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# Gastroenterology & GI Surgery

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**LEADING**

PANCREATIC  
RESEARCH

**NEW**

IBD CENTER

**ADVANCED**

ENDOSCOPY

**PRECISION**

ROBOTIC  
SURGERY

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## Dear Colleagues and Friends:



A handwritten signature in black ink that reads "H. Leon Pachter MD".

**H. LEON PACTER, MD**

George David Stewart Professor of Surgery  
Chair, Department of Surgery  
NYU Langone Medical Center



A handwritten signature in black ink that reads "Mark B. Pochapin".

**MARK B. POCHAPIN, MD**

Sholtz/Leeds Professor of Gastroenterology  
Director, Division of Gastroenterology  
Vice Chair, Clinical Affairs  
Department of Medicine  
NYU Langone Medical Center

We are delighted to share with you this report on the achievements of NYU Langone's Division of Gastroenterology and the Department of Surgery in addressing benign and malignant gastrointestinal (GI) disease.

Over the past year, we added a number of talented experts to our multidisciplinary teams and have broken new ground in basic and translational research aimed at understanding and more effectively treating complex esophageal, gastric, hepatobiliary, pancreatic, small intestinal, and colorectal diseases.

During this time, we welcomed several new faculty members who are helping us build on the strengths of our clinical and research teams. Gregory B. Haber, MD, a pioneer in the use of endoscopic techniques for complex gastrointestinal conditions, now leads our Advanced Therapeutics and Innovation Program in the Division of Gastroenterology.

We are also excited about the arrival of Feza Remzi, MD, who now leads our Inflammatory Bowel Disease (IBD) Center. As one of the world's foremost IBD surgeons, Dr. Remzi rounds out and strengthens our IBD team. He is known not only for his surgical expertise, but also for his compassionate, multidisciplinary approach to the care of patients with Crohn's disease and ulcerative colitis. His arrival allows us to expand the scope of services offered to adult and adolescent patients.

On the research front, we continue to gain new insights into the human microbiome and its role in numerous disease states—including obesity, IBD, colorectal cancer, and pancreatic cancer. For example, investigations into the parasitic helminth worm's potential effect on the gut, by Ken Cadwell, PhD, and P'ng Loke, PhD, may help in developing potent probiotics that could potentially be used in treating patients with autoimmune diseases. Researchers are also studying the process of autophagy and its potential role in promoting pancreatic tumor growth and survival. An influential study led by Alec Kimmelman, MD, PhD, chair of radiation oncology, published last year in *Nature*, breaks new ground in understanding this process and may lead to the development of targeted therapeutic approaches. Other researchers have gained insight into the mechanisms of resistance to immunotherapy in pancreatic cancer and are working on new therapies aimed at inhibiting the process of necroptosis.

For those who struggle with obesity, we have enhanced our weight loss program with new options in bariatric surgery and endoscopy. Recent research led by Christine Ren-Fielding, MD, for example, reveals that surgery can be a more successful long-term treatment option for morbidly obese patients compared with lifestyle interventions alone.

Building on a tradition of excellence in education, we have developed nationally recognized educational approaches that focus on professionalism, interpersonal communication, and a humanistic approach to medicine in addition to clinical knowledge and expertise.

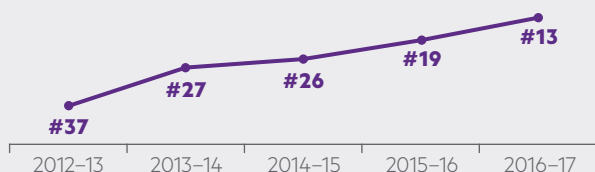
We are proud to work with our colleagues nationwide to contribute to the advancement of our scientific knowledge, the development of our future physician leaders, and ultimately the provision of advanced, state-of-the-art clinical care for patients suffering from complex and debilitating gastrointestinal and hepatobiliary conditions.

# Gastroenterology & GI Surgery

**#13**

**IN THE U.S.**

for Gastroenterology & GI Surgery in U.S. News & World Report's "Best Hospitals"



**20 +**

**PRACTICE LOCATIONS**

**197**

**GASTROENTEROLOGISTS,  
HEPATOLOGISTS,  
AND GI SURGEONS**

including voluntary faculty

**100 %**

**FELLOWSHIP-BOUND**

2016 graduating surgical residents

**424**

**APPLICANTS**

for  
**4 GASTROENTEROLOGY  
FELLOWSHIP SLOTS**

**1 of 4**

**INTERNATIONAL TRIAL SITES COMPARING:**

- standard colonoscopy
- full-spectrum endoscopy
- cuff-assisted colonoscopy
- ring-assisted colonoscopy

