin AK, Hevelone ND, Mitchell PD, **Gura KM** Puder M. Provision of a Soy-Based Intravenous Lipid Emulsion at 1 g/kg/d Does Not Prevent Cholestasis in Neonates. *JPEN J Parenter Enteral Nutr*. 2012 Jul 5. PMID: 22767698.
36. Le HD, Fallon EM, Kalish BT, de Meijer VE, Meisel JA, **Gura KM**, Nose V, Pan AH, Bistran BR, Puder M. The effect of varying ratios of docosahexaenoic acid and arachidonic acid in the prevention and reversal of biochemical essential fatty acid deficiency in a murine model. *Metabolism*. 2013 Apr; 62(4):499-508. PMID: 23151438.
37. Nandivada P, Cowan E, Carlson SJ, Chang M, **Gura KM**, Puder M. Mechanisms for the effects of fish oil lipid emulsions in the management of parenteral nutrition-associated disease. *Prostaglandins Leukot Essent Fatty Acids*. 2013 Apr 18. PMID: 23602846.
38. Díaz JJ, **Gura KM**, Roda J, Perez-Atayde AR, Duggan C, Jaksic T, Lo CW. AST to platelet index is predictive of cirrhosis but not of fibrosis in pediatric patients with intestinal failure *J Pediatr Gastroenterol Nutr*. 2013 May 8. [Epub ahead of print] PMID: 23666459.
39. Nehra D, Fallon EM, Potemkin AK, Voss SD, Mitchell PD, Valim C, Belfort MB, Bellinger DC, Duggan C, **Gura KM**, Puder M. A Comparison of 2 Intravenous Lipid Emulsions: Interim Analysis of a Randomized Controlled Trial. *JPEN J Parenter Enteral Nutr*. 2013 Jun 14. PMID: 23770843.
40. Kalish BT, Le HD, Fitzgerald JM, Wang S, Seamon K, **Gura KM**, Gronert K, Puder M. Intravenous Fish Oil Lipid Emulsion Promotes a Shift Towards Anti-Inflammatory-Pro-Resolving Lipid Mediators. *Am J Physiol Gastrointest Liver Physiol*. 2013 Dec; 305(11):G818-28. PMID: 24091595.
41. Miller J, Dalton MK, Duggan C, Lam S, Iglesias J, Jaksic T, **Gura KM**. Going with the Flow or Swimming Against the Tide: Should Children with Central Venous Catheters Swim? *Nutr Clin Pract*. 2013 Dec 17. [Epub ahead of print] PMID: 24347530.
42. Nandivada P, Chang MI, Potemkin AK, Carlson SJ, Cowan E, O'Loughlin AA, Mitchell PD, **Gura KM**, Puder M. The Natural History of Cirrhosis from Parenteral Nutrition-Associated Liver Disease after Resolution of Cholestasis with Parenteral Fish Oil Therapy. *Ann Surg*. 2013 Dec 26. PMID: 24374535.
43. Gosselin KB, Feldman HA, Sonis AL, Bechard LJ, Kellogg MD, **Gura K**, Venick R, Gordon CM, Guinan EC, Duggan C. Serum citrulline as a biomarker of gastrointestinal function during hematopoietic cell transplantation (HCT) in children. *J Pediatr Gastroenterol Nutr*. 2014 Mar 6. [Epub ahead of print] PMID: 24614125.

44. Fallon EM, Mitchell PD, Nehra D, Potemkin AK, O'Loughlin AA, **Gura KM**, Puder M. Neonates with Short Bowel Syndrome: An Optimistic Future for Weaning from Parenteral Nutrition. *JAMA Surg*. 2014 May 14. PMID: 24827450.
45. Moniz TT, Chu S, Tom C, Lutz P, Arnold A, **Gura KM**, Patterson A. Sterile product compounding using an I.V. compounding workflow management system at a pediatric hospital. *Am J Health-Syst Pharm*. 2014; 71:1311-7. PMID: 25027539.
46. Nandivada P, Potemkin AK, Carlson SJ, Chang MI, Cowan E, O'Loughlin AA, **Gura KM**, Puder M. Elevated Alkaline Phosphatase in Infants with Parenteral Nutrition–Associated Liver Disease Reflects Bone Rather Than Liver Disease *JPEN J Parenter Enteral Nutr*, first published on August 8, 2014. PMID: 25106918.
47. Carlson S, Nandivada, P, Bistran B, Chang-Tang M, O'Loughlin A, **Gura KM**, Mitchell P, Cowan C, Nose V, Puder M. The Addition of Medium-Chain Triglycerides to a Purified Fish Oil-Based Diet Alters Inflammatory Profiles in Mice Metabolism. *Metabolism* first published on October 13, 2014. PMID: 25458829.
48. Chang MI, Carlson SJ, Nandivada P, O'Loughlin AA, Potemkin AK, Cowan E, Mitchell PD, **Gura KM**, Puder M. Challenging the 48-Hour Rule-Out for Central Line-Associated Bloodstream Infections in the Pediatric Intestinal Failure Population: A Retrospective Pilot Study. *JPEN J Parenter Enteral Nutr*. 2015 Jan 7. PMID: 25567785.
49. Bechard LJ, Gordon C, Feldman HA, Venick R, **Gura K**, Guinan EC, Duggan C Bone loss and vitamin D deficiency in children undergoing hematopoietic cell transplantation. *Pediatr Blood Cancer*. 2015 Jan 28. PMID: 25630874.
50. Young LS, Huong PTT, Lam NT, Thu NN, Van HT, Hanh NL, Tuyen LD, Lien DTK, Hoc TH, Tuyet CT, Quoc Anh N, Henry EG, Lenders CM MD, **Gura KM**, Bigornia SA, Apovian CM, Ziegler TR. Nutritional status and feeding practices in gastrointestinal surgery patients at Bach Mai Hospital, Hanoi, Vietnam. *Asia Pac J Clin Nutr* 2016; 25(3):513-520. PMID: 27440685.
51. Nandivada P, Fell GL, Mitchell PD, Potemkin AK, O'Loughlin AA, **Gura KM**, Puder M. Long-term Fish Oil Lipid Emulsion Use in Children with Intestinal Failure-Associated Liver Disease. *JPEN J Parenter Enteral Nutr*. 2016 Mar 9. PMID: 26962059.
52. Raphael BP, Murphy M, **Gura KM**, Litman H, Dalton MK, Finkelstein JA, Lightdale JR. Discrepancies between Prescribed and Actual Pediatric Home Parenteral Nutrition Solutions, *Nutr Clin Pract*. 2016 Oct;31(5):654-8. doi: 10.1177/0884533616639410. Epub 2016 Apr 18. PMID: 27091745 .
53. Fell GL, Cho BS, Pan A, Nose V, Anez-Bustillos L, Dao D, Meredith A. Baker MA, Nandivada P, **Gura KM**, Puder M. A Comparison of Fish Oil Sources for Parenteral Lipid Emulsions in a Murine Model. *JPEN J Parenter Enteral Nutr*. 2016 Mar 18 [Epub ahead of print] PMID: 26993989
54. Fell GL, O'Loughlin, AA, Nandivada P, Potemkin AK, Mitchell PD, Mahoney J, **Gura KM**, Puder M. Methods to reduce medication errors in a clinical trial of an investigational parenteral medication.

Contemp Clin Trials Commun. 2016; 15 Dec 15, 4: 64-67. [Epub ahead of print] PMID: 27489888.

55. Anez-Bustillos L, Dao DT, Baker MA, Fell GL, Puder M, **Gura KM**. Review: Lipid Formulations for the Adult and Pediatric Patient: Understanding the Differences. *Nutr Clin Pract*. 2016 Aug 16. [Epub ahead of print] PMID: 27533942.

56. Riedy M, DePaula B, Puder M, **Gura KM**, Sztam KA. Higher Doses of Fish Oil-Based Lipid Emulsions Used to Treat Inadequate Weight Gain and Rising Triene:Tetraene Ratio in a Severely Malnourished Infant With Intestinal Failure-Associated Liver Disease. *JPEN J Parenter Enteral Nutr*. 2016 Aug 1. [Epub ahead of print] PMID: 27484488.

57. Nandivada P, Baker MA, Mitchell PD, O'Loughlin AA, Potemkin AK, Anez-Bustillos L, Carlson SJ, Dao DT, Fell GL, **Gura KM**, Puder M. Predictors of failure of fish-oil therapy for intestinal failure-associated liver disease in children. *Am J Clin Nutr*. 2016 Aug 10. [Epub ahead of print] PMID: 27510535.

58. **Gura KM**, Mulberg AE, Mitchell PD, Yap J, Kim CY, Chen M, Potemkin A, Puder M. Pediatric intestinal failure associated liver disease: Challenges in identifying clinically relevant biomarkers. *JPEN J Parenter Enteral Nutr*. 2016 Sep 28. pii: 0148607116671781. [Epub ahead of print] PMID: 27683392.

59. Nandivada P, Anez-Bustillos L, O'Loughlin AA, Mitchell PD, Baker MA, Dao DT, Fell GL, Potemkin AK, **Gura KM**, Neufeld EJ, Puder M. Risk of post-procedural bleeding in children on intravenous fish oil. *Am. J. Surg*. 2016 Dec 1. pii: S0002-9610(16)30462-7. doi: 10.1016/j.amjsurg.2016.10.026. PMID: 27979360.

60. Martinez EE, Pereira LM, **Gura K**, Stenquist N, Ariagno K, Nurko S, Mehta NM. Gastric Emptying in Critically Ill Children. *JPEN J Parenter Enteral Nutr*. 2017 Jan 1;148607116686330. doi: 10.1177/0148607116686330. PMID: 28061320.

