BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
W. Allan Walker	Conrad Taff Professor of Nutrition and Pediatrics Chairman, Division of Nutrition, Harvard Medical School
eRA COMMONS USER NAME WAWALKER	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
DePauw University. Greencastle, Indiana	B.S. (magna cum Laude)	1959	Premedical Science English Literature
Washington University School of Medicine St. Louis, Missouri	M.D. (cum laude)	1963	Medicine

A. Positions and Honors

Positions and Employment

1963-64	Intern in Pediatrics, University of Minnesota Hospitals, Minneapolis, MN
1964-67	Resident and Chief Resident in Pediatrics, University of Minnesota Hospitals, Minneapolis, MN
1964-66	Wyeth Pediatric Fellowship
1967-69	Research Fellow in Immunologic Diseases (Drs. Robert Good/Richard Hong), Department of Pediatrics, University of Minnesota, Minneapolis, MN
1969-72	Research Fellow in Medicine, (Gastroenterology, Dr. Kurt Isselbacher), Massachusetts General Hospital, Harvard Medical School, Boston
1969-	Chief, Mucosal Immunology Laboratory, Massachusetts General Hospital *for* Children
1970-71	Instructor in Medicine, Harvard Medical School
1972-75	Assistant Professor of Pediatrics, Harvard Medical School
1972-82	Chief of Pediatric Gastrointestinal and Nutrition Unit, Massachusetts General
1975; 1980	Associate Pediatrician and Pediatrician, Massachusetts General Hospital, Boston, MA
1975-82	Associate Professor of Pediatrics, Harvard Medical School
1982-	Professor of Pediatrics, Harvard Medical School
1982-01	Chief, Combined Program in Pediatric Gastroenterology and Nutrition, Children's Hospital and Massachusetts General Hospital
1991-	Conrad Taff Professor of Nutrition, Harvard Medical School
1993-	Professor, Department of Nutrition, Harvard School of Public Health
1994-	Principal Investigator, Harvard Clinical Nutrition Research Center (P30 DK40561)
1995-	Chairman, Division of Nutrition, Harvard Medical School

Other Experience and Professional Memberships

1975-80	Academic Research Career Development Award, NIAMDD, NIH, Bethesda, MD
1980-87;1996-00	Member and Chairman, Gastrointestinal & Clinical Nutrition Study Section (GMA-2), NIH
1988-92	Member and Chairman for NIDDK Training Fellowship Committee
1989-2004	Editorial Boards: Gastroenterology, Nutrition Reviews, Pediatrics in Review, Nutritional Biochemistry, Pediatric Research; Editor- J of Pediatric Gastroenterology and Nutrition
1993-1996	Chairman Research Committee, American Gastroenterological Association
2001-2005	Member, Advisory Council, NIDDK, NIH

Honors

1984	Nutrition Award (Borden Award), American Academy of Pediatrics
1992	Fogarty International Fellowship (Sabbatical in Molecular Biology Department, Pasteur Institut with Professor Daniel E. Louvard)

1995 Shwachman Award for outstanding achievement in Pediatric Gastroenterology, North American Society for Pediatric Gastroenterology and Nutrition
1997 MERIT AWARD- NICHD - R37 HD12437
1997 Hugh R. Butt Award for outstanding clinical research in nutrition, AGA
1998 Murray Davidson Award for excellence in gastroenterology, Am. Academy of Pediatrics

