



**ASPEN Rhoads Research Foundation**  
**Awardee Accomplishments Related to Foundation Grants**  
**Updated September 01, 2018**

**Abbott Nutrition Research Grant**

**Awardee: Adam Rahman, MD, DABIM, FRCPC**

Grant Year: 2015

Grant Title: Phase II, multi-center, randomized control trial of beta-hydroxy-methyl-butyrate in improving physical muscle function in nutritionally at risk elderly patients.

**Presentations:**

1. Speaker, NUTRIC Protocol Development Meeting, Toronto, Ontario. Linking nutrition and rehabilitation in improving long-term outcomes for hospitalized patients. *Industry Sponsored: Baxter USA*
2. 01/15 Speaker, NUTRIC meeting at the American Society of Parenteral and Enteral Nutrition, Clinical Nutrition Week, Phase II randomized control of Beta-hydroxy-methyl- butyrate in at risk critically ill patients.
3. 05/15 Chair, Symposium, Linking nutrition to function in hospitalized and critically ill patients, Canadian Nutrition Society, Annual Meeting, Winnipeg, Manitoba  
09/15 Speaker, Meaningful measures of function in ICU survivors. Body Composition Protocol Development Meeting, Waterloo, Ontario

**Awardee: Elsa Bou Ghanem, PhD**

Grant Years: 2013, 2014

Grant Title: Vitamin E reverses age-associated susceptibility to *Streptococcus pneumoniae* lung infection

**Publications:**

1. **Bou Ghanem EN**, Clark S, Du X, Wu D, Camilli A, Leong JM and Meydani SN (2015) The alpha-tocopherol form of vitamin E reverses age-associated susceptibility to *Streptococcus pneumoniae* lung infection by modulating pulmonary neutrophil recruitment. *J Immunol.* 194(3): 1090-9\*

\*The study was featured by the press in Tufts Now; Dole Newsletter; MedIndia and Indo-Asian News Service

**Abstracts:**

1. Bou Ghanem E, Clark S, Du X, Wu D, Camilli A, Leong J, Meydani S. Vitamin E reverses age-associated susceptibility to *Streptococcus pneumoniae* lung infection

by modulating the neutrophil response. *JPEN J Parenter Enteral Nutr.* 2014 Jan; 38(1). A.S.P.E.N. Clinical Nutrition Week, Savannah, GA, 2014.

2. Oral presentation; Vitamin E reverses age-associated susceptibility to *Streptococcus pneumoniae* lung infection (ASN's Nutrition, infection and immunity session at the Experimental Biology Conference, Boston, MA April 2013)
3. Poster presentation; Vitamin E reverses age-associated susceptibility to *Streptococcus pneumoniae* lung infection (Nutritional Immunology RIS trainee poster competition at the Experimental Biology Conference, Boston, MA April 2013)
4. Oral presentation; Vitamin E boosts resistance to *Streptococcus pneumoniae* infection in aged mice by inhibiting hepxilin A3-mediated neutrophil recruitment across the lung epithelium. (Experimental Biology Conference, San Diego, CA April 2014)
5. Abstract; The Impact of Age and Vitamin E Supplementation on *Streptococcus pneumoniae* Virulence (American Society for Microbiology 114th General Meeting, Boston, MA May 2014)\*

\*The abstract was among the few chosen to be featured in the ASM press room

**Awardee: Kenneth Ng, DO**

Grant Year: 2012

Grant Title: Role of phytosterols and FXR signaling in parenteral nutrition-associated liver disease

Publications:

1. Ng K, Stoll B, Chacko O, Saenz de Pipaon M, Lauridsen C, Gray M, Squires EJ, Marini J, Zamora IJ, Olutoye OO, Burrin DG. Vitamin E in New-generation Lipid Emulsions Protects against Parenteral Nutrition-associated Liver Disease in Parenteral Nutrition-fed Preterm Pigs. *JPEN J Parenter Enteral Nutr.* 2015 Jan 16. Pii: 0148607114567900.
2. Vlaardingerbroek H, Ng K, Stoll B, Benight N, Chacko S, Kluijtmans L, Kulik W, Squires E, Olutoye O, Schady D, Finegold M, van Goudoever J, Burrin D. New generation lipid emulsions prevent PNALD in chronic parenterally-fed preterm pigs. *J Lipid Research.* 2014 Mar;55(3):466-77.
3. Burrin, D., Ng, K., Stoll, B., and Sáenz de Pipaón, M. (2014). Impact of New Generation Lipid Emulsions on Cellular Mechanisms of Parenteral Nutrition-Associated Liver Disease. *Advances in Nutrition*, 4(6), 82-91.

Abstracts:

1. Kenneth Ng, Barbara Stoll, Douglas Burrin Vitamin E Added to Intralipid Positively Impacts Hepatic Bile Acid and Fatty Acid Homeostasis in TPN-fed Preterm Pigs. *JPEN J Parenter Enteral Nutr.* 2014 Jan; 38(1). A.S.P.E.N. Clinical Nutrition Week, Savannah, GA, 2014. Oral Presentation
2. Ng K, Stoll B, Burrin D. Intralipid with added vitamin E positively impacts bile acid homeostasis in TPN-fed preterm pigs. 2013 Digestive Disease Week. Poster of

Distinction.

**Awardee: Gail Cresci, PhD, RD, CNSD**

Grant Years: 2010, 2011

Grant Title: Probiotics and the short-chain fatty acid butyrate: What is the mechanism in which these substrates prevent antibiotic associated diarrhea?

Publications:

1. Cresci G, Nagy L, Ganapathy, V. *Lactobacillus* GG and tributyrin supplementation reduce antibiotic-induced intestinal injury. *JPEN J Parenter Enteral Nutr.* 2013 Nov; 37(6):763-774.

Abstracts:

1. Cresci G, Nagy L. A probiotic and butyrate protect the intestine during antibiotic therapy. *JPEN J Parenter Enteral Nutr.* 2013 Feb; 37(1). A.S.P.E.N. Clinical Nutrition Week, Phoenix, AZ, 2013. 2013 Vars Candidate and Abstract of Distinction.

**Awardee: Carrie Earthman, PhD, RD**

Grant Years: 2005, 2006

Grant Title: Clinical implications of gastric bypass surgery

Publications:

1. Beckman LM, Earthman CP, Thomas W, Compher C, Muniz J, Horst R, Ikramuddin S, Kellogg T, Sibley SD. Serum 25(OH) vitamin D concentration changes after Roux-en-Y gastric bypass surgery. *Obesity.* 2013 Dec;21(12):E599-606.
2. Beckman LM, Beckman TR, Sibley SD, Thomas W, Ikramuddin S, Kellogg TA, Ghatei MA, Bloom SR, le Roux CW, Earthman CP. Changes in gastrointestinal hormones and leptin after Roux-en-Y gastric bypass surgery. *JPEN J Parenter Enteral Nutr.* 2011 Mar;35(2):169-80. <sup>[1]</sup><sub>[SEP]</sub>
3. Levitt DG, Beckman LM, Mager JR, Valentine B, Sibley SD, Beckman TR, Kellogg TA, Ikramuddin S, Earthman CP. Comparison of DXA and water measurements of body fat following gastric bypass surgery and a physiological model of body water, fat, and muscle composition. *J Appl Physiol.* 2010 Sep;109(3):786-95.
4. Mager JR, Sibley SD, Beckman TR, Kellogg TA, Earthman CP. Multifrequency bioelectrical impedance analysis and bioimpedance spectroscopy for monitoring fluid and body cell mass changes after gastric bypass surgery. *Clin Nutr.* 2008 Dec;27(6):832-41.
5. Dobratz JR, Sibley SD, Beckman TR, Valentine BJ, Kellogg TA, Ikramuddin S, Earthman CP. Comparison of handheld to metabolic cart indirect calorimetry for resting energy expenditure assessment in extremely obese women. *Topics in Clinical Nutrition.* 2007;22(2):115-129.
6. Dobratz JR, Sibley SD, Beckman TR, Valentine BJ, Kellogg TA, Ikramuddin S, Earthman CP. Predicting energy expenditure in extremely obese women. *JPEN J Parenter Enteral Nutr.* 2007;31(3): 217-227.

Abstracts:

1. Beckman LM, Earthman CP. Changes in resting energy expenditure and body composition after Roux-en-Y gastric bypass. *JPEN J Parenter Enteral Nutr.* 2013;37(1):35-37. A.S.P.E.N. Clinical Nutrition Week, Phoenix, AZ, 2013. Oral Presentation.
2. Beckman LM, Sibley SD, Earthman CP. Subjective satiety improves early after gastric bypass surgery. *JPEN J Parenter Enteral Nutr.* 2012;36(1):A20-21. A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2012. Oral Presentation.
3. Beckman LM, Sibley SD, Earthman CP. Quality of life using a validated obesity-specific questionnaire improves early after gastric bypass surgery. *JPEN J Parenter Enteral Nutr.* 2012; 36(1): A130-131. A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2012.
4. Earthman CP, Sibley SD, Thomas W, Beckman LM, Mager JR, Beckman TR, Ikramuddin S, Kellogg TA, Weijs PJ, Kunkel SA. An evaluation of phase angle, impedance ratio, and bioimpedance vector for assessing body composition and clinical outcomes in gastric bypass patients. *Int J Obesity.* 2011;35(2):S58. The 9<sup>th</sup> International Symposium on *In Vivo* Body Composition Studies, Hangzhou, China, May 21-24, 2011.
5. Earthman CP, Kruienga HM, Weijs PJM. Impedance ratio Z200/Z5 compared to phase angle at 50 kHz better predicts nutritional status and length of stay in hospitalized patients. *Int J Obesity.* 2011;35(2):S58. The 9<sup>th</sup> International Symposium on *In Vivo* Body Composition Studies, Hangzhou, China, May 21-24, 2011.
6. Earthman CP, Weijs PJM. Comparison of bioimpedance spectroscopy versus air displacement plethysmography for measurement of fat-free mass in healthy individuals. *Int J Obesity.* 2011;35(2):S59. *Poster Presentation.* The 9<sup>th</sup> International Symposium on *In Vivo* Body Composition Studies, Hangzhou, China, May 21-24, 2011.
7. Earthman CP, Sibley SD, Thomas W, Beckman LM, Mager JR, Bekcman TR, Ikramuddin S, Kellogg TA, Weijs PJ, Kunkel SA. Comparison of bioimpedance techniques with multiple dilution for assessment of fat free mass and water compartments following gastric bypass surgery. *Int J Obesity.* 2011;35(2):S25. *Oral Presentation.* The 9<sup>th</sup> International Symposium on *In Vivo* Body Composition Studies, Hangzhou, China, May 21-24, 2011.
8. Beckman LM, Thomas W, Sibley SD, Beckman TR, Mager JR, Kellogg TA, Ikramuddin S, Earthman CP. Protein supplementation in the early post-operative period following gastric bypass surgery. *JPEN J Parenter Enteral Nutr.* 2011;35(1)25-26. A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011.
9. Beckman LM, Compher CW, Muniz J, Sibley S, Beckman TR, Mager JR, Ikramuddin S, Kellogg TA, Earthman CP. Serum 25-OH vitamin D improves after

gastric bypass surgery. *JPEN J Parenter Enteral Nutr.* 2011;35(1)25. A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011.

