



International Foundation for
Functional Gastrointestinal Disorders

IFFGD

Information. Assistance. Support.

Digestive Health Matters

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A Little Knowledge can Make a Big Difference

Dear Readers

On April 12–15, 2007, the International Foundation for Functional Gastrointestinal Disorders (IFFGD) organized and hosted the 7th International Symposium on Functional Gastrointestinal Disorders. Sponsored jointly by the University of Wisconsin School of Medicine and Public Health Office of Continuing Professional Development in Medicine and Public Health, and IFFGD, in cooperation with the Functional Brain-Gut Research Group, this biennial meeting continues to play a unique and important role in furthering the understanding of the functional gastrointestinal (GI) and motility disorders.

What is different about this meeting? I asked a number of participants this question, and here is a synopsis of their responses.

This symposium brings together virtually everyone in the field in a setting that facilitates interactions between clinicians, basic scientists, and regulators. It provides a forum for people really thinking a lot about these disorders, brought together in a manageable size group with lots of chances to meet and talk, hear one another, use each other as sounding boards, and through these discussions come up with problem solving ways around hurdles to move the field forward. The provision of that forum alone makes the meeting valuable, important, different, and unique. It captures everyone doing important work in the area of functional GI disorders and gets them all talking to each other, coming together dealing with common problems. IFFGD has made considerable efforts to address these problems. By facilitating collaborations among people who might not otherwise know each other, this meeting helps to enrich the research. This is a phenomenal meeting; absolutely vital.

What were some of the main areas discussed? These will be explored in future issues of *Digestive Health Matters*. Here again is a summary of how several participants described important changes and developments.

We are beginning to see hints of new ways of looking at these disorders; new ways to categorize and classify patients and their conditions. We are seeing advances in objective science at a level of complexity and detail that a decade ago no one would have predicted. On one side we now have imaging techniques able to probe the living human brain to look at its activity, receptor systems, and structures. On another side we

are just beginning to understand the universe of gut microflora. We can expect to see an explosion in understanding these disorders, and are beginning to see hints of new ways of looking at these disorders. We have recognized that these disorders have specific symptoms. Now our understanding of what contributes to the symptoms has become much broader. Factors such as changes in serotonin signaling, in the gut wall barrier, in gut flora (bacteria), stress hormones such as CRF, or past exposure to infection can lead to disturbances in brain-gut interactions, subtle inflammation, changes in motility, and over-responsiveness within the gut. Using new insights from science will allow us to better select treatments for patients.

Much has changed in just the last 5 years bringing us closer to understanding the functional GI disorders. Still, regularly effective treatments are yet to be available. Moreover, while at the same time that there is excitement among clinicians and investigators over recent advances, there is a sense of worry and concern among new and established investigators over diminishing support. There is a danger of losing momentum, as well as losing dedicated researchers to other fields, if funding and regulatory support falls short of what is needed. More effort is needed by the stakeholders – including clinicians, investigators, and patient advocates – to move the collective field forward, to help funding and regulatory agencies better understand the needs of persons with these disorders, and to help regulators set reasonable and attainable standards for the safety and effectiveness of drug treatments. IFFGD will continue to be a leader in these efforts. We invite others to join with us.

We gratefully acknowledge the educational grants from the following companies in support of the symposium: Takeda Pharmaceuticals North America, Inc.; Sucampo Pharmaceuticals, Inc.; Novartis Pharmaceuticals Corporation; Microbia, Inc.; AstraZeneca Pharmaceuticals LP; and The Procter & Gamble Company. We also thank the symposium faculty and participants for their support and dedication to the field of functional GI and motility disorders. Thank you all.

William F. Norton
Editor and Co-founder



Medical Procedure Costs and Surgical Rates in Patients with Irritable Bowel Syndrome

By: Alexandru Gaman, MD, Research Fellow and Braden Kuo, MD, Assistant Physician, Gastrointestinal Unit, Massachusetts General Hospital, Harvard Medical School, Boston MA

Irritable bowel syndrome (IBS) is generally classified as a “functional” disorder. It is characterized most commonly by cramping, abdominal pain, bloating, constipation and/or diarrhea. Care of IBS is challenging for the medical community because there is no specific cure for this syndrome. No single treatment option is successful in all patient types. This is likely due to the many factors which can affect illness presentation resulting in different expressions (heterogeneity) of the disease. Numerous treatment options are available; none are uniformly effective. Many patients have difficulties with the medications used to treat the disorder – whether it is fiber, antispasmodics, tricyclic antidepressants (for pain relief), or serotonin receptor modulators – due to intolerances from the side effects of the medications.

Because a universal cure is not available and because of recurrent symptoms, the quality of life of the patient with IBS can be dramatically diminished. The frustration generated by the symptoms and also by the lack of a clear explanation of the disease from their health care providers can drive patients to consume extensive medical services (testing, procedures, increased number of doctor visits) and ultimately to seek surgery to deal with the symptoms.

Patients invariably will experience recurrent pain and discomfort as part of the symptoms complex of IBS. In working diligently with the patients, the clinician will try to rule out other causes of the pain and the treatments may be modified in an attempt to improve the patients’ condition.

The types of interactions between clinician and patient influence widely the rates of using medical services: procedures, surgery, or medication. Often the diagnosis of IBS ultimately rests upon excluding other causes to the satisfaction of the

health care provider as well as the patient, and considerable resources may be spent. Currently, Rome III criteria can guide the physician to an IBS diagnosis. According to these criteria, a diagnosis of IBS is made if there is a painful or uncomfortable abdominal sensation with onset at least six months prior to diagnosis along with 2 or more from the following symptoms: 1) the abdominal sensation is improved by defecation and/or; 2) the onset of abdominal pain/discomfort is associated with change in, a) frequency of stool and/or, b) form (appearance) of stool.

Even if Rome III criteria are based mainly on the medical history and physical examination, the physician can apply them only after structural and metabolic abnormalities are ruled out. That is why minimal testing such as blood tests (cell count, ESR, C-reactive protein), a test for blood in the stool (fecal occult bleeding test, or FOBT), or endoscopy (sigmoidoscopy or colonoscopy) are performed.

In some situations even if the IBS diagnosis is made, persistence or aggravation of the symptoms despite the treatment may spur the physician to order additional tests, possibly at the patient’s insistence. Additional and sometimes more expensive and invasive testing such as abdominal imaging (abdominal CT scans and ultrasounds) expands the domain of possible abnormalities that need to be ruled out to reassure the physician that Rome III criteria were properly applied. In these situations, incidental findings can be discovered diverting attention away from the focus of the functional GI diagnosis. In some other situations, the physicians do not focus mainly on Rome III symptom-based criteria. Instead the diagnostic approach is based on tests, and consequently this generates significant increases in costs and utilization of the medical services.

What is a functional gastrointestinal (GI) disorder?

A functional GI disorder refers to one where the body’s normal activities in terms of the movement of the intestines, the sensitivity of the nerves of the intestines, or the way in which the brain controls some of these functions is impaired. However, there are no structural abnormalities that can be seen by endoscopy, x-ray, or blood tests. Thus a functional GI disorder is identified by the characteristics of the symptoms (for example, the Rome criteria) and infrequently, when needed, limited tests.

The diverse medical evaluation offered to a possible IBS patient can be very costly. Leong[1] and colleagues studied in detail the economic impact of medical services related to IBS. IBS accounts for 2.4–3.5 million physician visits annually and the cost of an IBS patient visit is \$524 versus \$345 of a control subject from the general population in 1998[1]. Also annually absenteeism caused by IBS cost the employer \$901 versus \$528 per employee without IBS[1]. Another study, by Longstreth[2], showed that IBS patient costs are 51% higher than those of a non-IBS patient from the general population group; this increase was significant for outpatient services (emergency, radiology, surgery, and medication) but not for inpatient services. Interestingly, for patients with moderate and severe symptoms non-GI related radiology costs (for x-rays or



other imaging studies) were significantly higher than in the general population patients, revealing the emphasis by all to eliminate other causes of IBS symptoms.

Multiple other studies[3,4,5] approached in more detail the propensity of surgical procedures in IBS patients. The authors of these studies identified two main reasons for this phenomenon:

1. The IBS patients are more exposed to surgery because the diagnostic testing reveals findings which may be incidental or without symptoms (asymptomatic), but the relationship between the test abnormality and the clinical symptoms may be unclear. This propels the patients and clinicians to possibly treat the incidental/asymptomatic finding in hopes of a cure of symptoms. In his or her attempt to discover the real cause of the pain, the clinician places “blame” on the asymptomatic conditions that ultimately are referred to surgery.
2. Sometimes the surgical approach was initiated by an inaccurate preoperative diagnosis.

A study by Cole and colleagues[4] published in 2005 found that abdominal and pelvic surgery (except gallbladder surgery) was 87% higher in IBS patients compared with the general population sample. They found that the risk for exposure to abdominal surgery (except gallbladder surgery) was almost 2 times higher in the IBS population. Among all those with IBS studied, the highest risk for exposure to surgery was seen in those who experience alternating constipation and diarrhea along with the abdominal pain or discomfort of IBS (relative risk 2.74). A study by Yao and Longstreth[5] published in 2004 found that IBS patients were more exposed than the non-IBS group to back pain surgery and to surgical removal of their:

- gallbladder (cholecystectomy),
- appendix (appendectomy), and
- uterus (hysterectomy).

In some situations even if the IBS diagnosis is made, persistence or aggravation of the symptoms despite the treatment may spur the physician to order additional tests, possibly at the patient's insistence.

Cholecystectomy

Some studies[3,4,5] looked specifically to the rate of gallbladder surgery (cholecystectomy) in IBS patients compared with patients from the general population. These reports demonstrated a higher rate of cholecystectomy in the IBS population. Typically, the patients with IBS visit the GI physician or the primary care physician complaining of pain or abdominal discomfort. The approach of this clinical situation is to perform laboratory analysis and imaging studies in order to make an accurate clinical decision. In numerous situations in these patients, asymptomatic gallbladder stones were found when investigated using abdominal ultrasound. For a percentage of these, the clinician will associate the symptoms of pain or abdominal discomfort with the presence of the stones. As a consequence, the patient will be referred to a surgeon in hopes of a “curative” surgery. If the association is incorrect, then the surgery does not help the patient's symptoms.

A study by Kennedy and Jones[3] looked at the incidence of cholecystectomy in IBS and control populations in the United Kingdom. They noticed that 4.6 % of the IBS group and only 2.4% of the control group had experienced cholecystectomy. So, the risk to the IBS population in this study tends to be similar with other studies, almost double (odds ratio=1.9)[3].

Longstreth and Yao[5] analyzed a sample of 89,008 subjects from San Diego, California from which 4,587 were IBS patients and 84,221 were non-IBS controls. Of the IBS patients, 569 or 12.4% underwent gallbladder surgery compared with 3,428 or 4.1% in the general population. In this study, the

risk of a patient with IBS undergoing a cholecystectomy was 3 times greater when compared to a non-IBS sample group.

