



UNC Center for Functional GI & Motility Disorders

Annual Report 2004



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Cover Art

Donation of the cover art for this report: We are grateful to Pittsburgh-area artist Risa Moldovan for donating this original work of art for use by the UNC Center for Functional GI & Motility Disorders. Ms. Moldovan's passion is painting in the style of the Old Masters. This painting, designed by Ms. Moldovan and titled "Exotic Delicacy", evokes the feelings of the 17th century Dutch Masters. Ms. Moldovan exhibits nationally. Highlights include a museum show in San Bernadino CA and presently the Galleries Sternberg in Chicago IL. She was recently selected as a member of the Pennsylvania State Committee of the National Museum of Women in the Arts in Washington DC.

For more about Ms. Moldovan and her donation, please visit our website at www.med.unc.edu/ibs and the artist's website at www.moldovanfinearts.com.

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Dear Reader

Welcome to the “2004 Annual Report – UNC Center for Functional GI & Motility Disorders.” The yearly process of gathering and presenting information about the Center is challenging, because it is always a busy year with activities going on in many different arenas. But, this annual review is also an opportunity to reflect on our accomplishments and thank everyone for their contributions to the Center – faculty, clinicians, investigators, staff, directors and advisors, collaborators, research funding agencies, individual donors, and corporate sponsors. This report is about all of us and we hope it provides thanks and celebration.

2004 was a significant milestone because it marked the ten-year anniversary of the founding of the UNC Center for Functional GI & Motility Disorders. Over the past decade, we have watched the Center evolve from just a vision for the advancement of biopsychosocial understanding and treatment of patients with functional GI and motility disorders, to the reality of a nationally and internationally renowned Center of Excellence in research, training, education and patient care. It has been an interesting and rewarding ten years, and we now look forward to the next decade of further growth and evolution.

This opportunity for further growth and evolution was significantly enhanced this year by an important new grant from the National Institutes of Health (NIH) to foster interdisciplinary research on interactions between the mind and body in health and disease. The Center has received a five-year \$4.4 million grant to establish a Gastrointestinal Biopsychosocial Research Program focused on the causes and treatment of functional GI disorders. This broad-based NIH initiative has evolved from growing evidence that interdisciplinary research -- which integrates the study of social, behavioral, psychological and biological factors -- holds particular promise in understanding the origins of disease and promoting health. Our Center was one of the first to advocate this biopsychosocial approach.

In addition to this “mind-body infrastructure grant,” our annual report chronicles other significant activities and accomplishments, including these highlights:

Recruitment of Risa Moldovan to the Center’s Board of Directors and Dr. Mark Koruda as an Associate Director of the Center

“Symposium for Patients -- Understanding IBS and Other Functional Gastrointestinal Disorders” -- June 12, 2004

CME course – “Hypnosis Treatment for Functional GI Disorders” – November 11-14, 2004

Launch of the Seed Grant Program funded through the mind-body infrastructure grant

Generous support from our corporate sponsors and individual donors

Donation of original artwork by Risa Moldovan for our Seasons Greetings card and 2004 Annual Report

New and continuing research projects of over \$8 million

62 publications, journal articles, editorials or commentaries, 47 published abstracts, 19 books or book chapters

There is always more to share than we include in the annual report. We invite our readers to visit the Center’s website at www.med.unc.edu/ibs for further details. The Year 2005 is already off to a promising start and we look forward to getting back to our readers next year with another good report.

With gratitude,



William E. Whitehead, PhD
Co-Director
Professor of Medicine



Douglas A. Drossman, MD
Co-Director
Professor of Medicine and Psychiatry

Highlights of 2004

“Symposium for Patients - Understanding IBS and Other Functional Gastrointestinal Disorders” was hosted in Chapel Hill and attended by participants from as far away as England and the West Coast as well as North Carolina and the Mid-Atlantic states (June 2004).

Five-year \$4.4 million mind-body infrastructure grant to establish a Gastrointestinal Biopsychosocial Research Program within the Center was awarded by NIH (August 2004).

CME course on “Hypnosis Treatment and Functional GI Disorders,” to train and certify health care providers in clinical hypnosis and teach the application of hypnosis to functional bowel disorders, was hosted by our Center and attended by 73 health care providers from across the U.S. as well as England, Japan and Canada (November 2004). Dr. Olafur Palsson was the course director.

Dr. Douglas Drossman received the AGA Distinguished Educator Award (DDW, May 2004).

Dr. William Whitehead received the Janssen Award for Excellence in Gastrointestinal Research (DDW, May 2004).

Dr. Douglas Morgan was a recipient of the American College of Gastroenterology’s Governor’s Award for Excellence in Clinical Research in October 2004.

Dr. Drossman received the Division of Gastroenterology and Hepatology Eugene M. Bozymski Award in Endoscopy, and was listed among “Best Doctors in America” and “Who’s Who in America.”

Dr. Drossman serves as President of the Rome Foundation and Chair of the Rome III committees to develop diagnostic criteria for functional gastrointestinal disorders. Dr. Whitehead is co-chair of the Design of Treatment Trials working team for the Rome III project, in addition to serving on the Rome III Board. Dr. Drossman is Chair of the Scientific Advisory Committee and serves on the Board of Directors of the International Foundation for Functional Gastrointestinal Disorders (IFFGD).

Dr. Whitehead co-chaired an international working team on conservative management of fecal incontinence for the International Consultation on Incontinence.

Dr. Drossman is Chair of the Motility and Nerve-Gut Interactions Section, AGA.

Dr. Yehuda Ringel participated in an expert panel on “Biomarkers for Healthy People” for a meeting of the International Scientific Association for Probiotics and Prebiotics (ISAPP), sponsored by the WHO and FAO (Colorado, CO).

Dr. Whitehead served as an ad hoc grant reviewer for NIH and the VA Merit Review study sections.

Dr. Shaheen served on the NIH Ad Hoc Grant Section for Barrett’s Esophagus.

Dr. Drossman made presentations to the European Conference on Psychosomatic Research (Berlin, Germany); Gastroenterology Society of Taiwan (Taipei, Taiwan); Peruvian GI Society (Lima, Peru); and United European GI Week (Prague, Czech Republic).

Dr. Whitehead gave an invited paper entitled, “Cognitive behavior therapy and other psychological treatments for IBS” and Dr. Drossman an invited paper entitled “Where FBD research has been in the last decade” to the NIDDK consensus conference on new directions in IBS research.

Dr. Olafur Palsson was appointed guest editor for a special issue on IBS and hypnosis for the International Journal of Clinical and Experimental Hypnosis

Drs. Drossman and Whitehead continue to serve as associate editors for Gastroenterology. Dr. Drossman is GI editor of the Merck Manual.

Dr. Ringel continued to serve on the faculty of the WebMD/Medscape Gastroenterology “Ask the Expert” Program.

Dr. Nicholas Shaheen received the Sophomore Basic Science Teaching Award, awarded by the second year class to the outstanding teacher in the second year. He was also selected by the UNC Medical School student body to give the honorary opening lecture of the school year (Whitehead Lecture).

Dr. Shaheen chaired the second year curriculum committee, and served on the Curriculum Management and Policy Committee, UNC School of Medicine. He also received the Excellence in Clinical Teaching Award from the Dean, UNC School of Medicine.

About the Center

The UNC Center for Functional GI & Motility Studies was established in 1994 by its Co-Directors – Douglas A. Drossman, MD and William E. Whitehead, PhD – as a “center of excellence” within the Division of Gastroenterology & Hepatology, School of Medicine, University of North Carolina at Chapel Hill. Over the past ten years, the Center has evolved into a multidisciplinary patient care, research, training, and public education initiative with an annual budget of over \$2 million and a base of more than 30 faculty, investigators and staff, in addition to visiting and collaborating scholars.

Mission

The mission of the UNC Center for Functional GI and Motility Disorders is to advance the biopsychosocial understanding and care of patients with functional gastrointestinal and motility disorders through patient care, research, training and education.

Goals of the Center

To achieve its mission, the Center is committed to the following goals:

- I. Patient Care** – To offer state-of-the-art evaluation and treatment for the full range of functional GI and motility disorders.
- II. Research** – To conduct studies on the physiological and psychosocial mechanisms underlying functional GI and motility disorders, their impact on quality of life and health outcomes, and their treatment.
- III. Training** – To provide multidisciplinary training and education in clinical and research skills, with an emphasis on patient-centered care and advanced research methods.
- IV. Public Education** – To provide helpful and up-to-date information, through seminars and workshops as well as printed materials, videos and the Internet.

Core Activities of the Center

The integration of **patient care** by gastroenterologists and psychologists in our Functional GI Clinic with state-of-the-art Motility Services places the Center at the forefront of patient evaluation and treatment for functional GI and motility disorders. The Center functions as a tertiary treatment center and receives referrals from gastroenterologists throughout the United States and around the world.

The Center’s unique **research** program provides opportunities for Center faculty, investigators and collaborators to develop and pursue new areas of research in the field of FGIDs. Center associates have developed innovative technologies, such as Internet-based questionnaire research and a network of collaborators at other institutions across the United States and around the world. Through their leadership roles and activities in other organizations – such as The Rome Foundation, Functional Brain-Gut Research Group (FBG), International Foundation for Functional Gastrointestinal Disorders (IFFGD), and AGA Motility Nerve-Gut Interactions Section – the Center’s co-directors play a significant role in defining the research agenda for the entire field of functional GI and motility disorders.

The Center has an excellent program for **training** postdoctoral fellows as well as individualized and highly specific learning opportunities for advanced scholars, physicians and scientists who visit the Center for a couple of days, a week or two, or even longer periods of time. The Center has also created a preceptorship for pharmaceutical representatives (primarily medical liaisons), to provide a thorough grounding in the epidemiology, pathophysiology, diagnosis, and treatment of FGIDs, as well as training in the interpersonal aspects of working with patients and communicating with physicians.

The Center’s **education** programs target patients and their family and friends, health care professionals at all levels, and the public at large. The Center promotes increased awareness and understanding of FGIDs through symposia, printed materials, videos, and its website www.med.unc.edu/ibs.

