



The Cleveland Clinic Foundation
9500 Euclid Ave / AC311
Cleveland, OH 44195

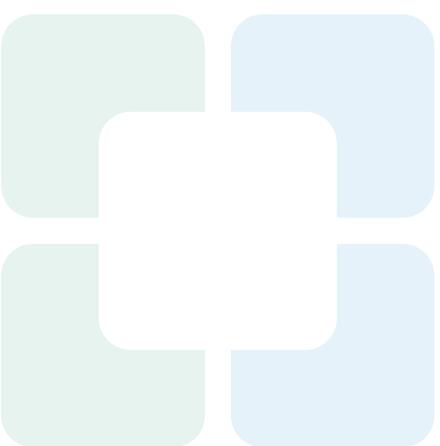
24/7 REFERRALS

Referring Physician Hotline
855.REFER.123
clevelandclinic.org/refer123

Connect with us



21-DOI-2465958



DIGESTIVE

WINTER 2022

NEWS FOR GASTROENTEROLOGISTS & GI SURGEONS

Building a Laparoscopic-Living
Donor Hepatectomy Program

Cleveland Clinic Digestive Disease & Surgery Institute



TRANSPLANT Advances

How to Build a Successful Laparoscopic Living Donor Hepatectomy Program

The availability of laparoscopic living donor hepatectomy (LDH) for liver transplant involving either partial- or full-lobe resection remains limited to a few tertiary care centers, primarily in Asia. The lack of expansion to Europe and North America likely is due to the complex surgery's steep learning curve, skepticism about its applicability in Western countries where patients have relatively larger body mass indices, and lingering concerns about donor safety.

Cleveland Clinic's laparoscopic LDH program, led by Director of Laparoscopic Liver Surgery Choon Hyuck David Kwon, MD, PhD, began in August 2019 and has rapidly progressed to become the nation's most active. Dr. Kwon and colleagues have performed 42 fully laparoscopic LDHs in the program's first 18 months. In a new report, they summarize the outcomes of the initial 19 full-lobe donors and offer guidance for other institutions considering initiating programs.

Launching fully laparoscopic living donor liver transplantation is a complicated endeavor that can have substantial patient benefits but requires key preparatory steps, Dr. Kwon says — most notably the involvement of a skilled and highly experienced senior surgeon, acquisition of essential equipment and appropriate team training.

"Our initial results are very encouraging," he says. "In the first 1½ years, the program has developed in such a way that it gives us confidence we can push boundaries."

A substantial amount of experience in oncologic liver resection and open living-donor hepatectomy is necessary to undertake laparoscopic LDH. While the minimally invasive approach has the potential to reduce open-procedure morbidity, laparoscopic surgery diminishes instrument maneuverability, which creates challenges for spatial orientation during blood vessel and bile duct dissection and for rapid response in the event of hemorrhage or other complications.

"You have to work out the learning curve for laparoscopic living donor transplantation with cancer resections first," Dr. Kwon says.

Having the oversight and guidance of a surgeon with laparoscopic LDH experience is another key determinant of a new program's outcomes. That can be accomplished either through a short-term visiting proctor or, as in Dr. Kwon's case, hiring a resident expert. He founded the laparoscopic LDH program at South Korea's Samsung Medical Center in 2013.

Read more: clevelandclinic.org/lapldt

Cleveland Clinic Florida Launches Living Donor Liver Transplants

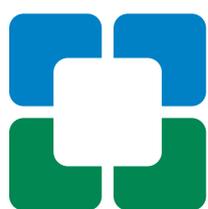
Cleveland Clinic Florida's Weston Hospital performed its first living donor liver transplant in 2021. The donor and recipient operations were conducted by a team of surgeons from Weston and Cleveland Clinic's main campus in Ohio, which has one of the nation's largest living donor liver transplant programs.

The surgery enabled a 38-year-old woman to donate a portion of her liver to her 60-year-old mother, who had been battling liver disease for several years.

Weston Hospital is currently the only medical facility in Florida performing living donor liver transplants.

"Many patients waiting for a liver transplant experience a poor quality of life that is unfortunately not captured by the current liver allocation system utilizing the MELD score," said Xaralambos Bobby Zervos, DO, Medical Director of Cleveland Clinic Florida's Liver Transplant Program. "They suffer what seems to be never-ending misery due to debilitating liver-related complications but have a low MELD score. These patients and their families are looking for life-altering options, and living donor liver transplantation provides that opportunity. We are glad to be able to provide this critically needed service in Florida."