61. Nandivada P, Fell GL, Pan AH, Nose V, Mitchell PD, **Gura KM**, Puder M. Parenteral soybean oil induces hepatosteatosis despite addition of fish oil in mouse model of IFALD. *JPEN J Parenter Enteral Nutr*. 2018 Feb;42(2):403-411. doi: 10.1177/0148607117695249. Epub 2017 Dec 13. PMID: 29187040

62. Martin CR, Barbara Stoll B, Cluette-Brownd J, Akinkuotue AC, Olutoyee OO, **Gura KM**, Singhd P, Zamand MM, Perillod MC, Puder M, Freedman S, Burrin D. Use of a novel docosahexaenoic acid (DHA) formulation versus control in a neonatal porcine model of short bowel syndrome leads to greater intestinal absorption and higher systemic levels of DHA. *Nutrition Research*. 2017 Mar;39:51-60. doi: 10.1016/j.nutres.2017.02.004. Epub 2017 Feb 4. PMID: 28385289.

63. Anez-Bustillos L, Dao DT, Fell GL, Baker MA, **Gura KM**, Bistrrian BR, and Puder M. Redefining essential fatty acids in the era of novel intravenous lipid emulsion. *Clin Nut*. 2017 Jul 8. pii: S0261-5614(17)30243-1. [Epub ahead of print] Review. PMID: 28716367.

64. Pereira LM, Matte GS, **Gura KM**, Huang X, Lutz P, Arnold A, Patterson A. Production standard and stability of compounded del Nido cardioplegia solution. *Hosp Pharma*. 2017;52(11):766-73.

65. Christensen ML, Ayers P, Boullata JI, Guenter P, **Gura KM**, Holcombe B, Seres DS, Sacks GS;

ASPEN PN Safety Committee.Lipid Injectable Emulsion Survey With Gap Analysis.Nutr Clin Pract. 2017 Jul 1;884533617719671. PMID: 28727958

66. Baker MA, Mitchell PD, O'Loughlin AA, Potemkin AK, Anez-Bustillos L, Dao DT, Fell GL, **Gura KM**, Puder M. Characterization of fatty acid profiles in infants with intestinal failure associated liver disease. JPEN J Parenter Enteral Nutr. 2018 Jan;42(1):71-77. doi: 10.1002/jpen.1026. Epub 2017 Dec 6 PMID: 29505154

67. Murphy MK, **Gura KM**, Tascione C,Carey AN, Duggan CP, Raphael BP. Home Parenteral Nutrition and Intravenous Fluid Errors Discovered Through Novel Clinical Practice of Reconciling Compounding Records: A Case Series. Nutr Clin Pract 2017 First published online August 29, 2017 DOI: <https://doi.org/10.1177/0884533617722759>. PMID: 28850287

68. Karwowski MP, Stamoulis C, Wenren LM, Faboyede GM, Quinn N, **Gura KM**, Bellinger DC, Woolf AD.Blood and Hair Aluminum Levels, Vaccine History, and Early Infant Development: A Cross-Sectional Study.Acad Pediatr. 2017 Sep 14. pii: S1876-2859(17)30483-7. [Epub ahead of print] PMID: 28919482

69. Nandivada P, Fell GL, Pan AH, Nose V, Mitchell PD, **Gura KM**, Puder M.Parenteral Soybean Oil Induces Hepatosteatorosis Despite Addition of Fish Oil in a Mouse Model of Intestinal Failure-Associated Liver Disease.JPEN J Parenter Enteral Nutr. 2017 Feb 1;48607117695249. doi: 10.1177/0148607117695249. [Epub ahead of print] PMID: 29187040.

70. Baker MA, Nandivada P, Mitchell PD, Fell GL, Pan A, Anez-Bustillos L, Dao DT, **Gura KM**, Nose V, Puder M.Pretreatment with Intravenous Fish Oil Reduces Hepatic Ischemia Reperfusion Injury in a Murine Model. Surgery 2018 Jan 18. pii: S0039-6060(17)30869-3. doi: 10.1016/j.surg.2017.10.071. PMID: 29358007

71. Raphael BP, Jorina M, Gallotto M, Grullon G, Dalton M, Takvorian-Bené M, Tascione C, Rosa C, McClelland J, Gray M, Potemkin AK, Glavin C, **Gura KM**, Murphy MK, Leger K, Mahoney J, Kerr J, Ozonoff A, Duggan CP.Innovative Discharge Process for Families with Pediatric Short Bowel Syndrome: A Prospective Nonrandomized Trial. JPEN J Parenter Enteral Nutr. 2018 Mar 30. [Epub ahead of print] PMID: 29603317

72. Carey AN, Rudie C, Mitchell PD, Raphael BP, **Gura KM**, Puder M. Essential Fatty Acid Status in Surgical Infants Receiving Parenteral Nutrition With a Composite Lipid Emulsion: A Case Series. JPEN J Parenter Enteral Nutr. 2018 May 30. doi: 10.1002/jpen.1311. [Epub ahead of print] PMID: 29846008.

73. Anez-Bustillos L, Dao DT, Potemkin AK, Perez-Atayde AR, Raphael BP, Carey AN, Kamin DS, Thiagarajah J, Crowley M, **Gura KM**, Puder M. An Intravenous Fish Oil Based Lipid Emulsion successfully treats intractable pruritus and cholestasis in a patient with MVID. Hepatology 2018 Oct 12. doi: 10.1002/hep.30311. [Epub ahead of print] PMID: 30311684.

74. Baker MA, Cho BS, Anez-Bustillos L, Dao DT, Pan A, O'Loughlin AA, Lans ZM, Mitchell PD, Nose V, **Gura KM**, Puder M, Fell GL. Fish oil-based injectable lipid emulsions containing medium-chain triglycerides or added α -tocopherol offer anti-inflammatory benefits in a murine model of parenteral nutrition-induced liver injury. Am J Clin Nutr. 2019 Apr 1;109(4):1038-1050. PMID: 30882140

75. Carlson SJ, O'Loughlin A, Anez-Bustillos L, Baker MA, Andrews N, Gunner G, Dao DT, Pan A, Nandivada P, Chang M, Cowan E, Mitchell PD, **Gura KM**, Fagiolini M, Puder M. A Diet with Docosahexaenoic and Arachidonic Acids as the Sole Source of Polyunsaturated Fatty Acids is Sufficient to Support Visual, Cognitive, Motor, and Social Development in Mice. *Frontiers in Neuroscience*, section Neuroenergetics, Nutrition and Brain Health 2019 Feb 25;13:72. doi: 10.3389/fnins.2019.00072. eCollection 2019. PMID: 30858795
76. Fell GL, Cho BA, Dao DT, Anez-Bustillos L, Baker MA, Nandivada P, Pan A, O'Loughlin AA, Mitchell PD, Nose V, **Gura KM**, Puder M. Fish oil protects the liver from parenteral nutrition-induced injury via GPR120-mediated PPAR γ signaling. *Prostaglandins Leukot Essent Fatty Acids* . 2019 Apr;143:8-14. PMID:30975380.
77. Fell GL, Anez-Bustillos L, Dao DT, Baker MA, Nandivada P, Cho BS, Pan A, O'Loughlin AA, Nose V **Gura KM**, Puder M. Alpha-tocopherol in intravenous lipid emulsions imparts hepatic protection in a murine model of hepatosteatosis induced by the enteral administration of a parenteral Nutrition Solution. *PLoS One* 2019 Jul 11;14(7):e0217155. doi: 10.1371/journal.pone.0217155. eCollection 2019. PMID: 31295333
78. Dao DT, Anez-Bustillos L, Finkelstein AM, Mitchell PD, O'Loughlin AA, Fell GL, Baker MA, Potemkin AK, **Gura KM**, Puder M. Trends of INR and Fecal Excretion of Vitamin K During Cholestasis Reversal: Implications in the Treatment of Neonates With Intestinal Failure-Associated Liver Disease. *JPEN J Parenter Enteral Nutr*. 2019 Jul 7. doi: 10.1002/jpen.1677. [Epub ahead of print] PMID: 31282035.
79. Anez-Bustillos L, Dao DT, Finkelstein AM, Pan A, Cho BS, Mitchell PD, **Gura KM**, Bistran BR, Puder M. Metabolic and Inflammatory Effects of an ω -3 Fatty Acid–Based Eucaloric Ketogenic Diet in Mice With Endotoxemia. *JPEN J Parenter Enteral Nutr*. 2019 Nov;43(8):986-997. doi: 10.1002/jpen.1688. Epub 2019 Aug 21. PMID: 31435972.
80. Raphael BP, Mitchell PD, **Gura KM**, Potemkin AK, Squires RH, Puder M, Duggan CP. Growth in Infants and Children with Intestinal Failure Associated-Liver Disease Treated with Intravenous Fish Oil. *J Pediatr Gastroenterol Nutr*. 2019 Nov 6. doi: 10.1097/MPG.0000000000002551. [Epub ahead of print] PMID: 31703040
81. **Gura KM**, Premkumar MH, Calkins KL, Puder M. Intravenous Fish Oil Monotherapy as a Source of Calories and Fatty Acids Promotes Age-Appropriate Growth in Pediatric Patients with Intestinal Failure-Associated Liver Disease. *J Pediatr*. 2020 Feb 11. pii: S0022-3476(19)31744-5. doi: 10.1016/j.jpeds.2019.12.065. [Epub ahead of print] PMID: 32059815
82. Raphael BP, Mitchell PD, **Gura KM**, Potemkin AK, Squires RH, Puder M, Duggan CP. Growth in Infants and Children with Intestinal Failure Associated-Liver Disease Treated with Intravenous Fish Oil. *J Pediatr Gastroenterol Nutr*. 2020 Feb;70(2):261-268. doi: 10.1097/MPG.0000000000002551. PMID: 31978030
83. Fell GL, Cho BS, Anez-Bustillos L, Dao DT, Baker MA, Nandivada P, O'Loughlin AA, Hurley AP, Mitchell PD, Rangel S, **Gura KM**, Puder M. Optimizing Duration of Empiric Management of Suspected Central Line-Associated Bloodstream Infections (CLABSI) in Pediatric Intestinal Failure Patients.