10. Beckman LM, Beckman TR, Sibley SD, Thomas W, Mager JR, Ikramuddin S, Kellogg TA, le Roux C, Bloom S, Ghatei M, Earthman CP. Contribution of changes in gastrointestinal hormones and leptin to weight loss after gastric bypass surgery. *Clin Nutr* 2010;5(S2):181. The 2010 European Society for Clinical Nutrition and Metabolism Annual Meeting, Nice, France.
11. Beckman LM, Compher C, Muniz J, Sibley SD, Beckman TR, Mager JR, Ikramuddin S, Kellogg TA, Earthman CP. Serum 25-OH vitamin D improves after gastric bypass surgery. The European Society for Clinical Nutrition and Metabolism, Nice, France, 2010.
12. Mager J, Sibley S, Beckman T, Kellogg T, Ikramuddin S, and Earthman C. An evaluation of the factors related to extracellular fluid expansion in extremely obese women and the role of the renin-angiotensin system. *Obesity* 2008;16(1): S272. The 2008 Obesity Society Annual Meeting, 2008, Phoenix, AZ.
13. Earthman CP, Sibley SD, Beckman TR, Kellogg TA, Ikramuddin S, and Dobratz JR. Early postoperative fluid changes measured by intravenous deuterium and bromide dilution in gastric bypass surgery patients. *Int J Body Comp Res* 2008;6(2):70. 8<sup>th</sup> International Symposium on In Vivo Body Composition Studies, 2008, New York, NY.
14. Earthman, CP, Valentine BJ, Sibley SD, Beckman TR, Kellogg TA, Ikramuddin S, and Dobratz JR. The use of an acrylic board to separate regions of interest during dual energy x-ray absorptiometry scanning in extremely obese women. *FASEB J* 2008; 22:1087.3. Experimental Biology 2008, San Diego, CA.
15. Dobratz JR, Sibley SD, Beckman TR, Lautenschlager LM, Kellogg TA, Ikramuddin S, and Earthman, CP. Fluid distribution changes after gastric bypass surgery. *FASEB J* 2008; 22:1090.6. Experimental Biology 2008, San Diego, CA.
16. Dobratz J, Sibley S, Beckman T, Valentine B, Kellogg T, Ikramuddin S, Earthman C. Accuracy of multifrequency bioelectrical impedance analysis and bioimpedance spectroscopy for monitoring fluid distribution changes in women after gastric bypass surgery. *JADA* 2007 Supplement 3; 107(8): A-29.
17. Dobratz J, Sibley S, Beckman T, Kellogg T, Ikramuddin S, Earthman C. Validation of a hand-held indirect calorimeter to measure resting energy expenditure in obese women. *FASEB J* 2006; 20:A588. *Poster Presentation*. Experimental Biology '06.

Presentations:

1. "Vitamin D Deficiency after Bariatric Surgery: Implications and Considerations", 9<sup>th</sup> Annual Bariatric Education Days, The University of Minnesota Medical School, Bloomington, MN. June 2013
2. "Nutritional Concerns after Bariatric Surgery", Bariatric Surgery Session, XXVII Annual Meeting of the Colombian Association of Clinical Nutrition, Bogota, Colombia. April 2013

3. "Vitamin D Status Before and After Gastric Bypass Surgery: Implications and Considerations", Metabolic Surgery Session, XXVII Annual Meeting of the Colombian Association of Clinical Nutrition, Bogota, Colombia. April 2013
4. "Vitamin D Status Following Gastric Bypass Surgery", City-Wide Endocrine Conference, Department of Medicine – Endocrine Division, University of Minnesota-Twin Cities. February 2013
5. "Methodologic Considerations for Assessing Body Composition Changes After Gastric Bypass Surgery", Children's Hospital of Pennsylvania (CHOP) Pediatric Research Group, University of Pennsylvania, Philadelphia, PA. October 2012
6. "Bariatric Surgery: Nutritional Implications and Research Considerations", University of Pennsylvania School of Nursing, Obesity Seminar (Host: Dr. Charlene Compher), Philadelphia, PA. October 2012
7. "Body Composition and Vitamin D Status Following Gastric Bypass Surgery", Institute of Human Nutrition, University of Southampton, Southampton, England. June 2012
8. "Body Composition and Vitamin D Status Following Gastric Bypass Surgery", Section for Clinical Nutrition, Sahlgrenska, University of Gothenburg, Gothenburg, Sweden. June 2012
9. "Diminished Vitamin D Status in Obesity: Implications and Considerations in Gastric Bypass Surgery Patients", Focused Learning Session, Clinical Nutrition Week, Orlando, Florida. January 2012
10. "Diminished Vitamin D Status in Obesity: Implications and Considerations in Gastric Bypass Surgery Patients", American Society for Parenteral and Enteral Nutrition, Webinar. January 2012
11. "Body Composition Assessment in Gastric Bypass Surgery Patients: Clinical and Research Considerations". Research Seminar, Division of Human Nutrition, Wageningen University, Wageningen, The Netherlands. June 2011
12. "Comparison of Bioimpedance Techniques with Multiple Dilution for Assessment of Fat Free Mass and Water Compartments Following Gastric Bypass Surgery". The 9<sup>th</sup> International Symposium on *In Vivo* Body Composition Studies, Hangzhou, China, May 21-24, 2011.
13. "Diminished Vitamin D Status In Obesity: Implications and Considerations in Gastric Bypass Surgery Patients". Institute of Toxicology and Nutrition, School of Medicine, Zhejiang University, Hangzhou, China. May 2011
14. "Vitamin D Inadequacy in Obesity: Before and After Gastric Bypass Surgery". University of Rome – Tor Vergata, Department of Medicine and Surgery, Rome, Italy. February 2011
15. "Clinical and Nutritional Implications of Gastric Bypass Surgery", Department of Clinical Sciences, University of Kentucky, Lexington, KY February 2010

16. "Changes in Gastrointestinal Hormones and Leptin after Roux-en Y Gastric Bypass Surgery", (Lauren Beckman, Doctoral Student Presented twice, for the Harry M. Vars Award competition), Clinical Nutrition Week 2010, Las Vegas, NV February 2010
17. "Changes in Gastrointestinal Hormones After the Roux-en-Y Gastric Bypass Procedure: A Review", L Beckman (C Earthman', Journal of the American Dietetic Association Board of Editors annual meeting at FNCE, Denver, CO October 2009
18. "Early Postoperative Fluid Changes Measured by Intravenous Deuterium and Bromide Dilution in Gastric Bypass Surgery Patients", Presented at the 8<sup>th</sup> International Symposium on In-Vivo Body Composition Studies, Columbia University, July 9-12, 2008.
19. "Acute Effects of Whey-Derived Peptides on the Renin-Angiotensin System in Extremely Obese Women", University of Minnesota Dairy Center, Midwest Dairy Association Annual Meeting, St. Paul, MN. July 2007
20. "Methodologic Considerations for Monitoring Body Composition Changes after Gastric Bypass Surgery", City-Wide Endocrine Conference, Department of Medicine – Endocrine Division, University of Minnesota-Twin Cities. April 2007
21. "Whey Protein Supplementation for Nutritional Management After Gastric Bypass Surgery: Progress Report", University of Minnesota Dairy Center, Midwest Dairy Association Annual Meeting, St. Paul, MN. July 2006
22. "Whey Protein Supplementation for Nutritional Management After Gastric Bypass Surgery", University of Minnesota Dairy Center, Midwest Dairy Association Annual Meeting, St. Paul, MN. July 2005

**Awardee: Bruce Grossie, PhD**

Grant Years: 2003, 2004

Grant Title: Response of an inflammatory site to arginine modified parenteral nutrition

Abstracts:

1. Grossie B, Edwards J, Rogiers R, Hussein D. Temporal response of arginine but not nitric oxide in plasma and exudate of an inflammatory site for rats receiving parenteral nutrition with citrulline or ornithine substituted for arginine. A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2005.

**Awardee: James Scolapio, MD**

Grant Year: 2001

Grant Title: Gastric secretory and motor transit responses in patients with short bowel syndrome

Publications:

1. Ferrone M, Scolapio JS. Teduglutide for the treatment of short bowel syndrome. *Ann Pharmacother.* 2006 Jun;40(6):1105-9. Review

2. Jeppesen PB, Sanguinetti EL, Buchman A, Howard L, Scolapio JS, Ziegler TR, Gregory J, Tappenden KA, Holst J, Mortensen PB. Teduglutide (ALX-0600), a dipeptidyl peptidase IV resistant glucagon-like peptide 2 analogue, improves intestinal function in short bowel syndrome patients. *Gut*. 2005 Sep;54(9):1224-31.

**Awardee: Kelly Tappenden, PhD, RD**

Grant Years: 1999, 2000

Grant Title: Prevention of bowel ischemia with optimized nutrition

Publications:

1. Kles KA, Turner JR, Tappenden KA. 2001 Harry M. Vars Research Award. Enteral nutrients alter enterocyte function within an *in vitro* model similar to an acute *in vivo* rat model during hypoxia. *JPEN J Parenter Enteral Nutr*. 2002 Mar-Apr;26(2):71-6.
2. Tappenden KA. Provision of phosphorylatable substrate during hypoxia decreases jejunal barrier function. *Nutrition*. 2002 Feb;18(2):168-72.
3. Kles KA, Wallig MA, Tappenden KA. Luminal nutrients exacerbate intestinal hypoxia in the hypoperfused jejunum. *JPEN J Parenter Enteral Nutr*. 2001 Sep-Oct;25(5):246-53.

### **Baxter Grant for Parenteral Nutrition Research**

**James Davison, PhD**

Grant Year: 2018

Grant Title: Modulation of organ injury by *Faecalibacterium prausnitzii* in critical illness

Abstracts

1. James Davison, PhD, Modulation of organ injury by *Faecalibacterium prausnitzii* in critical illness, 26th Annual Duke Anesthesiology Academic Evening, May 29, 2018.
2. Cassidy Grumbles, Modulation of organ injury by *Faecalibacterium prausnitzii* in critical illness, 6th Annual Duke BioCoRE Symposium, July 27, 2018.

**Gregory Guthrie, PhD**

Grant Year: 2016, 2017

Grant Title: Synergy between phytosterols and inflammation to antagonize nuclear hormone receptor function in PNALD

Publications:

1. Gregory Guthrie. Phytosterols Synergize with Endotoxin to Augment Inflammation in Kupffer Cells but Alone Have Limited Direct Effect on Hepatocytes. Accepted by *JPEN* for publication in an upcoming issue. Pending acceptance.

Abstracts

1. *Phytosterols Synergize with Endotoxin to Augment Inflammation in Kupffer Cells but Alone Have Limited Direct Effect on Hepatocytes*, CNW2017 submission. Accepted for Vars Candidacy.



Presentations:

1. "Phytosterols Synergize with Endotoxin to Augment Inflammation in Kupffer Cells but Alone Have Limited Direct Effect on Hepatocytes", (Presented for Harry M. Vars Award competition) Clinical Nutrition Week 2017, Orlando, FL, February 2017
2. "Phytosterols have weak direct effect on hepatocyte expression but enhance Kupffer Cell activation by endotoxin", (oral and poster presentation for Emerging Leader in Nutrition Science competition) Experimental Biology Conference, Chicago, Illinois, April 2017

**Awardee: Ajay Jain, MD**

Grant Year: 2014-2015

Grant Title: Novel Interventions modulating the FXR-FGF19 Axis and the TGR5-GLP Axis as Therapeutic Approaches for TPN Associated Pathologies.

Publications:

1. Ajay Kumar Jain, Joy X. Wen, Keith S. Blomenkamp, Sumit Arora, Timothy A. Blaufuss, Jonathan Rodrigues, John P. Long, Brent A. Neuschwander-Tetri, and Jeffery H. Teckman, Oleanolic Acid Improves Gut Atrophy Induced by Parenteral Nutrition; JPEN J Parenter Enteral Nutr, January 2016; vol. 40, 1: pp. 67-72., first published on April 28, 2015
2. Jain AK, Teckman JH. Controversies in the mechanism of Total Parenteral Nutrition induced pathology. Children. In Press. Jun 2015
3. Jain AK, Wen JX, Arora S, Blomenkamp KS, Rodrigues J, Blaufuss TA, Liou VD, Burrin DB, Long JP, Teckman JH. Validating hyperbilirubinemia and gut mucosal atrophy with a novel ultra-mobile ambulatory Total Parenteral Nutrition piglet model. Nutrition Research. 2015 Feb;35(2):169-74.
4. Jain AK, Teckman JH. Newly identified mechanisms of Total Parenteral Nutrition (TPN) related liver injury. Advances in Hepatology. Volume 2014, ID 621380, 7, 2014.