Read more: clevelandclinic.org/westonldt



DIGEST THIS

THE LATEST NEWS FOR GASTROENTEROLOGISTS & GI SURGEONS FROM CLEVELAND CLINIC | WINTER 2022

Consult QD

VISIT news site for medical professionals today.
clevelandclinic.org/qddigestive

DIGESTIVE DISEASE & SURGERY INSTITUTE CHAIR

MIGUEL REGUEIRO, MD

MANAGING EDITOR

John Mangels

ART DIRECTOR

Bernastine Buchanan

MARKETING MANAGERS

Priya Barra, Melissa Raines

PHOTOGRAPHY & ILLUSTRATION

Enterprise Creative Services

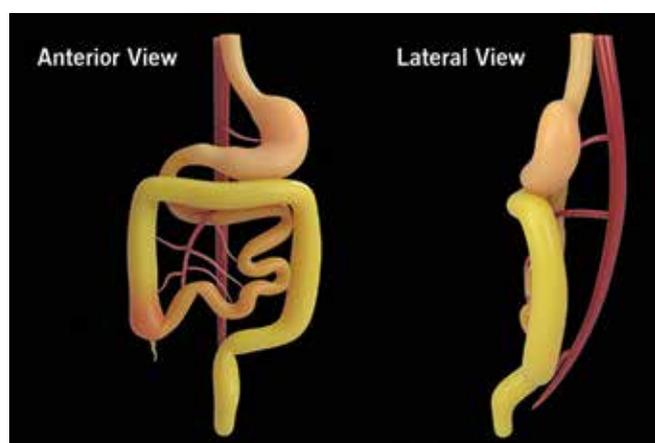
Consult QD **LIVE**

Hosts easy-to-access live and archived events and discussions, educational surgical video content, and lectures and webcasts.

clevelandclinic.org/ddsicqdlive

INNOVATIONS in Focus

Gut Malrotation: New Insights and Surgery



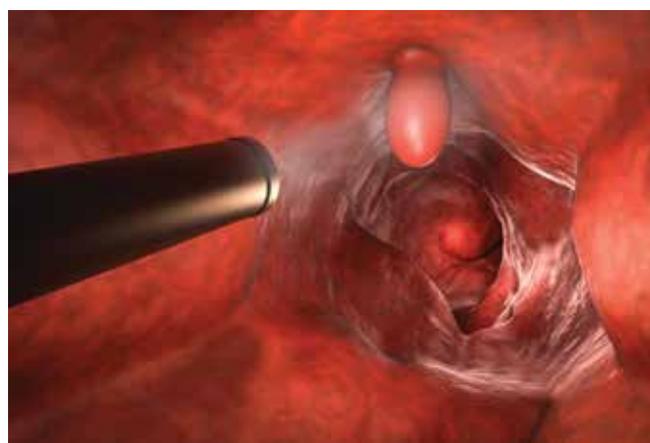
A novel surgical procedure based on new insights into the embryologic defects of gut malrotation is safe and effective, Cleveland Clinic research shows.

In addition to demonstrating the new gut malrotation correction (GMC) surgery's utility in children and adults, the study defines the clinicopathologic spectrum of gut malrotation in all ages and addresses the incidence of midgut loss and its associated risk factors, with special reference to the efficacy of gut transplantation in infants and children.

GMC involves liberating the duodenum, completing the 270-degree counterclockwise rotation and establishing all mesenteric attachments. The procedure aims to alleviate disabling gastrointestinal symptoms and prevent volvulus. "We believe this procedure will be practice-changing and begin a new paradigm in the standard of care," says lead study author Kareem Abu-Elmagd, MD, PhD, Director of Cleveland Clinic's Center for Gut Rehabilitation and Transplantation.

