



DIGEST



UNC
SCHOOL OF MEDICINE

Our mission is to advance the biopsychosocial understanding and care of patients with functional GI & motility disorders through research, training and education.

DROSSMAN REPRESENTS UNC CENTER INTERNATIONALLY

Douglas A. Drossman, MD
UNC FGIMD Center Co-Director



Our Center for Functional GI and Motility Disorders is recognized world-wide for its biopsychosocial research and care of patients with Functional GI and Motility Disorders. The mission of the Center is to advance the biopsychosocial understanding and treatment of functional gastrointestinal and motility disorders through an integrated approach to patient care, research, training and education. One way to accomplish this is by receiving visitors who come to learn from us here at the Center, and we host many visitors each year. In addition, we can fulfill our mission by disseminating our research and clinical skills internationally.

In this regard, Dr. Douglas Drossman, co-Director of the Center was recently invited to give several presentations in Japan and Austria on biopsychosocial research and patient care as practiced in our center.



Dr. Drossman thanking program organizers
at a reception in Sendai

From June 23 to June 25, Dr. Drossman was hosted by Drs. Michio Hongo and Shin Fukudo at Tohoku Medical Center in Sendai, Japan. In addition to advising on research studies developed by young investigators at the medical center he presented three lectures to various groups. The first presentation entitled "Rome Foundation Activities and Understanding Clinical Trials, Outcomes and Severity in IBS" was given to a pharmaceutical company who is

developing new treatments for patients with FGIDs. The information helped them understand the activities of the Rome Foundation of which Drs. Drossman and Whitehead are Board members, the talk also explained how regulatory agencies like the FDA and the European and Japanese Regulatory Agencies provide guidelines for clinical outcomes in such trials. The second presentation was given to the medical school undergraduate and graduate students on : "The Effects of Early Life Abuse on the Pathogenesis of IBS". Dr. Drossman's research group was the first to report the role of abuse and other life stresses over 20 years ago and continues to publish studies in this area. He also offered practical guidelines for care of patients using video interviews. Next, Dr. Drossman was the featured speaker at the IBS Gut Club an annual meeting that brings together over 200 basic and clinical scientists in Japan who are studying the FGIDs. His lecture "Functional, What Does it Mean" was a philosophical and historical treatise on issues relating to addressing stigmatization and misunderstanding of these disorders. He then went on to discuss alternate and more effective ways to communicate information on the FGIDs to patients and physicians in the future.

Dr. Drossman was also the keynote speaker at the 51st Annual Japanese Society of Psychosomatic Medicine, a 3,000 member organization of clinicians and scientists who address mind body interactions in their daily work. The presentation entitled: "Beyond Tricyclics: Neurogenesis and Augmentation Treatment for Severe Functional GI Disorders" provided novel information on effective treatments using augmentation methods for patients with chronic and refractory painful GI symptoms. Although only 1/3 of the group were gastroenterologists, the information provided was applicable to many patients seen in other medical disciplines suffering from chronic pain.

From July 1 to July 4, Dr. Drossman was invited as a keynote speaker at the European Congress of Psychosomatic

UPCOMING CHAT SCHEDULE



October	<i>Understanding Research Studies</i>	<i>Teresa Hopper, PhD</i>
November	<i>The Association Between IBD-IBS</i>	<i>Millie Long, MD</i>
December	<i>When and When Not to Think Colon Cancer</i>	<i>Lisa Gangarosa, MD</i>
January 2011	<i>How Well Do You Know IBS?</i>	<i>Christine Dalton, PA-C</i>
February 2011	<i>Pelvic Pain</i>	<i>Denniz Zolnoun, MD</i>

Be sure to visit our website to view the previous year's archive of FGIMD topics by our experts! These are just a few of the many sessions you can watch right now at med.unc.edu/ibs:

- **August 2010:** Narcotic Bowel Syndrome. Presented by Douglas Drossman, MD
- **July 2010:** Biofeedback for GI Disorders. Presented by Steve Heymen, PhD
- **June 2010:** How Illnesses & Treatments Vary in the Latino Population. Presented by Douglas Morgan, MD, MPH
- **March 2010:** Psychosocial Aspects of Functional GI Disorders. Presented by Stephan Weinland, PhD
- **February 2010:** Diet and IBS. Presented by Spencer Dorn, MD, MPH

Over the past decade, the UNC Center for Functional GI and Motility Disorders has enjoyed significant grant support from a number of private foundations and corporations. These grants have ranged from sponsorships of specific events (symposia or CME courses) to unrestricted grants in support of fellowships and the Center's education and training effort. The following are among the Center's valued sponsors:

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DIGEST is a quarterly publication of the UNC Center for Functional GI & Motility Disorders, a center of excellence within the Division of Gastroenterology and Hepatology, School of Medicine, University of North Carolina at Chapel Hill.

The Center's co-directors are **Douglas A. Drossman, MD**, Professor of Medicine and Psychiatry, and **William E. Whitehead, PhD**, Professor of Medicine and Gynecology.

For more information about the Center, please visit our website at

WWW.MED.UNC.EDU/IBS



UNC
SCHOOL OF MEDICINE

DIGEST

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FACULTY PROFILE

PURSuing THE MIND-BODY CONNECTION

Olafur S. Palsson, PsyD
Associate Professor of Medicine

When I was in college in the 1980s in Reykjavik, the capital city of Iceland where I was born and raised, I developed a fascination with the mind-body connection. That interest set in motion a personal quest that eventually led me to live and work here in North Carolina. I had been interested in biology and physiology for a while, and as I started to read about evidence that the human mind could influence physical health and illness, I felt it was something I should formally study. That conviction grew even stronger when I had the opportunity at the age of twenty to attend a live demonstration by a prominent psychiatrist, showing that local anesthesia could be induced successfully with mental influence alone by using hypnosis. I immediately bought every book I could find in the local bookstores on hypnosis, and started trying to replicate this hypnotic anesthesia effect on my trusting friends, sticking them with hypodermic needles to see if I was successful in making them immune to pain. I discovered to my delight that I could indeed induce anesthesia even with my rudimentary self-taught hypnosis skills (although occasional failures resulted in very animated reactions from my test subjects).

I enrolled in medical school in Iceland a year later, in part with the specific intention to learn more about the interplay between mind and body and the clinical uses of that connection. However, I gradually realized in the first semesters that there was little room or consideration given to mental influences on health in the way medicine was taught and practiced. Our teachers and most of my classmates seemed to have no patience with such exotic interests. My frustration with studying physical diseases and healing without consideration of the role of the mind grew from month to month. Finally, after the star student in our class protested loudly one day during a lecture on pain in the second year curriculum that learning about pain was a waste of time – exclaiming “What does that have to do with real medicine? Pain is nothing but the firing of neurons!” -- I reluctantly came to the conclusion that I was in the wrong place, and decided after some exploration that clinical psychology was a far more likely path to study what interested me.

Acting on that decision was a significant undertaking, though, for Iceland only had one university at that

time, and it did not offer doctoral studies in clinical psychology. That meant going to another country for such education. I decided to study in the U.S. because of the research conducted in this country in behavioral medicine (the discipline concerned with the clinical aspects of the mind-body connection). So after first spending three semesters at UNC Greensboro to finish a B.A. degree to catch up quickly in the basics of my new chosen field, and then taking a year off to teach at a small rural college in Iceland, I finally enrolled in a doctoral program in clinical psychology in Norfolk, Virginia. I selected that particular program, The Virginia Consortium Program in Clinical Psychology, because it offered better opportunities than most I had investigated for learning clinical hypnosis and biofeedback, which I had learned were the two quickest and most effective known methods to exert deliberate therapeutic effects on the body by using the mind. I was able to get a lot of training and practice in both of these methods as I progressed through the doctoral program.

When the time came to choose my doctoral dissertation research topic, there was no question in my mind that it should somehow center on putting the utility of the mind-body connection to the test. I finally settled on doing this by designing a scripted six-session hypnosis protocol aimed at reducing stress in the body. I used it to treat groups of individuals with self-reported stress problems, and measured the mental and physical effects. The results turned out mostly as I had hoped for: Not only did the hypnosis intervention improve the self-reported symptoms and psychological well-being of the treated subjects, but it also caused measurable improvement on physical measures of stress such as sweat gland activity and skeletal muscle tension.

When I graduated from the doctoral program I wanted further training in behavioral medicine, and especially wished to get more experience in research in that area. After a few months of looking, I had the great fortune of learning informally from my former research mentor in Virginia that Bill Whitehead, one of the top experts on in the mind-body connection in IBS, who had recently moved here to UNC, was looking for a post-doctoral fellow.

I knew practically nothing about IBS at that time and had never given any thought to it as a mind-body disorder. But as I began to read about this



Dr. Palsson treating temporomandibular joint disorder with biofeedback in the EVMS Behavioral Medicine Clinic in 1997.

disorder and Bill's excellent research on the roles of stress, social learning, and psychological and psychophysiological factors in it, I realized that IBS was an excellent model for mind-body research. I therefore went to visit Bill here in Chapel Hill and was very pleased when he offered me the post-doc position. Within months I was deeply engaged in research on psychological and social factors in gut pain perception in IBS under his guidance. We also quickly found a common interest in understanding better the effects on IBS of hypnosis treatment, which had already been demonstrated to be beneficial for IBS in England but had not been tested in the U.S. In consultation with Bill I adapted and expanded the hypnosis scripts I had developed for my doctoral dissertation research for use in IBS treatment, and we then conducted the first study on this fully scripted treatment. The protocol worked better than I had dared to hope. It improved the bowel symptoms substantially for most of the IBS patients we tested it on. However, the physiological mechanisms we had hypothesized might mediate its impact on IBS symptoms (visceral pain sensitivity and muscle tension in the bowel wall) did not change at all after treatment. In other words, we had developed an efficacious treatment but we did not know exactly why it worked (and in fact still do not know that to this day).

When I completed the two-year post-doctoral training period in Bill's research lab, I had learned a tremendous amount about behavioral medicine research and about IBS from him. I was immediately offered a behavioral medicine position at Eastern Virginia Medical School (EVMS) in Norfolk, the institution where I had received my doctoral degree, as Assistant Professor with joint appointment in Psychiatry and Family Medicine.

I took on to re-establish and direct the Behavioral Medicine Clinic at that institution. In this specialized clinic, I and a couple of other clinicians used biofeedback, hypnosis and psychotherapy

to address a broad spectrum of health problems where both mind and body both contributed, such as temporomandibular joint disorder, tension headaches and chronic back pain. I also received a steadily increasing number of IBS cases referred by gastroenterologists who had learned about the positive results of my hypnosis work with that disorder. This led me to conduct a second hypnosis study for IBS, which replicated the high efficacy of our scripted protocol. After that, I felt confident enough about the reliable therapeutic impact of that treatment to start sharing the protocol with appropriately qualified clinicians, and I also began to train other health professionals in the use of hypnosis for gut problems. As a result, treatment with our hypnosis protocol (known in the field of clinical hypnosis as the North Carolina Protocol) has become widely available and well-known. It is now offered by more than 400 clinicians across the U.S. and used internationally in several different languages as well.

Another part of my responsibilities at EVMS was to teach medical students, family medicine and psychiatry residents and doctoral students in clinical psychology about behavioral medicine and the mind-body connection. I found that often the most effective (and most fun) way to accomplish such teaching was to hook my students up to the physiological measuring equipment in our clinic, and then rattle them to show them first-hand on the computer monitors what happens to various body functions when the mind is disturbed. Most of us never realize or believe how continually and dynamically our mind and body react to each other if we do not have the opportunity to observe it in real-time.

An exciting bonus of being at EVMS was the opportunity to work with NASA on mind-body technologies. I had become acquainted with Alan Pope, senior research scientist at the nearby NASA Langley Research Center during my graduate studies at EVMS (he helped me to set up the physiological monitoring equipment I used in my dissertation research). As we renewed our connection when I moved back there, he and I started dreaming up together novel technologies that could put the mind-body connection to work and could be built in Alan's Langley lab. This eventually resulted in a number of joint patent applications and also gave me a couple of research contracts with NASA to do first testing of early prototypes of the inventions on human subjects. One of the most promising of these prototypes was a piece of equipment that Alan and I invented together which blended brainwave biofeedback into videogame playing. It was designed in such a way that when individuals played popular off-the-shelf games for fun, the feedback from the equipment gradually and subtly changed their brain functioning and enhanced their concentration and attention. This technology proved quite effective when tested in a

rigorous controlled trial on children with attention problems in our clinic. Marsha Turner, who is now our team's research manager here at UNC, carried out that study with me. This technology was patented by NASA and licensed to a company that now sells this equipment to treat children with Attention-Deficit Hyperactivity Disorder.