Co-Directors



Douglas A. Drossman, MD
Professor of Medicine and
Psychiatry

Dr. Drossman is Professor of Medicine and Psychiatry (UNC School of Medicine, Division of Gastroenterology & Hepatology) and Co-Director of the UNC Center for Functional GI & Motility Disorders. He has had a long-standing interest in the research and evaluation of difficult to diagnose and treat GI disorders. He established a program of research in functional GI disorders at UNC more than 25 years ago and has published more than 350 books, articles and abstracts relating to epidemiology, psychosocial and quality of life assessment, design of treatment trials, and outcomes of research in GI disorders. He has also published two books, a GI procedures manual, and a textbook on Functional GI Disorders (Rome I and Rome II editions, with Rome III in progress). In addition, he serves on six editorial boards in medicine, gastroenterology and psychosomatic medicine, is associate editor of Gastroenterology, and is GI section editor of the Merck manual.

Dr. Drossman received his MD degree from Albert Einstein College of Medicine in 1970, and completed his medical residency at the University of North Carolina School of Medicine and New York University-Bellevue Medical Center. After his residency, he subspecialized in psychosocial (psychosomatic) medicine at the University of Rochester School of Medicine under the mentorship of Dr. George Engel and in gastroenterology at the University of North Carolina in 1976-1978.

Dr. Drossman has been involved in several national and international activities which include President of the Rome Foundation, Chair of the AGA Council on Motility and Nerve-Gut Interactions, and Scientific Director and member of the Board of the International Foundation for Functional GI Disorders (IFFGD). He is a



William E. Whitehead, PhD
Professor of Medicine

Dr. Whitehead is Professor of Medicine and Gynecology at the UNC School of Medicine and Co-Director of the UNC Center for Functional GI & Motility Disorders. He was recruited to UNC in 1993 to direct the Gastrointestinal Motility Program, and in 1994 he and Dr. Drossman founded the Center for Functional GI and Motility Disorders (Division of Gastroenterology and Hepatology). He has been involved in research on functional gastrointestinal disorders for 32 years and is recognized internationally for his research and teaching on constipation, fecal incontinence, and irritable bowel syndrome (IBS).

In 1999, Dr. Whitehead also joined the UNC Division of Urogynecology as an adjunct faculty member to help develop a fellowship program in Urogynecology and Reconstructive Pelvic Floor Surgery. He teaches surgery fellows in this fellowship program and heads a monthly case conference attended by the urogynecology faculty and fellows and GI motility team. Dr. Whitehead collaborates with several faculty in Gynecology in research on the role of obstetrical injury in the etiology of fecal incontinence, behavioral treatments for incontinence, and the role of reproductive hormones in IBS.

Dr. Whitehead received his PhD from the University of Chicago in clinical psychology and physiology in 1973 and did his dissertation research on the biofeedback conditioning of gastric acid secretion. After graduation, he joined the faculty of the Department of Psychiatry, University of Cincinnati College of Medicine, and worked for 7 years in the psychosomatic service where he began his research on visceral perception and IBS. In 1979, after a year as a visiting scientist at the Gerontology Research Center of the National Institute on Aging (NIA), Dr. Whitehead was recruited

D. Drossman, cont.

past president of the American Psychosomatic Society, and is Founder and Past President of the Functional Brain-Gut Research Group of AGA. He is a Fellow of the American College of Physicians and the American College of Gastroenterology.

As Medical Director of the UNC Center for Functional GI & Motility Disorders, Dr. Drossman sees patients in the Functional GI Clinic. He also precepts GI fellows and visiting gastroenterologists to develop their clinical skills in patient care and communication. He facilitates the learning of medical faculty and fellows, psychiatry residents and medical students with regard to the biopsychosocial care of patients with functional GI disorders. In 2004, Dr. Drossman received the AGA Distinguished Educator Award, recognizing an individual for achievements as an outstanding educator over a lifelong career.

Dr. Drossman's educational and clinical interests in the psychosocial/behavioral aspects of patient care have led to the development of a series of videotapes to teach physicians and other healthcare professionals how to conduct an effective patient interview, carry out a psychosocial assessment, and enhance patient-doctor communication. He has taught numerous US and international workshops on this topic and was chair of the ACG Physician-Patient Relations Committee from 1994-1996. He is also a charter fellow of the American Academy on Physicians and Patients, a consortium of doctors teaching these skills to medical school faculty.

Dr. Drossman has an active research program that relates to the clinical, epidemiological, psychosocial, and treatment aspects of irritable bowel syndrome and the functional GI disorders. He has held several NIH grants, including a recent multi-center treatment trial of functional bowel disorders with cognitive behavioral therapy and antidepressants in addition to several pharmaceutical trials of new investigative agents for IBS. He has developed and validated several assessment and quality of life measures that are used worldwide for clinical research. Recently, he has begun looking at brain imaging (fMRI) in functional bowel disorders to determine if reported changes in the brain are responsive to treatment. He also consults with pharmaceutical companies and government agencies regarding treatment trials. In 1999, Dr. Drossman received the Janssen Award for Clinical Research in Digestive Diseases. In 2003, he received the Research Scientist Award for Clinical Research presented by the Functional Brain-Gut Research Group (FBG) during Digestive Diseases Week. That year, he also received the American Psychosomatic Society's President's Award.

W. Whitehead, cont.

to the Department of Psychiatry at the Johns Hopkins University School of Medicine and established a 15-year collaboration with a Dr. Marvin Schuster in gastroenterology. He continued to evolve his research on IBS and also began research programs on the biofeedback treatment of fecal incontinence and on the understanding and treatment of rumination syndrome and failure to thrive. In 1993, he moved to UNC to direct the GI Motility Laboratory.

Dr. Whitehead is a career investigator who has been continuously funded by NIH since 1977. He has supported by a National Institute of Mental Health (NIMH) research scientist award for 22 years and has received research support from NIDDK, NICHD, NIA, NINR, and NIMH. His 35 RO1 grants have included studies of (1) the causes and treatment of fecal incontinence in special populations such as spina bifida and elderly, (2) the causes and treatment of constipation, (3) treatment of rumination syndrome in developmentally disabled children, (4) the role of visceral perception in IBS, (5) comorbidity of IBS with other disorders, and (6) psychological and behavioral treatment of IBS. He has published over 200 journal articles, books, and book chapters and more than 200 abstracts on these topics.

Twenty-four research fellows, both psychologists and physicians, have completed predoctoral or postdoctoral training in Dr. Whitehead's laboratory. Nineteen of these alumni are in academic positions, one is still in medical school, two are in private practice (gastroenterologists), and the jobs of two are unknown. Dr. Whitehead also organizes and participates in preceptorships and CME courses on a regular basis, in the U.S. and internationally.

Professional activities in addition to teaching and research include organizing two national multidisciplinary conferences on fecal and urinary incontinence (a third is being planned for next year), organizing an international conference on the design of treatment trials for functional GI disorders, service on the steering committee of the Rome Foundation, and co-chair of the fecal incontinence subcommittee for the International Consultation on Incontinence. He is associate editor for Gastroenterology and a frequent reviewer for other journals. He received the FBG (Functional Brain-Gut Research Group) Research Scientist Award for Clinical Research in 1999, the IFFGD Award for Research Excellence in 2003, and the Janssen Award for Outstanding Research in Gastroenterology in 2004.

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Yolanda Scarlett, MD
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Charles K. Burnett, PhD, DrPH
 Clinical Associate Professor of Medicine, Director of Psychological Services



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Patient Care



One of the four goals of the Center is to provide state-of-the-art evaluation and treatment for a full range of functional gastrointestinal and motility disorders (FGIDs).

Patients come from throughout North Carolina, the United States, and other countries to benefit from the Center's unique biopsychosocial approach to understanding and treating FGIDs.

Functional GI and Motility Disorders Clinic

Established and directed by Dr. Douglas Drossman, the Functional GI and Motility Disorders Clinic at UNC Hospitals is the premier site, both nationally and internationally, for referral of patients with functional GI and motility disorders (FGID). The clinic's unique multi-disciplinary, patient-centered approach integrates medical, physiological and psychological factors in the evaluation, understanding and treatment of patients with these disorders. The clinic also serves as a leading tertiary referral site for patients who have difficult-to-diagnose illnesses or challenging disease/disorder management issues. The clinic's services and educational activities expanded over the last few years with the addition to Dr. Yehuda Ringel as a faculty member at UNC. His clinic is a referral service for patients with functional upper GI symptoms (e.g., dyspepsia, non-cardiac chest pain, chronic nausea, vomiting) and/or complicated motility disorders (e.g., gastroparesis, chronic intestinal pseudo-obstruction, intractable constipation), in addition to IBS and other functional bowel disorders. Other FGID Clinic staff include Duane D. Webb, MD, FACC; Christine B. Dalton,

PA-C; Danielle Maier, PA-C, MA PAS; and Charles K. Burnett, PhD, DrPH.

On some afternoons, the clinic is also staffed with a Fellow (gastroenterologist in training), who is supervised by Drs. Drossman and Ringel. The Center's clinical personnel are also routinely involved with consulting on patients at UNC Hospitals with severe functional GI or motility disorders and with physicians who call for advice regarding their patients. The clinic often has visiting gastroenterologists and trainees from other states and countries who are interested in learning more about the clinical approach, diagnosis and treatment of FGID patients. They also learn how to improve their interviewing and patient skills (see Visiting Scholars).

Clinical Case Conference: An important part of improving patient care is the Clinical Case Conference, facilitated by Dr. Ringel and held every Thursday morning in the FGID Clinic. Clinicians have the opportunity to present difficult cases and exchange ideas regarding patient evaluation and treatment. Participants in the Clinical Case Conference address the physical, social and psychological factors that are relevant to a specific case, utilizing the group's overall expertise to maximize the impact on patient care. This weekly forum also provides a learning opportunity for resident fellows, investigators, and others interested in the clinical aspects of caring for patients with functional GI and motility disorders. Visiting gastroenterologists and trainees from other states and countries also attend the Clinical Case Conference.

GI Motility Laboratory Service

The GI Motility Laboratory Service at UNC Hospitals was established by Dr. Whitehead. However, diagnostic evaluations and clinical care are now managed by other faculty -- Dr. Yolanda Scarlett (Medical Director) for lower GI motility disorders, and Dr. Nicholas Shaheen (Medical Director) and Dr. Doug Morgan for swallowing disorders and ambulatory pH testing. Sheila Crawford, RN, is the head nurse for the GI Motility Service.