Read more: clevelandclinic.org/gutmalrotation

Conscious Sedation for Endoluminal Colorectal Procedures



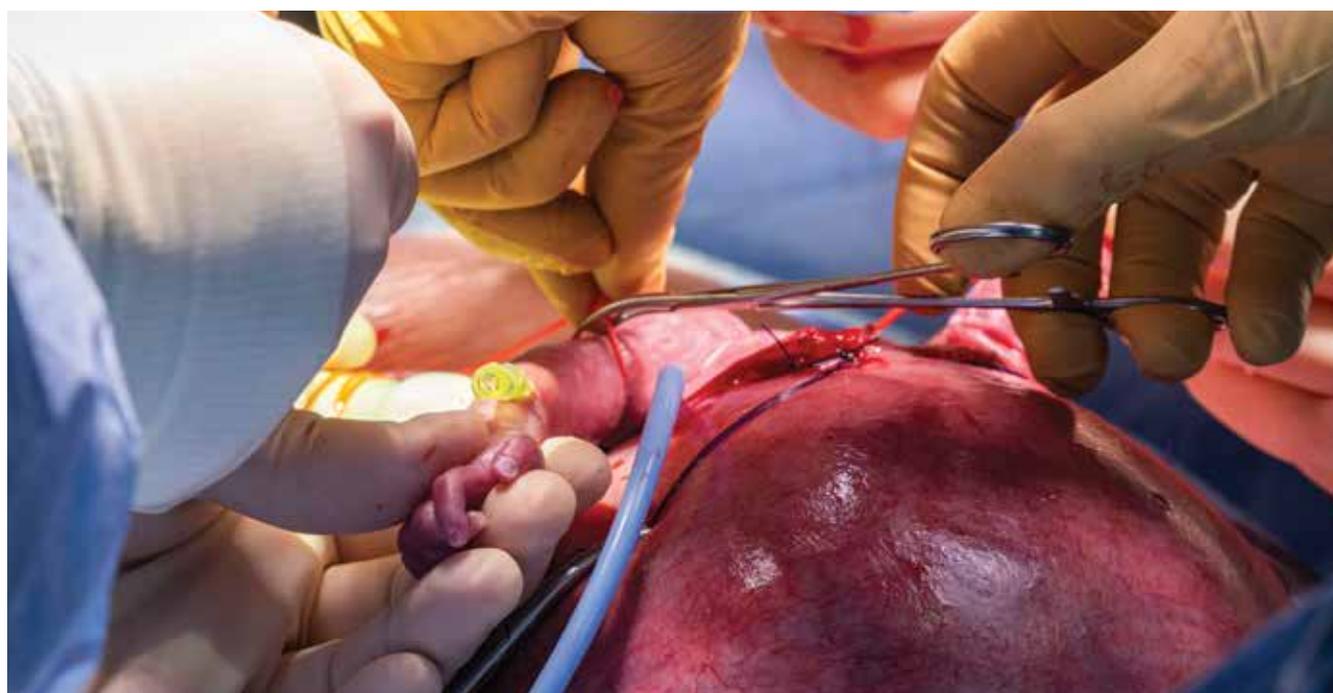
Cleveland Clinic is pioneering the use of advanced endoscopic techniques to remove complex polyps and early malignant lesions in the digestive tract without anesthesia. Selected colorectal procedures are now performed under conscious sedation in the outpatient Endoluminal Surgery Center.

"We prefer to use conscious sedation when removing benign polyps and early malignant lesions that are low risk for metastasis. Patients prefer it, outcomes are improved and procedures are less expensive," says Cleveland Clinic colorectal surgical oncologist and endoluminal surgery pioneer Emre Gorgun, MD. "It's really better for everyone."

Conscious sedation is less risky than sedation with propofol or general anesthesia, particularly for patients with heart disease or other comorbid conditions presenting for gastrointestinal surgery.

Read more: clevelandclinic.org/endoluminalsedation

Cleveland Clinic's Most Complex Fetal Surgery to Date



A multidisciplinary Cleveland Clinic team led by Darrell Cass, MD, has successfully performed a challenging fetal surgery to remove an intrapericardial teratoma that posed imminent lethal risk to a nearly 27-week-old fetus.

The operation in May to excise a 3-centimeter tumor affixed to the left side of the fetus's heart relieved severe cardiac compression and other physiologic problems and enabled the baby boy to be delivered near term 10 weeks later.

After recovering from a lung infection, the infant was discharged.