After four years on the faculty at EVMS, academic funding for my position ran out and I had to look elsewhere to continue my career. Upon hearing about that turn of events, Bill Whitehead was kind enough to invite me to re-join his functional GI research team at UNC. I accepted, but initially only agreed to work part-time with Bill in order to have time to pursue further the possibilities of my joint technologies with NASA. However, as the scope and ambition of Bill's research grew steadily, I gradually increased my time on the team until I finally gave in within a couple of years and accepted full-time employment and was granted Associate Professor rank.

In December of this year (2010) I will have been here at UNC for a whole decade this second time around. It has been an incredibly busy and productive ten years of my life, and has satisfied my interest in studying the mind-body connection. The research projects I have worked on here are now almost too numerous to recall, and have covered the whole biopsychosocial spectrum of IBS and other functional GI disorders. The high number of projects I have been involved in is explained in part by the fact that I served for five years as the director of our Center's DATA core under an NIH infrastructure grant, and helped to guide and manage data collection and data processing in over 40 research projects within our Center and by outside collaborators.

My research work here at UNC has been a rich experience. It has allowed me to be involved in all aspects of research, gain a lot of understanding about functional GI disorders from Bill Whitehead and Doug Drossman (the co-directors of our Center), and it has also enabled me to incorporate many of my interests in my job. For example, I have been able to utilize the skills from my long-standing personal hobby of computer programming of internet applications to enhance research possibilities at our Center by devising methods and setting up web applications to conduct large-scale internet mediated studies. I have also continued to train health professionals in hypnosis for GI disorders and work on expanding the availability of hypnosis treatment for IBS and other gut problems, and have worked with Miranda Van Tilburg and Marsha Turner to develop a scripted guided imagery protocol for functional abdominal pain in children, which is proving quite efficacious just like our IBS protocol.

I will admit that being a full-time GI researcher has its limits. I sometimes miss having opportunities to work directly with the mind-body connection through clinical work with patients, and I also occasionally miss dealing with a wider variety of mind-body problems than just those of the gut. However, this has been more than compensated for by the rewards of being a member of a great research team and the opportunity to do interesting and stimulating work in one of the leading centers on functional GI disorders. I feel that I have been able to contribute, as one wheel in a potent research machine, to work that is slowly helping our field progress in many ways. In particular, I believe that the outcomes of a long-term NIH-funded project directed by Bill Whitehead (informally called the cluster study by our team), which I have been working on as a co-investigator for most of my decade here, is likely to lead to significantly better understanding of the nature of IBS and eventually result in more effective treatments.



TREATMENT STUDIES

RESEARCH SUBJECTS NEEDED

Narcotic Bowel Study

We plan to characterize the nature of the Narcotic Bowel Syndrome population and their response to treatment (i.e., detoxification). This will be an observational study. If you have chronic abdominal pain from any medical condition that is treated with high-dose narcotics, you could be eligible to participate in this study.

Participation

- Research assistants will contact patients during treatment at pre-detoxification, post-detoxification, and three and six month follow-up.
- At each time, the patient will complete questionnaires relating to treatment including symptoms, demographic information and psychological effects.

Principal Investigator

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Research Assistant

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Men and Women with IBS and Chronic Functional Abdominal Pain

The purpose of this study is to try to improve functional bowel disorder symptoms with a combination of Seroquel and anti-depressant medication. Seroquel is an FDA-approved medication that is currently on the market and used in the GI clinic.

Participation

- Must be at least 18 years of age.
- Must have been diagnosed with functional bowel disorder within the past 6 months.
- Must be on an anti-depressant medication for at least the past four weeks.
- Study entails seven visits at UNC hospital over a 12 week period, Seroquel treatment once a day for 8 weeks, and \$350 compensation for completion.
- Some visits involve a brief physical and lab work, which are free to the patient.

Principal Investigators

Douglas A. Drossman, MD
Stephen Weinland, PhD
Christine Dalton, PA-C

Research Assistant

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Men and Women with IBS with Diarrhea**Participation**

- Men and women who have been diagnosed with Diarrhea predominant Irritable bowel syndrome by a physician
- Must have had a colonoscopy in the previous 5 years or be willing to undergo a colonoscopy/flexible sigmoidoscopy depending on age
- Requires approximately 6 visits to UNC over 12 weeks
- Patients will be compensated for their participation

Principal Investigator

Douglas A. Drossman, MD

Research Coordinator

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RESEARCH SUBJECTS NEEDED

CAUSES OF SYMPTOMS STUDIES

Genetic and Environmental Factors that Cause or Influence IBS

This study involves measuring the relationship between genes, the environment, and various psychological and health factors in men and women with IBS. Individuals who participate will spend one overnight visit in the Clinical and Translational Research Center at UNC Hospital. No additional visits required.

Participation

- Must be 18 years or older
- Must be diagnosed with IBS by a physician.
- Participants completing the study will receive \$250.
- For more information on how to sign up please visit: www.uncmedresearch.com/ibs or call toll free 866-227-0067

Principal Investigator
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IBS Partner Study: Postal Survey

The purpose of the research study is to learn how your Irritable Bowel Syndrome has affected your partner/spouse. We all know that when we are ill, this can have an effect on the people we live with, and we know from patients, that IBS very often affects relationship with their significant other. Interestingly, this has never been studied, and our study aims to specifically explore the effects of the symptoms of IBS on the relationship between you and your spouse or partner. We are also recruiting individuals with no significant medical history.

Participation

- Must complete a short survey via mail or internet.
- Participants completing the study will receive \$10 to participate as healthy control subjects for this study.

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Healthy Controls Needed for Research Study

We are conducting a research study investigating a broad range of factors that may cause or influence IBS. We are looking for subjects without IBS or any other gastrointestinal (stomach or bowel) symptoms to participate.

Participation

- Must be 18 years or older.
- Must have not experienced any gastrointestinal symptoms within the last 3 months.
- Must fill out various health questionnaires & physiological testing
- Involves one 4 hour visit to the Clinical and Translational Research Center at UNC Hospital.
- Participants completing the study will receive \$50.
- For more information on how to sign up please visit: www.uncmedresearch.com/ibs or call toll free 866-227-0067

Principal Investigator
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Research Nurse
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IBS Pocket PC Study with Immodium

The purpose of this research study is to learn about how bowel symptoms vary throughout the day and in response to stress. Patients must have IBS with diarrhea or a mixed pattern of diarrhea and constipation. The study will also monitor how symptoms and bowel habits change when taking Immodium, an antidiarrheal medication.

Participation

- Must be 18 years or older.
- Must have a history of IBS with diarrhea or mixed diarrhea/constipation for at least 6 months.
- Four 45-minute study visits at UNC are required.
- You must record your bowel symptoms, stress levels, and sleep habits daily for 14 days using a pocket PC device.
- Upon completion of the study participants will receive \$300

Principal Investigators
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CAUSES OF SYMPTOMS STUDIES

RESEARCH SUBJECTS NEEDED

**Online Study
- Qualitative
Analysis of
Episodes of
IBS**

We are looking for patients with IBS to complete an online survey which allows them to answer open-ended questions regarding their personal symptom experience. By examining these reports, we hope to gain a better understanding of how patient symptoms change over the course of an episode and to identify any patterns in symptom experience.

Participation

- Must be currently experiencing symptoms of IBS.
- Must be able to understand and communicate using written English.
- No compensation is offered for this brief survey.
- To take online survey, log on to: http://www.med.unc.edu/medicine/fgidc/qualitative_analysis.htm and click the link.

Principal Investigator
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**Food and
abdominal
pain in
adolescents
and young
adults**

Many adolescents and young adults who suffer from chronic abdominal pain report food sensitivities which may result in avoidance of certain foods. A research study at UNC investigates which foods patients avoid and what kind of symptoms these cause. If you participate you will be asked to complete three daily food diaries over the phone as well as a questionnaire on eating and symptoms. No visits to UNC are required.

Participation

- Ages 15-17.
- Diagnosed with recurrent abdominal pain or Irritable Bowel Syndrome by a physician .
- You can take part in the study whether or not you avoid eating certain foods.
- You will receive \$40 for completing the study.

Principal Investigator
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**Dietary
restriction
and motility
in adolescents
who suffer
from IBS**

Many adolescents and young adults who suffer from chronic stomachaches avoid eating to prevent pain. A research study at UNC investigates whether food avoidance affects the gut. If participate you will be required to make 2 visits to UNC.

Participation

- Ages 15-21.
- Diagnosed with Irritable Bowel Syndrome by a physician .
- We're looking both for people who avoid eating and who do not avoid eating to prevent stomachaches.
- You will receive \$65 for completing the study.

Principal Investigator
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CENTER VISITOR

Justin Crocker, MD

While in medical school the GI part of the curriculum placed emphasis on organic conditions such as inflammatory bowel disease, cirrhosis, and pancreatitis. However there is an entire class of GI disorders that was not touched upon. Even though irritable bowel syndrome is commonly known, the other functional GI disorders (FGID) were not mentioned. It was not until last year when I was on the general medicine wards as an intern that I started hearing more about these disorders. I was introduced to them by way of the GI-luminal consult service which would commonly diagnose my patients with abdominal pain, nausea, vomiting, or diarrhea as functional in nature. This led me to wonder who these patients were, where they came from, and how many were being diagnosed at University of North Carolina Hospitals.

Using the claims roster for GI-luminal consults; I was able to explore each of the patients seen here over a one-year period. I found that 102 patients (6.7% of the consults) were diagnosed as having an FGID. My initial thought was that the presence of our functional GI and motility disorders center led to these patients being admitted. However only 33% of the patients seen were followed at UNC clinics (1% of which had been seen at our functional GI clinic) and very few if any were admitted by our gastroenterologists to manage their symptoms.

Reviewing these patients' records, it turns out that some were transferred here from local community hospitals for refractory symptoms, but the overwhelming majority (98%) were admitted from our own emergency room for difficult to treat symptoms, which led to an admission.

These patients were predominately female, in their forties, Caucasian, and insured with frequent prior healthcare utilization in the way of ED visits (44%), hospitalizations (43%), abdominal imaging (71%) and endoscopies (60%). What I found interesting is that 41% had another functional somatic disorder (e.g., fibromyalgia) and 55% had a co-existing psychiatric disorder. During their stay, these patients were re-imaged or re-scoped with a total of 38 CTs, 23 ultrasounds, 36 EGDs, and 18 colonoscopies being performed. Upon discharge, only two-thirds followed-up in a gastroenterology clinic and just under half revisited the ED in the 6 month period after their discharge (40% of which were readmitted). The reason for their visit was a recurrence in their GI symptoms.

When interviewing for GI fellowships earlier this year and discussing these findings it turns out that this is not an uncommon problem. In fact, every academic medical center I visited reported similar issues with patients that frequently present to the hospital, undergo repeat procedures, and miss follow-up appointments only to return to the emergency room and be readmitted starting the cycle over again.

These observations suggest that the current system results in increasing healthcare utilization by patients with severe FGIDs without much benefit in return. While it is difficult to discharge patients from the emergency room who are in pain or discomfort, a different approach could be investigated that allows for more management in the out-patient setting.

RESEARCH DAY 2010

Sixth Annual UNC FGIMD Research Day!
November 5-6, 2010 in Chapel Hill, NC

Biopsychosocial Research at UNC

Day 1: Friday, November 5 - UNC Chapel Hill Bioinformatics Auditorium

Day 2: Saturday, November 6 - Siena Hotel, Chapel Hill, NC

In Collaboration with:

- Indiana University
- Boston University
- Tohoku University, Sendai, Japan
- University of Wisconsin

Figure 3: Severity and Impact of FB Symptoms

This is a non-CME event for faculty, investigators and students at UNC and other universities in North Carolina. The event is supported through educational grants from various sponsors, for whom we are grateful for support for the Center's ongoing clinical, educational and training activities.