Patients with GI motility disorders may be seen initially in the Functional GI and Motility Disorders Clinic (see above), or they may be referred directly to the medical staff of the GI Motility Service if referring physicians anticipate that diagnostic motility testing or biofeedback training will be needed. Diagnostic

motility tests may be scheduled directly by outside physicians, but a medical consultation from one of the clinicians affiliated with the GI Motility Service is recommended. The following services are provided by the GI Motility Service:

- Diagnostic anorectal motility tests for fecal incontinence, constipation or rectal pain
- Biofeedback treatment for fecal incontinence or constipation
- Ambulatory pH studies
- Esophageal motility testing
- Hydrogen breath tests for small bowel bacterial overgrowth and carbohydrate malabsorption
- Breath tests for h. pylori infection

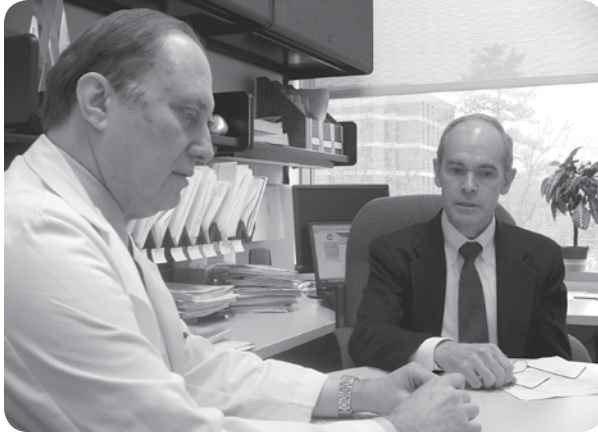
Anorectal Motility Case Conference: The Anorectal Motility Case Conference is held monthly and is central to the training, patient care and research objectives of the GI Motility Service. The format for the conference is a discussion of cases that have been seen by the gastroenterology and urogynecology services, focusing on cases that present complex decision making about patient care or important teaching points. There is also discussion of whether certain patients are appropriate for referral to one of the ongoing research studies at the Center, or to the surgical treatment trials and epidemiological studies sponsored by the Pelvic Floor Disorders Network, for which UNC serves as one of six sites. The conference also provides an opportunity for updates on new publications, research conferences, and new research initiatives.

Psychological Services

Charles K. Burnett, PhD, DrPH, is a Clinical Associate Professor of Medicine and the Center's Director of Psychological Services. Patients are referred to him through the Center and by outside physicians. When the medical evaluation of a patient visiting the FGID Clinic suggests that psychological evaluation and/or treatment that could include pain management or psychological treatments would be beneficial, then Dr. Burnett or a psychology intern working with him is brought into the patient's overall care as part of our multi-disciplinary team approach. Dr. Burnett specializes in the treatment of patients with chronic illnesses, using one or more of the following techniques or therapies, in collaboration with the patient's other health care providers and medications:

- **Stress Management:** Stress management therapy seeks to help a person understand the role of stress in his/her life and how it relates to the person's FGID symptoms. It also seeks to provide the patient with a variety of ways for dealing with stressful events in ways that minimize their impact on the person's FGID symptoms and quality of life.
- **Cognitive Behavioral Therapy (CBT):** CBT focuses on the interrelationship between a patient's thoughts (cognitions), actions (behaviors) and feelings (affect), and the role they play in their FGID symptoms. By understanding and focusing on all three components, changes can be made in how a patient thinks, acts and feels about his/her GI difficulties, and thereby help reduce the frequency and intensity of FGID symptoms.
- **Relaxation Therapy:** Relaxation therapies to reduce a person's current state of physical and psychological activation include progressive muscle relaxation (PMR), autogenic training, breath regulation, and meditation. With these techniques, a person can learn how to "turn down the volume" on their GI symptoms by becoming more calm and relaxed about them.
- **Hypnosis:** Hypnosis or hypnotherapy is a set of techniques designed to help a person focus their attention and concentration in more positive directions. This can be accomplished with the help of a therapist or by oneself (self-hypnosis). It creates a very deep state of relaxation and imagining through which the patient is open to ideas or concepts that may help him/her manage certain problems, such as FGID symptoms.
- **Biofeedback:** Biofeedback is a technique in which the person is trained to change a specific physical response. Biofeedback requires equipment that can be used in a therapist's office, or can be purchased or rented for personal home use. Biofeedback has been used to successfully treat many diseases and disorders, including IBS. Through biofeedback, a patient can gain control over his/her physical responses and manage the unpleasant symptoms to a point where the equipment becomes unnecessary.

Research



An important goal of the Center is conducting research studies on the physiological and psychosocial mechanisms underlying functional GI and motility disorders, their impact on quality of life and health outcomes, and their treatment.

The Center has developed a broad portfolio of research on the mechanisms of functional GI and motility disorders, as well as their psychosocial correlates, health outcomes, and treatment. The Center's Co-Directors – Dr. William Whitehead and Dr. Douglas Drossman – have been very successful in obtaining research support through the National Institutes of Health (NIH), pharmaceutical companies, and other sources. They head the largest research programs at the Center, but other investigators associated with the Center are also establishing their own independent research programs and funding.

The Center's research programs are multidisciplinary, involving collaborations between gastroenterologists, psychologists, neuroradiologists, psychiatrists, physician assistants, and nurses. Within UNC at Chapel Hill, collaborators came from the departments of Medicine, Psychology, Psychiatry, Surgery and Gynecology, as well as the schools of Dentistry and Public Health. Research at the Center has included studies on the pathophysiology and treatment of such prevalent functional GI disorders as IBS, functional dyspepsia, functional abdominal pain, fecal incontinence, and constipation. These disorders greatly impair quality of life and result in aggregate annual health care costs in the United States exceeding \$25 billion.

Research Resources

Research Network Core

In addition to collaborations with investigators in a variety of disciplines at UNC, the Center has an ever-expanding Research Network of collaborating institutions outside UNC for large-scale, multi-center studies. These strategic alliances have been developed to take advantage of the specialized skills

and expertise of investigators at other sites and to increase the pool of research subjects participating in Center studies. The Research Network has benefited from the development of new technologies for web-based data acquisition/sharing and research subject recruitment, as well as a growing library of FGID-related scannable questionnaires in different languages.

Biometry Core

The primary purposes of the Biometry Core are to provide: (1) consultation and advice on experimental design and statistical analysis; (2) data entry and data management for selected projects; and (3) data analysis for selected projects. Other capabilities of this core are: (4) developing questionnaire booklets for research studies; (5) developing data management and quality assurance procedures and manuals; (6) developing data management programs; (7) coding, entering and cleaning data; (8) developing random generation schemes for clinical trials; (9) overseeing the production of reports for the Data and Safety Monitoring Board and for regulatory agencies; and (10) assisting investigators in analyzing the data and developing research reports for publication. Fifty percent of the Biometry Group's time and expertise are reserved as a core resource available through the Infrastructure Grant.

Data Acquisition & Technology Applications Core (DATA)

The DATA Core provides researchers with sophisticated data acquisition and sharing methodologies, data management, and archiving of research data to facilitate the conduct of large studies (especially multi-site studies) by our UNC research team and our national and international Research Network collaborators. Capabilities of this core include: (1) creation of scannable questionnaires, (2) scanning and verification of large surveys, (3) creation of Internet-based surveys and remote data entry for multi-center studies, (4) managing databases on a secure server, (5) setting up project management for multi-site studies, and (6) electronic diaries and telephone data entry systems.

UNC Center for Functional GI & Motility Disorders Research Network



Mind-Body Infrastructure Grant

NIH Center: Gastrointestinal Biopsychosocial Research Program

In 2004, the UNC Center for Functional GI & Motility Disorders was awarded a grant from the National Institutes of Health (NIH) to foster interdisciplinary research on interactions between the mind and body in health and disease, with a specific focus on the causes and treatment of functional gastrointestinal (GI) and motility disorders. The five-year, \$4.4 million grant establishes a Gastrointestinal Biopsychosocial Research Program within the Center. William E. Whitehead, PhD, and Douglas A. Drossman, MD, are the Co-Principal Investigators for this grant.

NIH funding for mind/body research centers is provided through the Office of Behavioral and Social Sciences Research (OBSSR) as a cooperative effort of a dozen institutes. This broad-based initiative evolved from growing evidence that interdisciplinary research integrating the study of social, behavioral, psychological and biological factors holds particular promise in understanding the causes of disease and promoting health. NIH funded the first five mind-body centers in

1999. An additional five centers were selected for funding in 2004, with funding for the UNC grant being provided through the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

This multi-year “infrastructure grant” will be used to build on the Center’s longstanding record of NIH-funded research in mind-body interactions and to carry out longer-term collaborations with other disciplines in health and medicine at UNC -- pediatrics, psychology, psychiatry, surgery, gynecology, neuroradiology, dentistry, school of public health, and other disciplines -- and with other institutions throughout the US and other countries. Examples of mind-body research at the Center include studies on: the role of stress, abuse history and other psychosocial factors in IBS and their outcomes; brain imaging to assess the association between psychological factors and central pain regulation; hereditary and learned-behavior aspects of IBS and recurrent abdominal pain (RAP); the effects of reproductive hormones on IBS; and the tendency of IBS to co-exist with other disorders. Center researchers have also studied the effectiveness of treatment strategies that combine cognitive behavior therapy (CBT), hypnosis, antidepressants, and/or patient education with medications for IBS, and biofeedback for fecal incontinence and constipation.

Seed Grant Core

The NIH infrastructure grant provides funding for a Seed Grant Program (SGP) to support up to three pilot projects each fiscal year (each for \$37,500 in direct costs). The goals of the SGP are to encourage and develop new investigators by providing (1) funds to collect the pilot data essential to successful NIH applications, and (2) mentoring in grant writing as well as the conduct of a research project. Research seed grants are awarded to young investigators for studies related to functional GI and motility disorders under the following eligibility criteria:

- The Seed Grant Program is open to any new investigator at UNC (whether a member of the Center or not) and to any new investigator within the Research Network associated with the Center.
- Investigators who have already received NIH support as a principal investigator are not eligible for Seed Grant funds. The only exception to this restriction is PIs who have received only conference or educational grants from NIH; these PIs are not yet considered experienced in securing NIH research grants.
- Proposals that are extensions of already-funded grants are also not eligible for SGP funds.
- All proposals must identify a senior research mentor for the proposed project, and include a letter of support from the mentor agreeing to provide supervision and semiannual reports.