Abstracts:

1. Premier Paper Session, oral presentation, Vars candidate CNW2016. Preserved gut microbial diversity accompanies upregulation of TGR5 and hepatobiliary transporters in bile acid treated animals on Total Parenteral Nutrition (TPN). Ajay K. Jain, MD ; Abhineet Sharma, student ; Sumit Arora, student; Keith S. Blomenkamp, Research Asst ; Ik Jun, Student ; Robert Luong, Student ; David Westrich, student ; Asyush Mittal, student; John P. Long, PhD; Jeffrey Teckman, MD. JPEN J Parenter Enteral Nutr, Jan 2016; vol. 40, 1:pp. 115-144.
2. Sharma A, Ripa M, Blomenkamp KS, Jun IC, Teckman JH, Jain AK. Bile Acid Treatment of Total Parenteral Nutrition (TPN) infused animals induces divergence in gut microbial flora. (NASPGHAN, 2015)
3. Poster of Distinction: Wen JX, Arora S, Blomenkamp KS, Blaufuss TA, Teckman JH, Long JP, Jain AK. Glucagon-Like Peptides ameliorate Total Parenteral Nutrition associated gut atrophy. (Digestive Disease Week 2015)
4. Wen JX, Arora S, Blomenkamp KS, Blaufuss TA, Teckman JH, Long JP, Jain AK. Glucagon-Like Peptides ameliorate Total Parenteral Nutrition associated gut atrophy. (Digestive Disease Week 2015)

5. Premier Paper Session: Oral Presentation: Jain AK, Wen JX, Arora S, Blomenkamp KS, Blaufuss TA, Long JP, Teckman JH. Oleanolic Acid improves gut atrophy induced by Total Parenteral Nutrition (TPN) (ASPEN Feb 2015)
6. Oral Platform Presentation: Jain AK, Wen JX, Arora S, Blomenkamp KS, Sharma A, Iqbal S, Rodrigues J, Liou V, Blaufuss TA, Long JP, Teckman JH. Total Parenteral Nutrition (TPN) causes gut mucosal atrophy and hyperbilirubinemia: We describe a novel ultra-mobile ambulatory model. (Oral Presentation, NASPGHAN 2014)
7. Jain AK, Blomenkamp KS, Rodrigues J, Blaufuss TA, Carl MA, Liou VD, Wen JX, Stoll B, Burrin DG, Long JP. Teckman, JH. Development and validation of a novel ultra-mobile ambulatory Total Parenteral Nutrition model. (Digestive Disease Week 2014)

**Awardee: Matthew Lungren, MD**

Grant Year: 2012

Grant Title: Bacteriophage antimicrobial-lock technique for *Staphylococcus aureus* venous parenteral nutrition catheter-related infection: an *in vivo* model evaluation

Publications:

1. Lungren MP, Paxton BE, Kankotia R, Falk I, Christensen D, Kim CY. Bacteriophage antimicrobial-lock technique for staphylococcus aureus central venous catheter-related infection: an in-vivo evaluation. *Journal of Vascular and Interventional Radiology*. 2013 Apr;24(4)S24.

Abstracts:

1. Lungren MP, Kankotia R, Paxton B, Falk I, Christensen D, Donlan R, Kim C. Bacteriophage for *Staphylococcus aureus* central venous catheter-related infection: an *in-vitro* and *in-vivo* model evaluation. *JPEN J Parenter Enteral Nutr*. 2014 Jan; 38(1). A.S.P.E.N. Clinical Nutrition Week, Savannah, GA, 2014.

## **Fresenius Kabi Parenteral Nutrition Research Grant**

**Awardee: Darla Shores, MD**

Grant Year: 2016

Grant Title: Biomarkers of intestinal injury in infants

Abstracts:

1. Serum detection of ingested proteins in mice with necrotizing enterocolitis. CNW2017 submission.
2. Post-operative Feeding Guidelines for Infants at risk of intestinal Failure. CNW 2017 submission.

**Awardee: Hongyu Xue, MD**

Grant Years: 2013, 2014

Grant Title: Modulating cardiotoxicity and anti-cancer efficacy related to anthracycline chemotherapy by glutamine and n-3 PUFAs

Publications:

1. Xue H, Ren W, Denking M, Schlotzer E, Wischmeyer PE. Nutrition modulation of cardiotoxicity and anticancer efficacy related to doxorubicin chemotherapy by glutamine and  $\omega$ -3 polyunsaturated fatty acids. *JPEN Journal Parent Enteral Nutr.* 2015 Apr 17. pii: 0148607115581838

Abstracts:

1. Xue H, Ren W, Wischmeyer P. Nutritional modulation of cardiotoxicity and anti-cancer efficacy related to doxorubicin chemotherapy by glutamine and *n*-3 polyunsaturated fatty acids. A.S.P.E.N. Clinical Nutrition Week, Long Beach, CA, 2015. Vars Award Candidate.

## **Nestlé Nutrition Institute Maurice Shils Grant**

**Awardee: Kate Walton, PhD**

Grant Year 2015

Grant Title: Towards therapeutic strategies to improve patient outcome with total parenteral nutrition: clues from cell signaling networks

Publications:

1. Walton KD, Freddo AM, Wang S, Gumucio DL: Generation of intestinal surface: an absorbing tale. *Development* 143(13): 2261-72, 2016. PM27381224/PMC4958325
2. Gurdziel K, Vogt KR, Walton KD, Schneider GK, Gumucio DL: Transcriptome of the inner circular smooth muscle of the developing mouse intestine: Evidence for regulation of visceral smooth muscle genes by the hedgehog target gene, cJun. *Dev Dyn* 245(5): 614-26, 2016. PM26930384/PMC4844863
3. Walton KD, Whidden M, Kolterud Å, Shoffner SK, Czerwinski MJ, Kushwaha J, Parmar N, Chandhrasekhar D, Freddo AM, Schnell S, Gumucio DL: Villification in the mouse: Bmp signals control intestinal villus patterning. *Development* 143(3): 427-36, 2016. PM26721501/PMC4760312
4. Namit Kumar, Manasa Srivillibhuthur, Katherine D. Walton, Anbo Zhou, William J. Faller, Ansu O. Perekatt, Owen J. Sansom, Deborah L. Gumucio, Jinchuan Xing, Edward M. Bonder, Nan Gao, Michael P. Verzi: A YY1-dependent increase in aerobic metabolism is indispensable for intestinal organogenesis. *Development* (In press).
5. Katherine D. Walton, Deepa Chandhrasekhar, Deborah L. Gumucio: Vascular Connections to Mesenchymal Clusters Coordinate Intestinal Villus Morphogenesis. In preparation for submission to *PNAS* by the end of October, 2016. Pending Acceptance.
6. Katherine D. Walton, Sha Wang, and Deborah L. Gumucio: Review: Early intestinal villus morphogenesis. *WIREs*, invited review for January 2017 submission. Pending Acceptance.

Abstracts:

1. Katherine D. Walton, Deepa Chandrasekhar, Daniel Teitelbaum, Deborah L Gumucio: Poster of Distinction: Towards Therapeutic Strategies to Improve Patient Outcome with Total Parenteral Nutrition: Clues from Cell Signaling Networks, Clinical Nutrition Week 2016, Austin, TX, Journal of Parenteral & Enteral Nutrition, 2016.
2. Katherine D. Walton, Deepa Chandrasekhar, Priya Dedhia, Jason R. Spence, and Deborah L. Gumucio: Vascular Development Drives Intestinal Villus Morphogenesis, UM Center for Gastrointestinal Research Retreat, Ann Arbor, MI, 2016.
3. Katherine D. Walton, Deepa Chandrasekhar, Deborah L. Gumucio: Role of the Vasculature in Villus Development: Notch Signaling Modifies Vascular Pattern and Villus Growth, Society for Developmental Biology 75th Annual Meeting, Boston, MA, 2016.

**Awardee: Crystal Levesque, PhD**

Grant Years: 2013, 2014

Grant Title: A pilot study of systemic glucagon-like peptide combined with oral epidermal growth factor and characterization of gut microbiome in short bowel piglets with and without ileum

Publications:

1. In a Neonatal Piglet Model of Intestinal Failure, Administration of Antibiotics and Lack of Enteral Nutrition Have a Greater Impact on Intestinal Microflora Than Surgical Resection Alone. Crystal L. Levesque PhD; Justine Turner, MBBS, PHD; Julang Li, MD; Pamela Wizzard, Benoit St Pierre, David Lim, and Paul Wales, MD. *JPEN J Parenter Enteral Nutr*, 0148607115626903, first published on February 2, 2016

Abstracts:

1. Levesque C, Wales PW, Turner J. Phylogenetic characterization of the intestinal microbiome in two anatomically different piglet models of SBS. A.S.P.E.N. Clinical Nutrition Week, Long Beach, CA, 2015.

**Awardee: Joseph Boullata, PharmD, BCNSP**

Grant Years: 2011, 2012

Grant Title: Drug compatibility and stability in enteral nutrition

Publications:

Boullata AM, Boullata JI. Pancreatic enzymes prepared in bicarbonate solution for enteral feeding tube administration. *Am J Health-Syst Pharm* 2015;72: (in press).

Abstracts:

1. Boullata JI, Boullata AM. Preparing pancreatic enzymes for feeding tube administration. *Pediatr Pulmonol*. 2013;48(S36):407. North American Cystic Fibrosis Conference, Salt Lake City, UT, 2013.
2. Boullata JI, Boullata AM. Pancreatic enzyme preparation for enteral feeding tube administration. *JPEN J Parenter Enteral Nutr*. 2013 Feb; 37(1). A.S.P.E.N. Clinical

Nutrition Week, Phoenix, AZ, 2013.

**Awardee: Diana Mager, PhD, RD**

Grant Years: 2009, 2010

Grant Title: Altered postprandial lipid metabolism as a mediator to hepatic steatosis in overweight and obese children with non-alcoholic steatosis (NASH)

Publications:

1. Rivera I, Yap J, Mager DR. Parental perceptions regarding lifestyle interventions for the obese child and adolescents with nonalcoholic fatty liver disease (NAFLD). *Paediatr Child Health*. 2014 May;19(5):e24-9.
2. Mager DR, Rivera I, Gilmour SM, Yap J. The effect of a low fructose and low glycemic index/load (FRAGILE) dietary intervention on indices of liver function, cardio-metabolic risk factors and body composition in children and adolescents with nonalcoholic fatty liver disease (NAFLD). *J Parenter Enteral Nutr*. Aug 23, 2013. DOI:1177/0148607113501201
3. Mager DR, Mazurak V, Rodriguez-Dimitrescu C, Vine, D, Jetha MM, Ball GD, Yap J. A meal high in saturated fat evokes postprandial dyslipemia, hyperinsulinemia, and altered lipoprotein expression in obese children with and without nonalcoholic fatty liver. *JPEN J Parenter Enteral Nutr*. 2013 Jul;37(4):517-28.
4. Mager DR, Yap J, Rodriguez-Dimitrescu C, Mazurak V, Ball GD, Gilmour SM. Anthropometric measures of visceral and subcutaneous fat are important in the determination of metabolic dysregulation in boys and girls at risk for nonalcoholic fatty liver disease. *Nutr Clin Prac*. 2013 Feb;28(1):101-11.

Abstracts:

1. Mager DR, Mazurak, V, Proctor, S, Gilmour S, Yap J. Dietary intake may influence essential fatty acid and long chain polyunsaturated fatty acid expression in children with nonalcoholic fatty liver disease (NAFLD). AASLD Meeting, Washington DC. *Hepatology* 2013 58:817A.
2. Mager DR, Rodriguez Dimitrescu C, Yap J, Mazurak V, Vine D, Gilmour SM, Jetha M, Ball GD. Does changing the polyunsaturated (PUFA) content of a high saturated fat meal influence postprandial lipid and lipoprotein expression in children with nonalcoholic fatty liver disease (NAFLD)? Experimental Biology, San Diego California, April 23, 2012. *FASEB J* Abstract Number: 3756:A252.3.
3. Rodriguez-Dimitrescu C, Yap J, Mazurak V, Rivera I, Gilmour S, Jetha M, Ball GD, Mager DR. Body composition and somatotype in children and adolescents with nonalcoholic fatty liver disease. Alberta Institute for Human Nutrition Research Symposium, University of Alberta, March 6, 2012.
4. Rivera I, Yap J, Gilmour S, Rodriguez-Dimitrescu C, Mager DR. Dietary intakes and body composition in children and adolescents with nonalcoholic fatty liver disease. Alberta Institute for Human Nutrition Research Symposium, University of Alberta, March 6, 2012.