A similar outcome was reported in a study by Cole and colleagues[4] where cholecystectomy was 2.91 times greater in IBS patients than in the general population sample. This study also found the most exposed group to cholecystectomy was those patients who had alternating diarrhea and constipation along with the abdominal pain or discomfort of IBS. An explanation for this could be that in this specific case clinicians are less certain about the IBS diagnosis because the patients do not exhibit the more extremes of one predominant bowel pattern.

Appendectomy

Gallbladder removal is not the only surgical procedure with high prevalence in the IBS population. Appendix removal (appendectomy) is another surgery shown to be more performed in the IBS population. The symptoms of IBS may worsen after stressful life events. Sometimes the pain can be sharp and localized in the right lower abdomen mimicking acute appendicitis. Because the diagnosis of acute appendicitis still mostly relies on physical exam and clinical judgment rather than diagnostic testing regarding the decision to operate urgently, the symptoms of IBS could be confounded. Consequently the patients with IBS are at risk for referral to surgery for an unnecessary appendectomy.

In the United States, the risk to an IBS patient to be operated on for appendectomy is 2.45 greater than a patient from a general population matched sample.[4] The same study by Cole and colleagues reported that the greatest risk is again to the group with alternating diarrhea and constipation along with the abdominal pain or discomfort of IBS (risk ratio= 2.97). A study by Longstreth[5] demonstrated that the risk for persons in the IBS population to undergo appendectomy is almost double (1.80) compared to the general population sample.

Hysterectomy

Regarding hysterectomies, the outcomes are similar. Worsening of IBS symptoms associated with menstruation may sometimes make the differentiation between this GI condition and gynecologic diseases to be subtle. For example, fibroids are benign (non-cancerous) tumors widely present in the female population, especially in African-American females. The symptoms associated with the fibroids are very similar with that of IBS: bloating, lower abdominal pain, constipation, and pelvic pressure. As with the gallbladder stones, a fibroid that caused no symptoms, when found, could be considered the cause of the GI symptoms and consequently referred to surgery. Longstreth[5] reported a risk exposure to hysterectomy 2 times higher in the subjects with IBS than in the general population; Cole[4] found a similar result, the risk being 1.87 times higher in the IBS population. In the Cole study those with alternating constipation and diarrhea along with the abdominal pain or discomfort of IBS showed to be the most exposed to hysterectomy, a situation seen also with the other types of surgery.

Surgical rates in IBS patients are increased but there is no evidence that this is beneficial.

Colon surgery

Higher risk was also found for colon surgery. The Cole[4] study demonstrated 10 times higher exposure for the IBS population. In this study the highest risk among all the surgeries was for colon surgery. This outcome reveals the possible confusion between IBS and other conditions of the colon.

Risks from surgery

Numerous challenges regarding the diagnosis and care of patients who have IBS still exist but our understanding of the disease is rapidly evolving. An informed approach for managing patients' symptoms can help with decreasing their suffering and reducing the risk of exposing them to unnecessary surgery. Reducing the risk for exposure to surgery is very important because surgical procedures are associated with some mortality and morbidity, depending on the procedure. As an example, Shea and colleagues[8] analyzed the morbidity and mortality related to least invasive gallbladder surgery (laparoscopic cholecystectomy). In this systematic review (meta-analysis), summarizing the data from 83 single-institution studies they concluded that the mortality (death) related to laparoscopy ranged between 0.14 to 0.16 % and that one of the serious operative complications, the common bile duct injury, was noticed in a range from 0.36% to 0.47%.

Surgery also involves risks due to anesthetic use in a patient population that may have sensitivity to this type of medication. Invasive procedures also run the potential of producing changes in the gut due to local inflammation that occurs with the recovery process of any surgery[6,7]. Heaton and colleagues[6] studied this possible effect on 1,058 women. Their study showed that women who had a hysterectomy in the past were significantly more constipated than the control non-hysterectomy group. Even though there were no differences in pain symptoms, the hysterectomy group presented significantly more IBS-constipation related symptoms (bloating, incomplete evacuation, straining to finish). The same study also demonstrated that women who had experienced a cholecystectomy were more likely to have urgency of defecation and a feeling of incomplete evacuation, suggesting rectal hypersensitivity. A study by Prior and colleagues[7] found that 10% of post-surgical women after a hysterectomy enrolled in a study developed new IBS symptoms after the operation.



Summary

In summary, the lack of globally effective or curative treatment and of a clear explanation of the symptoms in IBS not only generates a considerable financial impact on the healthcare system, and an increased utilization of diagnostic testing, but also predisposes the IBS patients to unnecessary surgical procedures (e.g., cholecystectomy, appendectomy, hysterectomy, and colon surgery). In order to avoid these problems as much as possible, a good, direct communication between the patient and the healthcare provider is needed. While it seems tempting for the clinician to search for explanations and for curative treatments, once the diagnostic work-up is done, the healthcare provider should work with the patient on a program to manage his or her symptoms. This program should carefully take in consideration all the factors that could influence the evolution of the symptoms.

The healthcare provider should inform the patients about the disease course, emphasizing the possible symptom relapses and also the challenges of this condition. After explaining the current limitations of treatment, the clinician should work with the patient to try to set realistic goals and expectations. The patient is also encouraged to actively take part in management of their symptoms.

Surgical rates in IBS patients are increased but there is no evidence that this is beneficial. Because the life quality of the IBS patient is not improved with surgery, the focus should be on setting realistic expectations through an effective doctor-patient partnership and on an individualized treatment plan. ●

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The Clinical Corner

Answers to your Questions
about Digestive Health

Do you have a question about digestive health? We want to help.

If you or a family member is struggling with chronic or recurring GI symptoms, you probably know how challenging it can be to find reliable treatment information. We want to help you find ways to manage symptoms and understand why they occur. We are always happy to hear from you, so please send us your question.

Answers are provided by digestive health professionals familiar with these disorders. In this issue you'll find answers to these questions:

- How can I determine if I received a thorough colonoscopy?
- Are osmotic laxatives safe?

If you have a question, please contact us by mail at: IFFGD, PO Box 170864, Milwaukee, WI 53217.
Or email to: clinicalcorner@iffgd.org

QUESTION – I just turned 50 and had my first screening colonoscopy. My gastroenterologist advised me to have a follow-up exam in 10 years since he didn't find any polyps. How do I know that I received a thorough exam and can safely wait 10 years?

ANSWER – You have made a very important decision to proceed with colon cancer screening. Colon cancer is the second leading cause of cancer deaths in America with an estimated 55,000 persons dying per year. Colonoscopy is currently our most effective means of reducing the incidence of colon cancer with reductions

in some studies of up to 80–90%. Despite this remarkable reduction only slightly over one-third of eligible persons elect to have a colonoscopy. With the inconvenience and expense of colonoscopy incurred, one should expect and receive a thorough examination that provides a sense of

security until the follow-up screening exam is performed. In your case, without a noted family history of colon cancer, the appropriate time interval for the second exam would be the recommended 10 years.

An endoscope is a thin, flexible tube with a light and a lens on the end used to look into the esophagus, stomach, duodenum, small intestine, colon, or rectum. The procedure that uses an endoscope is called an endoscopy. There are many types of endoscopy; colonoscopy is one type.



Your concern about receiving an adequate exam that will provide you reassurance for the next decade is justified. I will briefly present some information that may be of assistance in choosing an endoscopist that can perform a colonoscopy exam that minimizes missed lesions.

Assuming you have chosen a physician who is board certified (who has completed specialty training and passed an examination earning certification of proficiency from an independent board), and has completed supervised training in endoscopy, it first needs to be noted that even in the best hands there is an inherent miss rate when performing colonoscopy. The miss rate varies depending on the size of polyps one is reviewing. The larger the polyp the less likely it is to be missed. With polyps larger than 1cm (0.4 inch) the miss rate can be as high as 6% – higher with smaller polyps.

A number of recent studies have been conducted to look at the disparity in miss rates among different physicians performing endoscopies. Withdrawal times – the time it takes to remove the endoscope from the colon – was found to be a significant factor in polyp detection rates. Physicians having a withdrawal time of less than 6 minutes found significantly fewer polyps. These studies suggest that a longer exam may lead to a more careful inspection of the colonic mucosa resulting in fewer missed polyps. **It is very reasonable to ask your endoscopist what his or her withdrawal times are.**

Advancing the endoscope to the beginning of the colon (cecum) and performing a careful visual inspection of this area is crucial in the prevention of missed lesions. The cecum is the area of the colon that connects to the small intestine. During endoscopy this area can be identified by the doctor. Photo documentation of the cecum should be the norm in all endoscopic practices. A quality endoscopist should be able to reach the cecum in 95% of screening colonoscopies. **How often (percentage of times) your**

endoscopist reaches the cecum is another means of measuring quality endoscopy.

An additional measuring tool for quality endoscopy is the adenoma detection rate. Adenomas are a type of colon polyp that can develop into cancer over time. The key benefit of screening colonoscopy is to remove these premalignant lesions. In the average risk male patient undergoing screening, a detection rate of roughly 25% should be expected. For women the expected rate of detection is about 15%. If an endoscopist has a detection rate significantly less than these benchmarks, a concern regarding missed polyps would need to be entertained. **Ask the endoscopist what his or her average detection rate is of adenomas.**

In gastroenterology the specialty societies (American College of Gastroenterology, American Society of Gastrointestinal Endoscopy, American Gastroenterological Association) have taken the lead in performing research to identify quality measurements which can be used to assure patients are receiving a thorough endoscopic exam. Polyp detection rates, how often the exam reaches the cecum, and withdrawal times are measurements that physicians performing endoscopies should know for the benefit of their patients.

– Tomas Puetz, M.D.

QUESTION – I would like your opinion on Miralax (PEG 3350 NF powder for solution) available over-the-counter. My doctor recommends this product for daily use. This produces a soft, tubular bowel movement that is messy to clean up. But even more of a concern is that it seems to over-ride the normal thrust of a healthy intestinal tract that pushes fecal matter along. However, the advertisement for Miralax claims it “restores your body’s natural rhythm.” Do you consider Miralax a safe product for long-term continuous use?

ANSWER – Miralax® and its generic equivalent Glycolax® is one of several osmotic laxatives that increase water content of the stools in order to treat constipation. Osmotic laxatives actually make the colon function more effectively without directly stimulating the bowel to be more active. Thus, they do not override or artificially increase intestinal activity.

The active ingredient in Miralax is polyethylene glycol 3350, which is an inert substance that is absorbed from the intestines in minimal amounts. Several studies and an extensive clinical experience have shown polyethylene glycol containing laxatives to be effective and safe; so convincing are the data that the FDA recently approved it for over-the-counter use by patients without a doctor’s prescription. Because of this, I have used it to treat constipation in pregnant women and it is used widely in children as well.

