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Cleveland Clinic

DigestThis

DIGESTIVE DISEASE INSTITUTE | WINTER | 2015

Colorectal Surgery: **Solving the 'Impossible'**

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Cleveland Clinic No. 2 in the U.S. – Gastroenterology & GI Surgery





Dear Colleagues,

"Repetition is the mother of skill." This truth holds its weight when it comes to colorectal surgery.

As the largest-volume program of its type in the nation, our Digestive Disease Institute's Department of Colorectal Surgery has worked hard to achieve long-term outcomes that are among the best in the world for the most complex of cases.

Looking ahead to 2015, we are pleased to share work being done by a new generation of leaders in the field. Our cover story highlights how they are building on Cleveland Clinic's legacy in colorectal surgery, in particular, in the areas of reoperative surgery, pouch disorders, minimally invasive surgery, translational research, and colon and rectal cancer.

As a team, we continue to push for solutions for patients who have been told, "It can't be done."

Also in this issue, you can discover how collaboration and teamwork are improving quality and reducing costs in our Hernia Center (p. 3). In addition, you will find an overview of our latest GI research (pp. 9-10), including a novel sleep positioning device to improve gastroesophageal reflux disease, as well as new bile biomarker studies that may improve diagnosis for pancreatic cancer patients.

Finally, we spotlight our locally and nationally expanding bariatrics program (p. 11), which is committed to providing solutions to ease the obesity epidemic's effects on patients.

I hope you enjoy this issue of *Digest This*. We value our partnership with referring physicians and welcome your comments and questions. Please feel free to reach me at 216.445.5020 or remzif@ccf.org.

Sincerely,

Feza H. Remzi, MD

Chairman | Department of Colorectal Surgery

CME Calendar

FORT LAUDERDALE, FLORIDA

Feb. 10-15

26th Jagelman/36th Turnbull Annual International Colorectal Disease Symposium

Feb. 12-14

Gastroenterology & Hepatology Symposium

CORAL GABLES, FLORIDA

Feb. 14-18

14th Annual Surgery of the Foregut Symposium

For more information or to register, visit ccfcme.org.

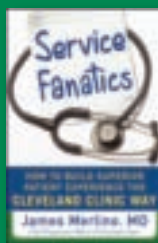
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Service Fanatics:

How to Build Superior Patient Experience the Cleveland Clinic Way

By James Merlino, MD

Colorectal Surgeon and Chief Experience Officer, Cleveland Clinic

Understand the important role patient experience should play in every industry — using a world-class hospital as a backdrop for the lesson. **Available at amazon.com, or wherever books are sold.**

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Quality Improvement at Core of Hernia Center's Agenda

Collaborative Team Effort Means Improved Outcomes, Lower Costs

Collaboration and teamwork are the hallmarks of the leadership agenda of Michael J. Rosen, MD, FACS, who recently began his new role as Director of Cleveland Clinic's Hernia Center, the first comprehensive center of its type in Northeast Ohio and one of only a handful of such centers across the country. Dr. Rosen says the greatest opportunity for advancement in the field of hernia surgery is Cleveland Clinic's effort to become the first in the world to standardize approaches to disease while improving quality and reducing costs.

AT TWO HELMS

Dr. Rosen is also anticipating his new role as medical director of the Americas Hernia Society Quality Collaborative (AHSQC), a comprehensive national quality improvement effort providing real-time surgical outcomes data. He will assume the AHSQC presidency in 2015. "Nationally, it's about changing the culture and getting people to become part of a team," Dr. Rosen says. "In surgery, that is more of a struggle."

With almost 16,000 ways to fix a hernia, there are large variations in practice that account for hundreds of millions of dollars' worth of cost differences and likely produce varying outcomes. The national collaborative is bringing surgeons together to identify best practices, share those in real time and educate the group in a more rapid fashion. And the Cleveland Clinic Hernia Center is leading the charge.

IT TAKES A VILLAGE

"We have a group of clinicians willing to plant a seed and be part of something big," says Dr. Rosen. "We'll be one of the first places in the world where the entire hospital enterprise is going to come together and work as a team. This goes beyond just the surgeons and has the potential for supply chain and other groups to work together. This has almost never been done in general surgery in an organized fashion."

The AHSQC has 80 surgeons across the country at 42 sites actively following more than 2,000 patients. Dr. Rosen is using his knowledge of AHSQC's work to ensure the same quality of care for hernia disease throughout the entire Cleveland Clinic health system.

The AHSQC quality initiative feeds into active plans to establish the Hernia Center as a training site for surgeons already in practice. Along with advanced reconstruction techniques, surgeons from around the world will learn about quality improvement that leads to reduced costs.