5. Mager DR, Rodriguez Dimitrescu C, Yap J, Mazurak V, Vine D, Jetha M, Ball G. Acute intake of saturated fat/polyunsaturated fat influences postprandial lipid and lipoprotein metabolism in children with nonalcoholic fatty liver disease (NAFLD). *JPEN J Parenter Enteral Nutr.* 2012;36(1). A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2012.
6. Rodriguez-Dimitrescu C, Yap J, Mazurak V, Vine D, Jetha M, Ball G, Mager D. Does changing the polyunsaturated (PUFA) content of a high saturated fat meal influence postprandial lipid metabolism in children with nonalcoholic fatty liver disease (NAFLD)? Alberta Diabetes Institute Research Day, University of Alberta. September 27, 2011.
7. Mager D, Rodriguez-Dimitrescu C, Yap J, Mazurak V, Ball G, Jetha M, Ball G, Yap J. How does a high saturated fat/low polyunsaturated meal influence postprandial lipid metabolism in children and adolescents with nonalcoholic fatty liver disease? *JPEN J Parenter Enteral Nutr.* 2011;35(1). A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011. Oral Presentation.
8. Rodriguez-Dimitrescu C, Yap J, Mazurak V, Vine D, Jetha M, Ball G, Mager DR. How does acute changes in dietary intake influence postprandial lipid and lipoprotein expression in children with non-alcoholic fatty liver disease. Canadian Nutrition Society Meeting, June 3-5 2011, Guelph, Ontario. *Applied Physiol Nutr & Metab*:2011:36:A481.
9. Rodriguez-Dimitrescu C, Yap J, Mazurak V, Jetha M, Ball G, Mager DR. Does prolonged post prandial hyperinsulinemia contribute to altered lipid metabolism in overweight and obese children with nonalcoholic fatty liver disease (NAFLD)? *Hepatology* 2010:52: Supplement 1: 633. Poster Presentation to American Association for the Study of Liver Diseases Conference, Boston, MA October 29-November 2, 2010.
10. Rodriguez-Dimitrescu C, Yap J, Mazurak V, Gilmour S, Ball GD, Jetha M, Mager DR. Altered postprandial lipemia in children and adolescents with nonalcoholic fatty liver disease. *App Phys Nutr Metab* 2010: 35(3): A421, CNS Annual Conference, Edmonton, AB June 3-5, 2010.

Presentations:

1. Visiting Scholar: Do acute changes in saturated and polyunsaturated fat contribute to adverse changes in postprandial lipid and lipoprotein metabolism in children with NAFLD, Nutrition Rounds, Division of Gastroenterology, Hepatology & Nutrition and Children's Hospital of Philadelphia, Jan 31-Feb1, 2012.
2. Speaker: Alberta Diabetes Institute Research In-progress Seminar, Title of presentation: How does acute changes in fat intake influence postprandial lipid and lipoprotein expression in children and adolescents with NAFLD? University of Alberta, May 14, 2012.
3. Invited Speaker: Childhood NAFLD in Canada. School of Public Health, Xinjiang Medical University, Xinjiang Autonomous Region, People's Republic of China, June 2010.

4. Visiting Scholar: How does lifestyle patterning influence disease risk in childhood non-alcoholic fatty liver disease. Department of Exercise Science, Concordia University, Montreal Quebec, March 26, 2010.

Further Funding

1. Alberta Diabetes Institute
2. Canadian Liver Foundation
3. Canadian Institutes of Health Research

**Maurice Shils Grant**

**Jointly sponsored by Baxter Healthcare and Nestlé Nutrition Prior to 2010**

**Awardee: Barbara Stoll, PhD**

Grant Years: 2007, 2008

Grant Title: Parenteral nutrition and hepatic insulin resistance in neonatal pigs

Publications:

1. Stoll B, Jolanta Puiman P, Cui L, Chang X, Benight NM, Bauchart-Threvret C, Hartmann B, Holst J, Burrin D. Continuous parenteral and enteral nutrition induces metabolic dysfunction in neonatal pigs. *JPEN J Parenter Enteral Nutr.* 2012 Sept;36(5):538-550.
2. Stoll B, Horst DA, Cui L, Chang X, Ellis KJ, Hadsell DL, Suryawan A, Kurundkar A, Maheshwari A, Davis TA, Burrin DG. Chronic parenteral nutrition induces hepatic inflammation, steatosis, and insulin resistance in neonatal pigs. *J Nutr.* 2010 Dec;140(12):2193-200.

Abstracts:

1. Stoll B. Insulin resistance induced by continuous parenteral or enteral nutrition is associated with impaired insulin signaling and GLP-1 secretion in neonatal pigs. *JPEN J Parenter Enteral Nutr.* 2012;36(1). A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2012.
2. Stoll B, Puiman PJ, Benight N, Bauchart-Thevret C, Burrin DG. Continuous administration of an elemental diet induces insulin resistance in neonatal pigs. ESPR Conference, Hamburg, Germany, October 9-12, 2009.
3. Stoll B, Puiman PJ, Benight N, Bauchart C, Burrin DG. Decreased insulin sensitivity due to continuous nutrient administration in neonatal pigs. *FASEB J.* 2009;23(1):33.3.
4. Stoll B, Puiman P, Benight N, Bauchart-Thevret C, Burrin DG. Continuous nutrient administration decreases insulin sensitivity in neonatal pigs. *JPEN J Parenter Enteral Nutr.* 2009;33:202. A.S.P.E.N. Clinical Nutrition Week, New Orleans, LA, 2009.
5. Stoll B, Puiman PJ, Burrin DG. Continuous parenteral versus enteral nutrition induces glucose intolerance and hyperinsulinemia in neonatal piglets. Pediatric Academic Societies Meeting, 2008.

**Awardee: Catherine Crill, PharmD**

Grant Year: 2005

Grant Title: Effect of parenteral nutrition light exposure on urinary markers of oxidative stress in preterm infants

Abstracts:

1. Crill CM, Tillman EM, Helms RA. Light exposure during parenteral nutrition preparation and infusion and its effect on amino acid concentrations. *JPEN J Parenter Enteral Nutr.* 2011;35(1). A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011.

**Awardee: Steven Steiner, MD**

Grant Year: 2005

Grant Title: Metabolic response to Infliximad in pediatric ulcerative colitis

Publications:

1. Trauernicht AK, Steiner SJ. Serum antibodies and anthropometric data at diagnosis in pediatric Crohn's disease. *Dig Dis Sci.* 2012 Apr;57(4):1020-5.

Abstracts:

1. Steiner S, Noe J, Denne S. Albumin synthesis rates in newly diagnosed pediatric Crohn's disease and in response to initial corticosteroid therapy. *JPEN J Parenter Enteral Nutr.* 2010 Mar;34(2). A.S.P.E.N. Clinical Nutrition Week, Las Vegas, NV, 2010.

**Awardee: Hua Yang, MD, PhD**

Grant Year: 2004

Grant Title: IL-7 modulation of intraepithelial lymphocytes with TPN

Publications:

1. Yang H, Feng Y, Sun X, Teitelbaum DH. Enteral versus parenteral nutrition: effect on intestinal barrier function. *Ann NY Acad Sci.* 2009 May;1165:338-46.
2. Yang H, Gumucio DL, Teitelbaum DH. Intestinal specific over-expression of interleukin-7 attenuates the alternation of intestinal intraepithelial lymphocytes after TPN administration. *Ann Surg.* 2008 Nov;248(5):849-56.
3. Yang H, Madison B, Gumucio DL, Teitelbaum DH. Specific overexpression of IL-7 in the intestinal mucosa: the role in intestinal intraepithelial lymphocyte development. *Am Journal Physiol Gastrointest Liver Physiol.* 2008 Jun;294(6):G1421-G1430.
4. Yang H, Sun XY, Haxhija E, Teitelbaum DH. Intestinal epithelial cell-derived interleukin-7: A mechanism for the alteration of intraepithelial lymphocytes in a mouse model of total parenteral nutrition. *Am Journal Physiol Gastrointest Liver Physiol.* 2007 Jan; 292(1):G84-91.
5. Yang H, Spencer AU, Teitelbaum DH. Interleukin-7 administration alters intestinal intraepithelial lymphocyte phenotype and function in vivo. *Cytokine.* 2005 Sep



21;31(6):419-28.

**Awardee: Paul Wischmeyer, MD**

Grant Year: 2002

Grant Title: Effect of glutamine administration to the intact rat on myocardial ischemia and reperfusion injury

Publications:

1. Wischmeyer PE, Jayakar D, Williams U, Singleton KD, Riehm J, Bacha EA, Jeevanandam V, Christians U, Serkova N. Single dose of glutamine enhances myocardial tissue metabolism, glutathione content, and improves myocardial function after ischemia-reperfusion injury. *JPEN J Parenter Enteral Nutr.* 2003 Nov-Dec;27(6):396-403.
2. Wischmeyer PE, Vanden Hoek TL, Li C, Shao Z, Ren H, Riehm J, Becker LB. Glutamine preserves cardiomyocyte viability and enhances recovery of contractile function after ischemia-reperfusion injury. *JPEN J Parenter Enteral Nutr.* 2003 Mar-Apr;27(2):116-22.

**Awardee: N. Joseph Espat, MD**

Grant Years: 2000, 2001

Grant Title: Proposal to investigate anti-inflammatory therapies (Omega-3 fatty acids and cyclo-oxygenase II inhibitors in the treatment of cancer-associated cachexia

Publications:

1. Babcock TA, Kurland A, Helton WS, Rahman A, Anwar KN, Espat NJ. Inhibition of activator protein-1 transcription factor activation by omega-3 fatty acid modulation of mitogen-activated protein kinase signaling kinases. *JPEN J Parenter Enteral Nutr.* 2003 May-Jun;27(3):176-80; discussion 181.
2. Mikhail AT, Babcock TA, Jho DH, Helton WS, Brodsky IG, Espat NJ. Modulation of the ubiquitin-proteasome proteolytic pathway by eicosapentaenoic acid supplementation in a model of progressive malignancy. *JPEN J Parenter Enteral Nutr.* 2003 Mar-Apr;27(2):105-9.
3. Novak TE, Babcock TA, Jho DH, Helton WS, Espat NJ. NF-kappa B inhibition by omega -3 fatty acids modulates LPS-stimulated macrophage TNF-alpha transcription. *Am J Physiol Lung Cell Mol Physiol.* 2003 Jan;284(1):L84-9.
4. Jho D, Babcock TA, Helton WS, Espat NJ. Omega-3 fatty acids: implications for the treatment of tumor- associated inflammation. *Am Surg.* 2003 Jan;69(1):32-6.

**Awardee: Deborah Swartz-Basile, PhD**

Grant Years: 1998, 1999

Grant Title: Retinoid modulation of intestinal epithelial adaptation

Publications:

1. Swartz-Basile DA, Wang L, Tang Y, Pitt HA, Rubin DC, Levin MS. Vitamin A

deficiency inhibits intestinal adaptation by modulating apoptosis, proliferation, and enterocyte migration. *Am J Physiol Gastrointest Liver Physiol.* 2003 Aug;285(2):G424-32.

2. Swartz-Basile DA, Rubin DC, Levin MS. Vitamin A status modulates intestinal adaptation after partial small bowel resection. *JPEN J Parenter Enteral Nutr.* 2000 Mar-Apr;24(2):81-8.

**Awardee: Malcolm Robinson, MD**

Grant Years: 1996, 1997

Grant Title: Sepsis, malnutrition and liver dysfunction: The role of glutathione

Publications:

1. Robinson MK Glutamine protects intestinal epithelial cells: role of inducible HSP70. *JPEN J Parenter Enteral Nutr.* 1998 May-Jun;22(3):183-184.
2. Robinson MK, Rustum RR, Chambers EA, Rounds JD, Wilmore DW, Jacobs DO. Starvation enhances hepatic free radical release following endotoxemia. *J Surg Res.* 1997 May;69(2):325-30.

**Awardee: W. Scott Helton, MD**

Grant Years: 1994, 1995

Grant Title: Nutritional modulation of macrophage function

Publications:

1. Johnson K, Garcia R, Heitkemper M, Helton WS. Lipid supplementation increases norepinephrine excretion and bacterial translocation in parenterally fed rats. *Surgical Forum.* 1995;46:23-25.
2. Johnson K, Garcia R, Heitkemper M, Helton WS. Polymixin B prevents increased sympathetic activity and alveolar macrophage TNF release in parenterally fed rats. *Arch. Surg.* 1995;130:1294-1300.