Only one previous incidence of extended survival after fetal intrapericardial teratoma resection is documented in the world's medical literature. In that 2013 case at Children's Hospital of Philadelphia (CHOP), the surgery took place earlier in gestation, when the complications caused by the tumor were not as advanced as those of the patient referred to Cleveland Clinic.

continued on next page >

continued from previous page >

“This case is as hard as they come,” said Dr. Cass, who founded the fetal surgery program in 2018 and is its director. He is also a staff member in the Digestive Disease & Surgery Institute’s Department of General Surgery. “There are only a few comprehensive fetal surgery programs that have the personnel and infrastructure to tackle this. Close collaboration is essential, and every team member has to perform at the absolute top of their game. We have an amazing team.”

Intrapericardial teratomas are rare cardiac primary tumors that can occur either pre- or postnatally. Although typically benign, their rapid prenatal growth in confined space and close proximity to the fetal heart can cause cardiac tamponade and cardiopulmonary distress.

Fetal echocardiograms of the Cleveland Clinic patient revealed a fast-growing intrapericardial tumor affixed to the left atrium near the atrioventricular groove. The tumor was causing a massive pericardial effusion, progressive hydrops fetalis with bilateral pleural effusions and a small amount of ascites, dilation of the inferior vena cava, and mild to moderate tricuspid regurgitation due to elevated pressure on the right fetal heart. There was retrograde blood flow from the posterior descending artery to the transverse and ascending aorta.

The fetal care team estimated that, without intervention, cardiac compression from the tumor would prove fatal within 3 to 14 days.

Read more: clevelandclinic.org/fetaltumor

LETTER from the Chair



MIGUEL REGUEIRO, MD
Chairman, Cleveland Clinic
Digestive Disease Institute

Dear colleagues,

As the new Chair of Cleveland Clinic’s Digestive Disease & Surgery Institute, I see my job as a balancing act: managing the day-to-day affairs of this robust, diverse organization while also charting a course for our future.

Our vision is for the institute to develop novel approaches to clinical care, surgery and endoscopy; expand innovative educational programs; take the lead in clinical and translational research; and become a model for a physician staff that is engaged, happy and productive.

I want to share some of the steps we’ll be taking to achieve those ambitious goals.

In the clinical realm, the success of the patient-centered medical home model for inflammatory bowel disease care we adopted in 2018 has prompted us to commit to develop four additional multidisciplinary medical homes for digestive disease patients by 2026. We will partner with Cleveland Clinic’s Department of Wellness and Preventive Medicine to integrate wellness and prevention into our approach.

In education, we plan to greatly increase our live online multidisciplinary educational programming, as well as to develop five novel education and training programs for advanced practice providers.

We intend to increase the institute’s focus on research and innovation. This will involve creating a new research structure comprising a translational research unit closely aligned with Cleveland Clinic’s Lerner Research Institute and our hospitals, and a clinical trials research unit that will enable us to design and implement our own trials to test our discoveries. We also will designate two programs for Center of Excellence status by 2026.

Finally, we want to elevate the engagement of our physicians and surgeons. We will accomplish this by expanding mentoring programs; by establishing career pathways that allow staff members to concentrate on their interests in clinical care, research or education; and by breaking down silos that hinder collaboration and collegiality.

I’m excited by the opportunities ahead and invite you to follow our progress.

Sincerely,

Miguel Regueiro, MD

NOTABLE Case Studies



Discovering a Twist

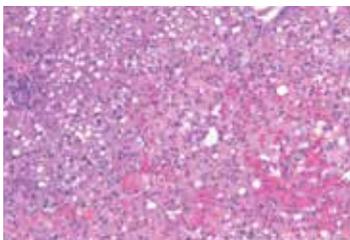
A 19-year-old woman who continued to experience severe pelvic pain after undergoing ileal pouch-anal anastomosis, two laparotomies, and an

eventual J-pouch disconnection and conversion to ileostomy sought a second opinion from Cleveland Clinic.

During redo pouch surgery, Inflammatory Bowel Disease Surgery Section Chief Stefan Holubar, MD, MS, found that the patient's pouch was twisted 180 degrees. He disconnected the twisted pouch from the anus, untwisted it and hand-sutured the otherwise healthy pouch to the anal canal. A temporary loop ileostomy was closed three months later. The surgery resolved the patient's defecation and pain issues.

A literature and registry search for similar cases allowed Dr. Holubar to identify a new condition he named twisted pouch syndrome.

Read more: clevelandclinic.org/twistedpouch



To Transplant or Not?