ABDOMINAL WALL INVESTIGATIONS

On the research front, Dr. Rosen is championing a multidisciplinary collaboration with Digestive Disease Institute experts for successful abdominal wall reconstruction. Dr. Rosen and his colleagues are about to begin a pivotal FDA investigational device exemption trial evaluating biologic versus synthetic mesh for contaminated ventral hernia repair. The results of this study could provide a cost-effective solution to contaminated abdominal wall reconstruction, potentially saving millions of dollars through improved outcomes.

Dr. Rosen is also working with Kathleen A. Derwin, PhD, of Cleveland Clinic Lerner Research Institute to develop a fiber-reinforced biologic mesh to reduce recurrence rates in complex ventral hernia repairs. This pioneering, clinically translational research is designed to improve patient outcomes through collaborative efforts across the Cleveland Clinic enterprise. ■

To refer a patient to Cleveland Clinic's Hernia Center, call 855.REFER.123.

Dr. Rosen can be reached at 216.445.3441 or rosenm@ccf.org.





Colorectal Surgery: Solving the ‘Impossible’

**Four of the most difficult words a patient could ever hear:
“It can’t be done.”**

Feza H. Remzi, Chairman of Cleveland Clinic’s Department of Colorectal Surgery, and his Digestive Disease Institute colleagues have been working to change this reality. For more than three decades, the department has served as a destination for complicated patients with no other alternatives.

As part of the largest-volume center of its type in the country, the colorectal surgery team often cares for patients who travel from nearly all 50 states for the treatment of colon or rectal cancer, inflammatory bowel disease, diverticulitis, or other serious conditions.

“Our goal is to have the clinical wisdom to approach each patient strategically, assess their situation and push the limits in finding solutions,” Dr. Remzi says. Cleveland Clinic colorectal surgeons continually collaborate on developing new ways to improve patient care.

“Our teamwork honors the department’s legacy and enables us to expand our breadth of services and lead future surgical innovation,” Dr. Remzi says. Tremendous advances are underway in surgical technology, translational research and multidisciplinary care. Highlights of this work, headed by the next generation of colorectal surgery leaders, follow.

Notable Numbers

Board-certified (or equivalent) surgeons	21
Number of states patients come from	46
Reoperative surgeries	50%
Total initial J-pouch procedures	> 5,000
Total redo J-pouches	> 500

Annual Volumes

Surgical procedures	5,000
Large and small bowel resections	2,700
Laparoscopic intestinal resections	500
IBD-related surgeries	~ 500
Operations to treat Crohn disease	260
Pouch endoscopies	700
Ileal pouch-anal anastomosis surgeries	~ 200

Reoperative, Complex Surgeries

Reoperative surgeries — including revisions, and those necessary due to disease recurrence — are one of the most common reasons for referrals to Cleveland Clinic's colorectal surgery program. "We see one of the highest volumes of complex reoperative cases in the country," says colorectal surgeon Jean Ashburn, MD. "Caring for so many of these patients over many years has helped us learn what methods work best to get our patients back to the life that they desire and deserve to have."

The department's areas of reoperative expertise include:

- Recurrent Crohn disease
- Ulcerative colitis
- Recurrent colorectal cancer
- Enterocutaneous fistulas
- Septic complications
- Re-establishing GI continuity to avoid permanent stoma

Because of this diversity, the department relies on a multidisciplinary approach. The surgeons work closely with specialists in gastroenterology, radiology and pathology to ensure better outcomes.

Dr. Ashburn understands the unique challenges these patients face. "Many of our patients have been a prisoner of their disease for a very long time, long before we meet them," she says. "They are frankly just sick and tired of being sick and tired. It is incredibly rewarding to help these patients conquer their disease and reclaim a better quality of life."

To address these unique challenges, it is important to work with referring physicians. As Dr. Ashburn notes, "We appreciate being entrusted with the care of these patients through referrals from our region as well as nationally and internationally."



Ileal Pouch Center

Cleveland Clinic's Center for Ileal Pouch Disorders (CIPD) was the first multidisciplinary facility of its kind in the world, and is currently the largest. CIPD gastroenterologists and colorectal surgeons see the nation's highest volumes of both initial and reoperative J-pouch cases, with more than 5,000 initial and 500 reoperative pouch surgeries, including pouches that have failed either from disease or complications related to prior surgical procedures.

Ileal pouch surgery has revolutionized the care offered today. Ileal pouch patients have significantly improved quality of life; they do not need to carry a permanent stoma bag. The operative success rates at Cleveland Clinic are 96 percent in ulcerative colitis patients for initial pouches and 85 percent for redo pouches or pouch revision surgery. Yet the pouch procedure is technically challenging and can result in various



mechanical and inflammatory conditions, including strictures, anastomotic leaks and pouchitis.