J Pediatr. 2020 Jul 17:S0022-3476(20)30901-X. doi: 10.1016/j.jpeds.2020.07.044. Online ahead of print. PMID: 32687916

84. Raphael BP, Mitchell PD, Carey A, **Gura KM**, Puder M. One-year experience with composite intravenous lipid emulsion in children on home parenteral nutrition. J Pediatr Gastroenterol Nutr. 2020 Nov 30. doi: 10.1097/MPG.0000000000003011. Online ahead of print. PMID: 33264184

85. **Gura KM**, Premkumar MH, Calkins KL, Puder M. Fish Oil Emulsion Reduces Liver Injury and Liver transplantation in Children with Intestinal Failure-Associated Liver Disease: A Multicenter Integrated Study. J Pediatr. 2020 Oct 7: S0022-3476(20)31260-9. doi: 10.1016/j.jpeds.2020.09.068. Epub ahead of print. PMID: 33038344.

- Featured in the American Pediatric Surgical Association's "What a Pediatric Surgeon Needs to Know -Articles of Interest for May 2021"
- winner Oley Foundation Research Award, June 2021

86. **Gura KM**, Calkins KL, Premkumar MH, Puder M. Use of Intravenous Soybean and Fish Oil Emulsions in Pediatric Intestinal Failure Associated Liver Disease: A Multicenter Integrated Analysis Report on Extrahepatic Adverse Events. J Pediatr. 2021 Oct 22:S0022-3476(21)01023-4. doi: 10.1016/j.jpeds.2021.10.030. Online ahead of print. PMID: 34695449

87. Tsikis ST, Fligor SC, MD, Secor JD, MD, Yu LJ, MD, Pan A, Loring G, First E, MD, Nedder AP, Grammer RM, Rudie C, **Gura KM**, Puder M. Outcomes and Perioperative Nutritional Management in a Porcine Model of Short Bowel Syndrome. J Surg Research. 2022 Feb 2;274:59-67. <https://doi.org/10.1016/j.jss.2022.01.004> Online ahead of print. PMID: 35123284

88. Tsikis ST, Fligor SC, Secor JD, Yu LJ, Pan A, Mitchell PD, Loring G, First E, Nedder AP, Grammer RM, Pattison B, **Gura KM**, Puder M. An In-Line Digestive Cartridge Increases Enteral Fat and Vitamin Absorption in a Porcine Model of Short Bowel Syndrome. Clin Nutr. 2022 May;41(5):1093-1101. doi: 10.1016/j.clnu.2022.03.026. Epub 2022 Mar 31. PMID: 35413571

89. Secor JD, Cho BS, Yu LJ, Pan A, Ko VH, Dao DT, Feigh M, Anez-Bustillos L, Fell GL, Fraser DA, **Gura KM**, Puder M. Structurally-engineered fatty acid 1024 (SEFA-1024) improves diet-induced obesity, insulin resistance, and fatty liver disease. Lipids. 2022 Jul 1. doi: 10.1002/lipd.12351. Online ahead of print. PMID: 35778847

90. Yu LJ, Anez-Bustillos L, Mitchell PD, Ko VH, Secor JD, Potemkin Hurly A, Dao DT, Fligor SC, Cho BS, Tsikis ST, **Gura KM**, Puder M. Incidence and Development of Cholestasis in Surgical Neonates Receiving an Intravenous Mixed-Oil Lipid Emulsion. JPEN J Parenter Enteral Nutr. 2022 Oct 29. doi: 10.1002/jpen.2458. Online ahead of print. PMID: 36308408

91. Tsikis, ST, Hirsch, TI, Fligor, SC, Pan A, Malachi MJ, Devietro A, Mitchell PD, Kirshikawa H, **Gura KM**, Puder M.. Direct thrombin inhibitors as alternatives to heparin to preserve lung growth and function in a murine model of compensatory lung growth. Sci Rep. 2022 Dec 7;12(1):21117. doi: 10.1038/s41598-022-25773-3. PMID: 36477689

Other Peer-reviewed publications

1. **Gura KM**. Parenteral drug administration guidelines for the pediatric patient: one hospital's

recommendations. Hospital Pharmacy. 1993; 28(3):221-3, 227-8, 231-42. PMID: 10124948.

2. **Gura KM.** Parenteral Nutrition Associated Cholestasis in the Pediatric Patient: A Review of Preventative Measures and Therapeutic Interventions, J Pediatr Pharm. 1996; 1(2).

3. **Gura KM.** Intravenous drug administration guidelines for pediatric patients 1999. J Pediatr Pharm. 1999; 4(2): 80-106.

4. **Gura KM.** National Advisory Group's Guidelines for parenteral nutrition solutions: Why they are needed and causes for concern. Nutr Clin Pract. 1999; 14(1):318-322.

5. **Gura KM.** Management of Catheter Occlusions: Highlights from the 8th Annual PPAG Conference, J Pediatr Pharm. 2000; 5(2): 62-63.

6. **Gura KM,** Couris RR. Drug-induced Bone Disease. U.S. Pharmacist. 2002; 27(5): HS-43 - HS-57.

7. **Gura KM.** Incidence and Nature of Epidemic Nosocomial Infections. Journal of Intravenous Nursing. 2004; 27(3): 175-180. PMID: 15118456.

8. **Gura KM.** Basic Bibliographies: Neonatal Parental Nutrition. Hospital Pharmacy. 2004; 39(5): 502-504.

9. Kim S, **Gura KM,** Puder M. Acute necrotizing cholecystitis: a rare complication of ceftriaxone-associated pseudolithiasis. Pediatr Surg Int. 2006; 22(6):562-4. PMID: 16485100.

10. **Gura KM,** Parsons SK, Bechard LJ, Henderson T, Dorsey M, Phipatanakul W, Duggan C, Puder M, Lenders C. Use of a fish oil-based lipid emulsion to treat essential fatty acid deficiency in a soy allergic patient receiving parenteral nutrition. Clin Nutr. 2005;24(5):839-47. PMID: 16029913.

11. Ching YA, Modi B, **Gura KM,** Jaksic T. Intestinal Failure - Nutritional, Pharmacologic, and Surgical Approaches. Nutr Clin Pract. 2007; 22(6):653-663. PMID: 18042954.

12. Forchielli ML, Richardson D, Folkman J, **Gura K,** Lo CW. Better living through chemistry, constant monitoring, and prompt interventions: 26 years on home parenteral nutrition without major complications. Nutrition. 2008 Jan; 24(1):103-7. Epub 2007 Nov 8. PMID: 17996420.

13. **Gura KM.** Potential Benefits of Parenteral Fish Oil Lipid Emulsions in Parenteral Nutrition-Associated Liver Disease, ICAN: Infant, Child, & Adolescent Nutrition. Epub 2010 June 15.

13. Vanek VW, Seidner DL, Allen P, Bistran B, Collier S, **Gura K,** Miles JM, Valentine CJ, Kochevar M; Novel Nutrient Task Force, Intravenous Fat Emulsions Workgroup; American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors. A.S.P.E.N. position paper: Clinical role for alternative intravenous fat emulsions. Nutr Clin Pract. 2012 Apr;27(2):150-92. Epub 2012 Feb 29. PMID: 22378798.

14. Nandivada P, Carlson SJ, Chang MI, Cowan E, **Gura KM,** Puder M Treatment of Parenteral Nutrition-Associated Liver Disease: The Role of Lipid Emulsions. Adv Nutr. 2013 Nov 6;4(6):711-717. PMID: 24228202.

14. Fell GL, Nandivada P, **Gura KM**, Puder M. Intravenous Lipid Emulsions in Parenteral Nutrition. *Adv Nutr* 2015 Sep 15; 6(5) 600-10. PMID: 26374182
15. Nandivada P, Fell GL, **Gura KM**, Puder M. Lipid emulsions in the treatment and prevention of parenteral nutrition-associated liver disease. *Am J Clin Nutr*. 2016 Feb;103(2):629S-34S PMID: 26791189
16. Raiten DJ, Steiber AL, Carlson SE, Griffin I, Anderson D, Hay WW Jr, Robins S, Neu J, Georgieff MK, Groh-Wargo S, Fenton TR; **Pre-B Consultative Working Groups**. Working group reports: evaluation of the evidence to support practice guidelines for nutritional care of preterm infants-the Pre-B Project. *Am J Clin Nutr*. 2016 Feb; 103(2):648S-78S. PMID: 26791182.
17. Woolf A, Wenren L, Stamoulis C, Faboyede G, Karwowski M, **Gura K**, Quinn N. Are Blood and Hair Aluminum Levels Associated with Vaccine Aluminum Loads in Healthy Infants? *Clinical Toxicology* 2015 July 53(7):645-645.
18. Guenter P, Ayers P, Boullata JI, **Gura KM**, Holcombe B, Sacks GS. Parenteral Nutrition Errors and Potential Errors Reported Over the Past 10 Years. *Nutr Clin Pract*. 2017 Jun 1:884533617715868. doi: 10.1177/0884533617715868. [Epub ahead of print]. PMID: 28662372
19. Christensen ML, Ayers P, Boullata JI, Guenter P, **Gura KM**, Holcombe B, Seres DS, Sacks GS; ASPEN PN Safety Committee. Lipid Injectable Emulsion Survey with Gap Analysis. *Nutr Clin Pract*. 2017 Jul 1:884533617719671. [Epub ahead of print] PMID:28727958.
20. Moloney L, Rozga M, **Gura K**, Martin C. Omega 3 Fatty Acids in Enteral Nutrition for Very Low Birth Weight Preterm Infants: A Systematic Review (P11-085-19). *Curr Dev Nutr*. 2019 Jun 13;3(Suppl 1). pii: nzz048.P11-085-19. doi: 10.1093/cdn/nzz048.P11-085-19. eCollection 2019 Jun. PMID: 31223957.
21. Cober MP, **Gura KM**. Enteral and parenteral nutrition considerations in pediatric patients. *Am J Health Syst Pharm*. 2019 Sep 16; 76(19):1492-1510. PMID: 3153250.
22. da Silva JSV, Seres DS, Sabino K, Adams SC, Berdahl GJ, Wolfe Citty S, Cober MP, Evans DC, Greaves JR, **Gura KM**, Michalski A, Plogsted SS BS, Sacks GS, Tucker AM, Worthington P, Walker RN, Ayers P, Parenteral Nutrition Safety and Clinical Practice Committees, American Society for Parenteral and Enteral Nutrition. ASPEN Consensus Recommendations for Refeeding Syndrome. *Nutr Clin Pract*. 2020 Mar 2. doi: 10.1002/ncp.10474. [Epub ahead of print]. PMID: 32115791.
23. Mirtallo JM, Ayers P, Boullata J, **Gura KM**, Plogsted S, Anderson CR, Worthington P, Seres DS, Nicolai E, Alsharhan M, Gutsul L, Mason AE. ASPEN Lipid Injectable Emulsion Safety Recommendations, Part 1: Background and Adult Considerations. *Nutr Clin Pract*. 2020 May 27. doi: 10.1002/ncp.10496.[Online ahead of print]. PMID: 32460429.
24. Worthington P, **Gura KM**, Kraft MD, Nishikawa R, Guenter P, Sacks GS; ASPEN PN Safety Committee. Update on the Use of Filters for Parenteral Nutrition: An ASPEN Position Paper. *Nutr Clin Pract*. 2020 Oct 22. doi: 10.1002/ncp.10587. Online ahead of print. PMID: 33091206