**> 90 %**

performing clinical or  
scientific research  
(as percent of surgical residents)

**1,500**

**APPLICANTS**

for  
**7 GENERAL SURGICAL  
RESIDENCY SLOTS**





# NYU Langone Medical Center



## #10

**IN THE NATION  
BEST HOSPITALS**

and nationally ranked in 12 specialties, including top 10 rankings in Orthopaedics, Geriatrics, Neurology & Neurosurgery, Rheumatology, Rehabilitation, Cardiology & Heart Surgery, and Urology. Nationally ranked in Cancer, Diabetes & Endocrinology, Ear, Nose & Throat, Gastroenterology & GI Surgery, and Pulmonology



## #11

**IN THE NATION  
BEST MEDICAL SCHOOLS  
FOR RESEARCH**

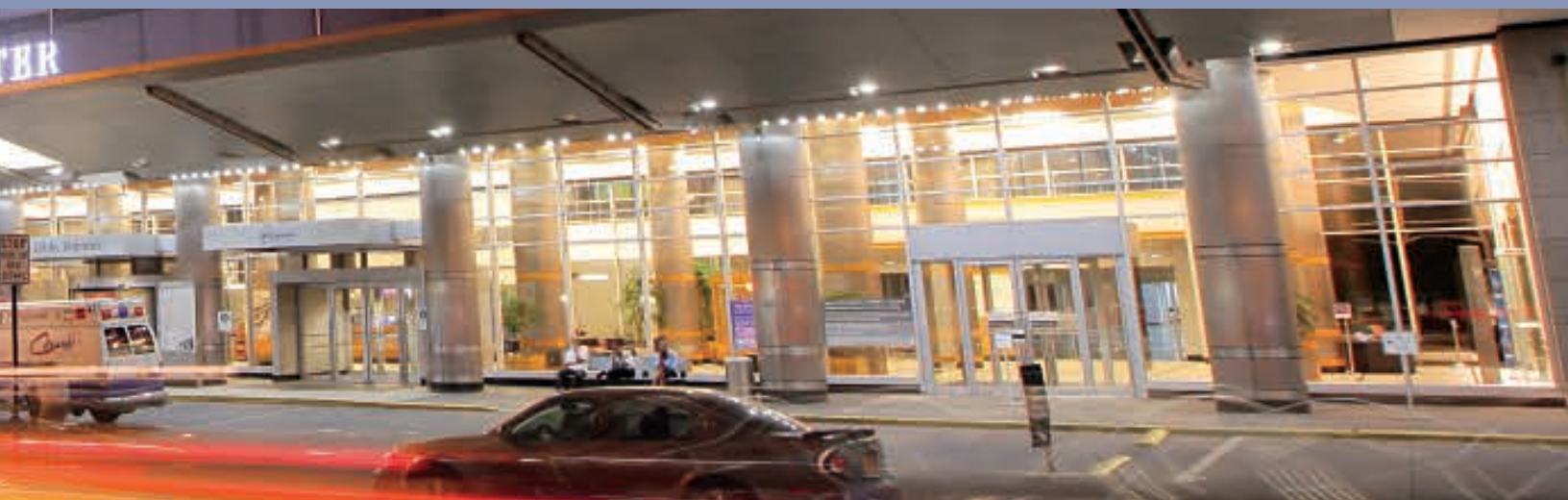
and a leader in innovation in medical education, including accelerated pathways to the MD degree



## LEADER

**IN QUALITY CARE AND  
PATIENT SAFETY**

and recognized for superior performance as measured by Vizient's nationwide 2016 Quality and Accountability Study



## Building Teams, Expanding Strengths

### New Recruits

**GEORGE G. ABDELSAYED, MD**, was named clinical associate professor of medicine and section chief of gastroenterology, NYU Lutheran. Dr. Abdelsayed was formerly the director of the Division of Gastroenterology and Hepatology, Northwell Health System, Staten Island University Hospital.

**BRIAN P. BOSWORTH, MD**, professor of medicine, was named chief of medicine, Tisch Hospital. Dr. Bosworth brings a wealth of experience and expertise, particularly in the treatment of complex IBD and in the training and education of the physician leaders of tomorrow. Dr. Bosworth previously served as the gastroenterology fellowship program director at Weill Cornell Medical College.

**GREGORY B. HABER, MD**, renowned gastroenterologist and advanced endoscopist, has joined the faculty of medicine as chief of Endoscopy and director of Advanced Therapeutics and Innovation in the Division of Gastroenterology. Dr. Haber works collaboratively to utilize innovative endoscopic options in the prevention, diagnosis, and treatment of esophageal, gastric, hepatobiliary, pancreatic, small intestinal, and colorectal conditions.