There is no one best dose, although conventionally it has been given in doses of 17 gm per day. If the result is a bowel movement that is messy to clean up, try decreasing the amount taken daily in a gradual fashion until you find the daily amount that is best for you.

– Arnold Wald, M.D.

Contributors:

Tomas Puetz, M.D., Chief of Gastroenterology, Advanced Healthcare, Milwaukee, WI.

Arnold Wald, M.D., Professor of Medicine, Section of Gastroenterology and Hepatology, University of Wisconsin, Madison, WI.

Review and commentary: Post-infectious IBS study

Recently, the results of a study published in *Gut* (2007 Feb 26 Epub) by Megan J. Spence and Rona Moss-Morris, “The Cognitive behavioral model of irritable bowel syndrome: a prospective investigation of gastroenteritis patients,” provoked news articles with headlines such as this: “Overly Anxious and Driven People Prone to Irritable Bowel Syndrome” How accurate is that characterization?

In this article, A. Sidney Barritt, M.D., Division of Gastroenterology and Hepatology at the University of North Carolina in Chapel Hill, reviews the study and comments on the findings.

Summary

The British medical journal *Gut* recently published a study of patients who developed symptoms consistent with irritable bowel syndrome (IBS) after being infected with a common bacterium that causes gastroenteritis – an infection of the stomach and intestines. The aim of this study was to determine whether a combination of mood and personality factors together with illness beliefs and behaviors predict the onset of IBS after gastroenteritis, as suggested by the cognitive behavioral model of IBS.

This study followed 620 primary care patients, over age 16, with *Campylobacter* species gastroenteritis and no previous history of IBS or serious gastrointestinal problems over a period of six months. These patients were recruited from the largest provider of community clinical diagnostic services in Auckland, New Zealand, and were given a questionnaire at the time of infection and again three and six months later. Patients were determined to have IBS if they met an inclusive mix of Rome I and II criteria at both three and six months.

A total of 49 participants met the criteria for IBS at both follow-up points. According to the authors, those who developed IBS had significantly higher levels of perceived stress,

anxiety, somatization, and negative illness beliefs at the time of infection than those who did not develop IBS. Patients with IBS were also significantly more likely to exhibit “all or nothing behavior,” a method of ignoring illness symptoms and forging ahead until the point of complete exhaustion and the inability to perform even basic tasks. Female gender was also associated with IBS. Depression and perfectionism were not associated with IBS. Illness severity, as defined by antibiotic use and certain symptoms, was not associated with IBS.

Commentary

Post-infectious IBS (PI-IBS) occurs in about 10–20% of individuals who get a bacterial gastroenteritis, but continue to have symptoms consistent with IBS even after the infection is gone. Post-infectious IBS is thought to occur when the infection develops in an individual under high stress. This paper is one of the first to prospectively examine some of the psychological factors that may predispose to PI-IBS.

The authors highlight some interesting associations between IBS and some psychological traits. Nonetheless, the statistical significance of the results should not be overstated.

One of the intrinsic limitations in interpreting data from any survey study is selection bias. [Selection bias refers to error(s) in the design of a study involving how the participants are chosen.] Of 2,547 original patients identified with *Campylobacter* species infection, only about 1,500 received the survey. This number is based on the authors’ estimate that only about 60% of primary care physicians actually forwarded the survey to their patients. The worst case scenario of this initial selection bias is that only physicians who “believe” in IBS forwarded the survey. About one-half of these patients returned the survey, perhaps only those who identified with the psychological theme of the query; another event that may bias the results. In other words, the results may not represent all who got the infection. Rather, it may represent only those who were

motivated to complete the survey, and that may select those more likely to have the intended findings of the study.

The authors’ conclusions that patients with perceived stress, anxiety, somatization, and negative illness beliefs are more prone to developing post-infectious IBS is based on odds ratios that are statistically significant; but the actual clinic significance, or whether the results have meaning in clinical practice, is debatable. In this cohort study of a common illness, odds ratios (the measure of the degree of significance) will overestimate the true effect. A more reliable statistical tool in this study would have been risk-ratio. As the odds ratios in this study are so small, the actual risk that stress, anxiety, somatization, and negative illness beliefs play in the development of IBS is minimal at best.

Multiple studies have demonstrated that IBS is more than just a gastrointestinal manifestation of psychological distress. While there is a “brain-gut” interaction, and gastrointestinal symptoms are modified for better or worse by neurotransmitters like serotonin and norepinephrine. There are also changes that take place within the gastrointestinal tract. There are macro and microscopic alterations in gut motility, inflammation, and neurotransmitter release in patients with IBS that are not explained by alterations in mood.

Just as there can be many variants of IBS symptoms, there can be many causes or contributing factors. There are likely specific organism-host interactions (flora such as bacteria in the gut) that alter symptoms in IBS as is thought in inflammatory bowel disease. The results of this study (and behavior of this organism) of post-infectious IBS are not applicable to all IBS. The authors acknowledge this and suggest further studies of other patient groups.

Overall, Spence and Moss-Morris, provide an interesting study about psychological factors that may contribute to IBS. However, because of the study methods and the statistical analysis used, the effect should not be overestimated. ●



Changes in Bowel Control at Childbirth

By: William F. Norton, Publications Editor, IFFGD, Milwaukee, WI; and Jeannette Tries, Ph.D., Director of Therapy Services, Aurora Women's Pavilion of West Allis Memorial Hospital, WI, and Director of Biofeedback Services, Continence Control Service, University of Illinois, Chicago, IL

AT A GLANCE

Many women develop bowel control problems during or after pregnancy.

Changes can occur in muscles and nerves that control the ability to hold in gas, urine, or stool.

Problems with bowel control may begin right away or years after delivery.

There are ways to improve bowel control.

Knowing how to talk to a doctor about this will help in finding solutions.

Having a baby can change many things in life. Most of these changes are welcome, but some can be an unwanted surprise. New mothers do not expect, for example, to start having problems controlling their bowel movements. However, this can be a problem for some women after childbirth. Sometimes the problems begin during pregnancy or right after the baby is born. Other times they start years later. The problems may go away after a while, or may continue or get worse with time.

If this is happening to you, you are not alone. Many women have this problem. That does not mean it is normal or that you have to, "just live with it." If you begin having problems with your bowel control, it is a sign that something may be wrong – and you should seek help from your doctor.

This article will help you to understand:

- What may go wrong
- How to talk to your doctor about it
- What can be done about it

How your body works

The part of your body below your bellybutton and between your hip bones is the pelvic area. At the bottom of this area are layers of muscle that span the bottom part of the pelvic bones. The muscles attach to the front, back, and sides of the hip bones. These muscles are called the "pelvic floor."

The pelvic floor supports organs in the pelvic area. The organs include the birth canal

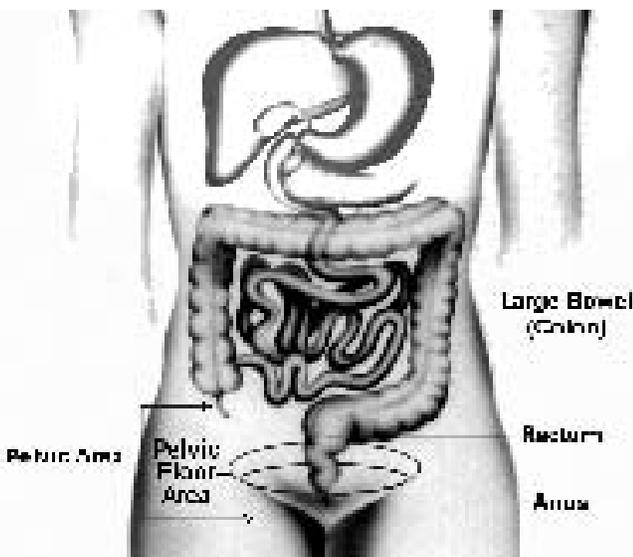
(vagina), the bladder, and the rectum. The bladder holds urine and the rectum holds stool until we urinate or have a bowel movement. Ring-like muscles at the end of the rectum (anal sphincter muscles) control the passing of gas or stool. When the bladder, rectum, and pelvic floor muscles are working right, you have control over when and where you go to the bathroom. If these organs and muscles are not working right, then urine, gas, or stool may leak. This loss of control is termed "incontinence."

What may go wrong

Your pelvic floor goes through lots of changes when you are pregnant and at the time of vaginal childbirth. As the fetus grows during pregnancy, there is greater pressure on the pelvic floor. Some women are prone to develop urine or bowel control problems as a result of pregnancy itself. Constipation can also develop. Some women develop swollen blood vessels (hemorrhoids) in and around the anus and lower rectum. Constipation and hemorrhoids can lead to soiling following a bowel movement. They are risk factors for developing more severe incontinence later in life.

During delivery the baby must fit through the birth canal, which is supported by the pelvic floor. This can cause some stretching or tearing of tissue in the vaginal area. Usually the tears are just in the skin, heal fast, and are no cause for concern. Less often, the injury goes deeper.

The worst and least frequent injuries are tears all the way through the muscles. When this happens, surgery is needed to repair the injury. However, the repair does not always restore bowel function as it was before pregnancy. Up to one-half of the women who have this kind of injury and repair will later have leakage or loss of



control of gas or stool. The use of forceps or a vacuum-assisted device to help deliver the baby, or an episiotomy (a cut the doctor sometimes makes in the vaginal area) can increase the risk of injury.

Injury to the muscles or nerves may cause changes in bowel control after delivery of your baby. The changes include:

- **Urgency** – having very little time between feeling the urge to have a bowel movement and the need to pass stool
- **Incontinence** – loss of control of gas, liquid stool, or solid stool

Urgency and incontinence of gas (and of urine) are common right after delivery. Usually these problems will get better after a few months. In some women, the problems do not go away. They may get worse over time. Sometimes, the problems go away after delivery of a first child, but come back after a second or later delivery. Still other times, the problems do not begin until many years later.

What to do if you notice changes in your bowel control

If you see changes in your bowel control, the first step is to tell your doctor. He or she will want to know if the changes seem to be getting better or worse over time. You may need to see your doctor for a physical exam to find out what is causing the problem.

Here are some things to tell your doctor:

- What are the changes you are seeing – what happens and how often does it happen?
- How often do you have loose stool or diarrhea?
- How often do you have hard stool or constipation?
- Does what you eat or drink seem to make a difference?
- What medicines are you taking?
- Have you ever had problems like this before?

What can improve bowel control

If your pelvic floor muscles are getting better but are weak, there are exercises that can help to make them stronger. Ask

Scientists are looking into other ways to improve bowel control . . . ask your doctor about all treatments available before deciding what will work best for you.

your doctor about this. He or she might help you with this or refer you to someone else who will teach you ways to improve muscle strength.