25. **Gura KM.** The Power of Networking and Lessons Learned From Omegaven. *J Pediatr Pharmacol Ther.* 2020; 25(8):663-674. PMID: 33214777
26. Frazer LC, **Gura KM**, Julie E. Bines BE, Puder M, Martin CR. Prevention and Management of Parenteral Nutrition Associated Cholestasis and Intestinal Failure-Associated Liver Disease in the Critically Ill Infant. *World Review of Nutrition and Dietetics.* 2021;122:379-399. Epub 2021 Aug 5. PMID: 34352771
27. Secor JD, Yu L, Tsikis S, Fligor S, Puder M, **Gura KM.** Current strategies for managing intestinal failure-associated liver disease. *Expert Opin Drug Saf.* 2020 Dec 23. Online ahead of print. PMID: 33356650.
28. Fenton TR, Groh-Wargo S, **Gura K**, Martin CR, Taylor SN, Griffin IJ, Rozga M, Moloney L. Effect of Enteral Protein Amount on Growth and Health Outcomes in Very-Low-Birth-Weight Preterm Infants: Phase II of the Pre-B Project and an Evidence Analysis Center Systematic Review. *J Acad Nutr Diet.* 2020 Dec 22;S2212-2672(20)31427-1. PMID: 33358688.
29. Fenton TR, Griffin IJ, Groh-Wargo S, **Gura K**, Martin CR, Taylor SN, Rozga M, Moloney L. Very Low Birthweight Preterm Infants: A 2020 Evidence Analysis Center Evidence-Based Nutrition Practice Guideline. *J Acad Nutr Diet.* 2022 Jan;122(1):182-206. doi: 10.1016/j.jand.2021.02.027. Epub 2021 Apr 2. PMID: 33820749.
30. Modi BP, Galloway DP, **Gura K**, Nucci A, Plogsted S, Tucker A, Wales PW. ASPEN definitions in pediatric intestinal failure. *JPEN J Parenter Enteral Nutr.* 2021 Jul 21. doi: 10.1002/jpen.2232. Epub ahead of print. PMID: 34287974.
31. Robinson DT, Ayers P, Fleming B, **Gura KM**, Gutsul L, Michalski A, Holcombe B, Sacks G. Recommendations for photoprotection of parenteral nutrition for premature infants: An ASPEN position paper. *Nutr Clin Pract.* 2021; 1- 15 PMID: 34472142
32. Cober, MP, **Gura, KM**, Mirtallo, JM, et al. ASPEN lipid injectable emulsion safety recommendations part 2: Neonate and pediatric considerations. *Nutr Clin Pract.* 2021; 00 1– 20 <https://doi.org/10.1002/ncp.10778>.
31. Worthington P, Guenter P, **Gura KM**, Blackmer A. The particulars of filtering particulates/ *Pharmacy Practice News*, February 2022.
32. Taylor SN, Fenton TR, Groh-Wargo S, **Gura K**, Martin CR, Griffin IJ, Rozga M, Moloney L. Exclusive Maternal Milk Compared With Exclusive Formula on Growth and Health Outcomes in Very-Low-Birthweight Preterm Infants: Phase II of the Pre-B Project and an Evidence Analysis Center Systematic Review. *Front. Pediatr.* 2022 Feb 25. doi: 10.3389/ped.2021.793311.
33. Boullata JI, Mirtallo JM, Sacks GS, Salman G, **Gura K**, Canada T, Maguire A; ASPEN Parenteral Nutrition Safety Committee. Parenteral nutrition compatibility and stability: A comprehensive review. *JPEN J Parenter Enteral Nutr.* 2021 Nov 17. doi: 10.1002/jpen.2306. Epub ahead of print. PMID: 34788478.
34. Adams SC, **Gura KM**, Seres DS, et al. Safe care transitions for patients receiving parenteral

nutrition [published online ahead of print, 2022 May 19]. *Nutr Clin Pract*. 2022;10.1002/ncp.10861. doi:10.1002/ncp.10861. PMID: 35587169.

35. Cresci GAM, Hurt R, Rice TW, Mogensen K, Ayers G, **Gura K**, Hamilton C, Hardy G, Jain A, Mager D, McMahon MM, Worthington P, Johnson W; American Society for Parenteral and Enteral Nutrition (ASPEN) Board of Directors:. Omission of Dietitian as Integral Member of Critical Care Team. *Crit Care Med*. 2022 Jul 1;50(7):e661-e662e. doi: 10.1097/CCM.0000000000005536. Epub 2022 Jun 13. PMID: 35726996.

36. Frazer LC, **Gura KM**, Bines JE, Puder M, Martin CR. Prevención y manejo de la colestasis asociada a la nutrición parenteral y la enfermedad hepática asociada a la insuficiencia intestinal en los lactantes críticamente enfermos. *World Rev Nutr Diet*. 2022;122:408-430. doi: 10.1159/000526555. Epub 2022 Sep 29. PMID: 36174529

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

Reviews, chapters, monographs, and editorials

1. **Gura KM**. “Extravasation Antidotes.” In: Curley, Smith, and Maloney-Harmon, editors. *Critical Care Nursing of Infants and Children*. WB Saunders Company; 1995.

2. **Gura KM**. Guidelines of administration of intravenous medications to pediatric patients. (review) *Am J Health-Sys Pharm*. 1997; 54(8):1000-1001.

3. **Gura KM**. Compatibility of Medications with 3-in-1 Admixtures, More Than You Think. (review) *Nutrition in Clinical Care*. 2000; 3(2):73-74.

4. **Gura KM**. “Parenteral Nutrition,” In: Hendricks K, Duggan C, Walker WA, editors. *Manual of Pediatric Nutrition*, 3rd edition. Hamilton, Ontario: B.C. Decker; 2000.

5. **Gura KM**. “Drug Nutrient Interactions” In: Hendricks K, Duggan C, Walker WA, editors. *Manual of Pediatric Nutrition*, 3rd edition. Hamilton, Ontario: B.C. Decker; 2000.

6. **Gura KM**. “Vitamin and Mineral Supplements” In: Hendricks K, Duggan C, Walker WA, editors. *Manual of Pediatric Nutrition*, 3rd edition. Hamilton, Ontario: B.C. Decker; 2000.

7. **Gura KM**. Guidelines of Administration of Intravenous Medications to Pediatric Patients. (review) *J Pediatr Pharmacol Ther*. 2001; 6:449-50.

8. **Gura KM**. “Metabolism Estimation, Recommended Energy, Protein, and Fluid Needs by Age,” In: Corkins MR, Shulman RJ, editors. *Pediatric Nutrition in Your Pocket*, American Society of Parenteral and Enteral Nutrition. Columbus (OH): Ross Products Division of Abbott Laboratories; 2002.

9. **Gura KM**, Chan L. “Drug Therapy and Role of Nutrition.” In: Walker WA, Watkins JB, Duggan C, editors. *Nutrition in Pediatrics*, 3rd edition. Hamilton, Ontario, Canada: BC Decker Inc; 2003.

10. **Gura KM**. “Special Challenges in Pediatric Nutrition: Clinical Issues and Compounding

Considerations”. In: Schumock GT, Dunsworth TS, Brundage DM, et al, editors. Gastroenterology/Nutrition, Pharmacotherapy Self-Assessment Program, Fifth Edition (PSAP-IV). American College of Clinical Pharmacy; 2005.

11. **Gura KM**. “Parenteral Nutrition,” In: Hendricks K, Duggan C, editors. Manual of Pediatric Nutrition, 4th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2005.

12. **Gura KM**. “Drug Nutrient Interactions”, In: Hendricks K, Duggan C, editors. Manual of Pediatric Nutrition, 4th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2005.

13. **Gura KM**. “Vitamin and Mineral Supplements.” In: Hendricks K, Duggan C, editors. Manual of Pediatric Nutrition, 4th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2005.