PATIENT SYMPOSIUM 2010

UNC FGIMD Patient Symposium!
November 7, 2010 in Chapel Hill, NC

Functional Gastrointestinal Disorders: New Perspectives and Treatments

In Collaboration with:

- University of Wisconsin
- Boston University
- International Foundation for Functional Gastrointestinal Disorders (IFFGD)

The Symposium is a unique opportunity for individuals with Functional GI problems to learn about new perspectives & treatments. There will be Panel Discussions following plenary sessions, and breakout sessions will occur before and after lunch, providing the opportunity for questions and answers with the symposium faculty. There is no admittance fee, but registration is required. Registration includes all plenary sessions, breakout sessions, lunch, refreshment breaks, and printed materials.

PLEASE REGISTER FOR EITHER EVENT AT:
WWW.MED.UNC.EDU/IBS

RESEARCH DAY 2010



KEYNOTE SPEAKER

Kurt Kroenke, MD

*Professor of Medicine
Indiana University*



STATE OF THE ART PRESENTER

Arnold Wald, MD

*Professor of Medicine
University of Wisconsin*



STATE OF THE ART PRESENTER

Alben Halpert, MD

*Assistant Professor of
Medicine
Boston University*



STATE OF THE ART PRESENTER

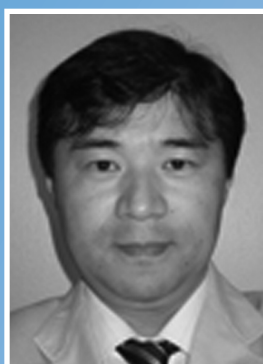
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Barbara Robinson, PhD

*Fellow in Urogynecology,
Department of Obstetrics and
Gynecology
UNC Chapel Hill*

RESEARCH DAY 2010

RESEARCH DAY 2010

Date	Time	Biopsychosocial Research at UNC Program
Day 1: Friday, November 5, 2010 UNC Chapel Hill Bioinformatics Building Auditorium	12:30 PM	Registration
	1:00 PM	Welcome William E. Whitehead, PhD and Douglas A. Drossman, MD <i>Co-Directors of the UNC Center for Functional GI & Motility Disorders</i>
	1:10 PM	Keynote - Managing Multiple Symptoms in the GI Setting Kurt Kroenke, MD <i>Professor of Medicine, Indiana University</i>
		Self-Management Therapies Moderator: Douglas A. Drossman, MD
	1:40 PM	State of the Art - Expressive Writing: Promising Self-Management Therapy in IBS Albena Halpert, MD <i>Assistant Professor of Medicine, Section of Gastroenterology, Boston University</i>
	2:10 PM	Treatment of IBS with Mindfulness-Based Stress Reduction Susan Gaylord, PhD <i>Assistant Professor of Medicine, UNC Chapel Hill</i>
	2:30 PM	CBT for Children with Functional Abdominal Pain: Possible New Delivery Formats Rona L. Levy, MSW, PhD, MPH <i>Adjunct Professor of Medicine, University of Washington, Seattle</i>
	2:40 PM	Multi-Component Point-of-Care Program to Improve FGID Spencer Dorn, MD, MPH <i>Assistant Professor of Medicine, UNC Chapel Hill</i>
	3:00 PM	Break
		New Techniques for Diagnosis Moderator: William E. Whitehead, PhD
	3:10 PM	Predicting Diarrhea from Triggers and Warning Sensations: A Diary Study Olafur S. Palsson, PsyD <i>Associate Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	3:30 PM	Characterizing IBS Symptoms Using Ecological Momentary Assessment Stephan Weinland, PhD <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	3:50 PM	Development and Validation of a Fecal Incontinence Questionnaire Miranda van Tilburg, PhD <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	4:10 PM	Development of a Scale to Measure Patient Satisfaction with Care Spencer Dorn, MD, MPH <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	4:30 PM	Is Narcotic Use Related to Disease Activity in Patients with IBD-IBS Overlap? Millie Long, MD <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	4:50 PM	Adjournment
	7:15 PM	Reception with Dinner Siena Hotel Ballroom

Day 2: Saturday, November 6, 2010 Siena Hotel, Chapel Hill	7:30 AM	Breakfast Siena Hotel 1505 East Franklin Street, Chapel Hill, NC 27514 Il Palio Room
		Pain Management Moderator: Ademola Aderoju, MD
	8:00 AM	Results from the UNC Narcotic Bowel Syndrome Study Douglas A. Drossman, MD <i>Professor of Medicine & Psychiatry, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	8:20 AM	Lubiprostone Effects on Pain William Whitehead, PhD <i>Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	8:40 AM	Developing a Questionnaire to Identify Pain-Sensitive GI Subjects Olafur Palsson, PsyD <i>Associate Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	9:00 AM	Treatment of Levator Ani (Rectal Pain) with Biofeedback William Whitehead, PhD <i>Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	9:20 AM	CNS Down Regulation of Pain Sensitivity in IBS Steve Heymen, PhD <i>Assistant Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	9:40 AM	What is the Impact of IBS on the Patient's Partner? Stephan Weinland, PhD <i>Assistant Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	10:00AM	Break
		Post-Infectious IBS Moderator: Ryan Madanick, MD
	10:20 AM	Physiological Features of Post-Infectious IBS Motoyori Kanazawa, MD, PhD <i>Associate Professor, Department of Behavior Medicine, Tohoku University Graduate School of Medicine, Department of Behavioral Medicine, Sendai, Miyagi, Japan</i>
	10:40 AM	Partnership with the Department of Health and Human Services to Recruit Post-Infectious IBS Patients Miranda van Tilburg, PhD <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>

RESEARCH DAY 2010

Day 2: Saturday, November 6, 2010 Siena Hotel, Chapel Hill	Genetic Studies of IBS <i>Moderator: Douglas Morgan, MD, MPH</i>	
	11:00 AM	State of the Art: Pain Genetics William Maixner, PhD, DDS <i>Director, Center for Neurosensory Disorders, UNC Chapel Hill</i>
	11:30 AM	Possible Mitochondrial DNA Abnormalities in IBS Miranda van Tilburg, PhD <i>Assistant Professor of Medicine Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	11:50 AM	Heterogeneity of IBS Investigated with Structural Equation Modeling William Whitehead, PhD <i>Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	12:10 PM	Lunch
	Pelvic Floor Disorders <i>Moderator: Catherine Matthews, MD</i>	
	1:15 PM	State of the Art: Managing Fecal Incontinence Arnold Wald, MD <i>Professor of Medicine, Section of Gastroenterology & Hepatology, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin</i>
	1:45 PM	Surgical Innovations for the Management of Fecal Incontinence Catherine Matthews, MD <i>Associate Professor of OBGYN and Chief, Division of Urogynecology, UNC Chapel Hill</i>
	2:05 PM	Conservative Treatment of Fecal Incontinence Steve Heymen, PhD <i>Assistant Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	2:25 PM	Influence of Stool Consistency and Urgency on Occurrence of Fecal Incontinence Barbara Robinson, MD <i>Fellow in Urogynecology, Department of Obstetrics and Gynecology, UNC Chapel Hill</i>
	2:45 PM	Simplified Test for the Diagnosis of Disordered Defecation (3-D Study) Steve Heymen, PhD <i>Assistant Professor of Medicine, Division of Gastroenterology & Hepatology, UNC Chapel Hill</i>
	3:05 PM	Closing Remarks William E. Whitehead, PhD and Douglas A. Drossman, MD

HOTEL INFORMATION FOR OUR DISTINGUISHED GUESTS

We have reserved a block of rooms at a discounted rate.

*When booking your room for
RESEARCH DAY or
PATIENT SYMPOSIUM,
please use the group name:*

**UNC Center for Functional GI &
Motility Disorders**

*For more details, please contact:
Sarah Barrett
slbarret@med.unc.edu*

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SAVE THE DATES!

**Attendance to
RESEARCH DAY
&
PATIENT SYMPOSIUM
ARE FREE!**

Please register online at:
WWW.MED.UNC.EDU/IBS

PATIENT SYMPOSIUM 2010

GUEST SPEAKERS



Arnold Wald, MD
University of Wisconsin



Nancy Norton
IFFGD



Alben Halpert, MD
Boston University

PATIENT SYMPOSIUM 2010

Sunday, November 7, 2010 Siena Hotel, Chapel Hill	Time	Functional Gastrointestinal Disorders: New Perspectives & Treatments Program
	7:45 AM	Registration
	8:15 AM	Welcome & Introductions Ceciel Rooker, <i>Administrator Center for Functional GI & Motility Disorders, UNC Chapel Hill</i>
		Understanding Functional GI Disorders <i>Moderator: William Whitehead, PhD</i>
	8:25 AM	Overview of IBS and Other Functional GI Disorders Douglas A. Drossman, MD
	8:55 AM	Chest Pain and Swallowing Difficulties Ryan Madanick, MD, MPH
	9:10 AM	Nausea, Vomiting, and Functional Dyspepsia Spencer Dorn, MD, MPH
	9:25 AM	Pelvic Floor Disorders, Constipation, Incontinence and Rectal Pain Arnold Wald, MD
	9:45 AM	Panel Discussion
		Working Together <i>Moderator: Douglas Drossman, MD</i>
	10:00 AM	The Patient Perspective Nancy Norton, <i>IFFGD President</i>
	10:25 AM	Doctor-Patient Relationship Alben Halpert, MD
	10:50 AM	The Role of the Psychologist Stephan Weinland, PhD
	11:05 AM	What Should You Do After Your First Visit? Christine Dalton, PA-C
	11:15 AM	Self-Management Tips for Parents Miranda van Tilburg, PhD
	11:30 AM	Panel Discussion
	12:00 PM	Break-Out Session #1 (Choose below)
	12:45 PM	Lunch
	2:00 PM	Break-Out Session #2 (Choose below)
		Management <i>Moderator: Ademola Aderoju, MD</i>
	3:00 PM	Psychological Treatments (CBT, Hypnosis, Stress Management) Stephan Weinland, PhD
	3:20 PM	Biofeedback for Pelvic Floor Disorders Steve Heymen, PhD
	3:40 PM	Medical Treatment Douglas Drossman, MD
	4:10 PM	Dietary Approaches & Probiotics Spencer Dorn, MD, MPH
	4:30 PM	Going into a Treatment Trial Teresa Hopper, PhD
	4:40 PM	Panel Discussion
	5:00 PM	Adjournment

Break-Out Sessions: An opportunity for small group discussions. Participants may choose one topic for each one hour slot.

Break-Out Session #1 12:00pm	I - Ask us about Functional GI Disorders and Their Management
	II - Diarrhea, Constipation and Rectal Pain
	III - Your Relationship with your Doctor
	IV - Psychological Treatments
Break-Out Session #2 2:00pm	I - Ask us about Functional GI Disorders and Their Management
	II - Diarrhea, Constipation and Rectal Pain
	III - Your Relationship with your Doctor
	IV - Psychological Treatments

DDW 2010

Center faculty and investigators were well-represented in presentations and posters at Digestive Diseases Week 2010
May 1-5, 2010 | New Orleans, Louisiana

DDW is the premier research and clinical forum for scientists and clinicians within digestive diseases which includes gastroenterology, liver disease and gastrointestinal surgery. The American Gastroenterology Association (AGA) represents gastroenterologists.

The UNC Center plays an important role that is spanning this decade in developing programs that focus on research and education for those with functional gastrointestinal disorders.