In Fiscal Year 2005, the proposal deadlines are October 1, 2004 and April 1 and August 1, 2005. The application process is modeled on the one used by NIH, using the PHS 398 form (substituting a Center cover page and limited to no more than 12 pages). Dr. Nicholas Talley of the Mayo Clinic in Rochester, MN, serves as chair of an ad hoc Seed Grant Selection Committee. This committee consists of Dr. Talley along with one or more other investigators selected by him who (1) have the expertise to evaluate the scientific merit of a particular proposal, (2) are not affiliated with the UNC Center, and (3) have no conflict of interest with respect to the applicant. The application review process is also modeled on the one used at NIH, using the following guidelines:

- a. Significance of the research question and strength of the research plan
- b. Feasibility (availability of subjects and other resources)
- c. Training and other qualifications of the applicant
- d. Plans for mentoring
- e. Plans for using the grant to prepare for the submission of an NIH project grant
- f. Relevance to functional gastrointestinal or motility disorders
- g. No support for pharmaceutical or device trials (ineligible).

2004 Research Grants, Contracts and Awards

In 2004 there were over \$8 million in new and continuing research projects

NIH-Supported Studies

R24 DK067674 (Whitehead and Drossman, Co-PIs)

7/1/04-6/30/09

NIDDKD — \$4,450,000

Infrastructure grant titled “Gastrointestinal Biopsychosocial Research Center,” submitted in response to RFA OB-03-004, Mind-Body Interactions and Health: Research in Infrastructure Program

The goals of the grant are: (1) to establish a network of collaborators within UNC and between the UNC Center and other sites nationally and internationally to carry out research on functional gastrointestinal and motility disorders, (2) to provide support for such investigations through core resources (biostatistics, data acquisition technology, subject recruitment, project management), and (3) to recruit and train new investigators in this field.

RO1 DK31369 (Whitehead, PI; Drossman, Co-Investigator)

12/1/02-11/31/07

NIDDKD — \$1,714,897

Psychophysiology of IBS

Aim of three proposed studies is to determine whether IBS is uniquely associated with specific co-morbid conditions, which would suggest shared pathophysiology, or whether co-morbidity is an expression of psychological contributions to the etiology of IBS.

RO1 HD36069 (Whitehead, PI)

04/01/99-03/31/07

NICHD & NIDDKD — \$203,510 (Subcontract)

Intergenerational Transmission of Illness Behavior

4-year competitive renewal approved for 4/1/03-4/1/07

Aims of first grant: (1) assess the ways parents respond to their children’s somatic complaints, and whether this contributes to the clustering of functional GI disorders within families, and (2) determine whether these social learning effects are independent of family stress, academic competence, and parent and child psychological symptoms. Aims of competitive renewal funded 4/03-3/07: To carry out a prospective clinical trial to treat recurrent abdominal pain in children. The treatment model is based on findings from the initial grant.

RO1 DK57048 (Whitehead, PI)

09/30/99-11/31/05 — (12 month extension)

NIDDKD — \$816,485

Biofeedback for Fecal Incontinence and Constipation

Aims: (1) to compare biofeedback to alternative therapies for which patients have a similar expectation of benefit; (2) to identify which patients are most likely to benefit; and (3) to assess the impact of treatment on quality of life.

U10 HD41267 (Visco, PI, Whitehead Co-Investigator)

9/01/02-6/30/06

NICHD — \$290,434 in Year 1

UNC Pelvic Floor Disorders Research Collaborative

This grant funds UNC as a component of a pelvic floor research network that will conduct one or more multi-center studies of the treatment of pelvic floor disorders, including fecal and urinary incontinence. Current studies: (1) compare different surgical techniques for repair of pelvic organ prolapse, (2) assess the incidence of fecal and urinary incontinence following external anal sphincter disruption during childbirth, (3) assess the prevalence of fecal and urinary incontinence in the NHANES study, and (4) validate a physical examination rating scale for pelvic floor. Projects for which our Center is taking the lead include: (5) validation of a telephone survey for assessing fecal incontinence severity and quality of life impact, (6) assessing the impact of usual bowel habits (stool consistency) on the risk of fecal incontinence following obstetric injury, and (7) assessing the GI complications of abdominosacroculpopexy surgical repair for pelvic organ prolapse.

K23 DK59311-01 (Shaheen, PI)

8/1/01-8/30/06

NIH — \$100,000

Epidemiologic Case Control of Barrett’s Esophagus

The goal of this project is to assess the risk factors for the development and progression of Barrett’s esophagus, using case-control study methodology.

K01 CA93654-01 (Keku, PI)

8/1/02-7/31/06

NIH — \$528,732

Insulin Resistance and Colon Cancer in Blacks and Whites

The major goal of this project is to examine genes related to insulin resistance and environmental and lifestyle factors that might be associated with colon cancer in African Americans and whites in North Carolina. Polymorphisms in IGF-I, IGF-II and IRS-1 will be correlated with serum levels in IGF-I, IGF-II, insulin and IGFBP-3 and environmental risk factors.

P30 DK56350 (Zeisel, PI; Keku is PI of a subproject)

9/30/04-9/29/05

NIH Clinical Nutrition Research Center — \$25,000

Clinical Nutrition Research Center Pilot Feasibility (Keku, PI)

The goal of this project is to examine the relationship between midkine, apoptosis and increased adenoma risk.

NIH 1P50CA106991-01 (Tepper, PI)

8/9/04-1/31/09

Project I of GI SPORE (Keku, Co-Investigator)

Predictive and Prognostic Factors in Colorectal Cancer

R01 CA44684-09 (Sandler, PI)

4/1/98-3/31/04

NIH/NCI

Epidemiology of Rectal Mucosal Proliferation (Keku, Co-Investigator)

The goal of this study is to identify biological markers for tumor progression.

Other Supported Studies

ACG Junior Faculty Development Award (Ringel, PI)
07/03-06/05

The American College of Gastroenterology
Intestinal Sensory Function in Health and Disease

BSF 2001043 (Sperber/Drossman, Co-PIs)
10/01/02-09/31/05

US-Israel Binational Science Foundation
Is Gynecological Surgery Associated with Subsequent Development of IBS and other Painful Disorders
To determine the frequency and determinants of IBS and visceral hypersensitivity in patients who have undergone gynecological surgery.

UNC Mentored Clinical Research Scholar Award (K12) (Morgan DR, PI)
01/01/04-12/31/05

Gastric Cancer Epidemiology in Central America.
Focus: Host Genetics.

UNC School of Public Health, CNRC (Morgan, PI)
10/01/03-09/30/05

Selenium and Gastric Cancer in a High Incidence Region in Central America
Systematic evaluation of selenium deficiency in gastric cancer patients in Honduras, examining dietary intake, serum levels, and soil grants; pilot grant.

Rome Committees (Morgan, PI)
7/1/03-6/30/05

The Epidemiology of Functional Gastrointestinal Disorders in Latin America: A Population-Based Study
The goal of this study is to examine the prevalence and risk factor associations in nested case-control design utilizing a novel developing nation epidemiology surveillance system with the University of Nicaragua.

In 2004, Center investigators had research contracts with pharmaceutical companies for broad investigations of outcome measures, or to study the safety and efficacy of various drugs or medical devices through clinical trials.

CHTF919A US21 (Whitehead, PI)
12/1/02-06/30/05

Novartis Pharmaceuticals
Evaluate SERT Gene Polymorphisms and Serotonin Levels in IBS Subgroups
This subcontract is linked to RO1 DK31369 in which we are attempting to identify subgroups of IBS patients based on a screen of all likely physiological and psychological mechanisms for symptoms development. Aims: (1) Evaluate the distribution of SERT gene polymorphisms in 200 clinically well-characterized patients and relate SERT polymorphisms to IBS subgroups. (2) Evaluate serotonin levels during fasting and in response to meal ingestion in 200 well-characterized patients and relate serotonin levels to IBS subgroups. Further investigations of genetic markers for IBS are planned in collaboration with Dr. Tope Keku.

CHTF919AUS04 (Whitehead, PI)
1/1/04-6/30/05

Novartis Pharmaceuticals
Validation of a Bloating Questionnaire
Aims: (1) to validate a bloating severity questionnaire by assessing correlation with impaired quality of life, (2) to validate the responsiveness of the bloating severity questionnaire by experimental manipulation of bloating in lactose malabsorbers, and (3) to validate a bloating differential diagnosis questionnaire by testing clinically defined subgroups of bloaters.

CHTF919-US-32 (Drossman, PI)
09/30/03-12/31/06

Novartis Pharmaceuticals
Clinical and Physiological Subgroups among Sub-Groups of IBS: A Comparison of IBS with Constipation, IBS with Diarrhea, and Mixed/Alternators

GlaxoSmithKline/GSK (Ringel, PI)
12/04-04/07

Genetic Surrogate Markers for Irritable Bowel Syndrome Susceptibility, Co-Morbidity and Disease Characterization

WA 36755 (Shaheen, PI)
07/01/04-07/01/05

Eisai-Janssen Pharmaceuticals
GERD as an Etiology of Sleep Disturbances

(Morgan, PI)
07/01/03-12/31/04

Glaxo Institute for Digestive Health (GIDH)
Gastric Cancer Epidemiology in Central America: Genetic, Dietary and H. Pylori Risk Factors.
Honduras Gastric Cancer Epidemiology initiative.