"Pouchitis used to be a mixed bag of everything together," says Bo Shen, MD, one of the nation's first gastroenterologists specializing in pouch disorders. "Now, we subclassify them based on etiology, disease mechanism, clinical presentation and disease course. If we have the correct classification, there's the proper solution. It's a much more analytical approach."

The CIPD is home to the majority of the original pouchitis research done in the United States, including studies of:

- The pouch microbiome
- Genetic profiles of pouch disorders patients
- The association of hepatobiliary disorders, autoimmune disorders and autoinflammatory disorders and pouchitis
- Diagnosis and management of Crohn disease of the pouch
- New endoscopic therapies for mechanical pouch complications
- Assessment and management of cancer risk in pouch patients
- Adverse metabolic consequences of pouches and pouchitis
- Health disparities in pouch disorders patients
- New surgical techniques to salvage ileal pouches

Continued next page >



Drs. Emre Gorgun, Hermann Kessler and Meagan Costedio (L to R).

Minimally Invasive Surgery

The Department of Colorectal Surgery's rapidly growing Minimally Invasive Surgery Program, led by Section Head Hermann Kessler, MD, PhD, continues pushing the envelope to bring patients new techniques with smaller incisions, fewer complications and quicker recovery times. The program's latest efforts include:

SINGLE-PORT SURGERY: The colorectal surgery team has taken minimally invasive surgery to a new level — with less pain, quicker recovery times and better outcomes than traditional open techniques. In 2007, we performed the world's first right hemicolectomy with a single incision. Since then, more than 400 single-incision colorectal procedures have been performed. Key to our current growth is Meagan Costedio, MD, who routinely removes colons with a single-port technique that leaves a small incision in the umbilicus that is practically invisible. She says, "I believe the results are equal to or even better than laparoscopy, and single-port represents the future of colon and rectal surgery as we keep moving forward."

ENDOSCOPY/LAPAROSCOPY: Cleveland Clinic is one of just a few centers nationwide using endoscopic submucosal dissection to remove large colonic polyps. Here, Emre Gorgun, MD, has been using the technique for removing such polyps — especially flat colonic lesions — for the past three years and says the technique is safe and cost-effective in carefully selected patients. Dr. Gorgun is also utilizing combined endoscopic-laparoscopic surgery to remove difficult colonic lesions. This combination of technologies reduces trauma in patients with certain tumors or lesions that previously required major surgery.

ROBOTIC SURGERY: Robotic colorectal surgery is quickly gaining momentum, with the department performing more than 175 cases since the technology was introduced. We are one of the few centers offering this approach, with five colorectal surgeons who perform the technique regularly — primarily for lower anterior resections (LARs) for rectal cancer. They have found that the approach addresses some of the inherent limitations found with conventional laparoscopy, improving visualization and creating better dexterity and retraction.

Studies show using the robotic approach for LAR compared with conventional laparoscopy may result in a lower conversion rate to open surgery, fewer major complications, shorter hospital stays, and a quicker return to normal diet, urinary and sexual function. Cleveland Clinic research has found this to be especially true in the obese patient population.

"The expanding robotics program here reflects a further refinement of our surgical armamentarium," says Dr. Kessler.

OSTRiCh: Improving Care Through Collaboration

Rectal cancer surgical techniques and the use of neoadjuvant therapy vary considerably across the country — which also means that outcomes vary. Cleveland Clinic colorectal surgeons are working to change that through their leadership role in the 100-plus-member consortium for Optimizing the Surgical Treatment of Rectal Cancer (OSTRiCh).

OSTRiCh (ostrichconsortium.org) is focused on fostering collaboration to standardize care and optimize outcomes. "We want to encourage others to join OSTRiCh to promote better, evidence-based care of all patients across the nation," says David Dietz, MD, Vice Chair of Colorectal Surgery.

OSTRiCh was established in 2011 through the vision of Feza H. Remzi, MD, and in collaboration with the American Society of Colon and Rectal Surgeons, the American College of Surgeons (ACS), and other surgery, radiology, pathology and oncology societies. Steven Wexner, MD, Digestive Disease Center Director and Department of Colorectal Surgery Chairman at Cleveland Clinic Florida, presented OSTRiCh's proposal to establish a U.S. Rectal Cancer Centers of Excellence Program to the Commission on Cancer (COC) and subsequently to the ACS leadership. Both COC and ACS unanimously approved the initiative.