**FEZA REMZI, MD**, has been recruited as professor of surgery and director of the multidisciplinary Inflammatory Bowel Disease Center, after almost 30 years at the Cleveland Clinic, most recently as chair of their Department of Colorectal Surgery at their Digestive Disease Institute.

**DIANE SIMEONE, MD**, renowned pancreatic cancer surgeon and researcher, will join Perlmutter Cancer Center in March 2017 as director of the Pancreatic Cancer Center and associate director of Translational Research. The recipient of multiple NIH grants, Dr. Simeone is a noted expert on the molecular roots and early detection of pancreatic cancer. She previously served as director of the Gastrointestinal Oncology Program at the University of Michigan's Comprehensive Cancer Center.

**THEODORE H. WELLING III, MD**, will join Perlmutter Cancer Center in spring 2017 as director of the Liver Tumor Program. A hepatobiliary and liver transplant surgeon with expertise in the surgical treatment of hepatic or biliary malignancies and liver metastases, Dr. Welling was previously co-director of the Multidisciplinary Liver Tumor Clinic at the University of Michigan Health System.



↑ (Top row) George G. Abdelsayed, MD; Brian P. Bosworth, MD; (Middle row) Gregory B. Haber, MD; Feza Remzi, MD; (Bottom row) Diane Simeone, MD; Theodore H. Welling III, MD

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## New Angles in Education and Research

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### GI FELLOWSHIP TOOLKIT LAUNCHED NATIONWIDE.

The Division of Gastroenterology, in collaboration with the American College of Gastroenterology (ACG), has developed and made available a new resource: “Utilizing OSCEs to Teach and Evaluate Fellows’ Performance: A Gastroenterology Fellowship Program Director’s Toolkit.” This resource uses challenging simulated clinical scenarios to assess fellows’ medical knowledge, communication skills, and professionalism. The Toolkit is available to program directors nationwide on the ACG Education Universe website at [universe.gi.org](http://universe.gi.org).

### GRANTS SUPPORT PROMISING RESEARCH ON INFLAMMATORY BOWEL DISEASE.

Two researchers at NYU Langone’s Skirball Institute of Biomolecular Medicine—microbiologist Ken H. Cadwell, PhD, and immunologist Dan R. Littman, MD, PhD—have been awarded grants from the Kenneth Rainin Foundation to study inflammatory bowel disease (IBD). They are among 27 investigators worldwide, both early-career and seasoned scientists, whose

work is being recognized for its potential breakthroughs in IBD research. Dr. Cadwell is receiving the foundation’s Innovator Award, which provides a \$100,000 grant for one-year research projects so groundbreaking that they may not qualify for funding from more traditional sources. Dr. Cadwell’s grant will support his study of how bacteria in the gut microbiome compete with one another. Dr. Littman is the recipient of the foundation’s Breakthrough Award, which provides continued funding to Innovator Award grantees who have demonstrated significant progress in their research goals. Dr. Littman’s \$90,000 grant will support his research on how the cells that line the intestines react to bacteria in the gut.

### SAVE THE DATE: BIG GUT SEMINARS!

NYU Post-Graduate Medical School will be offering Big Gut Seminars this spring: Focus on Complex Inflammatory Bowel Disease (March 31, 2017) and Focus on Complex Colorectal Disease (April 1, 2017). This activity has been approved for *AMA PRA Category 1 Credit*™.

### ACHIEVING THE GOLD STANDARD OF EQUALITY IN HEALTHCARE.

The Human Rights Campaign Foundation, the largest civil rights organization in the country working to achieve equality for the lesbian, gay, bisexual, and transgender (LGBT) community, has recognized NYU Langone as a leader in LGBT equality, in its annual Healthcare Equality Index Report.

### WEIGHT MANAGEMENT PROGRAM ACCREDITED FOR CARE OF ADULTS AND ADOLESCENTS.

NYU Langone’s Weight Management Program, whose surgeons’ extensive experience in performing laparoscopic adjustable banding makes them among the best in the nation, earned accreditation from the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP). The Weight Management Program is now designated an MBSAQIP Accredited Center—Comprehensive with Adolescent Qualifications, as awarded by the American College of Surgeons and the American Society for Metabolic and Bariatric Surgery.