Abstracts:

1. Johnson KM, Garcia RM, Heitkemper M, Helton WS. Lipid supplemented TPN increases norepinephrine excretion and bacterial translocation in a dose related fashion in rats. Association for Academic Surgery, Ann Arbor, Michigan. November, 1995.
2. Johnson K, Garcia R, Heitkemper M, Helton WS., Polymixin B prevents increased sympathetic activity and alveolar macrophage TNF release in parenterally fed rats. Surgical Infection Society, Louisville, Kentucky. April, 1995.
3. Helton WS, Rockwell M, Garcia R, Maier RV, Heitkemper M. TPN-induced sympathetic activation is related to diet, bacterial translocation and an IV line. Surgical Infection Society, Toronto, Canada. April 27, 1994.

Presentations:

1. Antioxidants in Patients Undergoing Operation. X Congreso Argentino II del Cono Sur de Soporte Nutricional y Metabolismo. Buenos Aires, Argentina May 30, 2001.

2. Nutritional Support in Hepatic Insufficiency and Liver Transplantation. X Congreso Argentino II del Cono Sur de Soporte Nutricional y Metabolismo. Buenos Aires, Argentina May 28, 2001.
3. Invited Discussant: Severe phosphatemia following living-related liver transplantation. A.S.P.E.N. Clinical Nutrition Week, Chicago, IL January 22, 2001.
4. Moderator and Presenter, Nutrition and Liver Dysfunction, Transplantation and Modulation. Annual Meeting of A.S.P.E.N. 24<sup>th</sup> Clinical Congress, January 24, 2000.
5. Frontiers in Antioxidant Research, Co-Chair, A.S.P.E.N. Research Workshop, January 18, 1998, Orlando Florida
6. "TPN versus Enteral Feeding: Facts and Fallacies". Presented at the Apria Healthcare/Ross Products seminar "Nutrition Therapy: Improving Tomorrow's Outcomes Today", Tukwila, Washington, September 20, 1997.
7. "Nutrients as Antioxidants." Presented at the A.S.P.E.N. Research Symposium: Nutrition in Critical Illness, Washington, D.C. January, 1996.
8. Chair, Post Graduate Course, "Metabolic Support for Perennial Problems in Surgery, Antioxidants-Are They Important?" American College of Surgeons Annual Clinical Congress, New Orleans, Louisiana. October 22-27, 1995.
9. Round table discussions. Intestinal Permeability: Its Role in Nutritional Support. Annual Meeting, A.S.P.E.N., Miami, Florida. January 18, 1995.
10. Symposium Chair: Update on Nutritional Support. Nutrients as Antioxidants. American College of Surgeons Annual Clinical Congress, Chicago, Illinois. Oct. 13, 1994.
11. Post Graduate Course: Diseases of the Liver, Biliary Tract, and Pancreas. "Nutritional Modulation of Liver Injury in Hepatobiliary Surgery." American College of Surgeons Annual Clinical Congress. Chicago, Illinois. Oct. 11, 1994.
12. The Role of the Gut Barrier in Multiple System Organ Failure. 20th Symposium, American Association of Critical Care Nursing, Seattle, Washington. March, 1994.

Further Funding

1. CNRU, University of Washington
2. NIH R-13, R-29, R03
3. University of Illinois
4. Ross Labs
5. American Cancer Society

**Norman Yoshimura Grant by B. Braun and the Aesculap Academy**

**Awardee: Kenneth Christopher, MD**

Grant Year: 2015

Grant Title: Nutritional metabolome in critical illness

Publications:

1. Plasma Metabolome Alteration in Critical Illness According to Nutrition Status: A Cohort Study. Accepted for publication in JPEN February 23, 2016.

Abstracts:

1. Premier Paper Session, CNW16, Austin Texas. Oral presentation: Plasma Metabolome Alteration in Critical Illness According to Nutrition Status: a Cohort Study. Kris Mogensen, MS, RD, LDN, CNSC ; Jessica Lasky-Su, PhD ; Angela Rogers, MD; Rebecca Baron, MD; Laura Fredenburg, MD; James Rawn, MD; Malcolm Robinson, MD; Anthony Massaro, MD; Augustine Choi, MD; Kenneth Christopher, MD. *JPEN J Parenter Enteral Nutr*, January 2014; vol. 38, 1: pp. 124-149.

**Awardee: Christy Lawson, MD**

Grant Years: 2012, 2013

Grant Title: Cross-talk between insulin and angiotensin in burn trauma

Abstracts:

1. Lawson CM, Conway S, Kasper SO, Nelson A, Daley BJ, Karlstad MD. Cross-talk between insulin and angiotensin in burn injury. *JPEN J Parenter Enteral Nutr*. 2014 Jan; 38(1). A.S.P.E.N. Clinical Nutrition Week, Savannah, GA, 2014.

**Awardee: Gerdien Ligthart-Melis, PhD**

Grant Years: 2009, 2010

Grant Title: The contribution of glutamine to citrulline and arginine synthesis, when alanyl-glutamine is supplied in an enteral dose of 0.5g/kg, in critically ill patients

Abstracts:

1. Vermeulen MAR, van Leeuwen PAM, Beishuizen A, Ligthart-Melis GC. Glutamine metabolism quantified in enterally fed critically ill patients. *JPEN J Parenter Enteral Nutr*. 2013 Feb; 37(1). A.S.P.E.N. Clinical Nutrition Week, Phoenix, AZ, 2013.
2. Vermeulen MAR, van Leeuwen PAM, Ligthart-Melis, GC, Bet P, Beishuizen A, Dejong CH, Deutz NE. Amino acid metabolism in critically ill patients: Tracer methodology in the fed and postabsorptive state. *JPEN J Parenter Enteral Nutr*. 2011;35(1). A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011.

**Awardee: Renee Stapleton, MD**

Grant Year: 2006

Grant Title: Anti-inflammatory effects of enteral n-3 fatty acids in patients with acute lung injury

Publications:

1. Manzanares W, Dhaliwal R, Jurewitsch B, Stapleton RD, Jeejeebhoy KN, Heyland DK. Parenteral fish oil lipid emulsions in the critically ill: A systematic review and meta-analysis. *JPEN J Parenter Enteral Nutr*, 2014 Jan;38(1):20-8.
2. Manzanares W, Dhaliwal R, Jurewitsch B, Stapleton RD, Jeejeebhoy KN, Heyland DK. Alternative lipid emulsions in the critically ill: A systematic review of the evidence. *Intensive Care Med*. 2013 Oct;39(10):1683-94.
3. Kross EK, Sena M, Schmidt K, Stapleton RD. A comparison of predictive equations of energy expenditure and measured energy expenditure in critically ill patients. *J Crit Care* 2012;27:321.e5-12.
4. Rahman A, Stapleton RD, Heyland DK. Not all critically ill obese patients are the same: the influence of prior co-morbidities. *ISRN Obesity*. 2012 Nov 4;2012:743978.
5. Stapleton RD, Martin TR, Weiss NS, Crowley JJ, Gundel SJ, Nathens AB, Akhtar SR, Ruzinski JT, Caldwell E, Curtis JR, Heyland DK, Watkins TR, Parsons PE, Martin JM, Wurfel MM, Hallstrand TS, Sims KA, Neff MJ. A phase II randomized placebo-controlled trial of omega-3 fatty acids for the treatment of acute lung injury. *Crit Care Med*. 2011 Jul;39(7):1655-62.
6. Martino JL, Stapleton RD, Wang M, Day AG, Cahill NE, Dixon AE, Suratt BT, Heyland DK. Extreme obesity and outcomes in critically ill patients. *Chest* 2011;140:1198-206.
7. Stapleton RD, Dixon AE, Parsons PE, Ware LB, Suratt BT. The Association between body mass index and plasma cytokine levels in patients with acute lung injury. *Chest* 2010;138:568-77.

Abstracts:

1. Suratt BT, Stapleton RD, Bement J, Ubags N, Burg E, Littenberg B, Dixon AE. Hyperleptinemia Correlates With Increased Risk Of Respiratory Infection. *Am J Respir Crit Care Med* 2013;A3783.
2. Suratt BT, Stapleton RD, Kordonowy LL, Allard J, Ware LB, Parsons PE, Dixon AE. Serum leptin does not correlate with severity of illness or outcomes in acute lung injury. *Am J Respir Crit Care Med* 2011.
3. Stapleton RD, Cahill NE, Heyland DK. Who is not receiving nutrition in our ICUs? *JPEN J Parenter Enteral Nutr*. 2010 Mar;34(2). A.S.P.E.N. Clinical Nutrition Week, Las Vegas, NV, 2010.
4. Martino JL, Stapleton RD, Cahill N, Suratt BT, Heyland DK. Extreme obesity and outcomes in critically ill patients. *Am J Respir Crit Care Med* 2010;181:A1646.
5. Stapleton RD, Martin TR, Gundel SJ, Crowley JJ, Nathens AB, Watkins TR, Akhtar SR, Martin JM, Ruzinski JT, Caldwell E, Neff MJ. A phase II, randomized, double-blind, placebo-controlled, safety and efficacy study of fish oil (Eicosapentaenoic acid and docosahexanoic acid) on lung and systemic inflammation in patients with acute lung injury. *Am J Respir Crit Care Med* 2009;179:A2169.

6. Rice TW, Stapleton RD, Wheeler AP, Bernard GR, Hite RD. Early enteral intake is associated with improved outcomes in acute lung injury. *Am J Respir Crit Care Med* 2009;179:A5097.
7. Rice TW, Wheeler AP, Hite RD, Stapleton RD. Enteral intake and patient characteristics in ventilated acute lung injury (ALI) patients. *Critical Care Medicine* 2009;36(S12):A107.
8. Jones NE, Stapleton RD, McClave S, Dhaliwal R, Day A, Heyland DK. Does Increased Early Enteral Nutrition Adequacy Impact Clinical Outcomes in Critically Ill Patients? Results of an International Multicenter Observational Study. *JPEN: Journal Parenteral and Enteral Nutrition* 2009;33(2):198.
9. Stapleton RD, Dixon AE, Ware LB, Parsons PE, Suratt BT. Plasma IL-6 levels are lower in obese ARDS patients. *Am J Respir Crit Care Med* 2008;177:A275.

Presentations:

1. Speaker and co-chair, *Obesity in Critical Illness: Management, Outcomes, and Novel Pathophysiologic Concepts*, "Nutrition For The Obese Critically Ill Patient." American Thoracic Society 2013 International Conference, Philadelphia, PA, May 2013.
2. Speaker, *Pharmakonutrition in the Critically Ill: What the Most Current Evidence Shows*, "Zinc Supplementation in the Critically Ill: What Do We Know?" American Society for Parenteral and Enteral Nutrition, Clinical Nutrition Week 2013, Phoenix, AZ, February 2013.
3. Visiting Professor, University of Pennsylvania Perelman School of Medicine, Division of Pulmonary, Allergy, and Critical Care Medicine, "Omega-3 Fatty Acids for the Treatment of Acute Lung Injury." February 2011.
4. Speaker, *Pharmakonutrition in the ICU: Results of Recent Randomized Trials*, "Fish oils in acute lung injury: Results of a phase II RCT." and *Optimizing Enteral Nutrition in the ICU Setting*, "Optimal dose of macronutrients: Should we be satisfied with 50% nutrition adequacy?" American Society for Parenteral and Enteral Nutrition, Clinical Nutrition Week 2010, Las Vegas, NV, February 2010.
5. Moderator and Speaker, *Lifesaving Lipids: Therapy Your Patient Can't Live Without*, "Enteral Lipids in the ICU." Society of Critical Care Medicine Congress, Nashville, TN, February 2009.
6. Speaker, *Five RCTs and Editorial Comment and Therapeutic Frontiers in Acute Lung Injury*, American Thoracic Society 2009 International Conference, San Diego, CA. May 2009
7. Speaker, "Nutrition in the ICU", Northern New England Critical Care Conference, Stowe, VT, October 2009.
8. Speaker, "Nutrition Therapy in the ICU – Saving Lives Safely", Society of Critical Care Medicine, Chicago, IL, August 2008.