14. Lee S, **Gura KM**, Kim S, Arsenault DA, Bistran BR, Puder M. Current clinical applications of omega-6 and omega-3 fatty acids. Nutr Clin Pract. 2006; 21(4):323-41. PMID: 16870801

15. Couris RR, **Gura KM**, Blumberg J. “Pharmacology, Nutrition, and the Elderly: Interactions and Implications,” In: Chernoff R, editor. Geriatric Nutrition, The Health Professional’s Handbook, 3rd edition. Aspen Publishers, Inc.; 2006.

16. **Gura KM**. “Neonatal/Pediatric Nutrition (case study),” In: Helms RA, Quan DJ, Herfindal ET, Gourley DR, editors. Textbook of Therapeutics, 8th edition. Lippincott Williams & Wilkins; 2006.

17. **Gura KM**, Puder M. Recent developments in aluminium contamination of products used in parenteral nutrition. Curr Opin Clin Nutr Metab Care. 2006; 9(3):239-46; PMID: 16607123.

18. Lee S, **Gura KM**, Kim S, Arsenault DA, Bistran BR, Puder M. Current clinical applications of omega-6 and omega-3 fatty acids. Nutr Clin Pract. 2006; 21(4):323-41. PMID: 16870801.

19. **Gura KM**, “GI Medications,” In: Young RJ, Phillich L, editors. Clinical Handbook of Pediatric Gastroenterology. St. Louis (MO): Quality Medical Publishing; 2007.

20. Lee S, **Gura KM**, Puder M. Omega-3 fatty acids and liver disease. Hepatology. 2007;45(4):841-845; PMID: 1739527.

21. **Gura KM**, Chan L. “Drug Therapy and Role of Nutrition,” In: Walker WA, Watkins JB, Duggan C, editors. Nutrition in Pediatrics, 4th edition. Hamilton, Ontario, Canada: BC Decker Inc; 2008.

22. Meisel JA, Le HD, de Meijer VE, **Gura KM**, Puder M. Using parenteral fish oil in NASH. Nutrition, Diet Therapy and the Liver. In: Preedy VR, Lakshman R, Srirajaskanthan R, Watson RR editors. Taylor and Francis, RCP Press; 2009.

23. **Gura KM**, “Role of Parenteral Fish Oil Lipid Emulsions in Pediatric Nutrition: Benefits and Concerns,” In: Columbus F. editor: Fish Consumption and Health, Hauppauge, NY, Nova Science Publishers 2009.

24. **Gura KM**. ASHP statement on criteria for an intermediate category of drug products. American Society of Health-System Pharmacists. Am J Health Syst Pharm. 2009 Mar 1; 66(5):502-5. PMID:

19241626

25. **Gura KM**. ASHP statement on the roles and responsibilities of the pharmacy executive. American Society of Health-System Pharmacists. *Am J Health Syst Pharm*. 2009 Mar 1; 66(5):499-50. PMID: 19241625.
26. **Gura KM**. Is there still a role for peripheral parenteral nutrition? *Nutr Clin Pract*. 2009; 24:709-717. PMID: 19955548.
27. Le HD, Fallon EM, de Meijer VE, Malkan AD, Puder M, **Gura KM**. Innovative parenteral and enteral nutrition therapy for intestinal failure. *Semin Pediatr Surg*. 2010 Feb;19(1):27-34. PMID: 20123271
28. **Gura KM**, Ciccone R. "Drugs and Appetite: An Overview of Appetite Stimulants in the Pediatric Patient," *ICAN: Infant, Child, & Adolescent Nutrition*, 2010; 2: 358-369.
29. **Gura KM**, "Adult Parenteral Nutrition," in: Harris CS, Zeind CS, eds. *Pharmacy Competency Review* (online learning modules for pharmacy staff competency training developed for a large US hospital management company). Baltimore, MD: Lippincott Williams & Wilkins, 2011.
30. **Gura KM**, Chang E, Roche E, Casey A. "Parenteral Iron Therapy in the Pediatric Patient: A Review", *ICAN: Infant, Child, & Adolescent Nutrition*, 2011, 3: 145 - 151.
31. Collier S, **Gura KM**, Duggan C "Parenteral Nutrition in Children," in: Duggan C, Gura KM, Jaksic T (editors): *Clinic Management of Intestinal Failure*, Boca Raton, Florida, CRC Press 2012.
32. **Gura KM**. "Drug Dosing and Pharmacokinetics," in: Duggan C, Gura KM, Jaksic T (editors): *Clinic Management of Intestinal Failure*, Boca Raton, Florida, CRC Press 2012.
33. **Gura KM**, Langley G, Tucker. "Nutrition in Pharmacy," in: Remington: *The Science and Practice of Pharmacy*, 22nd edition, Allen L, et al (editors): London, UK, Royal Pharmaceutical Society, Pharmaceutical Press.
34. Vanek VW, Seidner DL, Allen P, Bistran B, Collier S, **Gura KM**, Miles J, Valentine CJ, Kochevar M, Novel Nutrient Task Force, Intravenous Fat Emulsions Workgroup and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board A.S.P.E.N. Position Paper Clinical Role for Alternative Intravenous Fat Emulsions. *NCP: Nutr Clin Pract* published online 29 February 2012.
35. Chang MI, Puder M, **Gura KM**. The Use of Fish Oil Lipid Emulsion in the Treatment of Intestinal Failure Associated Liver Disease (IFALD). *Nutrients*. 2012; 4(12):1828-1850. PMID: 23363993.
36. Carlson SJ, Fallon EM, Kalish BT, **Gura KM**, Puder M. The Role of the Omega-3 Fatty Acid DHA in the Human Life Cycle. *JPEN J Parenter Enteral Nutri*. 2013 Jan; 37(1):15-22. Epub 2012 Nov 27. PMID: 23192455
37. Collier S, **Gura KM**, DeLoid L, Dalton M, Summers L, "Parenteral Nutrition," In: Duggan C, Sonnevile K, editors. *Manual of Pediatric Nutrition*, 5th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2014.

38. Brenn M, **Gura KM**, Duggan C. "Intestinal Failure," In: Duggan C, Sonnevile K, editors. Manual of Pediatric Nutrition, 5th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2014.
39. **Gura KM**, "Drug Nutrient Interactions," In: Duggan C, Sonnevile K, editors. Manual of Pediatric Nutrition, 5th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2014.
40. **Gura KM**, Kinne J, Weston S., "Dietary Supplements," In: Duggan C, Sonnevile K, editors. Manual of Pediatric Nutrition, 5th edition. Hamilton, Ontario, Canada: B.C. Decker, Inc.; 2014.
41. **Gura KM**. "Parenteral and Enteral Nutrition in Children with Intestinal Failure," In: Victor Preedy , editor, Diet and Nutrition in Critical Care, 1st edition, London, Kings College, United Kingdom, Springer, 2014.
42. **Gura KM**. "Nutrient-Drug Interactions," In Mohan Pammi, Jesus G. Vallejo, Steven A. Abrams, editors, Nutrition-Infection Interactions and Impacts on Human Health, Taylor & Francis Group/CRC Press, Boca Raton, Florida, 2014.
43. Nandivada P, Carlson SJ, Cowan E, Chang MI, **Gura KM**, Puder M Role of parenteral lipid emulsions in the preterm infant. Early Hum Dev. 2013 Aug 30. pii: S0378-3782(13)00194-1. [Epub ahead of print]. PMID: 23998451
44. A.S.P.E.N. Intravenous Amino Acids National Shortage Task Force, Vanek VW, Allen P, Harvey Banchik LP, Bistran B, Collier S, Driscoll DF, **Gura K**, Houston DR, Miles J, Mirtallo J, Mogensen KM, Seidner D. Parenteral nutrition intravenous fat emulsions product shortage considerations. Nutr Clin Pract. 2013 Aug; 28(4):528-9. PMID: 23917440
45. **A.S.P.E.N. Research Committee**; Chan LN, Compher C, DiBaise JK, Dimaria-Ghalili RA, Guenter P, Resnick HE, Ziegler TR;. American Society for Parenteral and Enteral Nutrition research agenda. JPEN J Parenter Enteral Nutr. 2014 Jan; 38(1):13-8. PMID: 24190899
46. **Gura KM**. Aluminum contamination in parenteral products. Curr Opin Clin Nutr Metab Care. 2014 Jul 14. [Epub ahead of print] PMID: 25023185.
47. **Gura KM**, "GI Medications," In: Young RJ, Phillich L, editors. Clinical Handbook of Pediatric Gastroenterology, 2nd Edition. St. Louis (MO): Quality Medical Publishing; 2014
48. Vanek VW, Seidner DL, Allen P, Bistran B, Collier S, **Gura K**, Miles JM, Valentine CJ; Novel Nutrient Task Force; American Society for Parenteral and Enteral Nutrition. Update to A.S.P.E.N. Position paper: clinical role for alternative intravenous fat emulsions. Nutr Clin Pract. 2014 Dec;29(6):841. PMID: 25392455
49. Couris RR, **Gura KM**, Blumberg J, Chernoff R. "Pharmacology, Nutrition, and the Elderly: Interactions and Implications," In: Chernoff R, editor. Geriatric Nutrition, The Health Professional's Handbook, 4th edition. Jones & Bartlett Learning, LLC, Burlington, MA, 2014.
50. Fell, GL, Nandivada P, **Gura KM**, Puder M. Intravenous Lipid Emulsion in Parenteral nutrition. Adv Nutr. 2015 Sep 15;6(5):600-10. PMID: 26374182