AGA Institute Council Sections: Annual Scientific Program Planners

Clinical Practice Section: Nicholas J. Shaheen, MD, MPH, AGAF, Chair

ASGE Committees/Task Forces and Chairs Committee Member: Nicholas J. Shaheen, MD, MPH

ORAL SESSIONS - POSTGRADUATE COURSE/SPECIAL SESSION

SATURDAY, MAY 1

AGA Postgraduate Course Clinical Challenge Sessions

Symposia Title: *DIFFICULT CASES IN MANAGING ESOPHAGEAL ISSUES*

Prateek Sharma, Nicholas J. Shaheen

SUNDAY, MAY 2

AGA Postgraduate Course Clinical Challenge Sessions

Symposia Title: *DIFFICULT CASES IN MANAGING ESOPHAGEAL ISSUES*

Prateek Sharma, Nicholas J. Shaheen

WEDNESDAY, MAY 5

AGA Postgraduate Course

Symposia Title: *WHY SCREEN FOR BARRETT'S?*

Nicholas J. Shaheen

ASGE Postgraduate Course Breakout Sessions

Title: *BARRETT'S ESOPHAGUS ERADICATION*

Nicholas J. Shaheen, David E. Fleischer

ORAL SESSIONS - SCIENTIFIC SESSION

SUNDAY, MAY 2

AGA Research Forum

Chairs: Satish Rao and William Whitehead

Symposia Title: **Anorectal Motility and Functional Disorders**
Title: *RANDOMIZED CONTROLLED TRIAL COMPARING BIOFEEDBACK, ELECTROGALVANIC STIMULATION, AND MASSAGE FOR THE TREATMENT OF LEVATOR ANI SYNDROME.*

Giuseppe Chiarioni, Adriana Nardo, Italo Vantini, Antonella Romito, William E. Whitehead

AGA Translational Symposium

Symposia Title: **Fecal Incontinence: What's New at the Lower End?**

Title: *FECAL INCONTINENCE: AN UNDER-RECOGNIZED, BUT COMMON DISORDER*
William E Whitehead, PhD.

Symposia Title: **Barrett's Esophagus: Surveillance and Treatment**
Title: *DURABILITY OF EPITHELIAL REVERSION AFTER RADIOFREQUENCY ABLATION: FOLLOW-UP OF THE AIM DYSPLASIA TRIAL*
Nicholas J. Shaheen, David E. Fleischer, Glenn M. Eisen, Kenneth K. Wang, Anne F. Peery, Anthony Infantolino, Amitabh Chak, Herbert C. Wolfsen, Gary W. Falk, V. Raman Muthusamy, Charles J. Lightdale

MONDAY, MAY 3

ASGE Clinical Symposium

Symposia Title: **Management of Barrett's Esophagus**

Chairs: Kenneth K. Wang, Nicholas J. Shaheen, Gary W. Falk
Title: *ABLATION FOR BARRETT'S ESOPHAGUS WITH LOW GRADE AND NO DYSPLASIA: PRO*
Nicholas J. Shaheen

ASGE Hands-On Workshop

Symposia Title: **Advanced Esophageal Techniques**
Title: *HANDS-ON STATIONS*

Marcia I. Canto, Gregory G. Ginsberg, Bruce D. Greenwald, Ralf Kiesslich, Charles J. Lightdale, Nicholas J. Shaheen, Prateek Sharma, Michael B. Wallace, Kenneth K. Wang, Herbert C. Wolfsen

DDW Meet-the-Professor Luncheons

Title: **Ablation of Barrett's Esophagus: Tips and Tricks**
Nicholas J. Shaheen, Ajay Bansal

ASGE Topic Forum

Symposia Title: **Detecting Esophageal Neoplasia: Techniques and Prognosis**

Title: *DETECTION OF DYSPLASIA IN BARRETT'S ESOPHAGUS WITH ANGLE-RESOLVED LOW COHERENCE INTERFEROMETRY*

Neil G. Terry, Yizheng Zhu, Steven C. Gebhart, William J. Brown, Stephanie D. Bright, Courtney Ziefle, John T. Woosley, Nicholas J. Shaheen, Adam Wax



ORAL SESSIONS - SCIENTIFIC SESSION

TUESDAY, MAY 4

AGA Research Forum

Symposia Title: **Pathophysiology and Genetics of Constipation and IBS**

Title: *MOTILITY RESPONSE TO COLONIC DISTENTION IS INCREASED IN POST-INFECTIOUS IRRITABLE BOWEL SYNDROME (PI-IBS)*

Motoyori Kanazawa, Olafur S. Palsson, Miranda A. Van Tilburg, Lisa M. Gangarosa, Shin Fukudo, Douglas A. Drossman, William E. Whitehead

AGA Research Forum

Symposia Title: **Eosinophilic Esophagitis: From Basics to Clinical Care**

Title: *PRESENCE OF TRYPTASE POSITIVE MAST CELLS IN THE ESOPHAGEAL EPITHELIUM DIFFERENTIATES EOSINOPHILIC ESOPHAGITIS FROM GASTROESOPHAGEAL REFLUX DISEASE*

Evan S. Dellon, Xiaoxin L. Chen, C. Ryan Miller, Karen J. Fritchie, Tara C. Rubinas, John T. Woosley, Nicholas J. Shaheen

AGA Distinguished Abstract Plenary

Chairs: *Nicholas J. Shaheen, Philip S. Schoenfeld*

Symposia Title: **Clinical Practice Distinguished Abstract**

AGA Section Business Meeting

Chairs: *Nicholas J. Shaheen, Philip S. Schoenfeld*

Title: **Clinical Practice Section Business Meeting**

DDW Combined Clinical Symposium

Chairs: *Neena S. Abraham, Nicholas J. Shaheen*

AGA Clinical Symposium

Chairs: *Neena S. Abraham, Nicholas J. Shaheen*

Symposia Title: **Screening for Esophageal Adenocarcinoma: Has the Train Left the Station?**

Title: *WHAT NEEDS BURNED, WHAT NEEDS WATCHED: ENDOSCOPIC THERAPY IN BARRETT'S ESOPHAGUS*
Nicholas J. Shaheen

AGA Research Forum

Symposia Title: **Pancreatic Endoscopy: Old Challenges - New Solutions**

Title: *A MULTI-CENTER, U.S. EXPERIENCE OF SINGLE BALLOON, DOUBLE BALLOON, AND ROTATIONAL OVERTUBE ENTEROSCOPY-ASSISTED ERCP IN LONG LIMBSURGICAL BYPASS PATIENTS*

Raj J. Shah, Maximiliano Smolkin, Andrew S. Ross, Richard A. Kozarek, Douglas A. Howell, Gennadiy Bakis, Sreenivasa S. Jonnalagadda, Abed H. Al-Lehibi, Allan Hardy, Douglas R. Morgan, Amrita Sethi, Peter D. Stevens, Paul A. Akerman, Shyam J. Thakkar, Roy D. Yen, Brian C. Brauer

WEDNESDAY, MAY 5

AGA Research Forum

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *DEVELOPING A SCREENING QUESTIONNAIRE FOR VISCERAL HYPERSENSITIVITY*

Olafur S. Palsson, Marsha J. Turner, Steve Heymen, Stephan R. Weinland, Jane Tucker, Lenore Keck, William E. Whitehead

Symposia Title: **Clinical Practice in Functional Bowel Disease**

Title: *PARTNER BURDEN IN IRRITABLE BOWEL SYNDROME*
Reuben K. Wong, Douglas A. Drossman, Carolyn B. Morris, Stephan R. Weinland, Jane Leserman, Yuming J. Hu, Shrikant I. Bangdiwala

AGA Topic Forum

Chairs: *Joel H. Rubenstein, Ryan D. Madanick*

Title: **Screening for Gastrointestinal Malignancy**

POSTER SESSIONS - CLINICAL

SUNDAY, MAY 2

AGA Poster Session

Symposia Title: **Constipation and IBS: Diagnosis and Treatment**

Title: *A QUALITATIVE EXAMINATION OF IRRITABLE BOWEL SYNDROME (IBS) SYMPTOM EPISODE EXPERIENCE VIA ONLINE STUDY*

Stephan R. Weinland, Sharon Jedel, Ashley Messina, Douglas A. Drossman

Symposia Title: **Eosinophilic Esophagitis and Gastroenteritis**

Title: *ARE THERE RACIAL DIFFERENCES IN THE CLINICAL, ENDOSCOPIC, AND HISTOLOGIC FEATURES OF EOSINOPHILIC ESOPHAGITIS?*

Evan S. Dellon, Karen J. Fritchie, Tara C. Rubinas, John T. Woosley, Nicholas J. Shaheen

Symposia Title: **Barrett's Esophagus: Diagnosis and Management**

Title: *EOSINOPHILIC ESOPHAGITIS IN PATIENTS WITH AN ENDOSCOPICALLY NORMAL ESOPHAGUS: CLINICOPATHOLOGIC FEATURES AND TIME TRENDS*

Evan S. Dellon, Ryan D. Madanick, Karen J. Fritchie, Tara C. Rubinas, John T. Woosley, Nicholas J. Shaheen

POSTER SESSIONS - CLINICAL

MONDAY, MAY 3

AGA Poster Sessions

Symposia Title: **Barrett's Esophagus: Diagnosis and Management**

Title: *DO NUMERACY SKILLS IMPACT CANCER RISK PERCEPTION IN BARRETT'S ESOPHAGUS?*

Seth D. Crockett, Isaac Lipkus, Stephanie D. Bright, Marci Campbell, Richard E. Sampliner, Kenneth K. Wang, Vikram Boolchand, Lori S. Lutzke, Carol Carr, Beth Fowler, Joan Walsh, *Nicholas J. Shaheen*

Symposia Title: **Barrett's Esophagus: Diagnosis and Management**

Title: *EOSINOPHILIC INFILTRATION OF THE DISTAL ESOPHAGUS FOLLOWING ENDOSCOPIC ABLATION OF BARRETT'S NEOPLASIA*

Kevin D. Halsey, Jonathon Heath, Brian Petullo, *Ryan D. Madanick*, Evan S. Dellon, *Nicholas J. Shaheen*, Bruce D. Greenwald

Symposia Title: **Functional GI Disorders: Epidemiology and Symptoms**

Title: *MULTINATIONAL VALIDATION OF THE SPANISH ROME III ADULT DIAGNOSTIC QUESTIONNAIRE: COMPARABLE SENSITIVITY AND SPECIFICITY TO ENGLISH INSTRUMENT*

Douglas R. Morgan, Freddy E. Squella, Edgar Pena, Fermin Mearin, Enrique Rey, Hector E. Enriquez Blanco, Loreto Cortes, Ricardo Dominguez, Max J. Schmulson

Symposia Title: **Functional GI Disorders: Epidemiology and Symptoms**

Title: *ANTICIPATING DIARRHEA: TRIGGERS, WARNINGS, AND PREVENTION*

Olafur S. Palsson, *Marsha J. Turner*, Jeffrey S. Baggish, *William E. Whitehead*

Symposia Title: **Functional GI Disorders: Epidemiology and Symptoms**

Title: *CHARACTERIZATION AND COMPARISON OF PATIENTS VERSUS NON-PATIENTS WITH FUNCTIONAL BOWEL SYMPTOMS IN THE GENERAL POPULATION*

Tamar Ringel-Kulka, Danielle M. Maier, *Olafur S. Palsson*, Yehuda Ringel

TUESDAY, MAY 4

Symposia Title: **Anorectal Motility and Functional Disorders**

Title: *RESIDENTS AT CONTINUING CARE RESIDENTIAL CENTERS (CCRC) WHO CONSULT WITH THEIR DOCTORS REGARDING THE PRESENCE OF FECAL INCONTINENCE (FI) HAVE SIGNIFICANTLY LOWER QUALITY OF LIFE (QOL) SCORES*

Olafur S. Palsson, *Marsha J. Turner*, Jeffrey S. Baggish, *William E. Whitehead*

Symposia Title: **Research in Education and Training**

Title: *THE UTILITY OF THE DIGITAL RECTAL EXAM (DRE) AMONGST PHYSICIANS AND STUDENTS: A MULTI-CENTER STUDY*

Reuben K. Wong, *Douglas A. Drossman*, Adil E. Bharucha, Satish S. Rao, Arnold Wald, *Carolyn B. Morris*, Amy S. Oxentenko, Daniel Van Handel, *Hollie Edwards*, *Yuming J. Hu*, *Shrikant I. Bangdiwala*

WEDNESDAY, MAY 5

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *PATIENTS WITH IBS COMMONLY USE NARCOTICS*
Spencer D. Dorn, *Carolyn B. Morris*, *Yuming J. Hu*, Nancy J. Norton, William F. Norton, *Shrikant I. Bangdiwala*, *Douglas A. Drossman*

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *PREDICTORS OF SATISFACTION WITH CARE AMONG PATIENTS WITH IRRITABLE BOWEL SYNDROME*
Spencer D. Dorn, *Carolyn B. Morris*, *Yuming J. Hu*, *Shrikant I. Bangdiwala*, William F. Norton, Nancy J. Norton, *Douglas A. Drossman*