### PIONEERING SURGEON LEADS NEW TRANSPLANT INSTITUTE

Internationally renowned surgeon Robert Montgomery, MD, whose groundbreaking work in kidney transplantation includes laparoscopic innovations and “domino” multi-way donor transplant exchanges, joined the faculty of NYU Langone as director of its newly created Transplant Institute in March 2016. Prior to his appointment at NYU Langone, Dr. Montgomery was chief of the Division of Transplantation at The Johns Hopkins Hospital,

where he was a professor of surgery and director of the Comprehensive Transplant Center and the Incompatible Kidney Transplant Program. While at Johns Hopkins, he was part of the team that developed laparoscopic procurement of a live kidney donation through small incisions in the abdomen. This approach is now a standard practice for kidney donation worldwide.

Joining Dr. Montgomery is new recruit Nabil N. Dagher, MD, associate professor of surgery and chief of Abdominal Transplant Surgery. Dr. Dagher completed a fellowship in Multi-Organ Abdominal Transplant Surgery at The Johns Hopkins Hospital.

**EXPANSION.** NYU Langone and Winthrop-University Hospital on Long Island have reached an agreement to affiliate the institutions' extensive healthcare networks. NYU Langone, with more than 150 ambulatory sites throughout the region, will complement Winthrop-University Hospital's main campus, multiple ambulatory sites, and network of 66 faculty and community-based practices in more than 140 locations extending from eastern Long Island to Upper Manhattan.

The affiliation will further expand NYU Langone's presence on Long Island, while enhancing Winthrop's inpatient and outpatient services with improved access to NYU Langone's wide range of medical and surgical specialties.

"This agreement publicly confirms our confidence that an affiliation will allow both of our institutions to collaborate and share best practices to better meet the healthcare needs of the communities we serve," says Robert I. Grossman, MD, the Saul J. Farber Dean and CEO of NYU Langone. Pending regulatory approval, the institutions are aiming to complete their affiliation in spring 2017.

#### **NEW TECHNOLOGIES BEING EVALUATED FOR COLON CANCER SCREENING.**

NYU Langone gastroenterologists are collaborating with colleagues nationally and internationally to study new technologies that offer promise as potential new options in colon cancer screening.

One area of such research is the exploration of technologies to avoid the oral bowel prep regimen taken prior to a screening colonoscopy. In one study, an X-ray imaging capsule was evaluated as a potential prep-free screening test. The patient ingests the capsule orally and typically excretes it within 24–48 hours. No bowel prep is used. During the procedure, patients drink small amounts of contrast agent with meals and go about their normal lives, while the capsule takes and transmits 3D X-ray images of the colon and rectum. Using special software, clinicians later view the images on a computer and check for the presence of polyps. Results from the clinical feasibility study by the manufacturer,



↑ Violeta B. Popov, MD, PhD

Israel-based Check-Cap, demonstrated that the system is capable of identifying polyps and providing segmental location and morphology information in a non-prepped colon, says Seth A. Gross, MD, associate professor and chief of Gastroenterology at Tisch Hospital, NYU Langone, who presented the initial findings during the American College of Gastroenterology's annual meeting. Identification, location, and morphologic features of polyps were confirmed by colonoscopy. "For some patients, an inability to tolerate the oral bowel prep can be a barrier to screening for colorectal cancer," says Dr. Gross. "This study shows promise that X-ray capsule imaging may offer a safe, effective, and oral prep-free option for colon cancer screening and the potential to increase screening utilization." Further research evaluating this technology is underway.

NYU Langone researchers are also studying the use of colonic irrigation as an alternative to an oral bowel prep regimen prior to a screening colonoscopy—and are participating in an international trial to compare the effectiveness of enhanced colonoscopy technologies, such as the full-spectrum endoscopy, cuff-assisted colonoscopy, and ring-assisted colonoscopy.

**INTRAGASTRIC BALLOONS.** One new weight-loss option, that of bariatric endoscopy, is being offered by both surgeons and gastroenterologists at NYU Langone. In addition, Violeta B. Popov, MD, PhD, assistant professor of medicine, has spearheaded efforts to bring novel endoscopic weight loss options to the Veterans Health Administration. These therapies include intragastric balloons, aspiration therapy, and endoscopic sleeve gastropasty. Dr. Popov placed the first intragastric balloon within the VA system at the Manhattan VA Hospital. The patients who have completed the multidisciplinary program have lost on average 43 pounds or 15 percent of their starting weight, with resolution of diabetes, sleep apnea, and other obesity-related co-morbidities. Dr. Popov is currently working with national VA leadership to replicate the success of the Manhattan VA across the country.

NYU Langone surgeons and gastroenterologists are collaborating to offer a variety of surgical and nonsurgical weight loss options.