HTF919A2417 (Drossman, PI)
11/30/04-11/30/05

Novartis Pharmaceuticals
A 4-Week Multicenter, Double-Blind, Parallel-Group, Placebo-Controlled, Randomized Clinical Study to Evaluate the Efficacy of (Drug) in Relieving the Symptoms of Female Patients with IBS, Excluding Those with Predominant Diarrhea IBS

DNK3332201 (Drossman, PI)
11/30/04-11/30/05

Novartis Pharmaceuticals
A 2-Week Multicenter, Double-Blind, Placebo-Controlled, Randomized Pilot Study to Evaluate the Efficacy, Safety and Tolerability of (Drug) (25mg and 100mg BID) Given Orally in Female Patients with IBS with Diarrhea (IBS-D)

D1803C0001 (Drossman, PI)
7/1/04-6/30/05

AstraZeneca LLP
A Multicenter, Double-Blind, Randomized Clinical Study Comparing (Drug) to Placebo in the Treatment of IBS

PTI901NB (Drossman, PI)
1/15/04-7/1/05

Pain Therapeutics
A Multicenter, Double-Blind, Placebo-Controlled Efficacy and Safety Study of Low-Dose (Drug) in Female Patients with IBS

PTI901NC (Drossman, PI)

1/15/04-7/1/05

Pain Therapeutics

*A Multicenter, Double-Blind, Placebo-Controlled Efficacy and Safety Study of Low-Dose (Drug) in Male Patients with IBS***(Ringel, PI)**

03/03-02/04

AstraZeneca LLP

*A Multicenter, Randomized, Double-Blind, Parallel-Group, Placebo-Controlled Efficacy Study of Treatment with (Drug) 20mg QD to Placebo QD for the Resolution of Upper Abdominal Pain in Patients with Symptomatic Gastroesophageal Reflux Diseases***(Ringel, PI)**

12/03-06/05

AstraZeneca LLP

*Clinical Efficacy of (Drug) in Patients with Diarrhea Predominant IBS or Functional Diarrhea***CHTF919D2302 (Ringel)**

04/04-12/06

Novartis Pharmaceuticals

*A 6-Week Randomized, Double-Blind, Placebo-Controlled, Multicenter Study to Assess to Efficacy and Safety of Oral (Drug) and Placebo in Female Patients with Dyspepsia (extension is HTF919D2302E1)***SPI 0211 SC0221 (Drossman PI, Dalton, Co-PI)**

6/1/03-5/31/04

Sucampo Pharmaceuticals

*A 12-Week, Double-Blind, Randomized Study of the Safety and Efficacy of (Drug) in Subjects with Constipation-Predominant IBS***S3B30040 (Dalton)**

9/15/03-9/14/04

GlaxoSmithKline

*A 12-Week Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study to Assess the Safety and Efficacy of 0.5mg QD and 1mg BID of (Drug) in Females Subjects with Severe Diarrhea Predominant IBS Who Have Failed Conventional Therapy***IRUSE SOM0313 (Shaheen, PI)**

01/01/05-01/01/07

AstraZeneca LLP

*Chronic Cough and Reflux Disease: A Randomized, Double-Blind, Placebo-Controlled Trial***IRUSE COM0678 (Katz, PI; Shaheen, Co-Investigator)**

10/01/04-01/01/06

AstraZeneca LLP

*Erosive Esophagitis and Gastric pH: Clinical Correlations to Esophagitis Healing***CHTF919B2203 (Ligozio, PI; Shaheen Co-Investigator)**

1/1/0/-5/1/05

Novartis Pharmaceuticals

*A Randomized, Double-Blind, Placebo-Controlled Trial of Tegaserod Alone or in Combination with (Drug) in Patients with Non-Erosive GERD***(Morgan, PI)**

12/15/04-06/30/05

Given Imaging

*Performance Evaluation of the (New Device).***Pending Research (contracted in 2004, funded beginning 2005)****Danisco USA Inc. (Ringel, PI – investigator initiated study)**

05/05-12/06

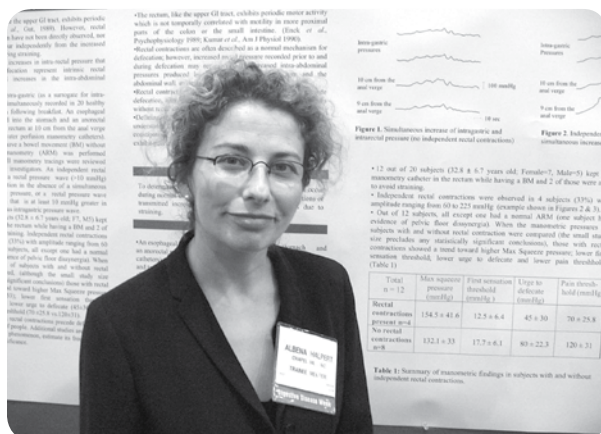
*Clinical Efficacy of Probiotic Bacteria in Patients with IBS, Functional Diarrhea or Functional Bloating***(Morgan, Site PI)**

01/03/05-01/03/07

Roche Laboratories, Inc.

*Prospective Efficacy Study of (Drug) plus (Drug) in Treatment-Naïve Latino Patients versus Caucasian Patients with Chronic Hepatitis C Infection.**The first treatment trial for Latino patients with hepatitis C.*

Training



Another goal of the Center is to provide multidisciplinary training and education in clinical and research skills, with an emphasis on patient-centered care and advanced research methods.

This goal is implemented through a Visiting Scholars Program (short stays by guest faculty), Visiting Scientist Program (more extended stays by guest faculty), training at the pre-doctoral or postdoctoral level, and regularly scheduled seminars (also see Patient Care). The Center has developed educational materials (videos, brochures) for health professionals, and is involved with events providing continuing medical education (CME) credits. Readers are encouraged to visit the Center's website to see our professional educational materials in the "Training" area of the website, including a growing list of on-line publications and videos.

Visiting Scholars Program

The Visiting Scholars Program provides an opportunity for faculty, investigators and clinicians from other institutions to visit the Center for a short stay of a couple of days or several weeks. By hosting visitors from around the US and the world, the Center benefits from a unique opportunity to share and exchange ideas on treatments for functional GI and motility patients, confer on research studies, and build collaboration networks for future projects. For the duration of their stay at the Center, visiting scholars have access to expert psychologists, gastroenterologists and physiologists, providing a wide variety of opportunities to learn vital skills and techniques in the treatment and research of

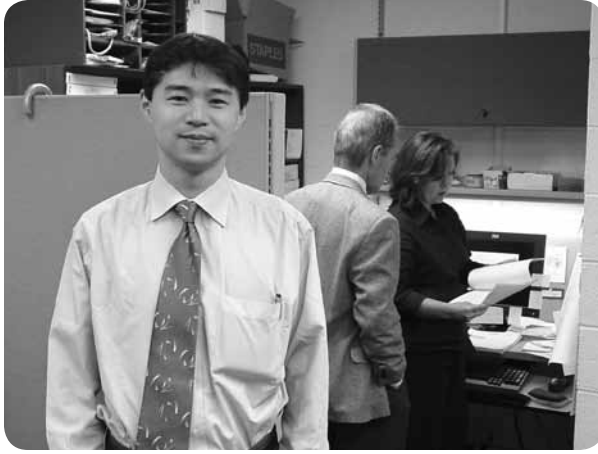
functional GI and motility disorders. Visiting scholars also have the chance to observe patient care, participate in research meetings and teaching conferences (CME), and expand their training experience by meeting with other faculty within the Division of Gastroenterology and Hepatology and elsewhere at UNC. Visiting Scholars in 2004 included:

- Lin Chang, MD
Center for Neurovisceral Sciences and Women's Health, UCLA, Los Angeles, CA
- Richard Lea, MD
University of South Manchester, Manchester, England
- Emeran Mayer, MD
Center for Neurovisceral Sciences and Women's Health, UCLA, Los Angeles, CA
- Ami Sperber, MD
Beer-Sheva University, Tel Aviv, Israel
- Nicholas Talley, MD, MPH
Mayo Clinic, Rochester, MN
- Nicholas Verne, MD
University of Florida, Gainesville, FL

Visiting Scientist Program

The Center's Visiting Scientist Program hosts faculty and investigators from other institutions for extended stays of one or two years, during which they participate as visiting faculty in the research projects of Center investigators. The Center accepts visiting scientists at all levels of their career and provides them with the flexibility to tailor their experience at the Center to their own needs and interests. Visiting scientists are normally supported by their own institutions or grant agencies but, under exceptional circumstances, they may be supported by the Center. Visiting scientists are expected to lecture or make presentations and, in this way, to bring new skills and knowledge to the Center's resident clinicians and investigators. They write academic publications related to functional GI and motility disorders, and are invited to write articles for the Center's quarterly Digest that are representative of their particular clinical care or academic interests. Visiting Scientists in 2004 included:

Alvena Halpert, MD, was a Visiting Scientist at the Center from July 2002 to June 2004. She has a special interest in patient education and carried out research on the educational needs of FGID patients and the impact of providing this education on health outcomes.



She also carried out research on the physiology of incontinence and defecation. Dr. Halpert is now directing the functional GI and motility program at Boston University Medical Center, and continues to collaborate with Center investigators.

Motoyori Kanazawa, MD, PhD, Department of Behavioral Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan, is an Assistant Professor and director of the teaching program there. He was a Visiting Scientist at the Center from July 2002 to June 2004, during which he completed a number of epidemiological and physiological studies. His research interests have included the study of visceral perception in functional dyspepsia using cerebral evoked potential, epidemiological studies of learned illness behavior in IBS, and trans-cultural studies comparing the characteristics of IBS patients in the US and Japan. He has returned to Tohoku University, and continues to collaborate with Center investigators.

Pre-doctoral Training Program

The Center is able to provide pre-doctoral research and/or clinical training to a limited number of trainees through its Pre-doctoral Training Program. These are usually one-year fellowships and are normally supported by grant agencies external to the Center. The first of these fellows was Catherine Forneris, who subsequently completed her PhD in clinical psychology and is now on the faculty of the UNC Department of Psychiatry. Another pre-doctoral fellow was Neeta Venepalli, a third year medical student when she completed a Doris Duke Fellowship. Her training involved all stages of developing and completing a clinical research study -- literature review and proposal preparation, recruitment and interviewing of research subjects, analysis of the data, and writing and publishing the manuscript. Her topic was families of children with recurrent abdominal pain (RAP). She

has now completed her MD degree and accepted an internship and residency training at the University of Illinois. She plans to continue her research interest in psychological factors that influence the development of functional bowel disorders.

Postdoctoral Training Program

The Center hosts postdoctoral fellows on an ongoing basis. Postdoctoral fellows typically stay for two or more years and receive mentored research training while participating in research projects with senior investigators in the Center. They may receive stipends from one of the two training grants awarded through the Division of Gastroenterology and Hepatology or from extramural grants.

Currently, Syed Thiwan, MD, is a Fellow in the Postdoctoral Training Program. He is in a three-year postdoctoral fellowship, for which Dr. William Whitehead serves as his research mentor and Dr. Douglas Drossman teaches him skills in interviewing and treating patients with functional GI disorders. Dr. Thiwan is also collaborating with Dr. Ringel on research.

Clinical and Psychological Skills Seminar

In the Patient Care section of this annual report, we have already described the Clinical Case Conference and the Anorectal Motility Case Conference. In addition, the Evening Seminar on Clinical and Psychosocial Skills developed by Dr. Drossman is a unique program in clinical skills development based on a biopsychosocial patient-centered approach to understanding and treating patients with functional GI disorders (FGIDs). This program evolved from the work of Drs. George Engel and Karl Rogers. Dr. Drossman's patient interview and educational facilitation style is highly regarded, and professionals in medicine and allied health fields visit the Center to learn these techniques while participating in the care of patients (with the patient's permission). Dr. Drossman began a monthly evening seminar for health care professionals that have included faculty and residents in Medicine and Psychiatry and, more recently, GI fellows. This seminar features interactive learning methods, including videotaped discussions, role playing, small group learning, and live interviews with patients. The seminar is unique in its participatory style, and the methods have been presented at national meetings and described in professional journals and magazines.