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *PAIN AND ABUSE HISTORY PREDICT DAYS IN BED AND PHYSICIAN VISITS IN AFRICAN AMERICAN WOMEN WITH FUNCTIONAL BOWEL DISORDERS (FBD)*
Ademola O. Aderoju, *Carolyn B. Morris*, *Jane Leserman*, *Yuming J. Hu*, *Christine B. Dalton*, Brenda B. Toner, Nicholas E. Diamant, *Shrikant I. Bangdiwala*, *William E. Whitehead*, *Douglas A. Drossman*

Symposia Title: **Epidemiology**

Title: *POSITIVE GASTRIC CANCER ASSOCIATION WITH WOOD STOVE USE IN CENTRAL AMERICA, INDEPENDENT OF H. PYLORI INFECTION*

Jean Paul Higuero Sevilla, Ricardo Dominguez, Christopher F. Martin, *Paris Heidt*, *Douglas R. Morgan*



POSTER SESSIONS - CLINICAL

WEDNESDAY, MAY 5

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *PRELIMINARY STUDY ON PREDICTORS OF HEALTH STATUS IN AFRICAN-AMERICANS WITH FUNCTIONAL BOWEL DISORDERS (FBD) USING AN NIH FUNDED DATABASE*

Ademola O. Aderoju, Carolyn B. Morris, Jane Leserman, Yuming J. Hu, Christine B. Dalton, Brenda B. Toner, Nicholas E. Diamant, Shrikant I. Bangdiwala, William E. Whitehead, Douglas A. Drossman

Symposia Title: **Enhanced Endoscopic Imaging Including Molecular Imaging: Spectroscopy and Fluorescence Imaging; and Optical Coherence Tomography**

Title: *ACTIVATABLE CATHEPSIN AND MATRIX METALLOPROTEINASE MOLECULAR PROBES DETECT GASTRIC ADENOCARCINOMA, BOTH IN VIVO AND EX VIVO*

Shengli Ding, Gilberto Prudencio, Hong Yuan, Brooks Scull, Yijing Chen, Howard Zhang, Pauline K. Lund, Douglas R. Morgan

POSTER SESSIONS - BASIC SESSION

TUESDAY, MAY 4

AGA Poster Session

Symposia Title: **IBS and Malabsorption**

Title: *AUTOIMMUNE DEGENERATIVE NEUROPATHY IN THE ENTERIC NERVOUS SYSTEM (ENS) IN FUNCTIONAL GASTROINTESTINAL DISORDERS (FGIDs)*

Jackie D. Wood, Sumei Liu, Wei Ren, William E. Whitehead

WEDNESDAY, MAY 5

AGA Research Forum

Symposia Title: **Functional GI Disorders: Psychosocial and Psychotherapeutic**

Title: *DEVELOPING A SCREENING QUESTIONNAIRE FOR VISCERAL HYPERSENSITIVITY*

Olafur S. Palsson, Marsha J. Turner, Steve Heymen, Stephan R. Weinland, Jane Tucker, Lenore Keck, William E. Whitehead

2010 DDW POSTER ABSTRACTS PRESENTED BY UNC FGIMD CENTER

PRELIMINARY STUDY ON PREDICTORS OF HEALTH STATUS IN AFRICAN-AMERICANS WITH FUNCTIONAL BOWEL DISORDERS (FBD) USING AN NIH FUNDED DATABASE.

Ademola O. Aderoju^{1,2}, Carolyn B. Morris¹, Jane Leserman¹, Yuming J. Hu¹, Christine B. Dalton^{1,2}, Brenda B. Toner³, Nicholas E. Diamant³, Shrikant I. Bangdiwala¹, William E. Whitehead¹, Douglas A. Drossman^{1,2}

1. Center for Functional GI and Motility Disorders, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 2. Medicine - Gastroenterology and Hepatology, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 3. Centre for Addiction and Mental Health, University of Toronto, Toronto, ON, Canada

Background: Severity of FBD is related to depression, psychological distress, poorer health related quality of life (HRQOL), and maladaptive coping. These relationships have not been studied in African Americans.

Aim: Preliminary study to determine the demographic, psychosocial and clinical GI predictors of health status (pain, HRQOL, sickness impact) in female African American patients with FBD.

Methods: We analyzed a sample of African Americans (n=36) from an NIDDK trial (RO1DK49334) of female patients with moderate to severe FBD, age range 18 to 65 years, at the University of North Carolina at Chapel Hill. We ran bivariate and multivariate regression analyses predicting: VAS pain (2 week diary), HRQOL (IBS-QOL), and Sickness Impact Profile (SIP, using logistic regression with cutoff of 5). Predictor variables were stepped into models in the following order: demographic factors (age and education), abuse history (physical, sexual, or any abuse), psychological trait (axis I psychiatric status-DIS, neuroticism-NEO), catastrophizing-CSQ, social support-SSQ, VAS stress, stool frequency, stool consistency (percent time with diarrhea or constipation using the Bristol Stool Form Scale), psychological state (Beck Depression Inventory, SCL-90 GSI), pain cognitions with IMIQ, and barostat tracking pressure. Only those variables with p≤0.10 in bivariate analyses were allowed to enter models.

Results: Patients studied had a mean age of 40.0 (±8.7) years and 14.5 (±2.4) years of education. Greater pain scores were associated with more VAS stress (p<0.0001). Poorer quality of life (IBS-QOL) was associated with the maladaptive coping style catastrophizing; (p<0.0001), increased score on the IMIQ conspicuousness (diffuse symptoms) subscale (p=0.01), higher psychological distress (SCL-90 GSI; p<0.0001), and greater stool frequency (p=0.01). Poorer daily function (SIP >5) was associated with higher psychological distress (SCL-90 GSI scores) (p=0.01).

Conclusion: In this preliminary analysis of African American women with moderate to severe FBD, pain was related to higher stress. Poor HRQOL was related to more catastrophizing, more diffuse symptoms, more psychological distress, and greater stool frequency. Poorer daily function was related to more psychological distress. Psychological treatments to reduce psychosocial disturbance may be useful for African Americans with FBD. Further studies are needed in a more representative African American population.

[Supported by NIH R24 DK067674 and T32 DK07634]

PAIN AND ABUSE HISTORY PREDICT DAYS IN BED AND PHYSICIAN VISITS IN AFRICAN AMERICAN WOMEN WITH FUNCTIONAL BOWEL DISORDERS (FBD).

Ademola O. Aderoju^{1,2}, Carolyn B. Morris¹, Jane Leserman¹, Yuming J. Hu¹, Christine B. Dalton^{1,2}, Brenda B. Toner³, Nicholas E. Diamant³, Shrikant I. Bangdiwala¹, William E. Whitehead¹, Douglas A. Drossman^{1,2}

1. Center for Functional GI and Motility Disorders, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 2. Medicine - Gastroenterology and Hepatology, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, 3. Centre for Addiction and Mental Health, University of Toronto, Toronto, ON, Canada

Background: FBDs often cause chronic morbidity and result in a significant burden on the healthcare system. Predictors of healthcare seeking include symptom severity and psychosocial factors. These predictors have not been evaluated in African Americans.

Aim: Preliminary study to evaluate demographic, clinical GI, and psychosocial predictors of days in bed and physician visits in African American women with FBD.

Methods: We analyzed a sample of African Americans (n=36) from an NIDDK trial (RO1DK49334) of female patients with moderate to severe FBD, age range 18 to 65 years, at the University of North Carolina at Chapel Hill. We ran bivariate and multivariate logistic regression analyses predicting: (1) days in bed due to GI symptoms in past year, organized into three ordinal categories with none vs. ≤ 1 week vs. > 1 week and (2) number of MD visits over the past 6 months, divided into two categories of ≤ 4 and > 4 visits. Predictor variables were stepped into models in the following order: demographic factors (age and education), abuse history (physical, sexual, or any abuse), psychological trait (axis I psychiatric status-DIS, neuroticism-NEO), catastrophizing-CSQ, social support-SSQ, VAS stress, stool frequency, stool consistency (percent time with diarrhea or constipation using the Bristol Stool Form Scale), psychological state (Beck Depression Inventory, SCL-90 GSI), pain cognitions with IMIQ, and barostat tracking pressure. Only those variables with $p \leq 0.10$ in bivariate analyses were allowed to enter models.

Results: Patients studied had a mean age of 40.0 (± 8.7) years and 14.5 (± 2.4) years of education. (1) The odds of having any days in bed vs. none, or having > 1 week vs. ≤ 1 week over the past year were greater in patients with a history of sexual abuse (OR 7.9, CI:1.6-39.9). Odds of more days in bed were also greater with increase in VAS pain score (OR 1.05, CI: 1.01-1.09) and increasing score on the IMIQ severity/constancy (pain) subscale (OR 3.0, CI:1.4-6.8). (2) Number of physician visits was predicted by greater catastrophizing (OR 1.12, CI:1.01-1.26), and more days with constipation (OR 1.03, CI:1.00-1.06).

Conclusion: This preliminary analysis suggests that in African American women with moderate to severe FBD, increased days in bed due to GI symptoms was related to a history of sexual abuse and increased pain severity. More physician visits was related to catastrophizing and constipation. Further studies are needed to understand the predictors of healthcare utilization in African Americans.

[Supported by NIH R24 DK067674 and T32 DK07634]

RESIDENTS AT CONTINUING CARE RESIDENTIAL CENTERS (CCRC) WHO CONSULT WITH THEIR DOCTORS REGARDING THE PRESENCE OF FECAL INCONTINENCE (FI) HAVE SIGNIFICANTLY LOWER QUALITY OF LIFE (QOL) SCORES

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Background: A preliminary report from our survey of two CCRCs found that only 36% of subjects with FI had discussed this with their doctor.

Aim: To identify subject characteristics influencing this decision in a larger dataset from three local CRCCs.

Methods: Residents of three CCRCs in Orange County, NC were surveyed by post. This survey included questions about the frequency and severity of FI (FISI) and the impact of FI on QOL (FIQOL).

Results: 390 out of 929 (42%) residents surveyed completed the questionnaire. Their average age was 82 years; 99% were Caucasian, 64% females, and 90% were college graduates. These subjects had ready access to health care and reported a mean of over five visits to the doctor within the last year, and 87% reported being in good to excellent health. 174 subjects reported having FI (excluding those incontinent of gas only). 62 (36%) subjects with FI had discussed having FI with their doctor, 78 (45%) had not, and 34 (20%) did not answer this question. The decision to consult for FI was not explained by age, gender, education level, report of general health, or number of health care visits in the previous year. Nor was it explained by FI symptom severity (modified FISI scores excluding gas were 18.5 for consulters vs. 16.1 for non-consulters; $p = 0.1$). However, scores on the symptom specific FIQOL (for subjects answering $>$ half of the questions) found that consulters had significantly lower scores on all four of the FIQOL subscales: 1) Lifestyle ($p < 0.001$), 2) Coping/Behaviors ($p < 0.001$), 3) Depression/Self Perception ($p < 0.05$), and 4) Embarrassment ($p < 0.05$). For subjects with FI, higher FISI scores were associated with poorer QOL on the Lifestyle and Coping Behaviors subscales ($p = 0.01$ and 0.001 , respectively), but not the Depression or Embarrassment subscales. ($p = 0.26$ and 0.5).



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Discussion: Even in CCRCs where upper SES residents are frequent utilizers of health care, only 36% of subjects with FI had discussed having this symptom with their doctor, replicating our earlier finding in a larger dataset. Those who had discussed FI with their doctor did not have worse symptoms, but were significantly more distressed by their FI than those who had not discussed FI with their doctor. This finding is consistent with previous reports that FI severity is associated with poorer QOL (Bharucha et al, 2006). In addition, our findings suggest that physicians are not screening for FI and that patients who are coping better with FI (higher QOL scores) are less likely to be identified, and thus less likely to receive widely available and effective treatment for FI.

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PATIENTS WITH IBS COMMONLY USE NARCOTICS.

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Background: While treating irritable bowel syndrome (IBS) with narcotics is inadvisable (Grunkemeier DMS et al. Clin Gastroenterol Hep 2007), we have observed frequent narcotic use in this population. To better care for these individuals it is important to understand the reasons for their narcotic usage.