51. Plogsted S, Cober P, **Gura KM**, Helms RA, Robinson D. Parenteral Nutrition L-Cysteine Product Shortage Considerations. *Nutri Clin Pract*, 2015 Aug; 30(4):579-80. PMID: 26150106
52. **Gura KM**, “Neonatal Nutrition,” In: Eiland LS, Todd TJ, editors. *Advanced Pediatric Therapeutics*. Memphis (TN): Pediatric Pharmacy Advocacy Group, 2015.
53. **Gura KM**. “Antibiotics and Drugs: Health Effects,” In: Caballero B, Finglas P, Toldrá F, editors. *Encyclopedia of Food and Health*, 3rd Edition. Oxford, UK. Academic Press, 2015.
54. Nandivada P, Fell GL, **Gura KM**, Puder M. Lipid emulsions in the treatment and prevention of parenteral nutrition-associated liver disease. *Am J Clin Nutr*. 2016 Jan 20. [Epub ahead of print]
55. Fell GL, **Gura KM**, Puder M. “Liver Disease and Parenteral Fish Oil,” In: Raatz SK, Bibus DM, editors. *Fish and Fish Oil in Health and Disease Prevention*, London, UK, Elsevier Inc., 2016.
56. **Gura KM**. “Special Considerations in Pediatric Compounding,” In: Buchanan EC, Schneider PJ, Forrey RA, editors. *Compounding Sterile Preparations*, 4th Edition, Bethesda, MD, American Society of Health-System Pharmacists, 2017.
57. Dao, D.T.; Anez-Bustillos, L.; Cho, B.S.; Li, Z.; Puder, M.; **Gura, K.M.** Assessment of Micronutrient Status in Critically Ill Children: Challenges and Opportunities. *Nutrients* 2017 Oct 28; 9(11). pii: E1185. PMID:29143766
58. Baker, MA, Anez-Bustillos, L, Dao, DT, **Gura KM**, Puder M. Parenteral Nutrition-Associated Liver Toxicity: Prevention, Diagnosis, and Management. In: Robinson, MK, editor. *Scientific American Medicine*. Hamilton (ON): Decker Intellectual Properties; November 2017. DOI: 10.2310/7900.9059.
59. **Gura KM**, Crowley M. A detailed guide to lipid therapy in intestinal failure. *Seminars in Pediatric Surgery* 2018 Aug; 27(4):242-255. doi: 10.1053/j.sempedsurg.2018.07.003. Epub 2018 Jul 31. PMID: 30342599.
60. Cober MP, **Gura KM**. Enteral and Parenteral Nutrition Considerations in Pediatric Patients. *Am J Health Syst Pharm*. 2019 Sep 16; 76(19):1492-1510.PMID: 31532507.
61. Calkins KL, Puder M, **Gura K**. The evolving use of intravenous lipid emulsions in the neonatal intensive care unit. *Semin Perinatol*. 2019 Jun 22. pii: S0146-0005(19)30081-3. doi: 10.1053/j.semperi.2019.06.003. [Epub ahead of print] PMID: 31331633
62. **Gura KM**, Puder, M, Calkins KL. Use of Fish Oil Intravenous Lipid Emulsions as Monotherapy in the Pediatric Intestinal Failure Patient: Beyond the Package Insert *Nutr Clin Pract*. 2019 Sep 24. doi: 10.1002/ncp.10413. [Epub ahead of print] PMID: 31549454.
63. **Gura KM**, Egan M. “GI Medications,” In: Pauley RJ, Phillichi L, editors. *Clinical Handbook of Pediatric Gastroenterology*, 3rd Edition. St. Louis (MO): Quality Medical Publishing; 2019.
64. Murphy MK, Furman L, **Gura KM**. “Basics of Nutrition and Patient Assessment,” In: Zeind CS, Carvalho MG, Cheng JWM, Zaiken Z, LaPointe T, editors, *Applied Therapeutics: The Clinical Use of*

Drugs, 12th Edition. Philadelphia (PA): Wolters Kluwer; 2023.

Books/Textbooks for the medical or scientific community

1. Collier S, Richardson DS, **Gura KM**, Lo CW. Editors. Handbook of Parenteral Nutrition, Fourth Edition, Children's Hospital, Boston, MA. Boston (MA): Children's Hospital Boston; 1992.
2. Collier S, Richardson DS, **Gura KM**, Lo CW. Editors. Handbook of Parenteral Nutrition, Fifth Edition, Children's Hospital, Boston, MA. Boston (MA): Children's Hospital Boston; 1993.
3. Duggan C, **Gura KM**, Jaksic T. Editors, Clinical Management of Intestinal Failure, Boca Raton, Florida, CRC Press 2012.

Letters to the Editor

1. McDermott JS, **Gura KM**. Procedures for Preparing Injectable Medications for Latex-sensitive Patients. (letter) Am J Health-Sys Pharm. 1997; 54(21):2515-2516. PMID: 9359963.
2. Lee S, **Gura KM**, Puder M. Re: Influence of different intravenous lipid emulsions on hepatobiliary dysfunction in a rabbit model. J Pediatr Gastroenterol Nutr. 2008 Feb; 46(2):224-5; author reply 225. PMID: 18223386 (Letter to the Editor).
3. de Meijer VE, **Gura KM**, Puder M. Parenteral nutrition in the critically ill patient: Potential benefit of fish oil-based lipid emulsions. N Engl J Med. 2010 Jan 7; 362(1):81-2. PMID: 20058338 (Letter to the Editor)
4. Le HD, **Gura KM**, Arsenault DA, Fallon EM, Potemkin AK, Puder M. Assessing portal fibrosis in parenteral nutrition-dependent patients treated with omega-3 fatty acid lipid emulsion. J Ped. 2010 Sep; 157(3):517; author reply 518. Epub. 2010 Jun 26. PMID: 20584532 (Letter to the Editor)
5. de Meijer VE, **Gura KM**, Meisel JA, Le HD, Puder M. Parenteral fish oil as monotherapy for patients with parenteral nutrition-associated liver disease. Pediatr Surg Int. 2009 Jan; 25(1):123-4. Epub. 2008 Oct 1. PMID: 18828026.
6. Arsenault D, Brenn M, **Gura K**, Compher C, Simpser, Puder M. Hyperglycemia in the newborn - correctly reported. JPEN J Parenter Enteral Nutr. (Letter to the Editor) PMID: 22179520.
7. Fallon EM, Nehra D, Potemkin AK, **Gura KM**, Simpser E, Puder M, Compher C. Response to letter to the editor regarding nutrition support of neonatal patients at risk for necrotizing enterocolitis. JPEN J Parenter Enteral Nutr. 2012 Sep 18 [Epub ahead of print] PMID: 22990614.
8. Fallon EM, Nehra D, Potemkin AK, **Gura KM**, Simpser E, Puder M, Compher C. Response to Meyer and Gortner. JPEN J. Parenter Enerteral Nutr. 2012 Nov 20 [Epub ahead of print] PMID: 23169900
9. Fell GL, **Gura KM**, Puder M. Response to Driscoll. JPEN J Parenter Enteral Nutr. 2017 Jul;

41(5):704-705. doi: 10.1177/0148607117703961. PMID: 28754084.

10. Klang MG, **Gura KM**. Criticism of methods used in medication Y-site mixing study. Am J Health Syst Pharm. 2021 Mar 25; zxab127. doi: 10.1093/ajhp/zxab127. Epub ahead of print. PMID: 33764402.

11. Modi BP, Galloway DP, **Gura K**, Nucci A, Plogsted S, Tucker A, Wales P. Pediatric Intestinal Failure is a lifelong disease. JPEN J Parenter Enteral Nutr. 2022 Apr 14. doi: 10.1002/jpen.2382. Epub ahead of print. PMID: 35419805.

Professional educational materials or reports, in print or other media

1. **Gura KM**, Sacks G. “Developments in Home Parenteral Nutrition: Preventing and Managing Complications in Adult and Pediatric Patients,” Continuing Education Monograph, National Home Infusion Association, Infusion. July/August 2017: 23: 1-12.
2. **Gura KM**. “Let’s Stop Moving: Management of Acute Diarrhea in the Ambulatory Setting,” Continuing Education Monograph, University of Connecticut, School of Pharmacy. November 15, 2021.

Clinical Guidelines and Reports

1. Arsenault D, Brenn M, Kim S, **Gura K**, Compher C, Simpser E; Board of Directors American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.), Puder M. A.S.P.E.N. Clinical guidelines: Hyperglycemia and hypoglycemia in the neonate receiving parenteral nutrition. JPEN J Parenter Enteral Nutr. 2012 Jan; 36(1):81-95. Epub. 2011 Dec 16. PMID: 22179520 (Standard of Care)
2. Fallon EM, Nehra D, Potemkin AK, **Gura KM**, Simpser E, Compher; Board of Directors American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.), Puder M. A.S.P.E.N Clinical guidelines: Nutrition support of neonatal patients at risk for necrotizing enterocolitis. JPEN J Parenter Enteral Nutri. 2012 Sep; 36(5):506-23. Epub. 2012 Jun 29. PMID:22753618 (Standard of Care)
3. Nehra D, Carlson S, Fallon EM, **Gura KM**; Board of Directors American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.), Puder M. A.S.P.E.N. Clinical guidelines: Nutrition support of neonatal patients with metabolic bone disease. JPEN J Parenter Enteral Nutri. 2013 May 17. [Epub ahead of print] PMID:23685349 (Standard of Care)
4. Standardized Competencies for Parenteral Nutrition Administration: The ASPEN Model. Guenter P, Worthington P, Ayers P, Boullata JI, **Gura KM**, Marshall N, Holcombe B, Richardson DS; Parenteral Nutrition Safety Committee, American Society for Parenteral and Enteral Nutrition. Nutr Clin Pract. 2018 Mar 23. doi: 10.1002/ncp.10055. [Epub ahead of print]

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings

1. Duggan C, Rizzo C, Cooper A, Klavon S, Fuchs V, **Gura K**, Richardson D, Collier S, Lo C. “Use of Clinical Practice Guidelines (CPGs) for Parenteral Nutrition in a Pediatric Teaching Hospital,” American Society for Parenteral and Enteral Nutrition’s 1996 Clinical Congress, Washington, DC. [Poster Presentation, selected as one of top-rated Nutrition Practice Posters by the A.S.P.E.N. Education and Professional Development Committee]