B. Selected Peer-reviewed Publications or manuscripts in press 1993 to present (Selected from over 350 publications):

1. Chu SW, **Walker WA**. Bacterial toxin interaction with the developing intestine: A possible explanation for toxigenic diarrhea of infancy. Gastroenterology 1993; 104:916-925.
2. Israel EJ, Simister N, Freiberg E, Caplan A, **Walker WA**. Immunoglobulin G binding sites on the human fetal intestine. Immunology 1993; 79:77-81.
3. Tanaka M, Lee K, Martinez-Augustin O, He Y, Sanderson IR, **Walker WA**. Exogenous nucleotides alter the proliferation, differentiation and apoptosis of human small intestinal epithelium. J Nutr 1996; 126:424-433.
4. Sanderson IR, Xu Z, Chu SW, Xie QY, Levine L, **Walker WA**. Developmental differences in the stimulatory GTP binding protein a subunit (Gsa) for adenylate cyclase in the rat small intestine. GUT 1996; 38:853-858.
5. Sanderson IR, Ezzell RM, Kedinger M, Erlanger M, Xu Z, Pringault E, Leon-Robine S, Louvard D, **Walker WA**. Human fetal enterocytes *in vitro*: modulation of the phenotype by extracellular matrix. PNAS 1996; 93:7717-7722.
6. Nanthakumar N, Fusunyan R, Sanderson IR, **Walker WA**. Inflammation in the developing intestine: A possible pathophysiologic contribution to necrotizing enterocolitis. PNAS 2000; 97(11):6043-6048.
7. Fusunyan R, Nanthakumar N, Baldeon, ME, **Walker WA.** Evidence for an innate immune response in the immature intestine: Toll-like receptors on fetal enterocytes.Pediatric Research 2001; 49(4):589-593.
8. Savidge TC, Lowe DC, **Walker WA.** Developmental regulation of intestinal epithelial hydrolyase activity in human jejunal xenografts. Ped Res 2001; 50(2):196-202.
9. Claud E, **Walker WA**. Hypothesis: Inappropriate colonization of the premature intestine can cause neonatal necrotizing enterocolitis. FASEB J 2001; 15:1398-1403.
10. Dai D, Nanthakumar N, Savidge TC, Newburg DS, **Walker WA.** Region-specific ontogeny of α2.6 sialytransferase during normal and cortisone-induced maturation in the mouse intestine. Am J Physiology (Gastroenterology) 2002; 282:G480-490.
11. Nanthakumar NN, Dai D, Newburg DS, **Walker WA**. (November 15, 2002) The role of indigenous microflora in the development of murine intestinal fucosyl- and siayltransferases. FASEB J.(November 15, 2002) 10.1096/fj.02-003 1fje (summary: FASEB J 2003; 17:44-46.
12. Claud EC, Savidge T, **Walker WA**. Modulation of human intestinal epithelial cell interleukin-8 secretion by human milk factors. Ped Res 2003; 53(3):419-425.
13. Kohler H, McCormick BA, **Walker WA**. Bacterial-enterocyte crosstalk: Cellular mechanisms in health and disease. J Pediatr Gastr Nutr 2003; 36(2):175- 185.
14. Nanthakumar NN, Klopcic C, Fernandez I, **Walker WA**. Normal and glucocorticoid induced development of the human small intestinal xenograft. Am J Physiol Regul Integr Comp Physiol 2003; 285:R162-R170.
15. Lu L, Baldeon ME, Savidge T, Pothoulakis C, **Walker WA**. Development of microbial-human enterocyte interaction: Cholera toxin. Ped Res 2003; 54:212-218.
16. Claud EC, Lu L, Anton PM, Savidge T, **Walker WA**, Cherayil BJ. Developmentally-regulated IκB expression in intestinal epithelium and susceptibility to flagellin-induced inflammation. PNAS 2004; 101(19):7404-7408 .
17. Nanthakumar NN, Young C, Ko JS, Meng D, Chen J, Buie T, **Walker WA**. Glucocorticoid responsiveness in the developing human intestine: possible role in the prevention of necrotizing enterocolitis. AJP: GI and Liver Physiology 2005 288:G85-G92.
18. Nanthakumar NN, Dai D, Meng D, Chaudry N, Newburg DS, **Walker WA**. Regulation of intestinal ontogeny: effect of glucocorticoids and luminal microbes on galactosyltransferase and terehalase induction in mice. Glycobiology 2005; 15:221-232.
19. Lu L, Khan S, Lencer W, **Walker WA**. Endocytosis of cholera toxin by human enterocytes is

developmentally regulated. Am J Physiology (Gastro) 2005; 298:G332-G341.
20. Sanderson IR, **Walker WA**. The role of TLRs/Nods in intestinal development and homeostasis. Am J Physiol (GI) 2006 (in press).

C. Research Support

Ongoing Research Support

P30 DK40561-12 Walker (PI) 05/08/06-03/31/11
NIH
Clinical Research Nutrition Center
Specific aims of project: The major specific aims are: 1) to provide research in basic areas of biology relevant to problems in clinical nutrition; 2) to promote the study of clinical nutrition and application of knowledge derived there from within the HMS, MIT and HSHP community; 3) to promote interactions among scientists and clinical investigators to show relevance to advancing the science of clinical nutrition; and 4) to attract "basic" investigators into the domain of clinical nutrition to promote an environment and mechanism to develop new investigator-initiated research.
Role: Program Director and PI

5 RO1 DK70260-13 Walker (PI) 05/01/05-04/33/10
NIH-NICHD/NIDDK
Ontogeny of the Human Intestinal Mucosal Barrier and NEC
The major goals of this project are to study: 1) bacterial colonization and its pattern in NEC patients 2) the developmental regulation of antibacterial products of Paneth cells at various ages (fetal - childhood and in NEC patients) 3) the functional significance of the human fetal intestinal Fc receptor for human IgG and 4) selective aspects of intestinal inflammatory responses and immune function.
Role: PI

5 R37 HD12437-27 Walker (PI) 01/01/97-12/31/07
NIH
The Effect of Colostrum on Gut Maturation and Host Defense (MERIT)
The major goals of this project are to define the role of "growth factors" in amniotic fluid and in preterm/term on enterocyte glycosylation of MVM molecules and bacterial colonization. To establish an immortalized fetal human small intestinal cell line.
Role: PI

2 PO1 DK33506-22 Pothoulakis (PI) 09/30/05-08/31/10
NIH-NIDDK
Barrier Function of the GI Tract in Health and Disease
The major goals of this project are: 1) To develop a non-malignant human intestinal epithelial cell line and to examine its function as an antigen presenting cell. (a) by determining its capacity for MHC-class II, Ii, and B7 expression; (b) by defining its capabilities as an antigen presenting cell; (c) by comparing its antigen presentation capabilities to that of other antigens presenting cells. 2) To examine the basis for systemic non-responsiveness after oral administration of a soluble protein antigen (cytochrome C) in a T cell receptor transgenic mouse model. We will after oral administration of cytochrome C: (a) examine the sites and kinetics of induction of non-responsiveness in normal and TCR transgenic mice; (b) examine the contributions of clonal deletion, clonal anergy and active suppression to establishment of systemic tolerance in TCR transgenic mice; (c) determine which populations of lymphocytes are capable of transferring non-responsiveness and examine the phenotypic and functions characteristics of these cells.
Role: Program Director and PI

Completed

None