Methods: 1,787 adult patients with physician-diagnosed IBS who met Rome III criteria completed an internet-based questionnaire. This assessed: demographic characteristics, clinical features (subtype, duration, severity, most bothersome symptom), self-rated health and quality of life (IBS-QOL), psychological factors (anxiety and depression), health care utilization (number of physician visits for IBS in the last 6 months, hospitalizations in the last 2 years, and lifetime surgeries), satisfaction with care, and medications currently used (Drossman DA et al. J Clin Gastroenterol 2009). Bivariate analyses and then logistic regression analyses were performed to determine factors related to current use of narcotics (other than tincture of opium).

Results: A total of 325 (18.2%) patients reported currently using narcotics. On multivariate analyses (see Table) those who had more abdominal pain, lower self-rated health, more IBS related limitations, a greater number of prior hospitalizations and surgeries, and currently used anti-depressants, anxiolytics, and anti-acid medications were all more likely to use narcotics. However, the variance explained in the model was only 9.7%, using a pseudo-R-square approximation of variance.

Conclusion: In this survey of IBS patients, we found that narcotics are commonly used and associated with several factors: 1) greater pain with poorer health status, 2) use of psychotropic and anti-acid medications and 3) higher hospitalizations and surgeries. The data also indicate that unmeasured factors to be determined likely explain the propensity for narcotic use.

[Supported by NIH R24 DK067674 and International Foundation for Functional GI Disorders.]

PREDICTORS OF SATISFACTION WITH CARE AMONG PATIENTS WITH IRRITABLE BOWEL SYNDROME (IBS).

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Background: Many patients with IBS are not satisfied with the care that they receive. In order to improve care it is important to understand the bases of dissatisfaction.

Methods: An internet-based questionnaire was completed by 1,696 adult patients with physician-diagnosed IBS who met Rome III criteria and who saw a physician in the past year. This assessed: demographic characteristics, clinical features (subtype, duration, severity, most bothersome symptom), self-rated health and quality of life (IBS-QOL), psychological factors (anxiety and depression), and providers seen for IBS (Drossman DA et al. J Clin Gastroenterol 2009). Additionally, a single question asked, "In the last 12 months, how satisfied are you with the medical care that you received from the physicians and healthcare providers whom you see for your IBS?" Responses were rated on a 5-point Likert scale (not at all to extremely satisfied). Bivariate and multivariate linear regression analyses determined factors related to satisfaction with care.

Results: On multivariate analyses, patients who were older, had less severe IBS, a higher IBS-QOL, less depression, fewer IBS related limitations, and who were treated by a gastroenterologist and/or biofeedback therapist were the most satisfied with their care. However, the model only explained 9.4% of the total variance in satisfaction.

Conclusion: In a large IBS patient internet population, factors related to demographics, illness characteristics, and health care utilization were associated with satisfaction with care. However, the weak predictive power of the model suggests that (1) unmeasured factors related to the health care experience, such as the physician patient relationship, may be more important for determining satisfaction and/or (2) satisfaction with care may be inadequately measured by a single item questionnaire. Further studies are needed to explore these possibilities.

[Supported by NIH R24 DK067674 and International Foundation for Functional GI Disorders.]

A QUALITATIVE EXAMINATION OF IRRITABLE BOWEL SYNDROME (IBS) SYMPTOM EPISODE EXPERIENCE VIA ONLINE SURVEY

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Background and Aims: Few studies have examined the symptoms of IBS from the patient's perspective nor is it well understood what a patient with IBS means by an "episode". Furthermore recent evaluations of moment to moment reports of GI symptoms using ecological momentary assessment indicate that they may occur variably: in an episodic fashion. Our study aim was to evaluate in a qualitative fashion the symptoms reported by patients with IBS and the factors contributing to an episode. **Methods:** 303 participants responded to an online survey asking both quantitative and open ended qualitative questions about IBS symptom experience. Participants who met Rome III criteria for IBS, reported a physician diagnosis of IBS and who correctly completed a substantial portion of the online survey were included in this analysis.

Results: 106 individual responses met criteria for analysis. Participants were mostly female (88.7%), caucasian (91.5%), married (55.7%) and college educated (56.9%). All IBS Subtypes were represented (IBS-D=54.7%, IBS-C=17.9%, IBS-M=12.3%, IBS-U=13.2%). Participants reported experiencing the following symptoms sometimes, most of the time or always even when not having an IBS episode: abdominal discomfort (57.5%), abdominal pain (38.7%), urgency (49.9%), bloating (53.8%), fatigue 68.0%, and stress (69.8%). Also, a high percentage of participants reported experiencing an episode of IBS symptoms at the time they were completing the survey (43.4%). The most commonly listed frequency of IBS episodes was two to three episodes per week (23.6%). Most patients reported that their IBS episodes begin with abdominal discomfort (98.1%), pain (78.3%), urgency to defecate (81.1%), bloating (84.0%), fatigue (65.1%) and stress (77.4%).

Conclusions: Qualitative analysis of IBS symptom experiences echo previous findings found in moment to moment assessments, that subjects with IBS report experiencing symptom episodes multiple times during the course of a week. Additionally, the presence of significant symptoms outside of IBS episodes supports the role of visceral hypersensitivity in the experience of IBS. This may contribute to difficulty in patients developing a sense of control over their symptom experience.

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MOTILITY RESPONSE TO COLONIC DISTENTION IS INCREASED IN POST-INFECTIOUS IRRITABLE BOWEL SYNDROME (PI-IBS)

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PI-IBS is a subtype of irritable bowel syndrome in which the disorder develops after acute gastroenteritis. In an animal model, acute intestinal infection led to persistent intestinal smooth muscle hypercontractility after resolution of the infection (Barbara G, et al. *Gastroenterology* 1997). However, little is known about the pathophysiology of PI-IBS in man. This study investigated whether PI-IBS is associated with abnormalities in phasic contractions of the colon, smooth muscle tone, pain sensitivity, bowel symptoms, or psychological symptoms compared to non-PI-IBS patients or healthy controls (HC).

Methods: We studied 218 IBS patients with a medical diagnosis of IBS and meeting Rome II criteria plus 43 healthy controls. IBS patients were designated PI-IBS if their IBS symptoms began following an episode of gastroenteritis characterized by 2 or more of: fever, vomiting, diarrhea, or positive stool culture. Twenty-two met criteria for PI-IBS. Pain threshold to step-wise phasic distentions of the descending colon distention was assessed using a barostat. Colonic motility was assessed for 10 min with the barostat bag minimally inflated (individual operating pressure, IOP, defined as the pressure required to inflate the bag with 30 ml of air), for 10 min at 20 mmHg above the IOP, and for 30 min following a high-fat test meal. Psychological symptoms were assessed by the Brief Symptom Inventory-18 (BSI-18).

Results: There was no difference in age, gender, proportion of subtypes of bowel habit or IBS symptom severity between patients with PI-IBS versus non-PI-IBS. The increase in motility index (phasic contractions) from baseline to distention was significantly greater in PI-IBS (865±248% over baseline, mean±SEM) compared with non-PI-IBS (511±79%, p<0.05) and HC (312±70%, p<0.01). Differences between PI-IBS and non-PI-IBS were not significant for pain threshold (24±3 vs. 27±1 mmHg), barostat bag volume at baseline (32±6 vs. 43±3 ml), postprandial bag volume (18±4 vs. 18±1 ml), or the anxiety scores on the BSI (50±2 vs. 50±1).

Conclusions: Patients with PI-IBS have greater colonic hypercontractility than non-PI-IBS. We speculate that sustained mild mucosal inflammation may cause this colonic irritability.

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DEVELOPING A SCREENING QUESTIONNAIRE FOR VISCERAL HYPERSENSITIVITY**Olafur S. Palsson, Marsha J. Turner, Steve Heymen, Stephan R. Weinland, Jane Tucker, Lenore Keck, William E. Whitehead**

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Background and aims: Visceral pain sensitivity is influenced by psychological bias in perception reflected in the sensory decision theory index "B". We sought to develop a non-invasive questionnaire to identify patients with visceral hyperalgesia by identifying questions correlated with the B index.**Methods:** 107 Rome III positive, clinically diagnosed IBS patients completed a barostat test of rectal pain sensitivity and the following questionnaires: Clinical symptoms of pain and bloating, Recent Physical Symptoms Questionnaire (RPSQ) somatization scale, Pennebaker Inventory of Limbic Languidness (PILL), Pain Vigilance and Awareness Questionnaire (PVAQ), Somatosensory Amplification Scale (SAS), Tellegen Absorption Scale, Visceral Sensitivity Index, and Dissociation, Anxiety, Depression, Sexual Abuse Trauma Index, and Sleep Disturbance subscales of the Trauma Symptoms Checklist 40. The B index and corrected pain threshold (subtracted pressure required to minimally inflate bag) were computed from barostat data. As planned a priori, we also pooled all 218 questions from all scales and used t-tests to identify items which separated the lowest from the highest third of B Index scores. The 26 non-redundant items so identified formed the Visceral Perception Bias Questionnaire (VPBQ), which was scored by summing individual items.**Results:** The sample was 79% females with average age of 37.2 years. The mean and range for the IOP-adjusted pain threshold was 15.9 (0-44) mmHg and for the B Index 3.3 (0.9-5.5). Clinical pain was not significantly correlated with the B Index or pain threshold, but bloating severity was correlated with pain threshold (-0.22, $p < 0.05$). Conventionally computed scores for some questionnaires (RPSQ, Tellegen Absorption Scale, Dissociation scale, anxiety, depression, and sexual abuse) were significantly correlated with the B Index and pain threshold (PVAQ, Dissociation Scale); however, no correlation exceeded 0.27, which was not strong enough to permit identification of patients with low pain thresholds. The empirically derived VPBQ performed better: it correlated -0.31 with pain threshold and -0.48 with the B Index. A VPBQ score of 35 or higher (67th percentile) identified 51.5% of patients with pain thresholds below 12 mmHg and 64.5% of patients with B Index scores below 2.71 (most sensitive third of patients).**Conclusion:** The empirically derived VPBQ identified more than half of the most pain sensitive IBS patients, indicating that this is a promising approach. However, further refinement and testing in a new sample of subjects including healthy controls is needed.**[Supported by a grant from Takeda Pharmaceuticals and R24 DK067674]****ANTICIPATING DIARRHEA: TRIGGERS, WARNINGS, AND PREVENTION****Olafur S. Palsson¹, Marsha J. Turner¹, Jeffrey S. Baggish², William E. Whitehead¹**

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Aim: To explore triggers and warning sensations that precede diarrhea and how individuals make use of these. **Methods:** 579 individuals (68.6% female; ages 19-71, mean=30.5) with recurring diarrhea completed an internet survey including the Rome III diagnostic functional bowel disorders modules and a detailed questionnaire asking about diarrhea history, triggers, warning sensations and self-management. Individuals with inflammatory bowel disease, celiac disease, lactose intolerance or GI surgery history were excluded.**Results:** Most respondents (90.7%) had diarrhea at least 2-3 times per month. 23.7% had consulted health care providers about diarrhea. 70.5% met Rome III irritable bowel syndrome criteria but only 0.3% met functional diarrhea criteria. Diarrhea was self-defined by survey respondents, and typically considered to be characterized by loose/watery stools (92.5%), urgency (56.4%), pain/discomfort (40.2%) and frequent stools (35.3%). 79.8% of subjects reported specific diarrhea triggers (i.e., actions or experiences they knew might result in diarrhea), and 44.0% stated that diarrhea resulted half or more of the times that these triggers occurred. Most common triggers were specific foods or drinks (72.3% of subjects), especially high-fat or spicy foods or caffeine beverages; stress/anxiety (49.7%); and large meals (25.2%). 83% of subjects with triggers rated stress/anxiety as the most frequent trigger. Nearly all subjects (95.6%) reported one or more types of physical warning sensations in advance of diarrhea, usually the same in nature for each subject and generally first occurring 10-25 minutes before diarrhea. The earliest warnings were typically either pain/discomfort (44.6%) or rumbling/bowel sounds (29.1%). 84.9% reported doing nothing to prevent or diminish diarrhea after warning sensations, but 15.1% used anti-diarrheal or antispasmodic drugs to counter the anticipated diarrhea. 74.4% used no medication once diarrhea started, 9.9% took medication early after onset, and 13.3% only later if it did not stop on its own. Warning sensations preceded at least half of all diarrhea bowel movements for 84.5% of subjects.**Conclusions:** Recognizable triggers and warning sensations precede diarrhea in most individuals, but few make efforts to prevent anticipated diarrhea.**[Supported by McNeil Consumer Healthcare and R24 DK067674]**

CHARACTERIZATION AND COMPARISON OF PATIENTS VERSUS NON-PATIENTS WITH FUNCTIONAL BOWEL SYMPTOMS IN THE GENERAL POPULATION.