"With the continued support of OSTRiCh by its physically and geographically diverse members, we will soon realize the accreditation process for our Centers of Excellence Program," Dr. Wexner says. "We will soon be able to offer our patients in North America the same advantages as have been repeatedly proven in Europe with the adoption of Centers of Excellence in rectal cancer surgery."

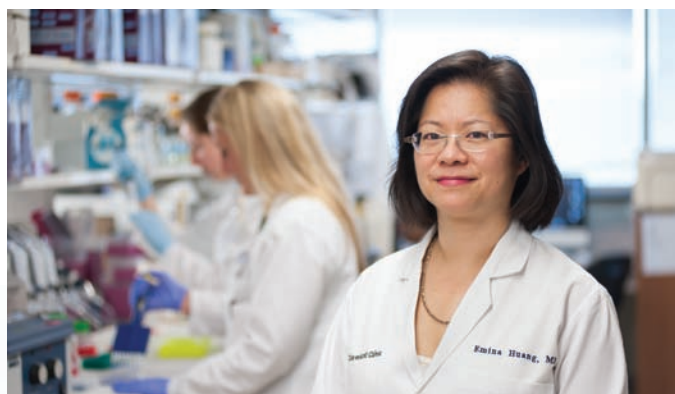
Now OSTRiCh — under the leadership of Drs. Dietz (bottom left), Remzi and Wexner (bottom right) — is working with the COC and ACS to design what Dr. Dietz calls the "nuts and bolts" of the new Centers of Excellence Program.



Research Updates

Research is a major focus within the Department of Colorectal Surgery, and at any given time, numerous studies are ongoing in various subspecialty areas. Below is just a sampling:

INTERVENING IN COLORECTAL-RELATED CANCER: The relationship between chronic inflammation and cancer development is well-known, but the cellular and molecular mechanisms underlying the relationship are not well-understood. Researchers suspect that increased levels of the inflammation-causing protein interleukin-8 (IL-8) may be partly to blame for increased rates of colon cancer in patients with ulcerative colitis (UC). A long-term goal is to clarify the link between inflammation and cancer in general, and to prevent colitis-associated cancer in particular.



Emina Huang, MD

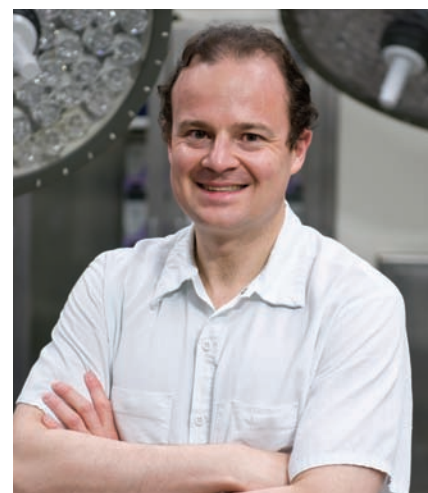
“We are looking for an antagonist to IL-8 or the IL-8 receptor,” says Emina Huang, MD, who joined the Department of Colorectal Surgery in 2013, bringing with her two five-year NIH R01 grants with remaining funding totaling \$1.5 million. “If IL-8 is the culprit in cancer formation, we can focus on finding ways to regulate its function to prevent inflammation-associated cancer and, specifically, colorectal cancer. Once we understand the contribution and mechanism by which IL-8 promotes tumor initiation, we will be able to develop ways to interfere with the progression from benign colitis to malignant cancer.”

Colorectal surgeon David Liska, MD, whose current research is also focused on the role of the tumor microenvironment, hopes their work will one day help identify novel biomarkers and molecular targets that will allow for personalized therapies with improved outcomes.

“Current therapies for colorectal cancer target the cancerous epithelial cells, which have proved to be very adept at escaping cell death through various mechanisms,” says Dr. Liska, who collaborates with both Drs. Huang and colorectal surgeon Matthew Kalady, MD. “The fibroblasts in the tumor stroma are less likely to transform when exposed to stress and therefore present attractive targets in the treatment of cancer.”

UTILIZING A GOLD MINE OF COLORECTAL OUTCOMES DATA:

Research conducted in our department is bolstered by having the nation's largest and most comprehensive colorectal outcomes database at our disposal. The robust database, explains Luca Stocchi, MD, Director of Research in the Department of Colorectal Surgery, contains hundreds of data points on 30,000 operations going back as far as 1978.