The form and consistency of stools can be a problem. You are more likely to experience leakage if you have frequent loose stools, or diarrhea. Your doctor may suggest foods (either to try or to stay away from) or medicines to help normalize your stool. Efforts should be made to avoid constipation and straining with stool because these problems increase the risk of bowel incontinence later in life.

Biofeedback is another kind of therapy that can help. First, you will need tests of the nerves and muscles of the pelvic floor, to see what is working and what is not. Biofeedback is a painless procedure. It uses special sensors and a video screen to help you change bodily functions that you are usually not aware of. Working with a trained therapist can help improve function of the muscles that control passing of gas or stool.

Your doctor may suggest surgery to repair damaged muscles. Colon and rectal surgeons specialize in this type of operation. There are risks as well as possible benefits from surgery. You need to talk about these with your doctor. Full restoration of function may not be possible with surgery alone but there may be improvement. Other things, like diet, bowel management, medication, and biofeedback therapy may also help improve function after surgery.

Scientists are looking into other ways to improve bowel control. These range from electrical stimulation to implants to injections. Ask your doctor about all treatments available before deciding what will work best for you.

Summary

Women may suffer from loss of bowel control or incontinence for many reasons. Risk factors range from a number of diseases, to overall health issues, to injuries. Certain injuries suffered during childbirth are among these risk factors.

Loss of bowel control may seem embarrassing to talk about. You may feel like you are the only one with this problem. It is important for you to know that you are not alone, and there are many ways to treat the problem. Do not suffer in silence. Talk to your doctor and get help.

Where to find out more

Through the efforts of groups like IFFGD and others, understanding is increasing about incontinence and the problems people with the disorder face. Contact IFFGD for more information about bowel control and incontinence. You can call us toll-free at 1-888-964-2001 or go to our web site at www.aboutIncontinence.org.

Other helpful reading

Here are just a few of the many helpful publications from IFFGD:

Living With and Managing Fecal Incontinence and Regaining Control. A personal story and practical tips on everyday living with the challenges of incontinence. IFFGD publication #301.

Strategies for Establishing Bowel Control. Help with incontinence, incomplete emptying, or chronic constipation. IFFGD publication #302.

Changes in Pelvic Floor Function at Childbirth and After Delivery. A review of the use of episiotomy during delivery, and common symptoms related to bowel function after delivery. IFFGD publication #309.



A Sampling of Recently Published Pediatric Studies

Why is Medical Research Important?

Although great progress has been made over the past decades, much remains to be understood about the functional and motility GI disorders. To those affected by chronic symptoms it may often seem like what we do not know outweighs what we do know. While our understanding is improving important questions remain:

- What causes these disorders?
- Why do certain people get them?
- How do we best treat the conditions?
- How do we prevent and cure them?

Medical research is needed to explore these questions. Through research, answers will be found, and the burden of illness endured by those affected will be relieved.

The good news is researchers are starting to understand some of the biological mechanisms responsible for the symptoms people feel. Clinicians are examining various treatments to determine which are most effective. With this increased understanding, new treatment approaches and medications are being developed. Some are now available to help certain groups of patients. We do not have all the answers yet, but we are getting closer.

In this column we report just a few research studies that provide clues to better understanding GI disorders. Each new study adds another small piece to the puzzle, making the big picture clearer. If you are interested in learning more about medical research, please visit our web site at www.giresearch.org.

Updated guidelines for treating constipation in children.

Constipation is a common pediatric problem. To assist health care professionals who care for children with constipation, the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) previously published a clinical guideline based on an integration of medical evidence with expert opinion. To evaluate studies published since then, the NASPGHAN Constipation Guideline Committee performed a comprehensive and systematic review of the medical literature since 1997, to identify, review, and rate the quality of new evidence. Based on this review, the recommendations of the original clinical guideline were reaffirmed with several modified according to the new evidence. Among the updates reported:

1. There are conflicting reports on the value of fiber for constipated children. Some studies find that constipated children are consuming less fiber than unaffected children; other studies find constipated children are consuming more fiber; and still others find no difference. The society recommends that further studies are needed before it can make a recommendation one way or the other.
2. Polyethylene glycol 3350 (PEG 3350) is an osmotic laxative which has been found to help disimpaction in constipated children. However, before it can recommend this laxative for use in babies the society recommends further safety studies.

3. The society has reviewed studies looking at biofeedback to help improve symptoms of constipation in children. No study showed long-term improvement; however, short-term improvements (about three months in length) were seen. The society recommends that biofeedback therapy can be an effective short-term treatment in some patients.
4. Studies looking at the effect of cow's milk in the diet show mixed results. The society recommends that in children whose constipation does not improve on standard medical and behavioral management, it is worth considering a short trial of a cow's milk-free diet to see if symptoms improve.

North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. Evaluation and treatment of constipation in children: summary of updated recommendations of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. *J Pediatr Gastroenterol Nutr.* 2006 Sep;43(3):405-7. Review.



Does allergy play a role in irritable bowel syndrome (IBS) and in constipation?

There is a common belief that allergy contributes to constipation or irritable bowel syndrome (IBS) with symptoms of constipation. However, reports have not been able to conclusively show that restricting allergens from a diet improves IBS or constipation symptoms. This study from Italy of children aged 3–13 years tried to find an answer looking in the other direction, by looking at whether children with demonstrated allergies (such as asthma, eczema, or food allergy) are more prone to have constipation or IBS. A group of 196 children with allergic symptoms were enrolled and compared to a second group of 127 nonallergic children as controls. Both groups were tested for allergies to a wide range of common food and other allergens, using a test called a skin prick test (SPT). Using a symptom questionnaire based on the Rome criteria for functional gastrointestinal disorders, the occurrence of constipation was found to be similar in both groups. IBS was found in 6.6% of the allergic children and in 6.3% of the nonallergic controls.

The study found that allergic children were not more likely than nonallergic children to have IBS or constipation symptoms. It was found that children who had at least one SPT allergic reaction to a food item were more likely to have IBS than children with no reaction to the food SPTs. The study concludes that children with allergies do not need to fear increased chances of developing IBS, but if they have positive SPT tests to food, they should also be examined for the presence of IBS symptoms.

Caffarelli C, Coscia A, Baldi F, Borghi A, Capra L, Cazzato S, Migliozi L, Pecorari L, Valenti A, Cavagni G. Characterization of irritable bowel syndrome and constipation in children with allergic diseases. *Eur J Pediatr*. 2007;Mar 8; [Epub ahead of print]

How common is food allergy in children?

This study from Brazil reviewed current research (2000–2006) on food allergies in children. Their primary conclusion is that food allergies are very often over-diagnosed. Other specific findings include:

- Diagnoses of allergic diseases, and especially allergies to food, have increased in the last 20 years or so.
- Children are much more likely to be diagnosed as having food allergies than adults.
- Food intolerance is often mistaken for food allergy. Food intolerance occurs when the body cannot adequately digest a portion of a particular food. Food allergy is an immune system response where the body creates antibodies as a reaction to certain food.
- Patients and their families are known to overestimate their own food allergies. In one study of 500 newborn babies, 28% of them were thought to have food allergies by their parents. However, a rigorous test for food allergies found that only 6% had a reaction to the suspect food.
- Elimination diets (a doctor-supervised diet in which a specific food or ingredients is removed from the diet to test whether symptoms disappear in the absence of the suspect food item) is not always a reliable test for true food allergy. The recommended diagnostic procedure is skin testing followed by IgE antibody testing.

- Currently, the only strategy for managing a food allergy is a diet with total elimination of the offending food item. To prevent malnutrition or other ill effects, these diets must be supervised by a physician.
- Most parents are unable to identify common allergic food ingredients on product labels, so any restrictive diet should be accompanied by extensive education about dietary management needs.
- Cow's milk allergy usually goes away within the first three years of life in most patients.
- While soy-based formulas have been successfully used to treat babies with demonstrated food allergies or food intolerance, there is no basis for recommending soy formula as a way to prevent food allergies. ●

Ferreira CT, Seidman E. Food allergy: a practical update from the gastroenterological viewpoint. *J Pediatr (Rio J)*. 2007;Jan-Feb;83(1):7-20.



Why Does Milk Bother Me?

From: NIH Publication No. 05–2751, February 2005. This article is not copyrighted.

What do I need to know about lactose intolerance?

Lactose intolerance means that you cannot digest foods with lactose in them. Lactose is the sugar found in milk and foods made with milk.

Should I worry about lactose intolerance?

No. Lactose intolerance is not serious. You should feel better soon if you eat less food with lactose or if you use products that help you digest lactose.

Why does my body have trouble digesting lactose?

You cannot digest lactose because you do not have enough lactase enzyme. The small intestine needs lactase enzyme to break down lactose. If lactose is not digested, it can cause gas and stomach cramps.

How will I feel if I have lactose intolerance?

After eating foods with lactose in them, you may feel sick to your stomach. You may also have:

- gas
- diarrhea
- swelling in your stomach

Some illnesses can cause these same problems. Your doctor can tell you if your problems are caused by lactose intolerance.

How will my doctor check for lactose intolerance?

Your doctor might use one of these tests:

- **Blood and Breath Tests**
You will drink a sweet drink with lactose in it. Then, your doctor will test your breath or blood for signs that you did or did not digest the lactose.
- **Stool Test**
Your doctor can also find out if you digest lactose by testing your stool (bowel movement). The stool test is often used to check babies for lactose intolerance.

What can I do about lactose intolerance?

You will need to eat less of all foods with lactose. These foods include the following:

Foods made with milk

Lactose is in milk and all foods made with milk, like:

- ice cream
- ice milk
- sherbet
- cream
- butter
- some cheeses
- cottage cheese
- yogurt

Prepared foods

Lactose is added to some boxed, canned, frozen, and other prepared foods, like:

- bread
- cereal
- lunch meats
- salad dressings
- mixes for cakes, cookies, pancakes, and biscuits
- frozen dinners

How will I know if lactose is in food?

Look for certain words on food labels.

These words mean the food has lactose in it:

- butter
- cheese
- cream
- dried milk
- lactose
- milk
- milk solids
- powdered milk
- whey

Can I eat any foods with lactose?

You may be able to eat a small amount of some foods with lactose. For example, you may be able to eat cheese or yogurt, but not drink milk. Aged cheeses, like cheddar and Swiss, have very little lactose. Or you may be able to eat some prepared foods. To

find out if you can, try a small amount of the food and then see how you feel.

Can I take anything to help me digest lactose?

You can buy pills or drops at a drug or grocery store to help you digest lactose.

They are:

- Pills that you chew right before eating foods with lactose. These pills are called **lactase enzyme caplets**.
- A liquid that you add to milk before drinking. The liquid is called **lactase enzyme drops**.