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Functional bowel (FB) symptoms are highly prevalent in the general population. However it is estimated that about 75% of individuals with IBS symptoms do not seek medical care and are referred to as "non-patients". The available data on non-patients is limited and the difference between patients and non-patients with FB symptoms has not been adequately investigated.

Aim: To characterize and compare demographics, psychosocial and clinical data between FB patients and non-patient subjects with FB symptoms. **Methods:** Subjects who met the Rome III criteria for one of the FB disorders and had active mild-to-moderate FB symptoms (by IBS-SS scale) were investigated. Non-patients were defined as subjects who did not see a physician or took prescribed medications for their GI symptoms. All subjects were recruited from the general population by advertising. Validated questionnaires were used to collect demographics, psychosocial (Beck Depression Inventory, IBS-QOL) and clinical (abdominal pain/discomfort, bloating/distention, bowel frequency, stool consistency, other GI symptoms) variables. Subjects were specifically asked about their satisfaction with bowel habits, satisfaction with current treatments, effects of stress on symptoms, impact of symptoms on everyday life, physician visits, and hospitalizations.

Results: A total of 172 subjects (n=61 patients; n=111 non-patients) were investigated. Study population included 68% females, 74% white, mean age 36 years, 49% married, and 61% had a college degree or higher. There was a significantly higher female ratio in the non-patients group (p=0.02) but no other differences in demographic variables between the groups. Compared to FB patients, non-patients had significantly less days with abdominal pain (p<0.0001), less severe abdominal pain (p<0.0001), less severe bloating/distention (p<0.0001) and they were more satisfied with their bowel habits (p=0.022). Non-patients reported significantly less physicians' visits (p<0.001) and hospitalizations (p<0.0001), and better QOL (p<0.0001). Non-patients were also less likely to participate in any type of treatments (p<0.0001). However, there were no significant differences in depression scores, perceived effect of stress on health, and satisfaction with current treatments between the patients and non-patients groups.

Conclusions: Clinical variables rather than demographic and psychosocial factors differentiate FB patients from non-patients with FB symptoms in the general population. Education and non-prescribed treatment to reduce severity of symptoms may reduce healthcare utilization.

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MULTINATIONAL VALIDATION OF THE SPANISH ROME III ADULT DIAGNOSTIC QUESTIONNAIRE: COMPARABLE SENSITIVITY AND SPECIFICITY TO ENGLISH INSTRUMENT

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Aims: The translation and validation of the Rome III Adult Diagnostic Questionnaire (R3DQ) into Spanish facilitates investigation of the Functional Gastrointestinal Disorders (FGIDs) in Latino populations, as studies are limited. Country-specific translations, locally validated, preclude multicenter studies and comparisons. For reference, the core validation of the English R3DQ was performed with a comparison of clinical IBS patients and healthy controls yielding sensitivity 0.71 and specificity 0.88.** The aim was to validate the unified Spanish-R3DQ for diverse populations. **METHODS:** The Rome III multinational working group includes centers in Mexico, Central America(3), Chile, Spain(2) and the U.S. The Rome Committee translation standard was followed at each center: two independent forward translations, reverse translation, multicenter reconciliation, pilot, and validation. For the validation, IBS, functional dyspepsia (FD) and control populations were recruited, both from gastroenterology clinics and from a random population-based sample of households. Subjects were personally interviewed by trained personnel (Spanish-R3DQ) and physicians (medical diagnosis) independently and blinded. The medical diagnosis was considered to be the gold standard for estimation of the Spanish-R3DQ sensitivity and specificity for IBS and FD.

Results: The unified Spanish-R3DQ was translated and piloted. The validation was performed in Mexico, Guatemala, Nicaragua, Chile and Spain. Subjects (n=403, F 58%) were recruited from clinics(n=217) and the random sample of households(n=186). This provided diversity of socioeconomic strata, cultural environment, and clinical settings. The mean ages of the FGID and control subjects were 38.4 and 36.8. In patients with a medical diagnosis of FGID, there were 76 with IBS, 116 with FD, and 20 with both diagnoses. The calculated Spanish-R3DQ sensitivity and specificity for IBS were 0.78 (95%CI, 0.67, 0.86) and 0.84 (95%CI, 0.79, 0.88), and for FD 0.70 (95%CI, 0.61, 0.78) and 0.84 (95%CI, 0.78, 0.88), respectively.



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Conclusions: The unified Spanish-R3DQ was developed and validated to facilitate coordinated investigations in Latin America and Spain. For IBS, the sensitivity and specificity are comparable to the English instrument. The current study also provides estimates of the R3DQ test characteristics for FD, with similar specificity to that for IBS, but somewhat lower sensitivity. **Whitehead W, et.al. Development and validation of the Rome III diagnostic questionnaire (Chapter 16). In: Drossman D, et.al. Rome III, The Functional Gastrointestinal Disorders (text).

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THE UTILITY OF THE DIGITAL RECTAL EXAM (DRE) AMONGST PHYSICIANS AND STUDENTS: A MULTI-CENTER STUDY

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Background and Aims: Anecdotal observations suggest that the DRE, which is useful for identifying anorectal disorders, is underutilized and not thoroughly performed in clinical practice. Our aims were to comprehensively assess the role of the DRE at academic medical centers in the United States.

Methods: Academic faculty and fellows in gastroenterology (GI) and other medical subspecialties, medical residents, and final year medical students from the Universities of North Carolina, Iowa, Wisconsin and the Mayo Clinic completed a questionnaire inquiring about the use and performance of the DRE as well as prior training received for this skill. We surveyed 436 physicians and 196 medical students.

Results: A mean of 41 DREs per year were performed with a significant positive correlation with years of experience (medical students, 7.1; physicians with experience ≥ 20 yrs, 123.0). Gastroenterologists performed the most DREs annually (172.5), followed by primary care (35.0) and internal medicine subspecialties (13.0). Refusal rates by patients were lowest among GI faculty (4.3%) and highest among primary care doctors (13.8%); there was a negative correlation between refusal rates and comfort level of the physician in performing a DRE ($p < 0.001$). Most common reasons for not performing a DRE included perceived invasiveness (39.6%), a lack of indication (48.3%), concern for patient modesty (43.8%) and convenience issues (35.6%). In performing a DRE, significantly more gastroenterologists used advanced methods to detect anorectal conditions (e.g., levator contraction), and were more confident in diagnosing pelvic floor dyssynergia or levator ani syndrome. There was a significant correlation between confidence in making a diagnosis on a DRE and the number performed. A total of 93% received instruction on performing a DRE during medical school, 3.7% during residency and 1.5% during fellowship, while 1.4% had never been instructed in the DRE. 40.4% of those who felt their training was completely adequate were senior doctors (≥ 10 yrs experience) and only 23.4% were students.

Conclusions: Frequency of performance, diagnostic confidence and training adequacy on the DRE were inversely proportional to years of experience, confirming that teaching of the DRE needs to be improved during the early years of training. Incomplete steps in performing the exam and diminished confidence in diagnosing anorectal conditions suggests the need for emphasizing the role of the DRE among non-gastroenterologists. Greater use of the DRE may translate into better diagnostic confidence and comfort level in performing it, which could lead to fewer refusals.

[Supported by R24 DK067674]

U.S. CONGRESSMAN DAVID PRICE STANDS UP FOR FGID RESEARCH

Dane Christiansen
Development Coordinator, IFFGD

On Tuesday, July 22nd, Congressman David Price (D-NC-4th) declared his support for increasing research and improving patient care for the functional gastrointestinal disorders community by cosponsoring House Resolution 1309 (H.Res.1309). This Congressional Resolution expresses the sense of the U.S. House of Representatives that there is, “need for further study of the Functional Gastrointestinal Disorder (FGID) Irritable Bowel Syndrome (IBS)”.

H.Res.1309 was drafted by the International Foundation for Functional Gastrointestinal Disorders (IFFGD), and introduced in April by Congresswoman Tammy Baldwin (D-WI-2nd) and Congressman James Sensenbrenner (R-WI-5th) to commemorate IBS Awareness Month. In addition to educating legislators about IBS and FGIDs, H.Res.1309 contains strong recommendations regarding the bolstering of key federal research activities. Specifically, the Resolution calls on the National Institutes of Health, the Department of Defense, and the Department of Veterans Affairs to collaborate and focus critical resources to make a sustained investment in this area of clinical research. Building on recent peer-reviewed literature, it also encourages particular study of the effects of war and other trauma on FGID-affected military personnel.

Congressman Price’s support for H.Res.1309 stems from a visit he and his legislative staff made to the UNC Center for Functional GI & Motility Disorders Research in March. At that time, he toured the facility and had a productive dialogue with Center Co-Directors Douglas A. Drossman, MD and William E. Whitehead, PhD concerning the challenges facing researchers and patients in this area. The Congressman is both a UNC alumni and a well-known champion of our nation’s medical research infrastructure so he is naturally interested in doing what he can to help advance FGID research and patient care. Through numerous follow-up discussions, the Congressman’s office has been expressing interest in opportunities to make a positive impact in the FGID arena, and cosponsoring H.Res.1309 is just one of a number of recommendations that have been made by the Center.

With the addition of Congressman Price, H.Res.1309 now has 10 cosponsors. This Resolution is continuing to gain momentum and has been picking up key endorsements on both sides of the aisle, including co-sponsorship by two of the Congressman Price’s colleagues on the powerful House Appropriations Committee, Congressmen C.W. Bill Young (R-FL-10th) and Allen Boyd (D-FL-2nd). As more and more lawmakers support H.Res.1309, increased awareness of FGIDs will be raised on Capitol Hill and federal research entities will begin receiving an ever loudening call to bolster their FGID research portfolios. In addition, if H.Res.1309 can gain the support of 218 Members of Congress, it will be formally passed by the House adding additional weight to its research and patient care recommendations.

The Center is continuing to work with Congressman Price to foster an ongoing relationship that produces significant benefits for the FGID community.



DAUGHTER OF CENTER STAFF FEATURED ON DISNEY

Carolyn Morris, MPH
Center Biostatistician

Biostatistician Carolyn Morris' daughter, Gracie, was selected to be featured on a segment on the Disney Channel called "Getcha Head in the Game." It is a video clip by Disney aimed at inspiring kids to get active and be healthy. She was selected to promote kids triathlons and how being active keeps her striving to do her best. Not only has she been participating in triathlons, she has been dedicating her races, swim meets, and all her training towards raising money for the Multiple Myeloma Research Foundation to help her grandfather.



Gracie became interested in triathlons after watching her older sister participate in swimming, running, and triathlons. She started swimming in the summer swim league at age 5 and later on a year-round swim team. She did her first triathlon locally at Swim for Smiles in 2008 and has had early success by winning the event in 2008 and 2009. Nationally, she has qualified for IronKids National Championship 2 years in a row and took 3rd nationally

in the USA Triathlon National Duathlon Championship's Youth Division.

What has made her activities special have not been her success but how she has incorporated it into her life to help her grandfather. About a year ago, Gracie's grandfather was diagnosed with multiple myeloma, an incurable disease that affects the bone and bone marrow. When Gracie learned her grandfather was sick, she decided to use sports as a means to deal with adversity in a positive manner. Last October, she established a tribute page for him and had dedicated her swim season and other races to raising money for the Multiple Myeloma Research Foundation. She set a goal of raising \$5,000. She accomplished that goal and created a new goal of \$10,000. Now, her swimming and triathlon events have become a family affair. When her grandfather was admitted to the hospital for a transplant, she gave him her medals to keep him determined to improve. Since that time, she continues to try to raise the rest of her fundraising goal through the sport of triathlon and its three major components.

Please lend her support as she takes on the last event of the year IronKids National Championship on October 3rd.

Check out the link!