A 31-year-old man presented 48 hours after ingestion of 125 g of acetaminophen. His lab results were consistent

with acute liver failure. His grade IV encephalopathy required interventions to prevent further neurological complications and multiorgan dysfunction. CT showed diffuse cerebral edema.

Supportive therapy was initiated with intubation, mechanical ventilation and N-acetylcysteine. Invasive intracranial pressure monitoring was undertaken to guide therapy to prevent a rise in intracranial pressure. Therapeutic interventions, including hypertonic saline infusion, continuous renal replacement therapy and vasopressors, were initiated. Liver biopsy revealed 30% necrosis.

Read more: clevelandclinic.org/liverfailure



Complex Tumor Resection

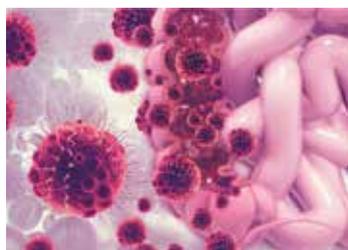
A 50-year-old woman with a massive pancreatic adenocarcinoma sought care from Cleveland Clinic Abu Dhabi after having

been turned away from several other hospitals due to the size of the mass.

The patient had experienced symptoms for about a year, including loss of appetite, diarrhea, weight loss, fatigue and bloating.

The tumor — 3.5 kg at the time of resection — was intimately attached to the major vessels supplying the abdomen, liver and intestine. The surgical team performed a near-total pancreatectomy with vessel reconstruction.

Read more: clevelandclinic.org/adenocarcinoma



Young-Onset Metastatic Colorectal Cancer

A 39-year-old woman presented with rapid recurrence of advanced rectal adenocarcinoma that

had been treated at another institution. She was found to have stage IV metastatic disease in a soft-tissue tumor in her right pelvic side wall and right common iliac lymph node. Her right ureter also was entrapped by the pelvic side wall tumor.

After intensified chemotherapy and stereotactic body radiation therapy, the patient underwent multidisciplinary surgery, including an exploratory laparotomy with excision of the soft tissue tumor; right salpingo-oophorectomy and deep lateral pelvic lymph node dissection; mobilization of the right ureter; complex en bloc ligation of the right external iliac vein and internal iliac artery and ligation of the right epigastric artery; and intraoperative radiation therapy.

Read more: clevelandclinic.org/youngonsetcolorectal

NEW SERVICE Spotlight

Bariatric Endoscopy Program Increases Treatment Options for Obesity

Obesity's complex etiology and its nature as a chronic, relapsing disease necessitate a multispecialty approach to management.

Dietary and lifestyle modification, pharmacotherapy and bariatric surgery have been the traditional mainstays of comprehensive obesity treatment programs. Each modality has potential benefits and limitations, and none by itself is universally applicable to patients struggling with obesity. Bariatric surgery is the most effective intervention for weight loss, but less than 1% of eligible patients undergo bariatric procedures annually. Even in the most successful bariatric programs, some patients may regain weight postoperatively, which illustrates the importance of longitudinal care and close follow-up.

In the past decade, bariatric endoscopy has emerged as an additional therapeutic option, helping fill the gap between medical treatment and bariatric surgery.

Cleveland Clinic recently has begun a bariatric endoscopy program that is integrated into the institution's overall multispecialty bariatric weight loss initiatives. The program provides a comprehensive range of endoscopic procedures to address various needs: as primary therapies for patients with obesity; as secondary treatment when patients have regained weight after bariatric surgery; and to address complications stemming from bariatric surgery.

"Not all patients have the same needs," says newly appointed Director of Bariatric Endoscopy Roberto Simons-Linares, MD. "Bariatric endoscopy is in a kind of sweet spot in terms of invasiveness and efficacy. With its addition at Cleveland Clinic, we have an even greater variety of programs and options available for patients."

Read more: clevelandclinic.org/bariatricendo

RESEARCH Roundup



Obesity and Post-COVID-19 Complications

COVID-19 survivors with moderate or severe obesity have an increased risk of

long-term complications of the disease compared with patients who do not have obesity, Cleveland Clinic researchers found.

The observational study using Cleveland Clinic's registry of patients who tested positive for SARS-CoV-2 infection examined three indicators of possible long-term complications — hospital admission, mortality and the need for diagnostic testing — that occurred at least 30 days after the first positive test. Outcomes were compared among five groups of patients based on their body mass index (BMI), from normal to severe obesity.