Luca Stocchi, MD

“This resource, which collects prospective data for a variety of diseases — from UC to Crohn disease, colorectal cancer and diverticulitis, with an emphasis on laparoscopic surgery — truly helps stimulate clinical research,” says Dr. Stocchi. The repository attracts individuals who come to Cleveland Clinic from all over the world to do clinical research to answer questions, such as whether one operation is better than another, or whether any risk management strategies might improve the outcomes of a particular procedure. The data are also used for internal research projects, such as a prospective trial comparing patient-led diet advancement after surgery to a physician-prescribed diet, being undertaken by Drs. Gorgun, Remzi and Maher A. Abbas, MD, Chairman, DDI, Cleveland Clinic Abu Dhabi.

“These types of studies help us answer pressing questions about a number of diseases that may one day improve the care we, as colorectal surgeons, can provide to our patients,” Dr. Stocchi says.

Advocating for Patients

This is just a snapshot of the clinical innovation and research taking place in Cleveland Clinic's Department of Colorectal Surgery. Ultimately, the Cleveland Clinic credo of “Patients First” is what fuels the program's work. The goal is for today's research and innovation to become tomorrow's patient care.

“When we push the limits to find solutions for patients who have been told ‘It can't be done,’ we are doing so on the patients' behalf,” Dr. Remzi says. “And what we have found is that more often than not, it can be done.” ■

To refer a patient to the Department of Colorectal Surgery, call 855.REFER.123.

Continued next page >

On the Horizon

A New Paradigm for Battling Colorectal Cancer

Colorectal cancer care is changing at Cleveland Clinic. From a new home-to-be for services to standardizing the way care is delivered, here is a look at exciting new efforts underway:

COMING SOON: A NEW HOME FOR CANCER CARE

When designing a cancer facility, patient outcomes come first. When Cleveland Clinic's 377,000-square-foot cancer building opens in 2017, physicians and patients will find a facility designed expressly to improve care through a collaborative, disease site-specific approach.

"The new cancer building will allow us to centralize the cancer care we provide, creating a seamless, personalized experience for patients," says Cleveland Clinic Taussig Cancer Institute Chairman Brian J. Bolwell.

HIGH-QUALITY, VALUE-BASED COLORECTAL CANCER CARE

The collaborative spirit began with Dr. Bolwell and Feza H. Remzi, MD, Chairman of the Department of Colorectal Surgery, seeking to enhance the treatment approach to colorectal cancer patients.

"We will leave no stone unturned until we develop a new standard of excellence in outcomes and patient care," Dr. Remzi says.

DDI colorectal surgeon Matthew Kalady, MD, and Taussig medical oncologist Alok Khorana, MD, are Co-Directors of a new Comprehensive Colorectal Cancer Program.

"We're re-examining everything from screening to treatment to follow-up and survivorship," explains Dr. Kalady. "But the bottom line is that we are redesigning our program to emphasize high-quality care at a financial value. The way we are doing that is by using an evidence-based, patient-centered, multidisciplinary approach." This approach includes:

- Standardized care paths — These paths are aimed at reducing care variability and allow more meaningful and comparable outcome measures.



- Multidisciplinary care clinics — Patients get access to their team of specialists — from surgery, medical oncology and radiation oncology — in one location, which improves care coordination.
- Tumor boards — Having simultaneous case reviews by radiology, pathology, surgery, hematology/oncology and radiation oncology facilitates the best treatment plans.

SMART DESIGN = BETTER CARE

Team members also helped design patient care areas in the new building, packed with elements to improve care. Colon cancer will have its own dedicated clinical practice floor where physicians are steps away from their patients. "All the doctors and necessary diagnostic equipment will be housed in the new building, helping streamline care," Dr. Kalady notes.

The building also consolidates other specialties, such as genetics and genetic testing, and houses support services, including registered dietitians, prosthetics, wig services and a spiritual center. ■

GI RESEARCH UPDATE

Pillow System Significantly Improves Nocturnal GERD Symptoms

Although researchers have known for 25 years that sleeping at an incline decreases reflux, a Cleveland Clinic study finds that a sleep positioning device, the Medcline™ sleep system (Amenity Health Inc., San Diego, California), significantly decreases nocturnal gastroesophageal reflux disease (GERD) symptoms.

Gastroenterologist Scott Gabbard, MD, tested the two-component incline base with a wrap-around body pillow shaped like a candy cane in patients with nocturnal GERD, in spite of being on proton pump inhibitors.

“The whole point of the study was to see if it improves symptoms for which the pillow was developed,” Dr. Gabbard says, indicating Cleveland Clinic is the only institution studying the system’s impact on nocturnal heartburn and regurgitation. Dr. Gabbard recently presented early results at the American College of Gastroenterology national conference.

An inclined sleep position decreases the chances of regurgitating stomach acids into the esophagus by using gravity to separate the lower esophageal sphincter from where food and acid layer in the stomach. Left untreated, nocturnal GERD can lead to adenocarcinoma of the esophagus, Barrett esophagus, erosive esophagitis, esophageal ulcerations or peptic strictures.