You can also drink a special milk with less lactose in it. You can buy this milk at the grocery store. It is called **lactose-reduced milk**.

What else do I need to know about diet?

Drinking milk and eating foods made with milk are the most common ways to get calcium. Calcium is important for good health. If you cannot eat or drink these foods, you may need to eat other foods with calcium:

- canned salmon with bones
- sardines
- collard greens
- turnip greens
- broccoli
- tofu

Also, ask your doctor if you should take a calcium tablet every day.

Points to Remember

- Eat fewer foods with lactose in them, like milk, some cheeses, and ice cream.
- Find out if you can eat small amounts of food with lactose.
- Read food labels to find out if a food has lactose in it.
- Use a special pill or liquid to help you digest foods with lactose.
- Eat enough foods with calcium, like broccoli.



How to Prepare for Tests

By: W. Grant Thompson, M.D., Emeritus Professor of Medicine, University of Ottawa, Ontario, Canada

AT A GLANCE

- Often the diagnosis of a functional GI disorder can be made with few or no tests.
- Sometimes tests are needed to rule out another disease.
- Usually some preparation is needed before the test may be done.
- Correct preparation for a test helps make it easier and more effective.
- Knowing what to expect will help you feel more at ease.

In many cases, doctors can make a diagnosis of a functional gastrointestinal disorder after a careful history and examination. Often, however, there is a structural disease that must be excluded by tests that probe the gastrointestinal tract. In dyspepsia, for example, upper abdominal distress may be due to a peptic ulcer in the stomach or duodenum, and an endoscopy may be required to rule out such lesions. In the case of irritable bowel syndrome (IBS) or constipation, there may be an alarm feature, such as blood in the stool or a family history of colorectal cancer that prompts a doctor to order a colonoscopy, sigmoidoscopy, or barium enema. For these and other gastrointestinal investigations, some preparation is required. If you have to have one of these tests, it may help to know why the preparation is necessary and how to make it effective and less stressful.

General principles

When preparing yourself for an invasive gut procedure, it is well to keep in mind that the cleanliness and emptiness of the part to be examined is vital to success. If the examiner cannot see the colon wall because of a residue of stool, or the stomach because of a last-minute snack, there is a risk that he or she may fail to identify an important abnormality. Perforation of the colon is very rare, but will contaminate the abdominal cavity less if the organ is empty. Often, during such a procedure, it is necessary to biopsy, cauterize, or remove a lesion, and that risks bleeding. It is therefore important to tell the doctors and nurses involved in the procedure what drugs you are taking, especially blood thinners (anticoagulants) and aspirin. The doctor may suspend these blood thinning drugs for the procedure. If your doctor agrees, aspirin (ASA, acetylsalicylic acid) should be stopped a week prior to the procedure in order to ensure that the blood platelets (small cells important in blood clotting) have

returned to normal. Iron may blacken the stool, reducing visibility. Therefore, iron-containing medication or diet supplements should be stopped 72 hours prior to a colonoscopy.

Sedation – Since some procedures require sedation, you must inform your doctor of any drug sensitivities, cardiovascular disease, or previous bad experiences with sedation. If sedation is to be given, or even *possibly* given, you should not drive from the clinic, but arrange to be picked up by a responsible party. Most facilities do not permit a cab trip home without a companion. If you have diabetes, kidney failure, or other chronic disease, the doctor should be asked for special instructions regarding diet and medication.

There are many local variations in how, when, and what sedation is employed. For an endoscopy (a procedure that involves insertion, through the mouth or anus, of a thin, flexible tube used to look into the esophagus, stomach, duodenum, small intestine, colon, or rectum) an intravenous line usually is set up by the nurse after you arrive at the clinic. The drugs are administered by injection into that line immediately before the test. There are many sedatives and relaxants available for this purpose. For the most part, the medications are safe and effective, but they require a period of recovery after their administration. You are not put to sleep since you need to be conscious and cooperative throughout. (This is called conscious sedation.) Tests of gut motility or function often require even more cooperation, and sedation is neither required nor advisable.

Sedation lessens any anxiety associated with the test. It may be given with a pain killer. The nurse or doctor will explain the adverse reactions particular to the drug or drugs used. Tolerances differ and too much sedation risks arrested



breathing. A device clipped to a finger permits the nurse to monitor your heart rate and blood oxygen saturation during the test. The medications cause temporary forgetfulness; sometimes, examinees even forget having had the test. You may not even be able to remember or fully understand the test results if they are presented to you after the test. It is wise to arrange a follow-up meeting with the doctor to be sure that all the implications of these results are clearly addressed.

Local Anesthesia – Before starting a procedure that involves the insertion of an instrument into the esophagus and beyond, the nurse may apply a topical anesthetic to your throat. This is to help you swallow the instrument without gagging. The drug used is usually xylocaine and it may be applied as a spray, or as a gel that you swallow. It has a bad taste, and attempts to flavor it have had little success.

Consent – As with all medical procedures, you will be asked to sign a consent form that certifies that you understand the risks and benefits of the procedure, and that your doctor has explained them to you. The consent procedure is an opportunity for you to ask questions. Normally, intestinal examinations are very safe. However, perforations of the organ may occur, especially when the area being examined is diseased, or if removal of a tissue sample (biopsy), cauterization, or removal of a polyp or foreign body is involved. This rare complication may require emergency surgery.

As you sign the consent form you should understand with what, when, where, and why the procedure is being done, and if not satisfied, you should decline the test or seek a second opinion.

Before leaving the doctor's office where the procedure has been arranged, be certain you understand everything about the procedure and its preparation. Failure to do this invites fear and misunderstanding, and it is often difficult and less satisfactory to correct these later by phone. As you sign the consent form you should understand with what, when, where, and why the procedure is being done, and if not satisfied, you should decline the test or seek a second opinion.

Sigmoidoscopy and colonoscopy

Sigmoidoscopy involves examination of the inside of the sigmoid colon and rectum using an endoscope. For a sigmoidoscopy, your doctor will instruct you to take a phosphate enema about 2 hours before the test. (However, in certain centers, a colonoscopy preparation (see below) is given in case a polyp is found that makes a colonoscopy necessary.) You should have only a light breakfast (or lunch) in the hours before the test. Some doctors use suppositories such as bisacodyl instead of an enema.

Colonoscopy is an endoscopic procedure in which the entire colon and rectum is viewed. If an abnormality is seen, it can be examined or removed. For a colonoscopy, it is imperative that the whole bowel be clean. You should take only fluids by mouth after noon the day before the test. The preparation must be thorough. There are several methods, but I shall describe only two. Your doctor must give you detailed instructions. The first is the ingestion at noon and evening the day before of 60 ml of an oral phosphate solution. An alternative is the ingestion over the previous 12 to 18 hours of 4 liters of a polyethylene glycol (PEG) solution. This causes a profuse and frequent diarrhea, and the rectum should be clear by the time of the colonoscopy. You should plan to spend the preparation time with a toilet available nearby. The laxatives may be unpleasant, and sometimes they cause nausea and cramps. Nevertheless, they are safe when taken with clear fluids – and necessary if the examination is to be optimal. Adequate fluid intake should be maintained throughout. The product's package insert will contain helpful advice on how to take the laxative(s). Elderly persons should be accompanied by a relative or friend when undergoing these preparations.



Other colonic procedures

A barium enema (barium allows the colon outline to be viewed on x-ray) requires a preparation similar to that of colonoscopy, but sedation is not required. There are a number of other specialized and invasive tests of the colon such as colon or rectal manometry (measures sensation or contractions in the colon or rectum), balloon expulsion tests (measures ability to expel and retain stool), and defecography (looks at how well the rectum and anus work when defecating) that also need some preparation. However, these may differ from one diagnostic center to another. One example is the University of North Carolina which requires the following for rectal manometry: "Discontinue laxatives, anticholinergic drugs, and narcotics at least 24 hours prior to the study. Whenever possible, discontinue these medications 4 days before the study. Patients who have stool in their rectum should receive a phosphate enema 1–2 hours prior to the test. However, patients should be advised to report to their first clinic visit without prior bowel cleansing since the presence of stool in the sigmoid colon and rectum is valuable diagnostic information. . . ." Other than the discontinuing of drugs that affect the movements of the gut, no preparation is required for hydrogen breath testing, colonic scintigraphy, and radio-opaque marker studies of gut motility. Consult the articles listed below for more information regarding these procedures.

Upper gastrointestinal endoscopy

During an upper GI endoscopy the esophagus, stomach, and duodenum may be examined. Obviously, the examiner will want your stomach empty during upper endoscopy. That's the reason you will be instructed to fast. Usually, subjects are requested to take nothing by mouth after midnight. However, if the test is scheduled for later in the day, you will be permitted a light breakfast. You should inform your doctor(s) if you are diabetic or are on important medication, so that diet and medication can be planned.

When scheduling the test you should alert your doctor/ endoscopist if you are taking anticoagulants or aspirin. These drugs increase the risk of bleeding if biopsy, cauterization, polyp removal, or esophageal dilatation is performed during the procedure.

When scheduling the test you should alert your doctor/endoscopist if you are taking anticoagulants or aspirin. These drugs increase the risk of bleeding if biopsy, cauterization, polyp removal, or esophageal dilatation is performed during the procedure. If your doctor agrees, aspirin should be stopped a week before. If you are to have sedation for the test you should arrange to have someone pick you up when you have recovered from the drug's effects.

Other upper gut examinations

For radiological examinations of the esophagus, stomach, and duodenum, you are asked to swallow barium and x-rays are taken of the organs of interest. The preparation for this is similar to that of endoscopy, but anticoagulants need not be stopped, and no sedation is needed. Esophageal examinations such as esophageal manometry and 24-hour pH probe (measures acid exposure in the esophagus) require an initial placement of a tube in the esophagus. Since that may cause retching, patients should be fasting. However, the 24-hour pH probe measures the esophagus's behavior during a normal day, so eating and other activities should be as normal as possible. Moreover, since drugs that affect esophageal motility may confound the results, they should be discontinued at least 24 hours before the procedure.

Summary

Many tests of the anatomy and function of the gastrointestinal tract require apparatus to be inserted through the mouth or anus. Where the gut interior is to be visualized by an endoscope or barium x-ray, a clean and empty interior is required if the examination is to be a success. In some tests of gut function, as little as possible should be done to interfere with the gut's natural performance. Sometimes fasting is necessary, but during such tests, eating and activity should be normal and drugs that might alter gut performance should be withdrawn. For detailed descriptions of these procedures, the reader is referred to the articles below. ●

More Detailed Descriptions of Procedures in these IFFGD Publications

Orkin BA. *Physiological Testing of the Colon, Rectum and Anus*. No. 111, 1993.

Thompson WG. *Colonoscopy and Sigmoidoscopy: What to Expect*. No. 114, 2000.

Cash BD, Chey WD. *Diagnostic Tests in Irritable Bowel Syndrome Patients*. No. 175, 2003.