2. Forchielli ML, Lo CW, Richardson D, **Gura K**, Walker WA, Tonelli E. "Successful Treatment of Central Venous Line Infections," American Society for Parenteral and Enteral Nutrition's 1997 Clinical Congress, San Francisco, CA [*Poster Presentation, selected as one of the top-rated abstracts at the Clinical Congress by the A.S.P.E.N. Education and Professional Development Committee*]
3. **Gura KM**, Richardson DS. "Guidelines for the Co-administration of Medications with Parenteral Nutrient Solutions in the Pediatric Patient," 22nd Clinical Congress of the American Society for Parenteral and Enteral Nutrition, Orlando, FL, February 1998. [*Poster Presentation, selected one of the top-rated Nutrition Practice Posters by the A.S.P.E.N. Education and Professional Development Committee*]
4. **Gura KM**, Lee S, Duggan CP, Collier SB, Jennings RW, Folkman J, Bistran BR, Puder M "Reversal of Parenteral Nutrition Associated Cholestasis in Two Infants Using Parenteral Fish Oil," 31st Annual Meeting, Massachusetts Society of Health Systems Pharmacists, Newton, MA, April 3, 2006. [*Poster Presentation, 1st place*]
5. Le H , de Meijer V, Robinson E, Arsenault D, Potemkin A, Zurakowski D, Fallon E, Malkan A, **Gura KM**, Mark Puder. "Parenteral Fish Oil-Based Lipid Emulsion Improved Lipid and Fatty Acid Profiles in Parenteral Nutrition-Dependent Patients," American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Clinical Nutrition Week, February 9, 2010, Las Vegas, NV [*Oral Presentation, winner Oley Foundation Research Award, June 2010*]
6. Murphy MM, Duggan C, Collier S, Lo C, Richardson S, Brenn M, **Gura KM**. "Evaluation of a Method to Minimize Aluminum Exposure from Parenteral Nutrition at a Pediatric Teaching Hospital, American Society for Parenteral and Enteral Nutrition – Clinical Nutrition Week, 2011, Vancouver, BC, Canada, [*Poster Presentation, Abstract of Distinction*]
7. **Gura KM**, Díaz JJ Roda J, Perez-Atayde AR, Duggan C, Jaksic T, Lo CW., "AST to Platelet Index is Predictive of Cirrhosis but Not of Fibrosis in Pediatric Patients with Intestinal Failure," 33th European Society for Parenteral and Parenteral Nutrition Congress on Clinical Nutrition & Metabolism, Gothenburg, Sweden. [*Poster Presentation, named one of the outstanding posters of 2011*]
8. Lenders C., Henry E., Anh N.Q., Apovian C., Chanh H.C., Chuc N.T.K., Collier S., Durschlag R., **Gura K.**, Huong P.T.T., Huong L.T., Larsen L., Lam N.T., Lien D.T.K., Ly L.N., Markuns J., Miller J.E., Mogensen K.M., Montegut A., Oliver L., Thu N.N., Thu V., Trang N.N.M., Young L., Ziegler T. A global partnership to improve nutrition medicine in Viet Nam. Annals of Nutrition and Metabolism. Conference: 20th International Congress of Nutrition Granada Spain. [*Oral Presentation*]
9. Philipszoon L, Puder M, **Gura KM** "Intravenous Fish Oil Does Not Appear to Increase the Risk of Burr Cell anemia," 2014 Congress of the International Society for the Study of Fatty Acids and Lipids (ISSFAL), Stockholm, Sweden. [*Poster Presentation*]
10. Pharm THT, Nguyen LT, Nghiem TN, Le TD, Nguen HH, Nguyen HT, Dinh LTK, Nguyen QA, Henry EG, Oliver L, Collier S, **Gura K**, Apovian C, Ziegler T, Lenders C. "Risk of Malnutrition During a Nutrition Intervention Project in Hospitalized Patients, Vietnam," European Society for Parenteral and Enteral

Nutrition (ESPEN), Geneva, Switzerland, 2014. *[Poster Presentation]*

11. Cho BS, **Gura KM**, Potemkin AK, O'Loughlin AA, Nandivada P, Anez-Bustillos L, Baker MA, Dao DT, Puder M, Fell GL. Processes for ruling out central line-associated bloodstream infections in parenteral nutrition-dependent pediatric patients. The American Society of Parenteral and Enteral Nutrition. Austin, TX. January 2016. *[Podium Presentation, Abstract of Distinction]*
12. Baker MA, Nandivada P, Mitchell PD, O'Loughlin AA, Potemkin AK, **Gura KM**, Fell GL, Anez-Bustillos L, Dao DT, Cho B, and Puder M. Failures of fish oil therapy for treatment of parenteral nutrition-associated liver disease. The American Society of Parenteral and Enteral Nutrition. Austin, TX. January 2016. *[Podium Presentation, Abstract of Distinction]*
13. Fell GL, Cho BS, Pan A, Nose V, Anez-Bustillos L, Baker MA, Dao D, Nandivada P, **Gura KM**, Puder M. A comparison of fish oil sources for parenteral lipid emulsions in a murine model. The American Society of Parenteral and Enteral Nutrition. Austin, TX. January 2016. *[Podium Presentation, Vars paper finalist]*
14. Anez-Bustillos L, Nandivada P, O'Loughlin AA, Baker MA, Dao DT, Fell GL, Cho BS, Potemkin AK, Mitchell P, **Gura KM**, Puder M. Risk of Post-Procedural Bleeding in Patients on Intravenous Fish Oil. Is it real? The American Society of Parenteral and Enteral Nutrition. Austin, TX. January 2016. *[Poster Presentation, Abstract of Distinction]*
15. Baker MA, Nandivada P, Mitchell PD, O'Loughlin AA, Potemkin AK, Anez-Bustillos L, Dao DT, Fell GL, **Gura KM**, Puder M. Predictors of Omegaven failure in the treatment of parenteral nutrition-associated liver disease. Clowes Research Symposium. Beth Israel Deaconess Medical Center, Boston MA. April 2016 *[Oral Presentation, 1st place clinical research]*
16. Baker MA, Mitchell PD, O'Loughlin AA, Potemkin AK, Anez-Bustillos L, Dao DT, Fell GL, Gura KM, Puder M. Characterization of Fatty Acid Profiles in Children with Intestinal Failure-Associated Liver Disease. The American Society of Parenteral and Enteral Nutrition. Clinical Nutrition Week, Orlando, FL. February 20, 2017. *[Poster Presentation]* *[Poster of Distinction]*
17. Dao DT, Anez-Bustillos L, Cho BS, Potemkin AK, Perez-Atayde AR, Raphael BP, Carey AN, Kamin DS, Thiagarajah J, Gura KM, Puder M. Intravenous fish oil lipid emulsion for intractable pruritus: a case report. American Society for Parenteral and Enteral Nutrition (ASPEN) Nutrition Science and Practice Conference. Las Vegas, NV. January 2018. *[Oral Presentation]*
18. Cho BS, Fell GL, Anez-Bustillos L, Dao DT, Gura KM, Mitchell PD, Pan A, Potemkin AK, O'Loughlin A, Puder M. Microorganisms and antibiotic resistance in parenteral nutrition-dependent pediatric patients with central line-associated bloodstream infections. American Society for Parenteral and Enteral Nutrition (ASPEN) Nutrition Science and Practice Conference. Las Vegas, NV. January 2018. *[Oral Presentation]*
19. Anez-Bustillos L, Cubria MB, Mohamadi A, Dao DT, Baker MA, Fell GL, Pan A, Gura KM, Nazarian A, Puder M. Dietary effects of polyunsaturated fatty acids on bone. American Society for Parenteral and Enteral Nutrition (ASPEN) Nutrition Science and Practice Conference. Las Vegas, NV. January 2018. *[Oral*

Presentation]

20. Broyles K , Hoch R, McClelland J, **Gura K**, Carey A. Hypertriglyceridemia secondary to rapid infusion of an intravenous lipid emulsion due to shortage of dual chamber bags in a parenteral nutrition dependent patient. 11th International Pediatric Intestinal Failure and Rehabilitation Symposium, Toronto, Canada, June 26, 2020. *[Poster Presentation]*
21. Cho BS, Fell GL, Anez-Bustillos L, Dao DT, Pan A, **Gura KM**, and Puder M. Loss of function of the hepatic fatty acid translocase receptor CD36 is insufficient to protect from liver steatosis in a murine model of parenteral nutrition-induced liver injury. Association of American Physicians, American Society for Clinical Investigation, and American Physician-Scientists Association Joint Meeting. Chicago, IL. April 2018. *[Poster Presentation]*
22. Cho BS, Fell GL, Anez-Bustillos L, Dao DT, Baker MA, Mitchell PD, Potemkin AK, Gura KM, Puder M. Improving Protocols for Ruling Out Central Line-Associated Bloodstream Infections in Parenteral Nutrition-Dependent Pediatric Patients. 8th Annual Harvard Surgery Research Day. Boston, MA. March 2019. *[Poster Presentation]*
23. Anez-Bustillos L; Finkelstein A, Dao DT, Pan, A, Cho BS, **Gura KM**, Bistrian B, Puder M. Metabolic and Inflammatory Effects of an Omega-3 Fatty Acid-Based Eucaloric Ketogenic Diet in Mice with Endotoxemia. Harvard Surgery Research Day, 2019. *[Poster Presentation]*
24. Anez-Bustillo L, Yu L, Ko V, Dao DT, Hurley AK, **Gura KM**, Puder M. Vitamin E Levels in Children Treated with an Intravenous Fish Oil Lipid Emulsion. American Society for Parenteral and Enteral Nutrition. Poster of Distinction. March 2020. *[Podium Presentation]*
25. Tsikis ST, Hirsch T, Fligor SC, Pan A, Joiner MM, Mitchell P, **Gura KM**, Puder M, Direct Thrombin Inhibitors as Alternatives to Heparin to Preserve Lung Growth and Function in Congenital Diaphragmatic Hernia. Podium Presentation 28th Annual New England Surgical Resident and Fellow Research Presentation Day. May 2022. *[Virtual]*, *[First Place Basic Science]*
26. Lumeng JY, Anez-Bustillos L, Mitchell PD, Ko VH, MD; Secor JD, Potemkin Hurley A, Dao DT, Fligor SC, Cho BS, Tsikis ST, **Gura KM**, Puder M. Incidence and Development of Cholestasis in Surgical Neonates Receiving a Soy, MCT, Olive, Fish Oil-Based ILE. 11th Annual Harvard Surgery Research Day - March 12, 2022. *[Platform Presentation]*, *[2nd Place Clinical Research]*
27. Behbahan RK, Kiritsy P, **Gura K**. Compatibility profiles of two newer lipid emulsion formulations with various intravenous medications following USP <729> method I and method II standards. ASPEN 2022 Nutrition Science & Practice Conference, Seattle, WA. March 27, 2022. *[Poster Presentation]*
28. Lumeng JY, Anez-Bustillos L, Mitchell PD, Ko VH, MD; Secor JD, Potemkin Hurley A, Dao DT, Fligor SC, Cho BS, Tsikis ST, **Gura KM**, Puder M. Incidence and Development of Cholestasis in Surgical Neonates Receiving a Soy, MCT, Olive, Fish Oil-Based ILE. ASPEN 2022 Nutrition Science & Practice Conference, Seattle, WA. March 28, 2022. *[Platform Presentation]*, *[Henry M. Vars Award Candidate]*
29. Fligor S, Tsikis S, Hirsch T, Pan A, Mitchell P, Moskowitzova K, Rincon-Cruz L, Whitlock A, Nedder A,