Ten years ago, Cleveland Clinic also demonstrated that sleeping on the left side further separates the lower esophageal sphincter from the stomach — the problem is keeping patients on their left side at night.

The Medcline system was originally studied in healthy volunteers and showed a significant decrease in reflux, as well as a 75 percent success rate in patients staying on their left side through the night.

Dr. Gabbard wanted to know if similar results could be achieved in patients with nocturnal GERD who are on proton pump inhibitors. He enrolled nine patients with continued frequent moderate to severe nocturnal heartburn and regurgitation in his study. Patients completed the Nocturnal GERD Symptom Severity and Impact Questionnaire at enrollment, used the sleep assist device for two weeks and repeated the questionnaire.

The results show that the sleep positioning device significantly reduces nocturnal GERD symptoms, morning impact of GERD — waking up with chest burning, irritability and fatigue — and concern about nocturnal GERD.

Dr. Gabbard says the ultimate goal is to determine if the device will decrease the need for prescription proton pump inhibitors, as well as prevent anti-reflux surgery for patients with severe symptoms.

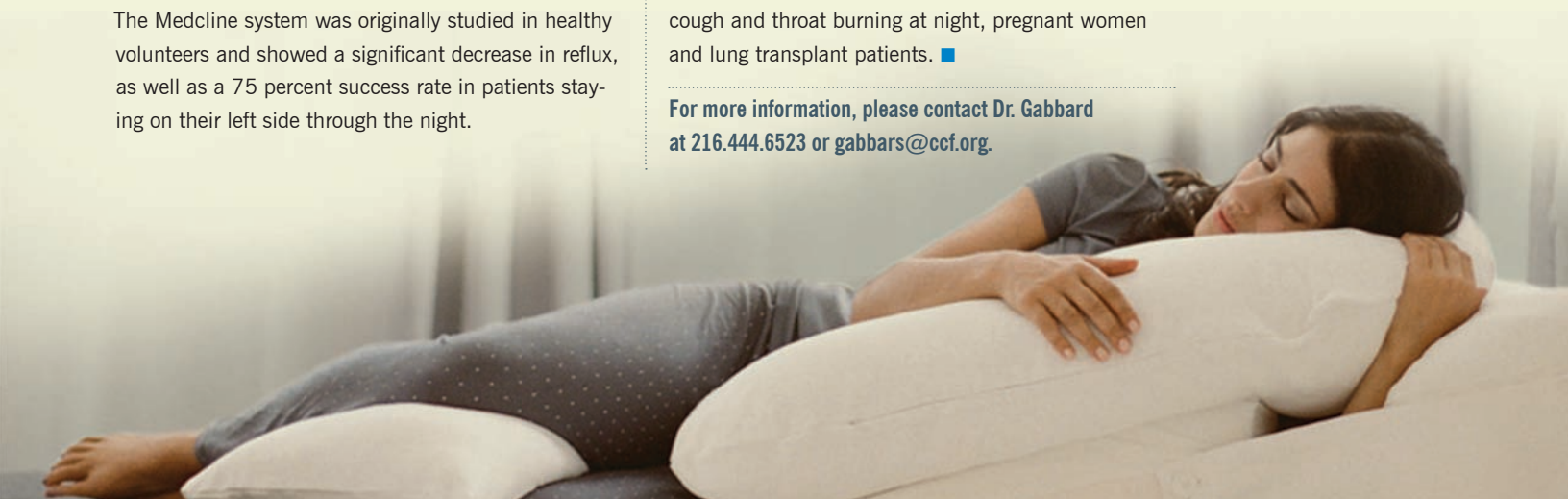
“Anecdotally, a few patients interested in anti-reflux surgery had such a good response with the system that they were able to avoid having the surgery,” he says. “This therapy certainly is safer and more cost-effective.”

Dr. Gabbard and his colleagues are expanding the study of the sleep positioning system to patients with cough and throat burning at night, pregnant women and lung transplant patients. ■

For more information, please contact Dr. Gabbard at 216.444.6523 or gabbars@ccf.org.



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Bile Biomarkers Hold Promise in Detecting Pancreatic Cancer



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Determining benign from malignant biliary strictures can be challenging with current methods, but several Cleveland Clinic studies are shedding light on potential biomarkers and imaging techniques that are faster, more accurate and cost-effective.

Mansour A. Parsi, MD, MPH, Head of the Center for Endoscopy and Pancreatobiliary Disorders, says current endoscopic retrograde brush cytology methods used to look at biliary strictures provide good specificity, but sensitivity is low, leading to false negative results.