Thompson WG. *Upper GI Endoscopy: What to Expect*. No. 503, 2001.

DeLegge MH. *GERD: From Diagnosis to Treatment*. No. 529, 2005.



We are pleased to welcome the newest member of the IFFGD Industry Council, The Procter & Gamble Company.

When IFFGD began, in 1991, there was little communication between patients living with functional gastrointestinal (GI) and motility disorders and the companies with the means to develop treatment products and services. Subsequently, IFFGD has worked hard to make the needs of our members known – not only to the clinicians who see patients, but also to the researchers and providers of diagnostic and treatment methods and tools.

In 1998, in an effort to strengthen our voice, we formed the IFFGD Industry Council. The Council provides a forum to help ensure that the voice of our membership is heard. The purpose of the Industry Council is to help fulfill the mission of IFFGD: to inform, assist, and support people affected by gastrointestinal disorders, or bowel incontinence.

We invite participation from companies with a demonstrated interest in these disorders. While we are grateful to our Industry Council members for their support, we do not endorse any specific product or company. IFFGD retains unrestricted control over the planning, content, objectives, methods, and execution of all initiatives and projects.

IFFGD INDUSTRY COUNCIL
Takeda Pharmaceuticals North America, Inc. and Sucampo Pharmaceuticals, Inc.

The Procter & Gamble Company

Novartis Pharmaceuticals Corporation

Medtronic Gastroenterology

Ethicon Endo-Surgery Inc and its InScope Division

AstraZeneca

Industry Sponsored Clinical Trials

A clinical trial is a research study to answer specific questions about new products, therapies, or new ways of using known treatments. Through these research studies, investigators find new and better ways to treat, control, prevent, diagnose, or detect conditions, or to improve the quality of life for those with an illness. Trials can take place in a variety of locations, such as hospitals, universities, doctors' offices, or community clinics.

Although efforts are made to control risks to clinical trial participants, some risk may be unavoidable because of the uncertainty inherent in clinical research involving new medical products. It's important, therefore, that decisions to participate in a clinical trial are made only after obtaining a full understanding of the entire process and the risks that may be involved.

Choosing to participate in a clinical trial is an important personal decision. It is often helpful to talk to a physician, family members, or friends about deciding to join a trial. General information about clinical trials can be found at this IFFGD web page, www.giresearch.org/site/gi-research/studies or at this National Institutes of Health web site, www.clinicaltrials.gov, among others.

After identifying some trial options, the next step is to contact the study research staff and ask questions about specific trials. Here is a list of studies, sponsored by members of the IFFGD Industry Council, which are currently seeking participants.

Gastric Stimulation for Vomiting, Nausea and Related Symptoms Associated with Gastroparesis Using Enterra Gastric Stimulation System

Purpose of Trial: A research study to determine if an implanted device (Enterra Therapy) to stimulate the stomach will improve symptoms (such as nausea and vomiting) associated with gastroparesis (a disorder in which the stomach takes too long to empty its contents).

Sponsored by: Medtronic, Inc. Find more details on-line at: www.giresearch.org/IndustryStudies.html.

Locations and Contact Information

- Indianapolis, IN, St. Vincent Hospital – Contact: Kativa Leal, RN, (317) 338-6743
- Louisville, KY, University of Louisville – Contact: Jennifer Koopman, (502) 852-3365
- San Francisco, CA, California Pacific Medical Center – Contact: Lesley Scott, MS, (415) 600-1593
- Santa Ana, CA, Lovelace Scientific Resources – Contact: Selene Alvarez, CRC, (714) 444-4048
- Washington, DC, George Washington University – Contact: Elizabeth Drenon, (202) 741-3168



A Multi-Center Study to Assess the Outcomes of Stapled Trans-Anal Rectal Resection (STARR) in the Treatment of Obstructed Defecation Syndrome (ODS)

Purpose of Trial: The primary purpose of this study is to determine how effective and how durable STARR (Stapled Transanal Rectal Resection) surgery is in relieving symptoms of intractable constipation associated with Obstructive Defecation Syndrome (ODS).

Sponsored by: Ethicon Endo-Surgery. Find more details on-line at: www.giresearch.org/IndustryStudies.html.

Locations and Contact Information

- Orlando, FL, Colon and Rectal Clinic of Orlando – Contact: Nancy Joiner, RN, (407) 422-3790 Ext. 3021
- Burlington, MA, Lahey Clinic – Contact: Donna Spencer, (781) 744-8351
- Minneapolis, MN, Colon & Rectal Surgery Assocs Ltd – Contact: Peggy Ashton, RN, (651) 225-7836, or Linda Jensen, RN, (651) 225-7825
- Toledo, OH, Medical University of Ohio – Contact: Wendy Boone, RN, (419) 383-6298
- Cleveland, OH, The Cleveland Clinic Foundation – Contact: Ann Dugan, RN, (216) 445-8665
- Portland, OR, Portland Medical Center – Contact: Jennifer Erwin, (503) 216-2248
- Salt Lake City, UT, Center for Colon & Rectal Diseases – Contact: Kirti Salunkhe, MD, (801) 298-2888

Books of Interest

Here is a list of books, authored by knowledgeable healthcare professionals, which provide trustworthy information about a variety of topics relating to gastrointestinal disorders and digestive health. These books are published by outside publishers – not by IFFGD.

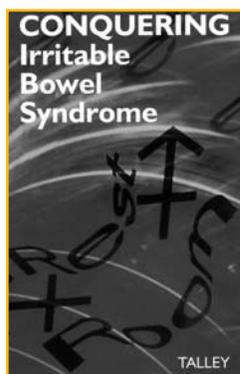
Title: *Conquering Irritable Bowel Syndrome*

Authors: Nicholas J. Talley, M.D.

Publisher: BC Decker Inc., Hamilton (2005)

Pages: 198

ISBN-10: 1-896998-22-4



In this book, Dr. Talley, professor of medicine at the Mayo Clinic College of Medicine, tells readers how to use evidence-based medicine to evaluate the options

and find relief for IBS. In addition he includes information that explains symptoms and why they occur; how to work with a doctor to develop an effective treatment plan; alternative therapies; new medicines; research ... and the hope it offers for the future. The book will help you understand and examine the validity and merits of treatment options and various management strategies ranging from diet to drugs. High-quality, easy-to-understand illustrations help clarify key concepts.

A portion of the proceeds from sales of this book is being donated to IFFGD by Dr. Talley and the publisher, BC Decker, to support research. We thank them for their generous contribution. Available through booksellers.

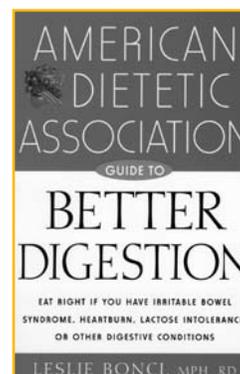
Title: *American Dietetic Association Guide to Better Digestion*

Authors: Leslie Bonci, R.D., M.P.H.

Publisher: Wiley (2003)

Pages: 256 pages (paperback)

ISBN-10: 0471442232



Leslie Bonci is the director of sports medicine nutrition for the Department of Orthopedic Surgery and the Center for Sports Medicine

at the University of Pittsburgh Medical Center and is an adjunct assistant professor of nutrition at the University of Pittsburgh School of Health and Rehabilitation Sciences. Backed by the American Dietetic Association, this user-friendly guide shows you how to analyze your eating habits so that you can map out a dietary plan to manage and reduce the uncomfortable symptoms of digestive disorders.

You'll find practical recommendations for implementing changes in your lifestyle and advice on steering clear of common dietary mistakes. Your meals will be pleasurable and nourishing experiences – not painful ones – when you discover how to make the best and most comfortable food choices so you can embark on the road to digestive health. Available through booksellers.



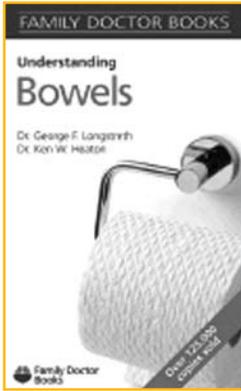
Title: *Understanding Your Bowels*

Authors: George F. Longstreth, M.D. and
Ken W. Heaton, M.D.

Publisher: Family Doctor Publications (2006)

Pages: 140 (paperback)

ISBN-10: 142850012X



Here is a concise, easy to read book designed to help any reader understand how their bowels work, what can go wrong, and what can be done to fix the problems. Topics range from chronic symptoms such as constipation, diarrhea, or bloating to disorders such as IBS or diverticulosis. An explanation of the physician visit and tests will help patients get the most out of their doctor visit. Originally published in Great Britain, the book has recently been re-published for U.S. readers.

Dr. Heaton and Dr. Longstreth are prolific writers and dedicated clinicians with many years of experience in the field of digestive health and illness. Dr. Longstreth is Chief of Gastroenterology with the Kaiser Permanente Medical Care Plan and is Clinical Professor of Medicine at the University of California San Diego School of Medicine. Dr. Heaton was until recently Reader in Medicine at the University of Bristol, U.K. and Honorary Consultant Physician to the United Bristol Hospitals Trust. Together they have written this user-friendly volume. The book contains colorful and understandable illustrations, a list of useful resources, and a helpful glossary of terms. Recommended for anyone seeking to understand a bowel disorder and how to find help. Available through booksellers.

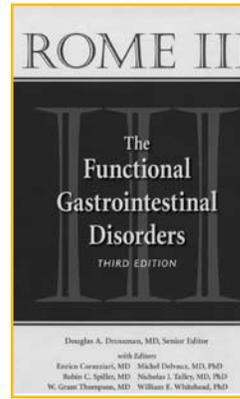
Title: *Rome III: The Functional Gastrointestinal Disorders*

Senior Editor: Douglas A. Drossman, MD

Pages: 1,048 pages (hardback)

ISBN-10: 096568376 (hardback);

0965683753 (paperback)



Five years in the making, *Rome III* is designed for “one stop” learning for health professionals. It serves as a valuable resource to general and specialist physicians, mental health professionals, and basic and clinical investigators involved in the study and care of patients with functional GI disorders. The Rome teams of internationally recognized investigators and clinicians have again come together to produce a new standard for the evaluation and care of patients having

these complex and prevalent disorders. *Rome III* provides the most up-to-date information on the epidemiology, pathophysiology, diagnosis, and treatment of irritable bowel syndrome and over 20 more functional GI disorders commonly seen in clinical practice.

This third edition is expanded with 17 chapters to address the needs of both investigators and clinicians. New chapters include pharmacology and pharmacokinetics, sociocultural influences relating to gender, age, and cultural influences, functional abdominal pain, and two chapters on pediatrics for the neonate/toddler and child/adolescent.