Further Funding

1. NIH

2. University of Vermont/Fletcher Allen Health Care
3. American Heart Association
4. Canadian Institutes of Health
5. Center of Biomedical Research Excellence

**Awardee: Julian Spallholz, PhD**

Grant Year: 2005

Grant Title: Selenium dietary supplements in the mitigation of arsenicosis and associated skin cancers

Abstracts:

1. La Porte P, Zuberi M, Alauddin M, Ahmed S, Chowdhury W, Dhar D, Ullah A, Marshall C, Robertson D, Boylan M, Westfall P, Umbaugh S, Feldmann J, Tchounwou P, Varghsse P, Spallholz J. The Bangladesh Arsenic-Selenium Consortium. Arsenic and selenium in hair from ten geographic regions of Bangladesh. International Se Meeting, Madison, WI, 2006.

**Awardee: David Foster, PharmD**

Grant Year: 2004

Grant Title: The effects of green tea polyphenols on intestinal hyperpermeability

Publications:

1. Foster DR, Sowinski KM, Chow HHS, Overholser BR. Limited sampling strategies to estimate exposure to the green tea polyphenol, epigallocatechin gallate, in fasting and fed conditions. *Therapeutic Drug Monitoring*. 2007;29:835-842.

Further Funding

American College of Clinical Pharmacy

**Awardee: Roland Dickerson, PharmD**

Grant Year: 2002

Grant Title: Drug compatibility and stability in enteral nutrition

Publications:

1. Dickerson RN, Mason DL, Minard G, Croce MA, Brown RO. Evaluation of an artificial neural network to predict urea nitrogen appearance for critically ill multiple trauma patients. *JPEN J Parenter Enteral Nutr*. 2005 Nov-Dec;29(6): 429-435.
2. Dickerson RN, Tidwell AC, Minard G, Croce MA, Brown RO. Predicting total urinary nitrogen excretion from urinary urea nitrogen excretion in multiple trauma patients receiving specialized nutrition support. *Nutrition*. 2005 Mar;21(3):332-338.

**Awardee: Alexander Dzakovic, MD**

Grant Year: 2001

Grant Title: Protective effect of increased hepatic glutathione during TPN

Publications:

1. Dzakovic A, Kaviani A, Eshach-Adiv O, Perez-Atayde A, Ling PR, Yu M, Bistran B, Jaksic T. Trophic enteral nutrition increases hepatic glutathione and protects against peroxidative damage after exposure to endotoxin. *J Pediatr Surg*. 2003 Jun;38(6):844-7.

Abstracts:

1. Dzakovic A, Kaviani A, Eshach-Adiv O, Ling PR, Yu MY, Perez-Atayde A, Bistran B, Jaksic T "Trophic enteral nutrition increases hepatic glutathione and protects against peroxidative damage after endotoxin exposure" American Academy of Pediatrics, October 13-23, 2002, Boston, MA
2. Dzakovic A, Eshach-Adiv O, Ling PR, Yu MY, Perez-Atayde A, Bistran B, Jaksic T: "The effect of trophic enteral nutrition on hepatic glutathione concentration and the hepatic response to endotoxin exposure" A.S.P.E.N. Clinical Nutrition Week, February 23-27, 2002, San Diego, CA
3. Dzakovic A, Eshach-Adiv O, Ling PR, Yu MY, Perez-Atayde A, Bistran B, Jaksic T: "The effect of trophic enteral nutrition on hepatic glutathione concentration and the hepatic response to endotoxin exposure" Society of University Surgeons, 63<sup>rd</sup> Annual Meeting, February 13-16, 2002 Honolulu, HI

## **Foundation Small Grants**

### **C. Richard Fleming Grant**

**Awardee: Lisa Martin, RD, MSc**

Grant Year: 2017

Grant Title: Diagnostic criteria for malnutrition in overweight and obese cancer patients

Publications:

1. VB Baracos, **L Martin**, M Korc, DC Guttridge, KCH Fearon. (2018). Cancer-associated cachexia. *Nature Reviews Disease Primer*, Volume 4, Article Number: 17105, doi:10.1038/nrdp.2017.105.
2. L Martin, C Gillis, M Atkins, M Gillam, C Sheppard, S Buhler, C Basualdo-Hammond, G Nelson, L Gramlich. (2018). Implementation of an Enhanced Recovery After Surgery program can change nutrition care practice: A multi-center experience in elective colorectal surgery Submitted March 9, 2018 to JPEN, status: under review.
3. L Martin, J Hopkins, G Malietzis, JT Jenkins, MB Sawyer, R Brisebois, A MacLean, G Nelson, L Gramlich, VE Baracos. (2018). Assessment of CT-defined muscle and adipose tissue features in relation to short term outcomes after elective surgery for colorectal cancer: a multicenter approach. Submitted February 21, 2018 to Br J Surg, status: under review.

Abstracts:



1. Martin L, Kubrak C, Laird B, Gagnon B, Chasen M, Baracos V. Contribution of reduced food intake to cancer associated weight loss: data from the International Cancer Cachexia Data Repository. 10<sup>th</sup> International Society on Sarcopenia, Cachexia, and Wasting Disorders Conference. Rome, Italy. December 2017

Presentations:

1. Lisa Martin, Cathy Kubrak, Barry Laird, Bruno Gagnon, Martin Chasen, Vickie Baracos. Contribution of reduced food intake to cancer-associated weight loss: data from the International Cancer Cachexia Data Repository. 10<sup>th</sup> 10<sup>TH</sup> INTERNATIONAL SCWD CONFERENCE ON CACHEXIA, SARCOOPENIA AND MUSCLE WASTING in Rome, Italy, December 8-10, 2017.

**Awardee: Beth Lyman (Ashley Hayden)**

Grant Year: 2015

Grant Title: Enteral Feeding Set Handling Techniques: A comparison of bacterial growth, time, labor, and material costs

Publications:

1. Lyman, B. Enteral Feeding Set Handling Techniques: A Comparison of Bacterial Growth, Nursing Time, Labor, and Material Costs. Published in NCP September 2016

Abstracts:

1. Enteral Feeding Set Handling Techniques: A Comparison of Bacterial Growth, Nursing Time, Labor and Material Costs. Published JPEN ONLINE Supplement January 2016.

Presentations:

1. Enteral Feeding Set Handling Techniques: A Comparison of Bacterial Growth, Nursing Time, Labor and Material Costs CNW16 abstract presented:

**Awardee: Michele Nicolo, MS, RD, CDE, CNSC**

Grant Year: 2014

Grant Title: Clinical outcomes in critically ill patients associated with protein delivery

Publications:

1. Nicolo M, Heyland D, Chittams J, Sammarco T, Compher C. Clinical Outcomes Related to Protein Delivery in a Critically Ill Population A Multicenter, Multinational Observation Study. *JPEN Journal Parent Enteral Nutr.* 2015 Apr 21. doi:10.1177/0148607115583675

Abstracts:

1. Nicolo M. Clinical outcomes in critically ill patients associated with protein delivery. A.S.P.E.N. Clinical Nutrition Week, Long Beach, CA, 2015. Vars Award Candidate.

**Allison Blackmer, PharmD, BCPS**

Grant Year: 2012

Grant Title: Neurodevelopmental outcomes of pediatric patients treated with modified intravenous lipid emulsion for the treatment and/or prevention of parenteral nutrition

associated liver disease

Publications:

1. Blackmer AB, Warschausky S, Siddiqui S, Welch K, Horn K, Wester A, Warschausky M, Teitelbaum DH. Preliminary findings of long-term neurodevelopmental outcomes of infants treated with intravenous fat emulsion reduction for the management of parenteral nutrition-associated cholestasis. *JPEN J Parenter Enteral Nutr.* 2014 Oct 7. DOI. 10.1177/0148607114551965.

Abstracts:

1. Blackmer AB, Warschausky S, Siddiqui S, Welch K, Horn K, Wester A, Warschausky M, Teitelbaum, D. Long-term neurodevelopmental outcomes of infants treated with intravenous fat emulsion reduction for the management of parenteral nutrition-associated cholestasis. *JPEN J Parenter Enteral Nutr.* 2014 Jan;38(1). A.S.P.E.N. Clinical Nutrition Week, Savannah, GA, 2014. CNW 2014 Vars Award Candidate.

**Awardee: Yongjia Feng, PhD**

Grant Year: 2011

Grant Title: Modulation of glucagon like peptide-2 and epidermal growth factor signaling in intestinal epithelial cell proliferation and apoptosis in a TPN mouse model

Publications:

1. Feng Y, Browner P, Teitelbaum DH. Effects on varying intravenous lipid emulsions on the small bowel epithelium in a mouse model of parenteral nutrition. *JPEN J Parenter Enteral Nutr.* 2013 Nov;37(6):775-86.
2. Feng Y, Ralls MW, Xiao W, Miyasaka E, Herman RS, Teitelbaum DH. Loss of enteral nutrition in a mouse model results in intestinal epithelial barrier dysfunction. *Ann NY Acad Sci.* 2012 Jul;1258:71-7.
3. Feng Y, Teitelbaum DH. Epidermal growth factor/TNF- $\alpha$  transactivation modulates epithelial cell proliferation and apoptosis in a mouse model of parenteral nutrition. *Am J Physiol Gastrointest Liver Physiol.* 2012 Jan 15;302(2):G236-49.

Abstracts:

1. Feng Y, Teitelbaum DH. Refeeding after TPN leads to a pro-inflammatory state within the intestinal mucosa. *JPEN J Parenter Enteral Nutr.* 2012;36(1). A.S.P.E.N. Clinical Nutrition Week, Orlando, FL, 2012 and Digestive Disease Week, San Diego, CA, 2012.
2. Feng Y, Teitelbaum DH. GLP-2 and EGF actions on epithelial cell growth: Demonstration of PI3K/p-Akt dependent and independent signaling pathways. Digestive Disease Week, San Diego, CA, 2012.
3. Feng Y, Teitelbaum DH. Epidermal growth factor and glucagon-like peptide-2 actions on the loss of intestinal epithelial cell proliferation in a total parenteral nutrition mouse model. *JPEN J Parenter Enteral Nutr.* 2011;35(1). A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011 and Digestive Disease

Week, Chicago, IL, 2011.

**Awardee: Matthew C. Koopman, MD**

Grant Year: 2009

Grant Title: What is the optimal time to administer GLP-2 in SBS?

Publications:

1. Koopmann MC, Chen X, Holst JJ, Ney DM. Sustained glucagon-like peptide-2 infusion is required for intestinal adaptation, and cessation reverses increased cellularity in rats with intestinal failure. *Am J Physiol Gastrointest Liver Physiol.* 2010 Dec;299(6):G1222-30.

Abstracts:

1. M.C. Koopmann, D.M. Ney, X. Chen, J.J. Holst Sustained Glucagon-like Peptide-2 Infusion is Required for Intestinal Adaptation and Cessation Reverses Increased Cellularity in Rats with Intestinal Failure. *JPEN J Parenter Enteral Nutr.* 2011;35(1). A.S.P.E.N. Clinical Nutrition Week, Vancouver, BC, Canada, 2011

**Awardee: Alisha Rovner, PhD**

Grant Year: 2004

Grant Title: Bone health in children with sickle cell disease.

Publications:

1. Fung EB, Kawchak DA, Zemel BS, Rovner AJ, Ohene-Frempong K, Stallings VA. Markers of bone turnover are associated with growth and development in young subjects with sickle cell anemia. *Pediatr Blood Cancer.* 2008 Mar;50(3):620-3.

**Awardee: Robert Chang, MD**

Grant Year: 2003

Grant Title: Evaluation of serial enteroplasty: A novel bowel lengthening procedure

Publications:

1. Chang RW, Javid PJ, Oh JT, Andreoli S, Kim HB, Fauza D, Jaksic T. Serial transverse enteroplasty enhances intestinal function in a model of short bowel syndrome. *Ann Surg.* 2006 Feb;243(2):223-8.