The risk of hospital admission and the need for diagnostic tests to assess medical problems were higher in patients with moderate or severe obesity compared with patients with normal BMI, the study found.

While other research has established obesity as a major risk factor for developing severe COVID-19 symptoms, this is the first study to suggest patients with obesity face increased risk for complications that last well beyond the acute phase, says co-author Ali Aminian, MD, Director of Cleveland Clinic's Bariatric & Metabolic Institute.

Read more: clevelandclinic.org/obesitycovid



Biologics' Impact on IBD Bone Problems

Inflammatory bowel disease (IBD) patients treated with biologics are significantly less likely to have osteoporosis and bone fractures compared

with those who were not, according to the largest individual study to date investigating the prevalence of osteoporosis and bone fractures in IBD patients with and without biologics therapy.

Using electronic health record data from 26 U.S. healthcare systems, Cleveland Clinic researchers found that the prevalence of osteoporosis and bone fractures was 8.3% and 8.9% for Crohn's disease and 7.4% and 8.7% for ulcerative colitis, compared with 3.7% and 9.0%, respectively, among individuals without IBD.

The researchers found that the prevalence of osteoporosis and bone fractures was significantly lower among Crohn's disease patients treated with biologics (7.3% and 6.8%) compared with those who did not receive biologics (12.7% and 14.6%). Similarly, patients with ulcerative colitis who received biologics were significantly less likely to have osteoporosis and bone fractures (5.9% and 5.5%) compared with ulcerative colitis patients who had not received this treatment (11% and 14.9%).

Read more: clevelandclinic.org/biologicsibd



Grain Consumption and Celiac Disease Levels

An epidemiologic study by Cleveland Clinic researchers has found no connection

between the amount of consumption of gluten-containing grain and celiac disease prevalence in numerous countries. This surprising finding underscores the complexity of celiac disease.

"We expected to find higher rates of celiac disease where consumption of wheat, rye and barley were more common, since the population would be consuming more gluten. But we did not find this," says gastroenterologist Claire Jansson-Knodell, MD, the study's first author.

"Genetic susceptibility and gluten consumption are necessary to lose tolerance to gluten but may not be sufficient to develop celiac disease. Other triggers are likely needed," says gastroenterologist Alberto Rubio-Tapia, MD, Director of Cleveland Clinic's Celiac Disease Program and a co-author of the study.

Read more: clevelandclinic.org/ceciacgrain



Deciphering Sarcopenia

As a young hepatologist in the mid-1990s caring for patients with end-stage liver disease, Srinivasan Dasarathy, MD, observed firsthand the

malnutrition and loss of skeletal muscle mass that typified these patients and the complications that resulted.

Surgeons were reluctant to perform liver transplants on patients they believed were too malnourished to survive. And in patients who did undergo transplantation, although a new liver resolved the clinical and metabolic abnormalities of cirrhosis, muscle loss often actually worsened.

What was the connection between the liver and skeletal muscles, Dr. Dasarathy wondered. Why would chronic liver disease (and other chronic diseases) decrease muscle mass, and why wouldn't transplantation reverse the condition? What were the underlying metabolic processes that caused the decline?

There were no definitive answers to be found in the medical literature. Dr. Dasarathy realized that only a systematic, long-term investigative effort could attempt to answer the fundamental questions he was raising. He was trained as a clinician, not a researcher. But he decided to take up the challenge.

More than two decades later, Dr. Dasarathy's efforts have borne considerable fruit. He is an internationally recognized authority on sarcopenia in cirrhosis and other chronic diseases. His work is laying the foundation for novel, targeted therapies to treat sarcopenia in chronic disease.

Read more: clevelandclinic.org/sarcopenia

LEADERSHIP Updates



Matthew Kroh, MD, is the Digestive Disease & Surgery Institute's new Vice Chair of Innovation and Technology. Dr. Kroh previously served as Chair of the Digestive Disease Institute at Cleveland Clinic Abu Dhabi.



Nizar Zein, MD, has been named Chief of Staff at Cleveland Clinic Abu Dhabi. Dr. Zein, the inaugural endowed Chair, Professor and Director of the Mikati Center for Liver Diseases, previously served as Chair of Global Patient Services.



Roberto Simons-Linares, MD, is Director of the new Bariatric Endoscopy Program.