Includes “red flag” questions to aid the clinician in identifying symptoms and signs that would suggest further evaluation (to exclude other diagnoses) or when needed to make a referral. A table is included that compares the Rome II and new Rome III diagnostic criteria. Available online at www.romecriteria.org/.

On Tract: Topics in GI Motility

The American Motility Society has changed its name to: American Neurogastroenterology and Motility Society

The American Neurogastroenterology and Motility Society is a society dedicated to research and the practice of medicine in gastrointestinal motility, the brain-gut axis, and related enteric sciences.

Several reasons why this name change has occurred:

- American Neurogastroenterology and Motility Society better describes the broad nature and variety of research activity and the practice of medicine performed by Society members. The name change also reflects the fact that several disciplines of research that are not directly related to GI motility are involved.
- American Neurogastroenterology and Motility Society corresponds to our journal title – *Neurogastroenterology and Motility*.
- The name of our Society is now more consistent with other motility societies outside the United States which have embraced the inclusion of the term neurogastroenterology in their title and statute.
- The more inclusive name, including the second line explanatory statement, has a greater potential to attract young and established investigators.

Mission of the American Neurogastroenterology and Motility Society (ANMS)

The mission of the ANMS is to advance the study of neurogastroenterology, GI motility and related enteric sciences; to promote the training of basic scientists and clinician investigators; to translate the scientific advances to patient care; and to disseminate the knowledge to patients and care-givers in order to improve the diagnosis and treatment of patients with GI motility and functional GI disorders.

Activities of the ANMS

- Promotes meetings to disseminate current research in neurogastroenterology.
- Promotes research by supporting grants in areas related to neurogastroenterology and enteric sciences.
- Supports training for clinicians to expand their expertise in diagnostic motility studies and care of patients with neurogastroenterology and motility disorders.
- Provides training to individuals interested in neurogastroenterology, GI motility and related enteric sciences.
- Supports lobbying efforts to increase awareness and support for research in this area.

Upcoming Meetings of the ANMS

- ANMS Clinical Motility Course for Clinical Practice – February 29, 2008 to March 2, 2008 in Atlanta, Georgia.
- The 2008 Joint Society International Meeting in Neurogastroenterology and Motility – November 6-9, 2008 in Lucerne Switzerland. Abstract deadline is June 20, 2008.

For more information about the ANMS, please visit our web site at www.motilitysociety.org

Henry P. Parkman, MD

President

American Neurogastroenterology and Motility Society



Capitol Hill Minute

IFFGD Testimony Regarding Fiscal Year 2008 Funding for Functional Gastrointestinal and Motility Disorders Research

On March 27, 2007 William Norton, on behalf of IFFGD, presented testimony to the House Appropriations Subcommittee on Labor, Health & Human Services, Education and Related Agencies on the needs for supporting digestive disease research. Here is a summary of our Fiscal Year (FY) 2008 recommendations:

- Provide a 6.7% increase for FY 2008 to the National Institutes of Health (NIH) budget. Within NIH, provide proportional increases of 6.7% to the various institutes and centers, specifically, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and the Office of Research on Women's Health (ORWH).
- Accelerate funding for extramural clinical and basic functional gastrointestinal disorders (FGID) and motility disorders research at NIDDK.
- Continue to urge NIDDK to develop a strategic plan on irritable bowel syndrome (IBS) with the purpose of setting research goals, determining improved treatment options for IBS sufferers, and assisting in recruitment of new investigators to conduct IBS research.
- Urge the National Institute of Child Health and Human Development (NICHD) and NIDDK to continue to support research into fecal and urinary incontinence, including the development of a standardization of scales to measure incontinence severity and quality of life and to develop strategies for primary prevention of fecal incontinence associated with childbirth.



- Provide funding to NIDDK and the National Cancer Institute (NCI) for increased research on the causes of esophageal cancer.

A complete transcript of our testimony can be accessed from our web page at www.iffgd.org/site/learning-center/congressional-testimony. It takes vigilance and effort to ensure progress in digestive disease research. We thank those of you who have responded to our Action Alerts (www.iffgd.org/site/news-events/action-alerts) and contacted your congressional representatives. Every voice matters. If you have not already done so, please lend your support to our efforts.

U.S. Senate and House Urge Increased Funding for Medical Research

(May 2007) Many members of Congress have stated that they consider the government's health and education programs to be as relevant to the national interest as defense. While pundits may

disagree over this assertion, there is no disagreeing with the fact that federal investment in the National Institutes of Health (NIH) has paid dividends in terms of improved quality of life for countless Americans. Internationally, NIH remains the gold standard for medical research and a beacon for preeminent clinical investigators from across the globe. However, previous years of near level funding have hindered NIH's ability to attract staff and stimulate critical new research.

The medical community understands that funding research today translates to lower health care costs tomorrow. The International Foundation for Functional Gastrointestinal Disorders (IFFGD), along with the larger medical community, has been calling on members of Congress to end the recent trend of near level funding for NIH and they have responded. Despite difficult budgetary constraints, this Congress has begun taking steps to reaffirm its commitment of support for the agency.



On April 26th, Senators Ted Kennedy (D-MA) and Orrin Hatch (R-UT) sent a “sign-on letter” to Senators Robert Byrd (D-WV) and Thad Cochran (R-MS), the Chairman and Ranking Member of the Senate Appropriations Committee, urging them to increase funding for NIH by 6.7% in fiscal year (FY) 2008. The letter was also addressed to Senators Tom Harkin (D-IA)

and Arlen Specter (R-PA), the Chairman and Ranking Member of the Senate Appropriations Labor-Health and Human Services (HHS)-Education Subcommittee, which has jurisdiction over NIH. The International Foundation for Functional Gastrointestinal Disorders joined the larger medical community in contacting members of the Senate and asking them to

support this letter. In a resounding show of strength, the final letter received the signatures of 48 Senators, both Democratic and Republican.

A similar letter was circulated in the House of Representatives a month earlier by Representatives Edward Markey (D-MA-7th), David Reichert (R-WA-8th), Henry Waxman (D-CA-30th), Christopher Shays (R-CT-4th), Jan Schakowsky (D-IL-9th), and Christopher Smith (R-NJ-4th). Once again, the successful outreach of concerned organizations ensured that numerous congressional offices supported this effort. The final letter that was sent to David Obey (D-WI-7th), the Chairman of the House Appropriations Committee and the Labor-HHS-Education Subcommittee, Jerry Lewis (R-CA-41st), the Ranking Member of the full Committee, and James Walsh (R-NY-25th), the Ranking member of the Subcommittee received the signatures of 182 representatives.

Given the proactive response of Congress to the concerns of the medical community, we remain optimistic that legislators will ultimately increase funding for NIH in FY 2008. ●



Announcements

IFFGD Presents 2007 Research Awards

IFFGD presented our 2007 Research Awards at a ceremony recognizing six recipients held on April 13, 2007 at the 7th International Symposium on Functional Gastrointestinal Disorders. These IFFGD research awards are given to active investigators who have a record of research interest in basic mechanisms or clinical aspects of functional gastrointestinal and motility disorders. The awards are intended to encourage the participation of clinicians and scientists in multidisciplinary efforts aimed at advancing the understanding of gastrointestinal disorders in adults and in children.



Pictured top: Frank Hamilton, Nancy Norton, Doug Drossman. Pictured bottom: Magnus Simrén, Sylvie Bradesi, Bruce Naliboff, Paul Hyman, Miranda van Tilburg, Brennan Spiegel.

Basic Science is the fundamental approach to understanding how systems work. Basic research takes place in the laboratory and often involves the study of molecules and cells.

Clinical science is the approach aimed at understanding the diagnosis and treatment of diseases and disorders through studies involving people, usually carried out in clinical settings.

The awards were presented by Nancy Norton, President, IFFGD; Frank Hamilton, M.D., Chief, Digestive Diseases Programs Branch, National Institute of Diabetes and Digestive and Kidney Diseases of the NIH; and Douglas Drossman, M.D., Chair, IFFGD Research Awards Selection Committee.

IFFGD Research Awards Committee

Douglas Drossman, M.D., Chair

Michael Camilleri, M.D.

Carlo DiLorenzo, M.D.

Emeran Mayer, M.D.

Nicholas Talley, M.D.

Peter Whorwell, M.D.

Jackie Wood, Ph.D.

We congratulate the 2007 IFFGD Research Award recipients for their outstanding achievements.

Senior Investigator – Clinical Science

Bruce D. Naliboff, Ph.D., UCLA Center for Neurovisceral Sciences and Women's Health, Los Angeles, CA. Dr. Naliboff is an innovator in studies of pain, including his current work in IBS.

Junior Investigator – Clinical Science

Magnus Simrén, M.D., Ph.D., Sahlgrenska University Hospital, University of Göteborg, Sweden. Dr. Simrén's main research areas are the causes and development of functional GI disorders.

Junior Investigator – Clinical Science

Brennan M. R. Spiegel, M.D. West Los Angeles VA Medical Center, David Geffen School of Medicine, UCLA, Los Angeles, CA. Dr. Spiegel's current research is looking at ways to improve the quality and cost-effectiveness of care for patients with IBS and dyspepsia.

Junior Investigator – Basic Science

Sylvie Bradesi, Ph.D., David Geffen School of Medicine, UCLA, Los Angeles, CA. Dr. Bradesi's research has looked at neuroimmune interactions in the spinal cord at the molecular level and the role of this response in chronic pain.

Senior Investigator – Pediatrics

Paul E. Hyman, M.D., University of Kansas Medical Center, Kansas City, KS. Dr. Hyman's research has focused on pediatric GI motility disorders, chronic pain, and children's functional GI disorders.

Junior Investigator – Pediatrics

Miranda A. L. van Tilburg, Ph.D., UNC Center for functional GI and Motility Disorders, Chapel Hill, NC. Dr. van Tilburg's research has been looking at ways to design interventions and tools that help patients and families better manage GI symptoms.

IFFGD Celebrity Handbag Auction Raises Funds for Digestive Disease Research

Bidders in the recent IFFGD Celebrity Handbag Auction raised funds and brought attention to the need for digestive disease research. The online auction of handbags from more than 20 well-known celebrities drew a host of new people into the IFFGD family, as they browsed our catalog and bid on the items.

A publicity campaign about the auction provided new ways to tell the IFFGD story. Internet sites, like ET Online (the Web site for Entertainment Tonight) posted stories, as did fan clubs and blogs for celebrities who donated handbags. Stories also ran in traditional media, like the *Chicago Tribune* and *Milwaukee Journal-Sentinel*. The NBC-TV affiliate in Milwaukee conducted an interview about the auction and the need for digestive disease research.

Final bidding the night of the auction was fast and furious. Bidding on a Liz Clairborne handbag donated by Jenna Fischer of “The Office,” went back and forth for a half-hour after the close. (All participants were notified about a bid extension feature that allowed the auction to stay open as long as bidding continued.) The winning bidder, a 16-year-old high school student who is an avid Jenna Fischer fan, used her babysitting money to pay for the handbag. Her parents told IFFGD that they gave her permission to bid on the handbag only because they have a close friend with a digestive disease and they understand the challenges he faces.