**Awardee: Jennifer Muir Bowers, PhD, RD**

Grant Year: 2002

Grant Title: Cytokine response in malnutrition and severe fatigue related to coccidioidomycosis

PhD Dissertation

Cytokine Response in Malnutrition and Severe Fatigue Related to Coccidioidomycosis. University of Arizona, Wanda Howell, PhD 2002.

**Awardee: Rose Ann DiMaria-Ghalili, PhD, RN, CNSC, FASPEN**

Grant Year: 2000

Grant Title: Comparison of weight changes in older and younger persons undergoing CABG surgery

Publications:

1. Heersink J, Brown C, DiMaria-Ghalili R, Locher JL. Undernutrition in hospitalized older adults: patterns and predictors, outcomes, and opportunities for intervention. *J Nutr for the Elderly*. 2010;29(1):4-41.
2. DiMaria-Ghalili RA. Nutrition risk factors in older coronary artery bypass graft patients. *Nutr Clin Prac*. 2008;23:494-500.
3. Dimaria-Ghalili RA. Nutrition risk factors in older coronary artery bypass graft patients. *Nutr Clin Pract*. 2008 Oct-Nov;23(5):494-500.
4. DiMaria-Ghalili RA. Changes in nutritional status and postoperative outcomes in elderly CABG patients. *Biol Res Nurs*. 2002 Oct;4(2):73-84. Erratum in: *Biol Res Nurs*. 2004 Oct;6(2):158.
5. DiMaria-Ghalili RA. Changes in body mass index and late postoperative outcomes in elderly coronary bypass grafting patients: a follow-up study. *Biol Res Nurs*. 2004 Jul;6(1):24-36.
6. DiMaria-Ghalili RA. Changes in body mass index and late post-operative outcomes in elderly patients: A follow-up study. *Biological Research for Nursing*. 2004;6:24-36.
7. DiMaria-Ghalili RA. Changes in nutritional status and post-operative outcomes in elderly CABG patients. *Biological Research for Nursing*. 2002. 4, 73-84. Erratum: *Biological Research for Nursing*. 2002;6:158.

Abstracts:

1. DiMaria-Ghalili RA, Sullivan-Marx E, Compher C. A pilot study of factors related to postoperative weight changes and health outcomes among older coronary artery bypass graft surgery patients. *JPEN J Parenter Enteral Nutr* 2010. 34(2), 210-211
2. DiMarie-Ghalili RA. A comparison of changes in body mass index over time in on-pump and off-pump CABG patients. *J Nutr Health & Aging*. 2008 12, 423.
3. DiMaria-Ghalili, R, et al. A comparison of changes in weight and patterns of recovery in older vs. younger persons undergoing CABG: A follow-up study. In 17th Annual Meeting of the Southern Nursing Research Society Meeting, Program Manual. 2003.
4. DiMaria-Ghalili, R., et al. Comparison of weight changes and patterns of recovery in older and younger persons undergoing CABG surgery: A follow-up study. In 7th National Nursing Research Conference Proceedings. 2002.
5. DiMaria-Ghalili R, Norman R. Comparison of weight changes in older and younger persons undergoing CABG surgery. In 15th Annual Meeting of the Southern Nursing

Research Society Meeting, Conference Proceedings. 2001.

6. DiMaria-Ghalili R, Norman R. Comparison of weight changes in older and younger persons undergoing CABG surgery. *JPEN J Parenter Enteral Nutr.* 2001;25, 1, p. S12.

#### Presentations

1. DiMaria-Ghalili RA, Sullivan D, Ritchie C. *Nutrition and the older adult: current limitations and future directions.* A.S.P.E.N. Clinical Nutrition Week, Las Vegas, NV, 2010.
2. DiMaria-Ghalili RA, Heymsfield S, Keyhias J, Thorner M. *Update on body composition research.* American Society for Parenteral and Enteral Nutrition's Clinical Nutrition Week, Las Vegas, NV, 2010.
3. DiMaria-Ghalili, RA. *Malnutrition and weight loss in older surgical patients: risk factors and interventions.* American Geriatrics Society Annual Meeting, Chicago, IL, 2009.
4. DiMaria-Ghalili RA. *Nutrition in Older Adults.* Dartmouth-Hitchcock Medical Center in Lebanon, NH, 2009.
5. DiMaria-Ghalili RA. *A model to examine factors associated with postoperative weight changes and health outcomes in older CABG patients.* 61st Annual Scientific Meeting of the Gerontological Society of America, Washington DC, 2008.
6. DiMaria-Ghalili RA. *A comparison of changes in body mass index over time in on-pump and off-pump CABG patients.* 20th Annual Scientific Session of the Eastern Nursing Research Society, Philadelphia PA, 2008.
7. DiMaria-Ghalili RA. *Nutrition in the Hospitalized Elder.* Christinacare Hospital's 21st Century Visions of Nursing: Excellence through Knowledge Conference. Newark DE, 2008.
8. DiMaria-Ghalili RA, Dwyer J, Harris T. *Update on geriatric nutritional assessment: what's old, what's new and what's next.* A.S.P.E.N. Clinical Nutrition Week, Dallas TX, 2006.
9. DiMaria-Ghalili, RA. *Nutritional Challenges in Older Adults.* Infusion Nurses Society Annual Meeting. Reno Nevada, 2006.
10. DiMaria-Ghalili R, et al. *A comparison of health outcomes in younger and older on-pump and off-pump CABG patients: preliminary findings.* 25th Annual Research Conference of the Southern Nursing Research Society Meeting, Tennessee, 2006.
11. DiMaria-Ghalili RA, Morley J, Amella EJ. *Frailty and the older adult: features, vulnerabilities and feeding.* A.S.P.E.N. Clinical Nutrition Week, Orlando, Florida, 2005.
12. DiMaria-Ghalili R, et al. *A comparison of health outcomes in younger and older on-pump and off-pump CABG patients: preliminary findings.* 57th Annual

Scientific Meeting of the Gerontological Society of America, Washington DC, 2004.

13. DiMaria-Ghalili R, et al. *A comparison of health outcomes in younger and older on-pump and off-pump CABG patients: preliminary findings*. 8th National Nursing Research Conference, White Sulphur Springs, WV, 2004.
14. DiMaria-Ghalili R, et al. *A comparison of changes in weight and patterns of recovery in older vs. younger persons undergoing CABG: A follow-up study*. 17th Annual Meeting of the Southern Nursing Research Society Meeting, Orlando, FL, 2003.
15. DiMaria-Ghalili R, et al. *Comparison of weight changes and patterns of recovery in older and younger persons undergoing CABG surgery: A follow-up study*. In 7th National Nursing Research Conference, White Sulphur Springs, WV, 2002.

Media Mention:

Nagourney, E. Tea and Toast and a Danger That Can Be Hard to Spot. New York Times. April 2005.

Further Funding

American Nurses Foundation

**Awardee: Philip Pearson, MD**

Grant Year: 2000

Grant Title: The role of leptin in intestinal adaptation after massive small bowel resection

Publications:

1. Kuenzler KA, Pearson PY, Schwartz MZ. Hepatocyte growth factor pretreatment reduces apoptosis and mucosal damage after intestinal ischemia-reperfusion. *J Pediatr Surg*. 2002 Jul;37(7):1093-7; discussion 1093-7.
2. Pearson PY, Yu D, Schwartz MZ. Transfection of the sodium/glucose cotransporter into colon mucosa: a novel treatment for short bowel syndrome. *J Pediatr Surg*. 2002 Jul;37(7):1076-80; discussion 1076-80.
3. Pearson PY, O'Connor DM, Schwartz MZ. Novel effect of leptin on small intestine adaptation. *J Surg Res*. 2001 May 15;97(2):192-5.

**Daniel H. Teitelbaum Grant**

**Awardee: Liam McKeever, MS, PhD(c), RDN**

Grant Year: 2017

Grant Title: Feeding the Critically Ill During Phases of Altered Redox Status (FEDOX): a Prospective Randomized Trial

Publications:

1. McKeever,Liam, Bonini,Marcelo, Braunschweig,Carol. Feeding during phases of altered mitochondrial activity: A theory. *Journal of Parenteral and Enteral Nutrition*. 2017. doi:10.1002/jpen.1010. Pending Acceptance.

## **Small Research Project Grant**

### **Awardee: Nicole Gavin, PhD**

Grant Year 2015

Grant Title: The safety of parenteral nutrition regarding microbial growth and vascular catheter-related infection (The FACT Study)

#### Abstracts:

*CNW2017, 3 submissions:*

CONTROL ID: 2600946

TITLE: *Does a dedicated lumen for parenteral nutrition administration reduce the risk of catheter-related blood stream infections? A systematic literature review.*

CONTROL ID: 2595964

TITLE: *A dynamic model for the investigation of touch contamination in intravascular device-related infections*

CONTROL ID: 2600934

TITLE: *Does parenteral nutrition increase the risk of vascular catheter-related blood stream infection? A systematic literature review.*

### **Awardee: Allison Buti – Shapiro, PhD, MPH**

Grant Year: 2014

Grant Title: Investigating the Mediating Roles of Sirtuin 1 and PPAR- $\gamma$  in the Relationship between Maternal Dietary Niacin Intake and Infant Adiposity

#### Publications:

1. Shapiro ALB, Kaar JL, Crume TL, Starling AP, Siega-Riz AM, Ringham B, Glueck D, Norris J, Barbour L, Friedman JE, Dabelea D. Maternal Diet Quality in Pregnancy and Neonatal Adiposity: The Healthy Start Study. *International Journal of Obesity*.
2. Shapiro ALB, Ringham BM, Glueck DH, Norris JM, Barbour LA, Friedman JE, Dabelea D. Maternal dietary niacin intake during pregnancy is not associated with infant adiposity at birth: The Healthy Start Study. Submitted to the *Journal of Maternal and Child Health*.
3. Shapiro ALB, Boyle KE, Dabelea D, Patinkin Z, Glueck D, Barbour LA, Norris J, Friedman JE. Nicotinamide promotes adipogenesis in umbilical cord-derived mesenchymal stem cells and corresponds to neonatal adiposity: The Healthy Start BabyBUMP Project. Submitted to the *Journal of Nutrition*.

#### Presentations:

1. European Diabetes Epidemiology Group (April 2015). Maternal Diet Quality in Pregnancy Influences Neonatal Adiposity: The Healthy Start Study. Shapiro ALB, Kaar J, Crume T, Starling A, Ringham B, Glueck D, Siega-Riz AM, Dabelea D
2. Experimental Biology (March 2015). Maternal Diet Quality and Obesity in Pregnancy Jointly Influence Neonatal Adiposity: The Healthy Start Study. Shapiro ALB, Kaar J, Crume T, Starling A, Ringham B, Glueck D, Siega-Riz AM, Dabelea D
3. American Diabetes Association 75th Scientific Sessions (June 2015). Nicotinamide promotes adipogenesis in umbilical cord-derived mesenchymal stem cells and corresponds to neonatal adiposity: The Healthy Start study Shapiro ALB, Boyle KE, Dabelea D, Patinkin Z, Glueck D, Barbour LA, Norris J, Friedman JE

**Awardee: Rebecca Persinger-Soultanakis, MS, RD**

Grant Year: 2001

Grant Title: Evaluation of catabolic and anabolic cytokines in skeletal muscle tissue from cachectic individuals with chronic heart failure (CHF)

Publications:

1. Persinger R, Janssen-Heininger Y, Wing SS, Matthews DE, LeWinter MM, Toth MJ. Effect of heart failure on the regulation of skeletal muscle protein synthesis, breakdown, and apoptosis. *Am J Physiol Endocrinol Metab.* 2003 May;284(5):E1001-8.