“When I get a negative result, I really don’t know if it is truly negative or false negative,” he explains. “That’s a problem. For that reason, we need better biomarkers or imaging techniques to find out who has malignant disease and who does not.”

Dr. Parsi led several parallel pilot studies looking at a variety of markers in differentiating malignant and benign biliary strictures:

- **LC-MS/MS study** — Presented at the 2014 American College of Gastroenterology meeting, this study looked at various proteins in bile. Using liquid chromatography-tandem mass spectrometry (LC-MS/MS) to detect biomarkers in bile was shown to be promising in differentiating malignant from benign biliary strictures at an earlier stage, thereby improving prognosis. Dr. Parsi says lipidomic and proteomic techniques are in the preliminary stages of being translated into clinical practice.
- **VEGF study** — Published in *Digestive Diseases and Sciences*, this study examined vascular endothelial growth factor (VEGF) levels in bile aspirated during endoscopic retrograde cholangiography (ERCP). It found biliary VEGF levels were significantly higher in pancreatic cancer patients. The results suggest that measuring VEGF levels (known to be important in recruiting blood vessels to feed cancer cells) can distinguish patients with pancreatic cancer from those with other etiologies of biliary strictures.
- **VOC study** — A third study, published in *Gastrointestinal Endoscopy*, identified potential volatile organic compounds (VOCs) in bile that can be detected in the



headspace, helping differentiate patients with pancreatic cancer from those with benign biliary conditions. Pancreatic cancer patients may have a unique profile of VOCs. Detecting VOCs in the headspace can mean faster and more accurate diagnosis. The preliminary results validate the concept of breath testing — a noninvasive, simple, inexpensive test — for cancer diagnosis. Dr. Parsi’s team will recruit more patients to confirm its preliminary observations.

In addition to the biomarker studies, Dr. Parsi and his team are investigating various imaging techniques, including cholangioscopy with narrow-band imaging (NBI), to improve detection of malignant biliary diseases. These techniques are expected to enhance visualization of the bile ducts, improving diagnosis of patients with indeterminate biliary strictures.

Dr. Parsi’s team evaluated high-definition cholangioscopy with NBI using prototype digital cholangioscopes as an adjunct to ERCP. The technique, an improvement on the currently available cholangioscopy systems, proved helpful in evaluating various biliary disorders. The results of these studies were published in the journals *Gastroenterology*, *Clinical Gastroenterology and Hepatology*, and *Gastrointestinal Endoscopy*. ■

For more information, contact Dr. Parsi at 216.445.4880 or parsim@ccf.org.

SERVICE SPOTLIGHT: BARIATRIC SURGERY

Expanding to meet an increasing need for experienced, minimally invasive bariatric surgery

With more than 78 million Americans suffering from obesity today, Cleveland Clinic's Bariatric and Metabolic Institute is committed to providing solutions to ease this epidemic's long-term effects on patients. Our team of bariatric surgeons can help you with patients with class III obesity (body mass index > 40, or 35 to 39 with obesity-related comorbidities) who might benefit from bariatric surgery.

"Exercise and diet alone are not effective for treating severe obesity," says Bariatric and Metabolic Institute Director Phillip R. Schauer, MD. "Surgery is really the only option proven by scientific study."

PROGRAM HIGHLIGHTS:

- Experienced bariatric surgeons (more than 4,000 surgeries performed) with international reputations for excellence
- 95 percent of cases performed laparoscopically — minimally invasive surgery reduces complications and recovery time
- In 2013, 57 bariatric cases performed robotically
- Interactive communication with referring physicians to determine desired level of pre- and postoperative management
- Dedicated outpatient and inpatient areas specially equipped to meet the comfort needs of your patients
- Accredited through the Metabolic & Bariatric Surgery Accreditation and Quality Improvement Program

RESEARCH HIGHLIGHTS:

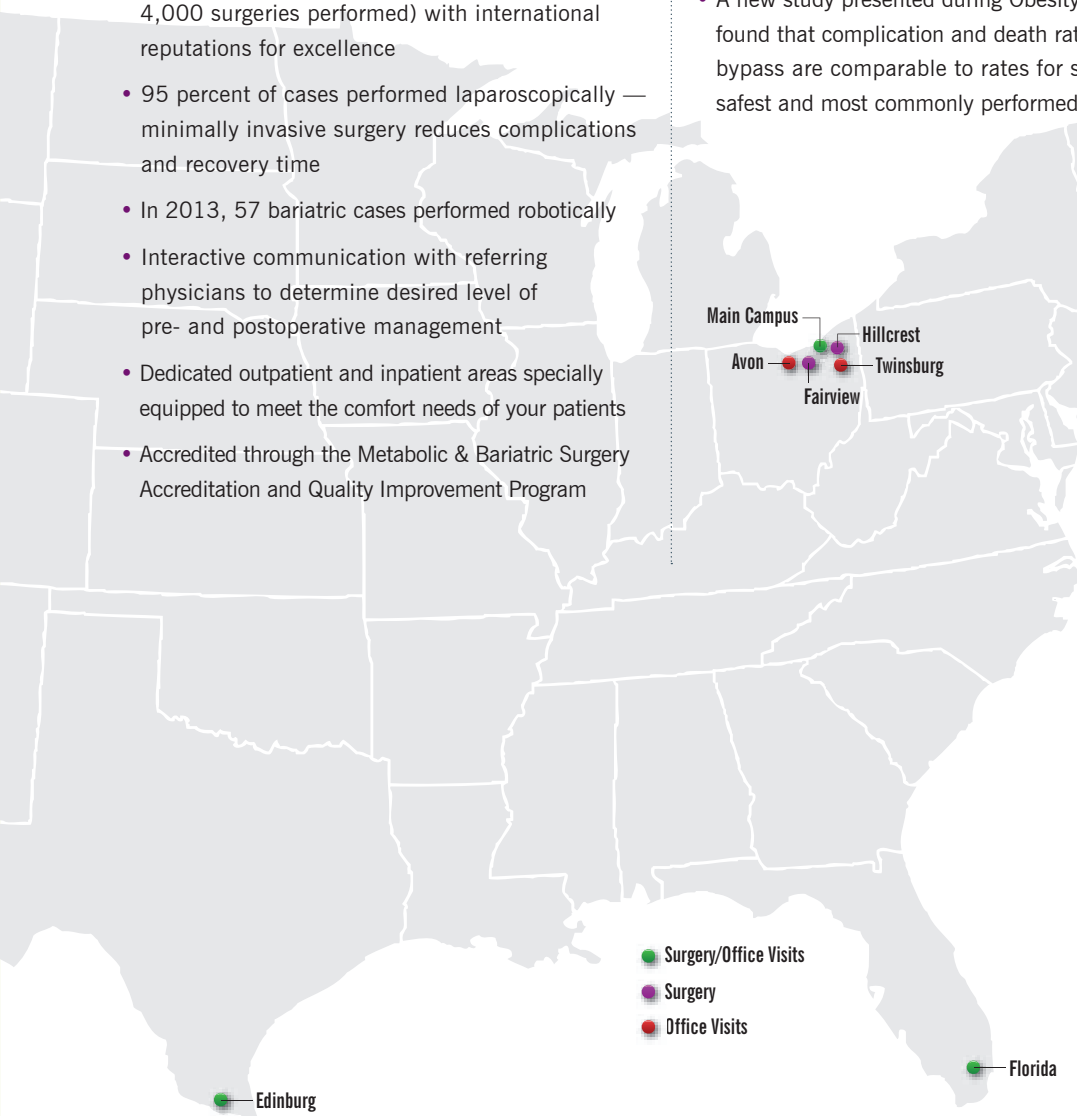
- Three-year follow-up from the STAMPEDE (Surgical Therapy and Medications Potentially Eradicate Diabetes Efficiently) study demonstrated that bariatric surgery is a highly effective and durable treatment for type 2 diabetes in obese patients.
- A new study presented during ObesityWeek 2014 found that complication and death rates for gastric bypass are comparable to rates for some of the safest and most commonly performed surgeries.



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Improving Access

Services are now offered at
7 locations nationwide:

- Cleveland Clinic main campus
- Cleveland Clinic Fairview Hospital
- Cleveland Clinic Hillcrest Hospital
- Cleveland Clinic Florida
- Doctors Hospital at Renaissance, Edinburg, Texas (affiliate)
- Richard E. Jacobs Family Health Center (Avon)
- Twinsburg Family Health Center

To refer a patient to Cleveland Clinic's Bariatric and Metabolic Institute,
call **216.445.2224** or **800.223.2273 ext. 52224**.



CLEVELAND CLINIC NO. 2 IN THE U.S. — GASTROENTEROLOGY & GI SURGERY

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To arrange for a critical care transfer, call 216.448.7000 or 866.547.1467. clevelandclinic.org/criticalcaretransport

Outcomes Data

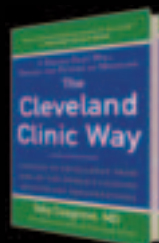
View Outcomes books at clevelandclinic.org/outcomes.

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By Toby Cosgrove, MD, CEO and President, Cleveland Clinic

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