Gura K, Puder M. A Structurally Engineered Fatty Acid (SEFA-6179) Prevents Cholestasis, Steatosis, and Fibrosis in a Preterm Piglet Model of Intestinal Failure-Associated Liver Disease. Late-Breaking Basic Science Plenary (one of 6). Digestive Disease Week, San Diego, CA. 2022. *[Podium Presentation]*

30. Fligor S, Tsikis S, Hirsch T, Pan A, Mitchell P, Moskowitsova K, Rincon-Cruz L, Whitlock A, Nedder A, **Gura K**, Puder M. SEFA-6179 Prevents Cholestasis, Steatosis, and Fibrosis in a Preterm Piglet Model of Intestinal Failure-Associated Liver Disease. International Pediatric Intestinal Failure and Rehabilitation Symposium, Toronto, Canada. September 2022. *[Podium Presentation]* *[Top Abstract Award]*
31. Gray M, Murphy M, Chang D, Turner A, Carey A, Modi BP, **Gura K**. Novel Dosing of Fish Oil ILE to Promote Euglycemia during PN Cycling in an Infant with Intestinal Failure: A Case Report. . International Pediatric Intestinal Failure and Rehabilitation Symposium, Toronto, Canada. September 2022. *[Poster Presentation]*
32. Fligor S, Tsikis S, Hirsch T, Ashish Jain A, Sun L, Pan A, Rockowitz S, Sliz P, **Gura K**, Puder M. Next Generation RNA-SEQ Implicates New Pathways in Pathogenesis of Intestinal Failure-Associated Liver Disease in a Preterm Piglet Model. North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, NASPGHAN 2022- Orlando, FL, October 14, 2022. *[Poster Presentation]*
33. Tsikis S, MD, Fligor SC, Secor JD, Yu LJ, Pan A, Mitchell PD, Loring G, First E, Nedder AP, Grammer RM, Pattison B, **Gura KM**, Puder M. An In-line Digestive Cartridge Reduces Dependence on Parenteral Nutrition and Increases Intestinal Growth in a Porcine Model of Short Bowel Syndrome. North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, NASPGHAN 2022- Orlando, FL, October 14, 2022, *[Podium Presentation]**[NASPGHAN Nutrition Prize]*
34. Fleet SE, Ariagno K, Turner A, Takahashi K, Marcley S, **Gura K**, Leichtner A, Wolbrink T. Development of an Online Parenteral Nutrition Simulator. North American Society of Pediatric Gastroenterology, Hepatology and Nutrition, NASPGHAN 2022- Orlando, FL, October 14, 2022. *[Poster Presentation]*

[Narrative Report](#)

I am a trained pediatric pharmacist with a focus on clinical nutrition. My primary work is the study of intestinal failure associated liver disease (IFALD). My interest in omega-3 fatty acids peaked when I discovered that fish oil-based intravenous lipid emulsions could be safely used to treat essential fatty acid deficiency (EFAD). This adolescent had undergone hematopoietic stem cell transplantation and developed life-threatening complications of his EFAD and was made DNR. After obtaining emergency FDA approval, I obtained intravenous fish oil from its European manufacturer, successfully treated his deficiency, and he survived and was later discharged home.

More fundamentally, I led a team that discovered that intravenous fish oil reversed IFALD in infants receiving parenteral nutrition (PN), one of the most recalcitrant problems of PN use, responsible for 1.4% of all deaths of children < 4 years of age. Our laboratory work demonstrated injury results, in part, from the conventional intravenous lipid emulsion used with PN. We discovered a treatment for IFALD in which that lipid emulsion is replaced with a less toxic one. This therapy was part of an FDA-approved compassionate use trial that offered intravenous fish oil to patients dying of IFALD. Following its implementation, the previous 38% mortality rate for this disease drastically decreased from 2–6 deaths and transplants per year at our institution to only 1 transplant over the past 15 years. Based on our findings, intravenous fish oil is now used to treat IFALD globally. Previously, the primary treatment for IFALD was liver/small bowel or multivisceral transplants. At its peak in 2006, there were

15 liver/small bowel transplants performed in the US in children < 1 year of age; 0 were performed in 2010 for this once fatal disease. According to experts at Toronto's Hospital for Sick Children, the use of this lipid emulsion is the reason for a major paradigm shift in the management of children with IFALD (J Pediatr Gastroenterol Nutr. 2009 Feb; 48(2):209-15). Rather than rushing toward transplant, the emphasis is currently on intestinal rehabilitation as the children now have the time necessary to allow for bowel adaptation. Steven Abrams MD, Professor, Director of Dell Pediatric Research Institute and former chair of the Department of Pediatrics at Dell Medical School, has written that this treatment has been responsible for the substantial reduction in the number of liver and multivisceral transplantations in children due to IFALD (Adv Nutr vol. 4: 518-520, 2013). In 2009, I was honored by the American Society for Health Systems Pharmacists for my research. In July 2018, the drug received FDA approval.

Since the FDA approval of the intravenous fish oil emulsion, I have been involved in several investigations that have led to the development of alternative lipid emulsions and other innovative therapies that will impact the quality of life of patients with intestinal failure. We have received patents on these new emulsions and have begun to work with industry to bring these products to market. In regards to other therapies, one involves a catheter locking solution that prevents as well as treats central line associated bloodstream infections. It addresses the limitations associated with currently available products used in the U.S. without damaging the vascular access device. Another innovation utilizes a lipase containing cartridge for delivery of enteral formula to patients with short bowel syndrome in hopes of improving bowel adaptation and thus decrease the need for parenteral nutrition. I am also working with several surgical research fellows in the Center for Advanced Intestinal Rehabilitation Program to develop a tool to improve patient compliance and assist in transitions of care as these patients enter adulthood. These additional collaborations have led to my appointment to the Nutrition Committee within the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition.

My aforementioned research experience has led me to assume an additional role within the Investigational Drug Service at Boston Children's Hospital. This new role, as manager of pharmacy clinical research programs, has allowed me to work with a variety of clinicians throughout the institution to help design their interventional studies and work with study sponsors to improve the safety of their studies. In several instances, studies that were previously approved by other institutions had to be significantly revamped when our team critically reviewed the design of these protocols and found significant dosing errors and methods of administration that could have potentially resulted in patient harm. I also work closely with various members of our Experimental Therapeutics Unit and other members of the research community at Boston Children's Hospital to optimize educational offerings as they relate to investigational protocols involving medications or devices.

Similarly, as an extension of my current role, I educate surgical research fellows and medical students on various aspects of PN and lipid emulsion technologies. I also work with them on manuscript preparation and assist in research study design. I also oversee the PGY2 pharmacy residents' research projects and those enrolled in the undergraduate honors program at MCPHS University.

From 2010-2018, I had the unique privilege to work with Boston University School of Medicine (BUSM), Bach Mai Hospital (BMH), Hanoi Medical University (HMU) and the National Institute of Nutrition (NIN) in Viet Nam through the Abbott Fund Institute of Nutrition Science (AFINS) to address hospital malnutrition and strengthen hospital nutrition knowledge, attitudes and practices. Of the 7.2 million children under 5 years of age in Vietnam, approximately 1.6 million (23%) are undernourished and have an increased risk of mortality, illness and infections, delayed development, cognitive deficits, poorer school performance, and fewer years in school. We helped Vietnamese clinicians establish country specific growth curves, create training programs in clinical dietetics, and develop multidisciplinary clinical nutrition services. We provided technical support for the development of nutrition and dietetics degrees at HMU with more than 30 nurse-nutritionist and 50 bachelors in nutrition and dietetics graduates, six research projects with the NIN tracking hospital nutrition, and the training of more than 2,000 Vietnamese health care professionals to improve capacity in nutrition departments. Additionally, we found

that hospitalized patients surveyed in 2013 at BMH after the establishment of our training program were 29% less likely to be malnourished compared to those surveyed in 2010.

In summary, my diverse career path has allowed me to take clinical issues and bring them back to the laboratory to develop new approaches to old problems. I have been fortunate to work in an environment that allows me to simultaneously work on numerous clinical, academic, and research problems that have resulted in new therapies and subsequently share this knowledge through teaching and publication.