**Awardee: Bobbi Langkamp-Henken, PhD**

Grant Year: 1998

Grant Title: Effect of dietary supplementation of arginine on immune function in nursing home residents with pressure ulcers

Publications:

1. Suarez BM, Langkamp-Henken B, Herrlinger-Garcia KA, Klash AE, Szczpanik ME, Nieves Jr. C, Cottey RJ, Bender BS. Arginine supplementation enhances mitogen-induced lymphocyte proliferation but does not affect in vivo indicators of antigen-specific immunity in mice. *J Nutr.* 2005; 135:1146-1150.
2. Stechmiller JK, Langkamp-Henken B, Childress B, Herrlinger-Garcia KA, Hudgens J, Tian L, Percival SS, Steele R. Arginine supplementation does not enhance serum nitric oxide levels in elderly nursing home residents with pressure ulcers. *Biol Res Nurs.* 2005;6:289-299.
3. Hudgens J, Langkamp-Henken B, Stechmiller JK, Herrlinger-Garcia KA, Nieves, Jr. C. Immune function is impaired with a Mini-Nutritional Assessment score indicative of malnutrition in nursing home elders with pressure ulcers. *JPEN J Parenter Enteral Nutr.* 2004;28:416-422
4. Nieves C Jr, Langkamp-Henken B. Arginine and immunity: a unique perspective. *Biomed Pharmacother.* 2002 Dec;56(10):471-82.
5. Scholl D, Langkamp-Henken B. Nutrient recommendations for wound healing. *J*



*Intraven Nurs.* 2001 Mar-Apr;24(2):124-32. Review.

6. Langkamp-Henken B, Herrlinger-Garcia KA, Stechmiller JK, Nickerson-Troy JA, Lewis B, Moffatt L. Arginine supplementation is well tolerated but does not enhance mitogen-induced lymphocyte proliferation in elderly nursing home residents with pressure ulcers. *JPEN J Parenter Enteral Nutr.* 2000 Sep-Oct;24(5):280-7.

Abstracts:

1. Suarez MF, Herrlinger-Garcia KA, Bender BS, Nieves, Jr. C, Langkamp-Henken B. Arginine supplementation enhances in vitro but not in vivo immune responses in mice. *The FASEB Journal* 2002; 16:A984.

Further Funding

NIH

**Awardee: Charlene Compher, PhD, RD**

Grant Year: 1997

Grant Title: Effects of intracolonic butyrate infusion on aberrant crypt foci in male fischer 344 rat exposed to azoxymethane.

Publications:

1. Compher CW, Frankel WL, Tazelaar J, Lawson JA, McKinney S, Segall S, Kinosian BP, Williams NN, Rombeau JL. Wheat bran decreases aberrant crypt foci, preserves normal proliferation, and increases intraluminal butyrate levels in experimental colon cancer. *JPEN J Parenter Enteral Nutr.* 1999 Sep-Oct;23(5):269-77; discussion 277-8.

PhD Dissertation:

Compher C. Dietary Wheat Bran Protects Against Induced Colon Carcinogenesis – An Examination of Potential Mechanisms. Thesis – Drexel University, June, 1999.  
Thesis advisors: S.McKinney, Ph.D., S.Segall, Ph.D.

**Awardee: Catherine Klein, PhD, RD**

Grant Year: 1997

Grant Title: Magnesium and zinc balance in critically ill patients treated with continuous renal replacement therapy.

Publications:

1. Klein CJ, Moser-Veillon PB, Schweitzer A, Douglass LW, Reynolds HN, Patterson KY, Veillon C. Magnesium, calcium, zinc, and nitrogen loss in trauma patients during

- continuous renal replacement therapy. *JPEN J Parenter Enteral Nutr.* 2002 Mar-Apr;26(2):77-92; discussion 92-3.
2. Klein CJ, Stanek G, Wiles CE, III. Nutrition support care map targets monitoring and reassessment to improve outcomes in trauma patients. *Nutrition in Clinical Practice* 2001; 16:85-97.
  3. Klein CJ. Zinc supplementation. [letter] *J Am Diet Assoc.* 2000;100:1137-1138.
  4. Klein CJ, Henry SM. Documentation of acute nutrition interventions may identify clinical indicators of care. *Nutrition in Clinical Practice.* 1999;14:85-92.
  5. Klein CJ. Lipid hang times: are you complying with CDC recommendations? [news] *Chesapeake Lines.* 1999;53:6.
  6. Klein CJ. Effect of energy loads on nitrogen balance. [letter] *JPEN J Parenter Enteral Nutr* 1998;22:249.
  7. Klein CJ. Some thoughts on standardized guidelines for protein administration in continuous renal replacement therapy. [letter] *Renal Failure* 1998;20:545-547.
  8. Klein CJ. The Harris-Benedict energy studies: additional considerations. [letter] *J Am Diet Assoc* 1998;98:970-971.
  9. Klein CJ, Reynolds HN, Moser-Veillon PB. Continuous hemodialysis as a treatment option for acute renal failure induced by contrast material. [letter] *Radiology* 1998;207:270.
  10. Klein CJ, Stanek G, Wiles III, CE. Overfeeding macronutrients to the critically ill adult: metabolic complications. *J Am Diet Assoc.* 1998; 98:795-806.
  11. Klein CJ, Wiles, CE, III. Evaluation of nutritional care provided to trauma patients at risk for multiple organ dysfunction syndrome *J Am Diet Assoc.* 1997;97:1422-1424.

Abstracts:

1. Klein CJ, Leklem J, Moser-Veillon PB. Elevated plasma and effluent vitamin B6 during total parenteral nutrition and continuous renal replacement therapy after trauma. A.S.P.E.N. Clinical Nutrition Week, Dallas, TX, Feb 12-15, 2006. *Nutrition in Clinical Practice* 2006;21(2)April:208.
2. Klein CJ, Gettings LG, Reynolds HN. Nitrogen Balance is not a Requirement for Survival in Adults Receiving Continuous Renal Replacement Therapy after Traumatic Injury. Fourth International Conference on Continuous Renal Replacement Therapies. San Diego, California, March 11-13, 1999. *Blood Purif.* 1999;17:21.
3. Klein CJ, Wiles CE, III, Stanek G, Henry SM. Goldratt's Theory of Constraints: a method of systems analysis to improve outcomes of nutrition care. A.S.P.E.N. 23<sup>rd</sup> Clinical Congress. San Diego, California, February 2, 1999.
4. Klein CJ, Stanek G, Wiles CE, III. Overfeeding the critically ill adult: metabolic

complications. Maryland Dietetic Association, Annual meeting. Towson, Maryland. May 15, 1998.

5. Klein CJ, Wiles CE, III. Evaluation of the critical functions and acute outcomes of nutritional care to trauma patients. 16<sup>th</sup> International Congress of Nutrition. Montreal, Canada. July 27-August 1, 1997.

Presentations:

1. Klein CJ, Nielsen FH, Moser-Veillon PB, Smith JC. "Trace element loss after trauma and during continuous renal replacement therapy." *Research Workshop Top Abstract Award*, A.S.P.E.N. Clinical Nutrition Week, February 13, 2006, Dallas, TX.
2. Catherine J. Klein, Gary Zaloga, Alp Ikizler. "Nutritional Assessment and Support of the Patient on Continuous Renal Replacement Therapy." Eighth International Conference on Continuous Renal Replacement Therapy. March 6 and 8, 2003, San Diego, CA.
3. Catherine J. Klein. "How Do I Provide Nutrition Support to the Patient on Continuous Renal Replacement Therapy?" Eighth International Conference on Continuous Renal Replacement Therapy. March 7, 2003, San Diego, CA.
4. Schweitzer A, Klein CJ, Reynolds HN, Veillon C, Patterson K, Hill D, Douglass LW, Moser-Veillon PB. "Qualification of zinc losses in trauma patients with acute renal failure." *Experimental Biology 2001*. Federation of American Societies for Experimental Biology. Orlando, Florida. March-April, 2001.
5. Klein CJ, Schweitzer A, Moser-Veillon PB, Reynolds HN. "Magnesium, calcium and zinc loss from trauma patients during continuous renal replacement therapy." Premier research session, The American Society for Parenteral and Enteral Nutrition. 25<sup>th</sup> Clinical Congress. January 22, 2001. Chicago, Illinois.
6. "Management of Nutrition Care after Traumatic Injury. Walter Reed Army Medical Center Dietetic Internship; R Adams Cowley Shock Trauma Center, Baltimore, MD; May 22, 2000.
7. "Overfeeding Macronutrients to Critically Ill Adults: Metabolic Complications" teleconference in the "Nutrition Updates" series for the University of Texas Health Science Center at San Antonio, San Antonio, Texas. Wednesday, June 16, 1999.
8. "Nitrogen Balance is not a Requirement for Survival in Adults Receiving Continuous Renal Replacement Therapy after Traumatic Injury." Fourth International Conference on Continuous Renal Replacement Therapies. San Diego, California. March 13, 1999.
9. "Aiming for evidence-based nutritional support in critical care." Planning Meeting to Address Nutrition Services and Quality of Care Issues. Food and Nutrition Board, Institute of Medicine. Washington, DC. March 5, 1997.

Media mention:

"Enteral and Parenteral Formulas: Overzealous care plans may cause harmful

complications". R Jackson (ed), Health Care Food & Nutrition Focus 1999;12:1-4.  
[Interview]

Further Funding

Dietitians in Nutrition Support-American Dietetic Association

**Awardee: Kelly Tappenden, PhD, RD**

Grant Year: 1996

Grant Title: The effect of SCFA supplemented TPN on multi-organ response to intestinal resection

Publications:

1. Tappenden KA, McBurney MI. Systemic short-chain fatty acids rapidly alter gastrointestinal structure, function, and expression of early response genes. *Dig Dis Sci.* 1998 Jul;43(7):1526-36.

**Awardee: Stephanie Brooks, MS, RD**

Grant Year: 1995

Grant Title: Comparison of muscle function testing in HIV infected subjects and non-infected controls as an index of nutritional status.

Publications:

1. Brooks SD, Gerstman BB, Sucher KP, Kearns PJ The reliability of muscle function analysis using different methods of stimulation. *JPEN J Parenter Enteral Nutr.* 1998 Sep-Oct;22(5):331-4.

**Awardee: Deborah Andris, RN, MS, ARNP**

Grant Year: 1994

Grant Title: The impact of antibiotic lock on microbial surface colonization of silicone catheters

Publications:

1. Andris DA, Krzywda EA, Edmiston CE, Krepel CJ, Gohr CM. Elimination of intraluminal colonization by antibiotic lock in silicone vascular catheters. *Nutrition.* 1998 May;14(5):427-32.
2. Krzywda EA, Andris DA, Edmiston CE Jr, Quebbeman EJ. Treatment of Hickman catheter sepsis using antibiotic lock technique. *Infect Control Hosp Epidemiol.* 1995 Oct;16(10):596-8.
3. Krzywda EA, Andris DA. Twenty-five years of advances in vascular access: bridging research to clinical practice. *Nutr Clin Pract.* 2005 Dec;20(6):597-606.

**Awardee: Carol Braunschweig, PhD, RD**

Grant Year: 1994

Grant Title: The metabolic role of zinc in acute phase response

Publications:

1. Braunschweig CL, Levy P, Sheean PM, Wang X. Enteral compared with parenteral nutrition: a meta-analysis. *Am J Clin Nutr* 2001;74:534-542.
2. Braunschweig C, Gomez S, Sheean P. Impact of declines in nutritional status on outcomes in long term adult Hospitalized patients. 2000;*J Am Diet Assoc* 100:1316-132.
3. Braunschweig CL, Sowers M, Kovacevich DS, Hill GM, August DA. Parenteral zinc supplementation in adult humans during the acute phase response increases the febrile response. *J Nutr.* 1997<sup>SEP</sup> Jan;127(1):70-4.

Further Funding

1. NIH
2. American Cancer Society
3. University of Illinois at Chicago

**Awardee: Lisa Freeman, PhD, DVM**

Grant Year: 1994

Grant Title: The role of cytokines in canine cardiac cachexia

Publications:

1. Freeman LM, Rush JE, Kehayias JJ, Ross JN Jr, Meydani SN, Brown DJ, Dolnikowski GG, Marmor BN, White ME, Dinarello CA, Roubenoff R Nutritional alterations and the effect of fish oil supplementation in dogs with heart failure. *J Vet Intern Med.* 1998 Nov-Dec;12(6):440-8.

Abstracts:

1. Freeman LM, Rush JE, Brown DJ, Roubenoff R. Elevated concentration of tumor necrosis factor in dogs with congestive heart failure. *J Vet Intern Med* 1994; 8: 146
2. Freeman LM, Rush JE, Brown DJ, Smith FWK, Roubenoff R, Ross JN. The use of fish oil in dogs with congestive heart failure. *J Vet Intern Med* 1995; 9: 203