Continuing Medical Education Events in 2004

In 2004, the Center participated in an Update in Gastroenterology and Hepatology, jointly sponsored by The School of Medicine and The School of Nursing of The University of North Carolina at Chapel Hill. This Continuing Medical Education (CME) program was held April 30-May 2, 2004, at the William and Ida Friday Center for Continuing Education in Chapel Hill, NC. Center faculty and visitors presented during the session on “Functional Bowel Disease” on such topics as: Pathophysiology of IBS, Diagnosis and Treatment of IBS, Functional Dyspepsia, and Chronic Nausea and Vomiting.



The Center also developed and hosted a CME course on Hypnosis Treatment for Functional Gastrointestinal Disorders, held November 11-14, 2004, at the Charles Hamner Conference Center, Research Triangle Park, NC. This CME event was jointly sponsored by the UNC School of Medicine and the American Society of Clinical Hypnosis (ASCH). Numerous published studies have demonstrated that hypnosis is highly effective for treating IBS, functional dyspepsia, and other functional GI problems. In this CME course, the world’s experts who pioneered and developed these methods and conducted most of the research studies were joined by leading hypnosis instructors to provide an intensive and comprehensive course to prepare healthcare professionals for providing responsible and effective hypnosis treatment for FGIDs.

Participants in the course came from as far away as Canada, Sweden, Guatemala, Japan and the United Kingdom, and from throughout the United States. CEU and other credits were available through the American Medical Association (AMA), American Nurses Association (ANA), American Psychological Association (APA), and ASCH. The course was divided into two parts, to accommodate participants who still needed hypnosis training and certification through ASCH and those who were already experienced in hypnosis but interested in learning about its application to functional GI disorders.

“Part A – Basic Hypnosis Training Course” followed the requirements for ASCH basic training, enabling participants to receive certificates and continue future training through ASCH. Sessions included: principles and process of hypnotic inductions; demonstration of induction; techniques of trance deepening and re-alerting; and ethical principles. Small Group Practice sessions were interspersed throughout the sessions, where the participants could practice conducting hypnotic inductions, deepening and trance termination. Topics in “Part B – Hypnosis for Functional GI Disorders” included: hypnosis treatment of IBS & functional dyspepsia; using a standardized hypnosis treatment protocol for IBS (North Carolina Model); therapeutic suggestions and imagery for individual GI symptoms; and case examples.



The director of the course was Olafur Palsson, PsyD, UNC Associate Professor of Medicine and faculty associate of the Center. The Center’s co-directors – Douglas Drossman, MD, and William Whitehead, PhD – were among the faculty for the course, and distinguished visiting faculty included:

- **Peter J. Whorwell, MD** — Senior Lecturer in Medicine and Gastroenterology, University Hospital of South Manchester (UK)
- **Marc Oster, PsyD, ABPH** — Past-President of ASCH, Associate Professor of Psychology, Illinois School of Professional Psychology
- **Sheryll A. Daniel, PhD** — President-Elect of ASCH, Past-President, NC Society of Clinical Hypnosis



Patient Education



A fourth goal of the Center is to provide helpful up-to-date information for patients and the public through seminars and workshops as well as printed materials, videos and the Internet.

The Center's educational activities include symposia, chat rooms, hard copy publications, videos and the website www.med.unc.edu/ibs. The Center's website, in particular, has evolved as a leading on-line resource for information on IBS and other functional GI and motility disorders for patients, health care providers and scientists, and the public at large. Our website averages 20,000 to 40,000 visitors per month. Content is added every week, and new technologies and approaches are expanding the website's utility as a vehicle to recruit subjects for research studies and conduct internet-based surveys and computerized questionnaires.

Once a quarter, our website hosts an on-line chat room -- "An Evening with the Experts" -- where the audience can engage in questions and answers on the topic selected for that evening. Topics in 2004 included:

- New Treatments in IBS (Douglas Drossman, MD)
- GERD and Heartburn (Nicholas Shaheen, MD)
- Bloating and Body Image (Olafur Palsson, PsyD, William Whitehead, PhD, Syed Thiwan, MD)
- Bowel Accidents & IBS (William Whitehead, PhD, and Steve Heymen, MS)

In addition to the website, patients and the larger public have access to helpful information through the Center's patient education brochures and videos. Center brochures are available on topics such as Irritable Bowel Syndrome (IBS), Fecal Incontinence, How to Talk with Your Physician, Constipation, and Psychological Services. Center videos (many on-line at www.med.unc.edu/ibs) are available on topics such as "Living with IBS," "IBS - Transforming Your Life Through IBS Management" (Winner of Communicator Award), "Biopsychosocial Approach to IBS: Improving the Physician-Patient Relationship" (Winner of 1997 AMA International

Film Festival), AGA Clinical Teaching Project, Third Annual Symposium on Functional GI & Motility Disorders, and video clips from the Cutting Edge Series.

The Center's newsletter - Digest -- contains articles and news items on new treatments, research findings, updates on GI conferences, announcements of events and Center activities, and recognition for Center supporters and sponsors. It is available on-line at www.med.unc.edu/ibs and hard copies are distributed through the Center's extensive mailing list, at various events, and upon request.

Patient Symposium

Understanding Functional GI & Motility Disorders

On Saturday, June 12, 2004, the Center hosted a Patient Symposium at the William and Ida Friday Center for Continuing Education in Chapel Hill. Participants came from as far away as England, Canada, California, Washington State, the Midwest, New York, Pennsylvania, as well as North Carolina and neighboring states. Solvay Pharmaceuticals, Novartis Pharmaceuticals, and Janssen Pharmaceutica provided generous support for this event.

Overviews and supporting materials were provided on the following topics:

- Douglas Drossman, MD - What is a Functional Disorder?
- Y. Ringel, MD - IBS Diagnosis and Tests
- Douglas Drossman, MD - IBS Medications: Effective Treatments and New Options
- William Whitehead, PhD - Behavioral Treatments for IBS
- Marjorie Busby, MPH - IBS: Diet and Nutrition
- Lin Chang, MD (UCLA) - IBS and Gender
- Y. Ringel, MD - The Role of Brain Imaging in Understanding the Pain of IBS
- Christine Dalton, PA - Quality of Life in Gastrointestinal Disorders
- Miranda Van Tilburg, PhD - IBS and Abdominal Pain in Children
- Charles Burnett, PhD, DrPH - Cognitive-Behavioral Treatment
- Steve Heymen, MS - Biofeedback
- Olafur Palsson, PsyD -- Hypnosis

For Q&A interchange, various breakout sessions were led by faculty on the following topics:

- Diarrhea - Alben Halpert, MD; Christine Dalton, PA
- Nausea, Vomiting & Dyspepsia - Douglas Morgan, MD; Y. Ringel, MD
- Gas & Bloating - Olafur Palsson, PsyD; William Whitehead, PhD; Syed Thiwan, MD
- Abdominal Pain - Douglas Drossman, MD; Charles Burnett, PhD, DrPH
- Incontinence, Constipation & Rectal Pain - Steve Heymen, MS
- Antidepressants & IBS - Douglas Drossman, MD
- Alternative Treatments - Olafur Palsson, PsyD
- Hormones & Endometriosis - John Steege, MD
- New Leads in the Biology of IBS - William Whitehead, PhD

2004 Publications, Journal Articles, Editorials, Commentaries

In 2004 there were 62 publications, journal articles or commentaries, 47 published abstracts, and 19 books or book chapters published by Center investigators.

- Brown A, **Shaheen NJ**. Screening for upper gastrointestinal malignancy. *Seminars on Oncology* 2004; 31:487-497.
- Camilleri M, **Whitehead, WE**. Prevalence and socioeconomic impact of functional upper gastrointestinal disorders in the United States: Results from the US Upper Gastrointestinal Study. *Journal of Clinical Gastroenterology and Hepatology*, accepted for publication.
- Dalton CB, Drossman DA, Hathaway JM, Bangdiwala SI**. Perceptions of physicians and patients with organic and functional GI disorders. *Journal of Clinical Gastroenterology and Hepatology* 2004; 2(2): 121-126.
- Drossman DA** (editorial). Brain imaging and their implications for studying centrally targeted treatments in IBS: a primer for gastroenterologists. *Gut* (in press).
- Drossman DA**. Functional abdominal pain syndrome. *Journal of Clinical Gastroenterology and Hepatology* 2004;(2)353-365.
- Drossman DA** (editorial). Medicine has become a business: but what is the cost? *Gastroenterology* 2004; 126(4): 952-953.
- Drossman DA**. Primary and secondary outcomes, including quality of life (In: Clinical trails of IBS therapies). *Practical Gastroenterology* (in press).
- Drossman DA** (editorial). Psychosocial factors and the disorders of the GI function: what is the link? *American Journal of Gastroenterology* 2004; 99(2): 358-360.
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- Kwon S, Visco AG, Fitzgerald MP, Ye W, **Whitehead WE**, and the Pelvic Floor Disorders Network (PFDN). Validity and reliability of the modified Manchester Health Questionnaire. *Diseases of the Colon and Rectum*, in press.
- Lembo A, Ameen V, **Drossman DA**. Irritable Bowel Syndrome: Toward an understanding of severity. *Clinical Gastroenterology and Hepatology* 2005;3:397-400.
- Levy RL, **Whitehead WE**, Walker LS, Von Korff M, Feld AD, Garner M, Christie D. Increased somatic complaints and health care utilization in children: Effects of parent IBS status and parent response to gastrointestinal symptoms. *American Journal of Gastroenterology*, in press.
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Faculty, Clinicians, Investigators and Staff

Co-Directors

The Co-Directors are profiled in greater detail earlier in this report.

Douglas A. Drossman, Co-Director

Professor of Medicine and Psychiatry

As Medical Director for the Functional GI & Motility Disorders Clinic, Dr. Drossman works closely with the clinicians described in Patient Care section of this annual report. His research team includes: Shrikant Bangdiwala, PhD; Jane Leserman, PhD; Christine Dalton, PA-C; Danielle Maier, PA-C, MA PAS; J.B. Hu, PhD; Carolyn Morris, MPH; Kim Meyer, CRC; Susan Scheck, MS; Jane Hankins, MAT; Gary Koch, PhD; and Syed Thiwan, MD. In addition, Dr. Drossman continues to work closely with Yehuda Ringel, MD on on-going projects and to collaborate with him on his new projects.