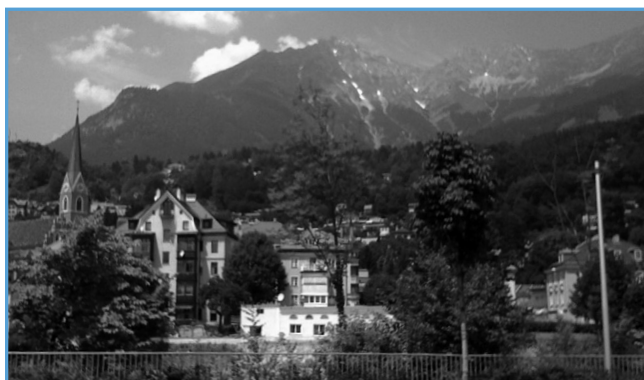
http://www1.northavenuepost.com/public/Disney_Triathlon

Her tribute/donation page is:

<http://321cure.themmr.org/goto/graciemorris>

DROSSMAN *continued from Cover*

Research. This meeting brings together scientists from Central and Eastern Europe as well as other countries to address new and emerging areas of mind-body scientific investigation.



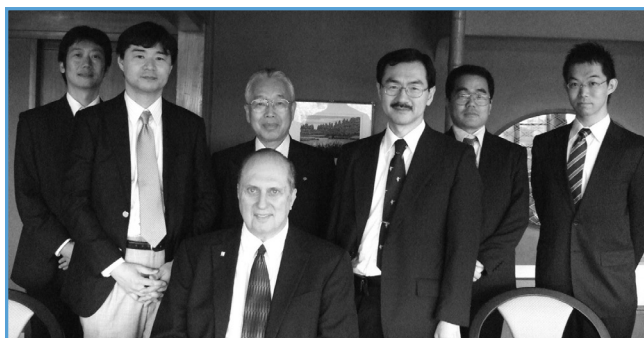
European Congress Meeting in Innsbruck

Dr. Drossman's lecture entitled: "Biopsychosocial Gastroenterology: Where do we Go?" offered an update on the latest research in functional GI disorders which included information on mucosal inflammation and immunity, visceral hypersensitivity altered bacterial microflora, and brain-gut interactions. He then discussed novel approaches to treatment using centrally targeted agents.



Dr. Drossman with Dr. Fukado's Research Group in Sendai

National and international visits of this type bring important new information to clinicians and investigators around the world and further enhance the reputation of our Center.



Dr. Drossman in Sendai

<http://www.med.unc.edu/ibs>





SPENCER DORN, MD, MPH: ONE IN FIVE IBS PATIENTS USE NARCOTICS FOR PAIN RELIEF

Article written by Michelle Sullivan for AGA Institute

Submitted by Christina G. Chase

Editor, *GI & Hepatology News*, *Elsevier Society News Group*

Major Finding: Of patients with irritable bowel syndrome, 18% were using narcotic pain medications

to relieve bowel pain.

Data Source: An Internet survey of 1,787 patients with irritable bowel syndrome.

Disclosures: The University of North Carolina and the International Foundation for Functional GI and Motility Disorders sponsored the study. Dr. Dorn had no relevant financial disclosures.

Many patients with irritable bowel syndrome appear to be taking narcotics for bowel pain--drugs that may in fact exacerbate their symptoms.

A survey of nearly 1,800 patients with irritable bowel syndrome (IBS) found that almost 20% were currently taking a narcotic for their symptoms. "Narcotic use of that magnitude in this population has not been previously described," Dr. Spencer Dorn said at the annual Digestive Disease Week.

Patients who took narcotics were more likely to report poor health-related quality of life, to also use antidepressants and anxiolytic drugs, and to have more hospitalizations and surgeries than IBS patients who did not report using narcotics.

"In the current U.S. health care system, clinicians often lack the time, infrastructure and incentive needed to provide integrative care to patients with chronic conditions, including IBS," said Dr. Dorn. "Instead, very often physicians take the path of least resistance. Narcotic prescriptions are a quick and easy way to get patients out of the office, even though the long-term effects can be harmful.

"The broad literature suggests that narcotic use in noncancer pain syndromes may not improve functional status and help people live their lives more effectively," he said. "It is also very well-known that narcotics affect bowel habits; narcotic-induced constipation is very common and may actually worsen symptoms in patients who already have poor bowel function."

"Narcotic bowel syndrome is gaining recognition," as a consequence of long-term narcotic use, Dr. Dorn noted. "Even though we are using narcotics to treat pain, escalating the dose may paradoxically worsen the symptoms we are trying to treat."

Additionally, he said, narcotics always carry a risk of drug dependence, leading to the need for increasing amounts of medication.

Dr. Dorn, along with Dr. Douglas A. Drossman at the Center for Functional GI and Motility Disorders at the University of North Carolina, Chapel Hill, and his colleagues at the International Foundation for Functional Gastrointestinal Disorders in Milwaukee, conducted an Internet survey of 1,787 adults in the United States and Canada who fit the Rome II criteria for IBS diagnosis.

Results of this survey were initially published last year (*J. Clin. Gastroenterol.* 2009;43:541-50) and were used as the basis for an informational brochure (www.aboutibs.org/pdfs/IBSpatients.pdf).

Respondents were mostly women (83%) and white (91%). IBS types were 29% diarrhea predominant, 61% mixed diarrhea/constipation/unspecified, and 10% constipation predominant. As determined by the Functional Bowel Disorder Severity Index, 31% had mild symptoms, 48% had moderate symptoms, and 21% had severe symptoms. Diagnosis of IBS was not made until a mean of almost 7 years after their symptoms began.

In addition to questions about their disorder and its clinical picture, respondents were asked about their quality of life, health care utilization, satisfaction with care, and medical therapy. Most (80%) said that pain was a major contributing factor to the severity of their IBS, with 30% saying it was the most troublesome symptom, and 78% saying their pain was continuous or frequent in the prior 6 months.

Most of the respondents were taking at least one medication, including non-narcotic pain medications (31%), antidepressants for pain (31%), antacids (28%), antidiarrheals (24%), antispasmodics (19%), and narcotics (18%).

A regression analysis found that narcotic use was significantly associated with low health-related quality of life; rating pain as the most bothersome symptom; having a larger number of hospitalizations and surgeries; and the concurrent use of antidepressant, anxiolytic, and antacid medications. The preferred approach to IBS treatment is a holistic one, Dr. Dorn said.

"We suggest an integrated approach in which clinicians first consider the medical and psychosocial factors that influence their patients' illness, and then address their patients' main concerns, educate them about IBS, offer strategies to enhance their self-management, and, if appropriate, address any

DORN continued next page





JANE IS TUCKERED OUT

*Written by William E. Whitehead,
Center Co-Director*

Jane Tucker, who has been a part of the GI Psychophysiology Laboratory for a decade, is retiring this October to pursue basket weaving, knitting, and her other hobbies full time. Her quick wit, earthy jokes, warm friendship, and her eagerness to help out wherever needed will be greatly missed by all of us.

Jane first joined the laboratory in 2000 as a motility nurse in the same role that Sheila Crawford now fills. However, she was impatient with doing the same tests in the same way day after day and applied for a position in the research side of the lab. This fit in with Bill Whitehead's conviction that the research program needed a nurse with training and credentials to do invasive testing instead of a research assistant whose training was in psychology, and it worked out exceedingly well for everyone: the research laboratory gave Jane the variety and the interaction with subjects that she liked and it enabled the laboratory to move forward with the barostat testing program.

Jane has a gift for enticing subjects into research studies and keeping them engaged. In fact, she was so good at establishing empathy that subjects would repeat studies if something interrupted the trial or they would wait for months while the sponsors sent us replacement supplies of study drug.

Many of the achievements of the laboratory are due to Jane's personality and hard work. She shepherded the IBS studies to completion working alongside Lenore Keck to test visceral pain thresholds, and she took the lead in a long-term follow-up of subjects in the "Heterogeneity of IBS" study. She did the follow-up anorectal manometries and symptom assessments in the randomized controlled trial of biofeedback for fecal incontinence. More recently, she carried out two large studies sponsored by Takeda. One of these involved administering a battery of questionnaires on bowel symptoms and psychological characteristics to over 100 IBS patients to develop a questionnaire for visceral pain hypervigilance. This study is finished and awaiting publication. The second study involved testing 62 patients with constipation-predominant IBS to determine whether Lubiprostone reduces clinical pain through a change in pain sensitivity or only through improvements in transit time. We have just completed this one and are analyzing the data to learn the answer to this question. In addition, Jane played a major role in the pilot studies for the fecal incontinence grant and she starred in Steve Heymen's video of how to teach continence skills.

Jane's decision to retire this year came a little earlier than any of us expected. The grant funding for the laboratory is very limited this year, and Jane volunteered to retire early to help preserve the jobs of some of her colleagues. We all thank her for that generosity and wish her well.

DORN *continued from previous page*

maladaptive coping styles and the possible role of psychological stressors. This approach is often best delivered by a multidisciplinary treatment team."

This new information from the UNC group and IFFGD should make doctors take pause and reflect. Narcotic analgesic use in general has become widespread and more accepted in the U.S. For this reason, it is not surprising that when IBS patients fail to improve with conventional therapies, some providers resort to prescribing a narcotic. Unfortunately, this can be a mistake which can lead to dependence, stigma, and exacerbation of GI symptoms. As a medical community, this data should make us reconsider the "conventional" approaches to IBS which remain largely predicated upon drug therapies. Further research on the merits of more integrated, holistic approaches to IBS are necessary.



Dr. Dorn in his office. Photo by Nicolette DeGroot

WELCOME TO THE CENTER



Kathe Davis was recruited as a Business Service Coordinator for the Center and executive assistant to Dr. Douglas Drossman. She was with the School of Nursing for three years before transferring over to the School of Medicine. She was an LPN for six years before entering the banking field and stayed until retirement after 24 years. Responsibilities were managing branches, and her love for numbers came from all of the budgets, end of month status reports and many other accounting functions that were a daily part of the job. She is looking forward to her new duties and the opportunity to take on more responsibilities.



Megan Houpe is a research assistant working with Dr. Drossman and Dr. Weinland. She is in charge of file management and recruitment efforts for all of Drossman's investigator-initiated studies. As primary coordinator for the Seroquel study, Megan is attempting to show a complementary effect of low dose anti-psychotics when used with a steady regimen of anti-depressant therapy in patients with treatment resistant functional bowel pain. Megan graduated in 2005 from UNC-Wilmington with a BA in Psychology, and has recently completed a degree in Clinical Trials Research from Durham Tech. She will marry Gavin in May 2011. Megan enjoys spending her free time with her rat terrier, Gandhi.



Teresa Hopper is a Clinical Research Coordinator for Dr. Drossman. Currently, she facilitates and coordinates work pertaining to industry-sponsored and investigator-initiated studying. She earned an undergraduate degree in Biology, with a minor in Chemistry, a dual Masters degree in Business Administration and Health Administration, a Doctorate in Health and Human Services, and a certificate in clinical research. Teresa is a life-long learner as well as a proactive learner that seeks to enhance knowledge and skills by seeking developmental opportunities. Outside of work, she enjoys spending time with her daughter, facilitating online courses, or just enjoying a quiet evening at home.



Jennifer Layton is an administrative assistant for clinical services. She facilitates the referral and scheduling process as well as providing support and information to patients seeking treatment. She attended North Carolina State University for Agricultural Communications with a concentration in horticulture. She is a lifelong resident of North Carolina, and devotes her spare time to the rescue and rehabilitation of small exotic animals.



Emily Williams is a nursing student at UNC-CH expecting to graduate May 2011 with her BSN degree. As a clinical assistant to Christine Dalton, PA, she will assist in patient care and communication, prescription refills, hospital admissions, insurance prior authorizations, letters of referral, and other tasks designated by Dalton or Dr. Drossman. In her spare time she enjoys running, swimming, and time spent with friends.

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Contributions from individual donors and grants from foundations and corporations are essential to enhancing and expanding the Center's comprehensive and multi-disciplinary approach to clinical care, research, training and education in functional GI and motility disorders.

Memorial Research Fund

The Alan Wayne Ducoff Memorial Fund provides an opportunity for families and friends to remember and honor their loved ones by making a designated contribution to the Center's research program. To make a donation to the Alan Wayne Ducoff Memorial Fund, please check off the appropriate box on the donation form.



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COMPLETE SCHEDULE ON PAGES 12-14



PATIENT SYMPOSIUM 2010
NOVEMBER 7, 2010

COMPLETE SCHEDULE ON PAGE 15