Bidders like this young woman, the celebrities who sent us handbags, and everyone who participated in the auction are true stars. Their support – financially and emotionally – will one day lead to the cures so many people seek.

Hirschsprung’s Disease: Participants Sought for Genetic Study

Our laboratory at Johns Hopkins University, Baltimore, MD is seeking participants for an ongoing study of the genetic basis of Hirschsprung’s disease.

We are studying how changes in the DNA sequence of one or more genes can lead to Hirschsprung’s disease, how these genes interact, and how they are passed through generations. At least 8 genes have already been implicated in the development of Hirschsprung’s disease (HSCR), and we are searching for changes in additional, still unidentified, genes. Finally, we are trying to

identify genetic factors that may modify a person’s risk to develop HSCR. Our study will hopefully lead to a better understanding of the genetics of HSCR and, further down the road, improved diagnosis, treatment, and genetic counseling.

We ask study volunteers to complete a medical/family history questionnaire, and to submit blood samples from the individual(s) affected with Hirschsprung’s disease and his/her parents. Siblings of the individual(s) with Hirschsprung’s disease are also helpful if available. In the laboratory, we extract DNA from the blood samples and use a variety of methods to study the individuals’ DNA sequence. Participants will be mailed a blood collection kit, which also includes the questionnaire and consent forms. Please note that we will reimburse you and your family members for any costs associated with having your blood drawn. Thank you for your interest – you make our work possible.

For more information about the genetics of Hirschsprung’s disease, or to participate in our research study, please visit our website at: www.hopkinsmedicine.org/geneticmedicine/ClinicalResources/Hirschsprung/HomeHirschsprung.html. Or Contact:

Julie (Albertus) Muskett, M.S.

Genetic Counselor and Study Coordinator

Phone: (410) 502-7541

E-mail: hirschsprung@igm.jhmi.edu

Aravinda Chakravarti, PhD

Professor and Director

McKusick-Nathans Institute of Genetic Medicine

Johns Hopkins Hospital

733 N. Broadway, Room 543

Baltimore, MD 21205

E-mail: aravinda@jhmi.edu

Acknowledgement

Jeffery Roberts and Barbara Bolen, Ph.D., who put together selected posts from the IBS Self Help and Support Group bulletin board (www.ibsgroup.org) into the book, *IBS Chat: Real Life Stories and Solutions*, were at the Barnes and Noble Book Sellers located at Union Square, 33 East 17th St., New York, NY 10003 on May 21, 2007. The book, which is organized into an easy to follow format, presents experiences and support shared by many persons who are confronting the challenges of living with IBS. The book may be purchased online at Amazon.com or at the IBS Self Help web site, as well as at the Barnes and Noble Union Square store. A donation will be made to IFFGD for each book purchased at this Barnes and Noble store. We thank Mr. Roberts and Dr. Bolen for their donation, and for their efforts on behalf of people suffering with IBS.



Report from IFFGD 2005 Research Award Winner

Adult Neurogenic Dysphagia: Disorders and Conditions that Disrupt Swallowing

By: Shaheen Hamdy, M.B., Ch.B., Ph.D., Honorary Consultant Gastroenterologist, Hope Hospital, Salford, M6 8HD, and the University of Manchester, UK

Dr. Hamdy was the recipient of the IFFGD 2005 Junior Investigator, Clinical Science Research Award. His most recent research has focused on understanding the central neural control of GI motor function, with a specific interest in swallowing and its disorders after brain injury.

Introduction

Dysphagia is a disorder characterized by difficulty swallowing. Swallowing is a highly complex process involving both nerve and muscle function. Swallowing involves more than transporting material from the mouth to the stomach for digestion. It also involves protection of the airway, rejection of harmful ingested substances, and the preparation of foods for digestion. We swallow on average once every minute and this is supplemented by the production of saliva. Swallowing increases dramatically (6–8 times per minute) when we eat. When swallowing is disrupted, the consequences can be devastating, with complications such as malnutrition, entry (aspiration) of gastric or foreign material into the respiratory tract, and the associated problems of being unable to eat. The implications of swallowing difficulty are therefore of considerable medical importance to health workers of all disciplines.

Causes of adult neurogenic dysphagia

Difficulty in swallowing can occur as consequence of disease to either the organs and muscles involved in swallowing, or more commonly to the central nervous system controlling swallowing (neurogenic dysphagia). Anatomical problems, which disrupt swallowing, include many gastrointestinal disease processes from the mouth through to the first part of the small intestine (duodenum). Doctors therefore will want to exclude any disease arising within the gut before making a diagnosis of dysphagia arising from the nervous system in someone presenting with symptoms of swallowing difficulty.

There are many neurological disorders and conditions that can disrupt swallowing.

Examples include stroke, multiple sclerosis (MS), Parkinson's disease, muscular dystrophies, and head injury. In addition, it is important to recognize that any pharmacological agent that alters neuromuscular function can produce dysphagia. However, the most common and arguably the most important cause of adult neurogenic dysphagia is stroke, the commonest form of neurological disorder seen on the medical wards.

Assessment of swallowing in neurogenic dysphagia

Dysphagia is arguably one of the most serious deficits in function that can result from neurological damage. The consequences may, at best, hinder a person's recovery to normal function, and at worst, be life-threatening. In the hospital setting, patients admitted with neurological disorders should all have an assessment of swallowing as a part of routine clinical management. In many hospitals, this is done by the ward nursing staff. To insure optimal therapy, it is essential that all staff who may be expected to perform a bedside swallowing examination are given adequate and appropriate training, as well as guidance on when to make relevant referrals to other medical professions including speech and language therapy, gastroenterology, and dietetics.

Complications of neurogenic dysphagia

Neurogenic dysphagia can lead to complications. Pulmonary aspiration (entry of foreign material into the lungs) is the easiest to identify. Aspiration may manifest itself suddenly or acutely as choking or coughing, respiratory distress, wheezing, gasping or gurgling, loss of voice quality, and rapid heart rate (tachycardia), or chronically (particularly

in silent aspiration) as weight loss, hunger, excessive secretions, and refusal to eat. Less well clearly defined are the complications of dehydration and malnutrition.

Management of neurogenic dysphagia

In view of these complications, the management of neurogenic dysphagia becomes critical. Therapy may often include changes in diet, posture and food placement adjustments, as well as methods for altering the swallow reflex. At present, however, there is little data to support any of these approaches as producing benefit to dysphagic patients so their efficacy remains a matter of some controversy. If these methods are unhelpful, enteral feeding may be tried. This involves providing food through a tube placed in the nose, stomach, or small intestine. However, while this may improve the nutritional status of the patient, there is some concern that the risk of pulmonary aspiration remains high, particularly among those with impaired cognitive ability.

Conclusions

Neurogenic dysphagia is a common, often under-diagnosed, problem of major clinical importance. Emphasis on early detection and appropriate treatment is crucial for the well being of the patient, in whom this condition can be distressing and life threatening. Well-trained health care professionals, especially nursing staff, are important if improvements in the management of patients with dysphagia are to be attained. Currently, therapies such as enteral feeding, aimed at improving the patients' nutrition provide a means of delivery. Nonetheless, this does not remove the risk of aspiration and as such the serious risk to these patients remains high. ●

Help Change Lives

Are you concerned about the need for more digestive disease research? Frustrated that not enough is being done to find better ways to diagnose and treat these diseases?

There are many ways that you can make a lasting, meaningful contribution to the field of digestive disease research. Here are a few ideas.

Make a donation. Every dollar counts. We are not a government-funded agency and rely on donations to carry on our efforts. Donating is easy. Call us toll-free at 1-888-964-2001, donate securely online by going to our web page at www.iffgd.org/donate, or donate by mail at IFFGD, PO Box 170864, Milwaukee, WI 53217.

Form a Circle of Friends: Send an email or letter to your circle of friends or acquaintances. Be the first contributor (let them know you plan to give \$amount to support IFFGD) and ask them to match your donation, or give as much as they are able. We will be happy to provide a sample email/letter along with text to explain specific digestive disorders such as IBS, GERD, incontinence, Hirschsprung's disease, chronic intestinal pseudo-obstruction (CIP), gastroparesis,

cyclic vomiting syndrome (CVS), or other GI disorders and the need for research support. Collect the donations and forward them to IFFGD, along with contact information for the contributors so we can send personalized thank-you notes. Whether you send 1 or 100 emails or letters, any donations that result will make a positive difference to the work of IFFGD.

Matching Gifts: Many companies have a mechanism that allows its employees to contribute to a charity while matching the gift. Check with your company. We would be happy to provide them with details about IFFGD and information about digestive disorders.

Join The 10 For 5 Circle: To belong, members agree to donate \$10,000 a year for five years. IFFGD will use your donation as an award to a researcher. Recipients will be chosen by our selection committee of leading clinicians/scientists who will review proposals submitted by researchers. As a member of The 10 For 5 Circle, you will receive updates

on the awardee's research activities, and, with your permission, you will be recognized prominently in IFFGD publications.

Join the Founders' Circle: As a member of the Founders' Circle, you will demonstrate your commitment to digestive disease research by agreeing to donate \$100,000 a year for five years. In turn IFFGD will establish a research grant in your name. Recipients will be chosen by our selection committee of leading clinicians/scientists who will review proposals submitted by researchers. In addition to having an award established in your name, members of The Founders' Circle will, with permission, be recognized prominently in IFFGD publications, and you will receive updates on the research you supported.

The research you support could change the way digestive diseases are diagnosed and treated. You can make a difference; you can help change lives. Please take action. Contact IFFGD today. ●



Where is the cure?

There is hope in research

To learn more, visit IFFGD.org or call toll-free 1(888)964-2001



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Occasionally, specific products are cited in articles or acknowledgments. However, no endorsement is intended or implied. Our intention is to focus on overall treatment or management issues or strategies.

The articles in *Digestive Health Matters* are in no way intended to replace the knowledge or diagnosis of your doctor. We advise seeing a physician whenever a health problem arises requiring an expert's care.

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Our Unique Mission: The International Foundation for Functional Gastrointestinal Disorders (IFFGD) is a nonprofit education and research organization dedicated to informing, assisting, and supporting people affected by gastrointestinal disorders. IFFGD has been working since 1991 with patients, families, physicians, practitioners, investigators, employers, regulators, and others to broaden understanding about gastrointestinal disorders and support research.



**International Foundation for
Functional Gastrointestinal Disorders
IFFGD**

P.O. Box 170864

Milwaukee, WI 53217-8076

Toll-free: 888-964-2001

Business: 414-964-1799

Fax: 414-964-7176

E-mail: iffgd@iffgd.org

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