William E. Whitehead, Co-Director

Professor of Medicine and Gynecology

Dr. Whitehead's research Team includes: Yolanda Scarlett, MD; Olafur Palsson, PsyD; Miranda Van Tilburg, PhD; Steve Heymen, MS; Motoyori Kanazawa, MD, PhD (Tohoku University, Sendai, Japan); Syed Thiwan, MD; Marsha Turner, MS Ed; Lenore Keck, RN; Jane Tucker, RN. Collaborators include Yehuda Ringel, MD and Temitope Keku, PhD.

Faculty, Clinicians and Investigators

Shrikant I. Bangdiwala, PhD

Research Professor in Biostatistics, Director of Biometry Core

Dr. Bangdiwala has extensive experience in the design, conduct and analysis of multi-center studies, having worked on clinical trials in congestive heart failure, cardiovascular risk factors, functional bowel disease, and cancer prevention. Dr. Bangdiwala also has extensive experience as a member of various data and safety monitoring boards for studies in ophthalmology, HIV/AIDS, and cardiology. He collaborates with investigators at the Center on several studies, including research on brain imaging of IBS patients with and without a history of abuse and a comparative study of cognitive behavioral and anti-depressant treatment. Dr. Bangdiwala's role in these projects includes helping with research design, developing statistical analytical strategies, overseeing data management and statistical analyses, and paper preparation.

Charles K. Burnett, PhD, DrPH

Clinical Associate Professor of Medicine, Director of Psychological Services

Dr. Burnett has been associated with the Center since 1995 and has a long-standing interest in psychological treatments designed specifically for patients with functional GI and motility disorders. Patients are referred to him through the Center, the FGID Clinic, and by outside physicians. He specializes in treatment of patients with chronic illnesses, using alternative therapies such as cognitive behavioral therapy (CBT), pain management techniques, stress management, biofeedback, and hypnosis. Dr. Burnett also precepts psychology interns and mentors visiting professors, and participates in the Center's training programs through the weekly clinical case conference and evening seminars.

Christine B. Dalton, PA-C

Physician Assistant

Ms. Dalton is a Physician Assistant (PA) in the Functional GI & Motility Disorders Clinic. She often sees the patient first and then collaborates with Dr. Drossman in the patient's ongoing care. She handles most of the telephone calls from patients, including medication management, addressing symptom concerns, and other matters. Her primary clinical interests include the management of treatment-resistant patients, and the care of patients who have experienced chronic GI symptoms for many years with little or no relief or understanding of their conditions. She is also interested in effective patient education and successful patient-provider communications, and has abstracts and publications in these areas.

Steve Heymen, MS

Instructor in Medicine, Director of Biofeedback Services

Mr. Heymen is a Fellow of the Biofeedback Certification Institute of America and has provided biofeedback therapy for more than 20 years. He is the project manager for an NIH-funded study of the efficacy of behavioral treatments for fecal incontinence and constipation. He is currently working on his dissertation for a PhD in Biological Psychology through the UNC Department of Psychology.

Temitope O. Keku, PhD

Research Associate Professor of Medicine

Dr. Keku carries out translational research which combines basic science with epidemiology to gain a better understanding of the etiology and pathogenesis of cancer, especially colorectal cancer. Her primary research interests include gene environment interactions, gene-gene interactions, and molecular epidemiology. She is currently conducting a study to evaluate the relationship between insulin resistance and colorectal cancer in African Americans and Whites, with a specific focus on gene-environment interactions involving genetic polymorphisms in genes associated with insulin resistance and obesity as well as lifestyle/dietary risk factors. Dr. Keku collaborates with Drs. Whitehead and Morgan on genetic polymorphisms that contribute to irritable bowel syndrome (IBS), and she also collaborates with Dr. Ringel. She is also a co-investigator on the GI SPORE and the Diet and Health Studies (DHS). Dr. Keku has undergraduate and Masters degrees from the University of Jos, Nigeria. She has an MSPH in Parasitology & Laboratory Practice and a PhD in Medical Parasitology (Epidemiology) from the UNC School of Public Health. Dr. Teku's research team includes: Jeff Barnes, MS (Research Technician III), Janie Peacock, BS (Research Technician II), Katharine Thompson, BS (Research Technician III), Maya McDoom (Laboratory Research Assistant), Seun Omofoye (Laboratory Research Assistant), Helen Onabanjo (Laboratory Research Assistant).

Jane Leserman, PhD

Professor of Psychiatry and Medicine

Dr. Leserman is a medical sociologist with an extensive research background in behavioral and psychosomatic medicine, the effects of stress on the immune system, issues related to women's health, and quantitative research methods. Dr. Leserman's research has examined the long-term physical and mental health effects of sexual and physical abuse among women with GI disorders and pelvic pain. She collaborates



with Dr. Drossman and other Center investigators on several studies, including research on brain imaging among IBS patients with and without an abuse history and a study comparing behavioral and antidepressant treatment. Dr. Leserman's role in these projects includes helping with research design, psychosocial measurement, planning and performing data analyses, and paper preparation. Dr. Leserman also serves as a research mentor for younger faculty and trainees. Dr. Leserman's research team includes: Samantha Meltzer-Brody, MD (Collaborator), Denniz Zolnoun, MD (Collaborator), and Katherine Rinaldi (Research Coordinator).

Danielle Maier, PA-C, MA PAS
Physician Assistant

Mrs. Maier is a Physician Assistant in the Functional GI & Motility Disorders Clinic. She sees patients on her own as well as with Drs. Drossman, Ringel and Webb. She has completed intensive training in the biopsychosocial care of patients and has completed her Masters degree in physician assistant studies with a focus on functional bowel disorders. She is a PA graduate of the Wake Forest School of Medicine, where she graduated with high honors.

Douglas R. Morgan, MD
Assistant Professor of Medicine

Dr. Morgan attended Dartmouth College and received his medical degree from Case Western Reserve University. He completed his postgraduate training in Internal Medicine and Gastroenterology at the University of California, San Francisco. He also earned a Masters in Public Health in Epidemiology at the University of California, Berkeley. Dr. Morgan has been a UNC faculty member for the past four years and is a member of the UNC Center for Esophageal Diseases, with a focus on gastric disorders, including Functional Dyspepsia and H. Pylori. He also directs the Capsule Endoscopy program at UNC. Dr. Morgan is Director of the nascent Center for Latino Digestive Health at UNC, with clinical and research initiatives

in Central America and North Carolina. He has extensive experience in Latin America and with the Latino population. He is a former Peace Corps engineer, having designed rural electrification systems in Honduras. In medical school, he served as US Public Health Service COSTEP volunteer at Migrant Farm worker clinics in the Rio Grande Valley. His research interests include the epidemiology of FGIDs in the Latino population, gastric cancer epidemiology, and Latino digestive health. Active functional GI research protocols include a large population-based FGID epidemiology collaboration with the University of Nicaragua, with funding from the Rome Committees. He also directs a gastric cancer epidemiology initiative in Honduras, with a focus on host genetic and dietary factors. Dr. Morgan receives research funding from the NIH through the Mentored Scholars Program, as well as from foundations and industry. He was a recipient of the American College of Gastroenterology's Governor's Award for Excellence in Clinical Research in October 2004. His research team includes Paris Heidt (Program Manager) and Joy Coker (Administrative Assistant).

Olafur S. Palsson, PsyD
Associate Professor of Medicine

Dr. Palsson is a Clinical Psychologist who did his postdoctoral training in the UNC Center in 1994-1995, and then established a behavioral medicine program at Eastern Virginia Medical School. He returned to the UNC Center in 2001 and has continued to develop his research and training interests in hypnosis treatment for functional GI & motility disorders. Dr. Palsson was the Course Director for a UNC School of Medicine CME program on "Hypnosis Treatment for Functional Gastrointestinal Disorders," held November 11-14, 2004. His other research interests and activities include the development and validation of tests to assess co-morbid non-gastrointestinal symptoms in IBS, and questionnaires for the assessment of bloating. Dr. Palsson has extensive training and experience in Internet programming and is the Center's Director of Data Technology. He has developed innovative methodologies for collecting and processing clinical data in a confidential and secure manner through the Internet. He has also conducted survey research through the Center's website www.med.unc.edu/ibs, and he initiated and moderates the Center's quarterly on-line "Chat with the Experts."

Yehuda Ringel, MD
Assistant Professor of Medicine, Clinical Services-Functional GI/ Motility, Coordinator, Brain Imaging Research Project

Prior to joining the UNC medical faculty, Dr. Ringel completed a postdoctoral research fellowship at the Center under the mentorship of Drs. Drossman and Whitehead. He gained valuable experience in the theories and methodologies involved in research related to functional GI disorders, including the design and conduct of clinical trials, use of advanced GI physiology and motility research techniques, validating psychosocial research tools, and functional brain imaging. Dr. Ringel has expanded the Center's research and educational activities with research on GI tract sensation (e.g., visceral hypersensitivity) focused on physiological and psychological mechanisms in functional GI disorders. With Dr. Drossman, Dr. Ringel is leading a brain imaging project, which is looking at the brain's response to intestinal stimulation using advanced imaging techniques with positron



emission tomography (PET) and functional MRI. He is also investigating the effect of various physiological (intestinal smooth muscle tone/compliance, autonomic nervous system activity) and psychosocial (history of abuse) factors in upper and lower GI tract sensation, and is involved in the design, evaluation and conduct of clinical trials evaluating new drugs and treatment approaches for functional GI disorders. Other areas of research interest include: (1) epidemiology of FGIDs, (2) mechanism studies on GI physiological responses to pain, (3) investigation of the role of colonic bacteria and inflammation in the pathophysiology of IBS, and (4) genetics of IBS. Dr. Ringel's research work has been well recognized through the awards he has received, including: AGA/Solvay Award for Clinical Research in IBS/Motility awarded by the Foundation for Digestive Health and Nutrition; ACG Junior Faculty Development Award; and the Annual Young Investigator Award of the Functional Brain-Gut Research Group (FBG). Dr. Ringel's is collaborating with other investigators at UNC in his research work, including Dr. Balfour Sartor, Dr. Nicholas Shaheen, and Dr. Weili Lin. In addition, Dr. Ringel is mentoring medical students, residents and fellows on various research projects.

Yolanda Scarlett, MD

Associate Professor of Medicine, Medical Director-GI Motility Service

Dr. Scarlett oversees the operations of UNC's GI Motility Service. She also trains gastroenterology and urogynecology fellows in diagnostic motility testing, and leads a monthly case conference on anorectal disorders. Her primary area of clinical and research interest is anorectal motility disorders.

Nicholas J. Shaheen, MD, MPH

Associate Professor of Medicine and Epidemiology; Director of the Center for Esophageal Diseases and Swallowing

Dr. Shaheen attended college at Harvard University and earned his medical degree at the University of Chicago, Pritzker School of Medicine, where he fulfilled his internship and residency requirements. He completed his clinical fellowship training at UNC, where he also earned his Masters degree at the School of Public Health. He then completed a National Institutes of Health fellowship in Epidemiology. For the past seven years, he has been a faculty member at UNC. His research interest is in the epidemiology and management of esophageal diseases. He is the author of numerous journal articles and book chapters related to reflux disease, motility

disorders, Barrett's esophagus, and esophageal cancer. He is currently on the editorial board of Gastroenterology and Evidence-Based Gastroenterology, and is a reviewer for numerous journals. Dr. Shaheen receives research funding from the National Institutes of Health as well as multiple private foundations and corporations to pursue clinical and translational research in esophageal diseases. He is a member of several professional societies, including the American Gastroenterological Association, the American Society of Gastrointestinal Endoscopy, the American Medical Society, and the North Carolina Medical Society. He is a Fellow of the American College of Gastroenterology and the American College of Physicians. Dr. Shaheen's research team includes: Melissa Brennan, RN (Study Coordinator); Paris Heidt (Study Coordinator); Kate Lawrence (Doris Duke Fellow); and Lindsay West (Study Coordinator).

Syed Thiwan, MD

Research Instructor in Medicine, Postdoctoral Research Fellow

Dr. Thiwan is a co-investigator in Dr. Whitehead's study of the psychophysiology of IBS, looking at the possibility of different etiopathologic groupings among IBS patients. Dr. Thiwan is also the project leader for a study to validate a questionnaire that measures the intensity of bloating and distinguishes different etiologies for this symptom. Dr. Thiwan has been accepted into the UNC GI Fellowship Program beginning in 2006.

Miranda Van Tilburg, PhD

Assistant Professor of Medicine

Dr. van Tilburg received her Master's degree in Economic Psychology and her PhD in Health Psychology at Tilburg University, The Netherlands. In 1998, she completed a three-year postdoctoral fellowship in Endocrinology and Medical Psychology at Duke University Medical Center. In 2002, Dr. van Tilburg came to the UNC Center for Functional GI & Motility Disorders as a post-doctoral fellow and then joined the faculty of the School of Medicine in 2004. She has a special interest in pediatric functional GI disorders, especially Recurrent Abdominal Pain (RAP) and the intergenerational transmission of functional bowel disorders. Compared to the literature in adults, children's functional GI disorders have received little attention and Dr. van Tilburg hopes to expand the Center's research activities in this area. Her primary focus is on the role that parents can play with regard to their child's RAP symptoms. Parents are an integral part of their child's health care and need to be involved in the treatment plan, but there are currently no guidelines for parents or health care professionals on how to involve parents in the most successful way. The focus of Dr. van Tilburg's current work is on understanding why some parents are better than others at helping their child cope effectively with pain. She has developed a questionnaire to assess parental thoughts and worries about RAP and is in the process of validating this questionnaire. Her research will help determine how to make parents better pain coaches, and help doctors to talk about effective coping skills and how to implement them at home. Dr. van Tilburg is also interested in bringing advances in biopsychosocial medicine into the doctor's office and even the child's home. In collaboration with Dr. Palsson, she is planning to test the effectiveness of standardized hypnotherapy for RAP that can be administered by any health care professional with little or no training in hypnosis or administered at home by the patient himself or herself.

Duane D. Webb, MD, FACC
Adjunct Professor of Medicine

Dr. Webb is the former Chair of Gastroenterology at East Carolina University and was Global Director of GI Research at Glaxo-Wellcome. He currently has a private practice – Chapel Hill Internal Medicine. His major area of clinical research interest is the relationship between upper GI disorders such as non-ulcer dyspepsia and lower GI motility disorders including irritable bowel syndrome. He sees patients in the Functional GI & Motility Disorders Clinic and participates in the clinical conference and other Division activities.

Other Center Staff

Alesia Aileo, BS Psychology — Ms. Aileo is Dr. Ringel's research coordinator for clinical trials. She manages all aspects of Dr. Ringel's clinical research, including regulatory monitoring, recruitment and maintenance of ongoing clinical trials involving new medications and treatments for functional GI disorders. Ms. Aileo has a BS in psychology. Her primary interests include the physiological response of the body to disease and related clinical research.

Sherwood Baskerville — Mr. Baskerville is Accounting Manager for the Center and for Dr. Drossman's Functional Bowel Disorders research group.

Gae Caudill — Ms. Caudill is a part-time administrative assistant. Her primary responsibilities include maintaining the Center's computerized database, responding to requests for information, mailing the Center's newsletter and annual report, and assisting with a variety of duties associated with Center meetings and events.

Joy Coker — Ms. Coker is the Administrative Assistant to Drs. Whitehead, Ringel, Brown and Morgan. She has a BA in Romance Languages and Political Science from UNC at Chapel Hill, and a Masters degree in Transatlantic Studies from the University of Bath, near Bristol, UK. To enhance her skills in Spanish, Ms. Coker studied at the University of Seville, Spain. She later went on to complete part of her graduate degree at Carlos III University in Madrid and French studies at the University of Laval in Quebec City, Canada.

Sheila Crawford, RN — Ms. Crawford is the head nurse of the GI motility service and is responsible for both performing diagnostic motility tests and training GI and surgery fellows. She is also responsible for scheduling, quality assurance, and maintaining the equipment and supplies for the laboratory.

Jane Hankins, MAT — Ms. Hankins is a research assistant who is primarily involved with Dr. Alben Halpert's IBS Patient Education Questionnaire study. She also assists Kim Meyer in the recruitment of study subjects for Dr. Drossman's pharmaceutical trials.

John Herr, BFA — Mr. Herr recently joined the Center staff as Media Coordinator. He is webmaster for the Center's website, publisher of the Center's quarterly newsletter (DIGEST), and producer of the Center's printed materials (annual report, brochures, flyers) and videos. He is also a staff resource to the Data Technology Core.

J.B. Hu, MA, PhD — Dr. Hu is Assistant Director of the Biometry Core and is involved with data management of the NIH treatment trial for FBD. He has also been a co-investigator in the final analysis of the treatment trial and has assisted in the management of clinical and survey data for the UNC pilot study of functional MRI of FBD.

Lenore Keck, RN — Ms. Keck is a Research Nurse with Dr. Whitehead's group. She participates in all stages of clinical research studies, including study subject recruitment and screening, administering psychological tests, physiological testing, creating and scanning study questionnaires, and data management.

Kim Meyer, CRC — Ms. Meyer is Dr. Drossman's research coordinator for clinical trials. Her primary research interests include the use of pharmaceuticals to treat constipation predominant IBS, diarrhea predominant IBS, and functional constipation.

Linda Miller — Ms. Miller works with Susan Schneck on scheduling patients for the Functional GI Clinic.

Carolyn Morris, MPH — Ms. Morris is the Biostatistician for the Biometry Core. She has been primarily involved with performing statistical analyses on data from the seven-year multi-center NIH study of treatment in FBD, but she also assists with analyses of data sets for other Center studies.

Kirsten Nyrop, MACT — Ms. Nyrop joined the Center staff as Administrative & Development Coordinator in April 2004. Her primary responsibilities include marketing/visibility, serving as lead editor for Center publications and the website, fundraising, foundation support, and organizational development. She is the Administrator for the NIH Infrastructure Grant.

Susan Schneck, MS — Ms. Schneck is both Research Administrator and Administrative Assistant to Dr. Drossman. She is also an assistant to Dr. Burnett and is among the first contacts for patients referred to the Center's clinic.

Jane Tucker, RN — Ms. Tucker is a Research Nurse with Dr. Whitehead's group. For the Center's biofeedback study, she performs anorectal motility testing and administers questionnaires to study participants. She has also worked on the development of a bloating questionnaire. Her responsibilities include recruiting study participants, preparing and scanning scannable questionnaires, sending out for and tracking participant responses, and data management.

Marsha Turner, MS.Ed — Ms. Turner is the Research Coordinator for Dr. Whitehead's research program based at UNC-Chapel Hill and for a network of collaborating institutions. Ms. Turner assists in submitting new grants, monitoring the progress of current research studies, and coordinating activities with the off-site network.

Work-Study Students — Jordan Myers and Moneika Owen.

Special Thanks

The training and education activities of the UNC Center for Functional GI & Motility Disorders are supported in entirety through donations from individuals in the community and through grants from private corporations.

In 2004, we wish to give special thanks and recognition to:

- » **Robert Johnson** for his generous support throughout the year
- » **Risa Moldovan** for her donation of artwork

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We also wish to thank the following individuals for their donations to the Center:

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Risa Moldovan – Artwork Donation to the Center



We are very pleased and greatly appreciative of Pittsburgh-area artist Risa Moldovan's donation of an original work of art for use by the UNC Center for Functional GI & Motility Disorders as cover art for our 2004 Seasons Greetings card and annual report. Titled "Exotic Delicacy," this painting conceived and designed by Ms. Moldovan is in the style of the Old Masters. Of her painting, Ms. Moldovan says: "As tea consumption became widespread at the end of the 17th Century, the exotic lemon, with its dangling peel, was a ubiquitous Dutch still-life theme."

Ms. Moldovan's great passion is painting in the style of the Old Masters, an art form she has developed into one of exceptional beauty and detail. Ms. Moldovan exhibits nationally. Highlights include a museum show in San Bernadino, CA, and presently the Galleries Steinberg in Chicago, IL. She was recently selected as a member of the Pennsylvania State Committee of the National Museum of Women in the Arts. For additional information on Ms. Moldovan's artwork, please visit her website at www.moldovanfinearts.com.

Ms. Moldovan's philanthropy includes original artwork donations to the Pittsburgh Zoo and PPG Aquarium, the Intestinal Disease Foundation, and the National Museum of Women in the Arts in Washington, DC. Her association with and personal interest in the UNC Center began when Dr. Douglas Drossman, Co-Director of the UNC Center, addressed the Intestinal Disease Foundation in Pittsburgh, an organization founded by Ms. Moldovan and for which she serves as President Emeritus.

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