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## New Advanced Endoscopy Fellowship

With the arrival of Gregory B. Haber, MD, NYU Langone has implemented a one-year advanced endoscopy fellowship in the Division of Gastroenterology. Under the mentorship of Dr. Haber and other advanced endoscopists, this fellowship will include training and mentorship in the full range of innovative, state-of-the-art diagnostic and therapeutic advanced endoscopy procedures.

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## Awards & Recognition

→ **Brian P. Bosworth, MD**, professor of medicine, has been named a peer reviewer for the National Institutes of Health-Special Emphasis Panel ZRG1 DKUS (10) Small Business: Digestive Sciences.

→ **Lea Ann Chen, MD**, assistant professor of medicine, received the American Gastroenterological Association-Takeda International Research Scholar Award in Gut Microbiome Research and the Sherman Prize.

→ **Jonathan Cohen, MD**, clinical professor of medicine, was named chair of the Training Committee for the American Society for Gastrointestinal Endoscopy, and was presented with the Distinguished Service Award of the American Society for Gastrointestinal Endoscopy at the 2016 Digestive Disease Week® (DDW) conference.

→ **Seth A. Gross, MD**, associate professor of medicine and chief of the Division of Gastroenterology at NYU Langone's Tisch Hospital, was named chair of Educational Affairs for the American College of Gastroenterology and incoming vice president of the New York Society for Gastrointestinal Endoscopy.

→ **H. Leon Pachter, MD**, the George David Stewart Professor of Surgery and chair of the Department of Surgery, was chosen by the executive committee of the Society of Black Academic Surgeons as the 2015 Honorary Fellow in recognition of both his efforts to promote diversity in the department and his contributions to surgery.

→ **Calvin Q. Pan, MD**, clinical professor of medicine, received the Award of Outstanding Contribution, from the Chinese Medical Association-Chinese Society of Infectious Diseases.

→ **James S. Park, MD**, associate professor of medicine, clinical director of hepatology and director of the Asian Liver Health Program, was named secretary general of the Korean American Medical Association of New York and New Jersey and chair of the NYC Hepatitis B Coalition, convened by the NYC Department of Health and Mental Hygiene.

→ **Mark B. Pochapin, MD**, the Sholtz/Leeds Professor of Gastroenterology and director of the Division of Gastroenterology, was named treasurer of the American College of Gastroenterology (ACG) and received the ACG's first annual SCOPY Leadership Award at the ACG Annual Scientific Meeting. He is also a director and the treasurer of the ACG and American Society for Gastrointestinal Endoscopy's collaborative GIQuIC quality initiative.

→ **Paresh C. Shah, MD**, clinical professor of surgery, vice chair of Quality and Innovation in the Department of Surgery, and chief of the Division of General Surgery, is on the Board of Governors of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and is the society's appointed AMA House of Delegates Representative.

→ **Renee L. Williams, MD**, assistant professor of medicine, was named chair of the Minority Affairs and Cultural Diversity Committee of the American College of Gastroenterology.



# Inquiry & Innovation

EXPERT TEAMS CONTINUE TO BREAK GROUND IN BASIC AND TRANSLATIONAL RESEARCH AIMED AT UNDERSTANDING AND MORE EFFECTIVELY TREATING COMPLEX GI DISEASES.

↑ George Miller, MD, and Alejandro Torres-Hernandez, MD

## Multidisciplinary IBD Team Provides Innovative Treatment, Care, and Support

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The arrival of international expert Feza Remzi, MD, rounds out a multidisciplinary team of specialists at NYU Langone's Inflammatory Bowel Disease Center. The team takes a comprehensive, personalized approach to patient care.

At the IBD Center, patients have access to a wide range of services, including state-of-the-art surgical care under the leadership of recently recruited colorectal surgeon Feza Remzi, MD, professor of surgery, director of the IBD Center, and one of the world's foremost practitioners of IBD surgery, including pelvic pouch surgery and reconstruction. "While other centers have IBD experts, very few have all of the pieces in place to provide truly comprehensive care for these patients," says David P. Hudesman, MD, assistant professor of medicine and medical director of the IBD Center.

### **INTEGRATING MEDICAL AND SURGICAL CARE**

Medical, surgical, nutrition, psychosocial, and other specialists work in close collaboration to provide optimal, seamless, patient-centered clinical care. "The team works together to ensure that patients know their options—from medical therapies and surgery to enterostomal therapy nursing and support services. This way, we are able to partner with our patients in a process of shared decision-making," says Dr. Remzi.

### **TRANSITIONING PEDIATRIC PATIENTS TO ADULT CARE**

For teenagers and young adults with IBD, leaving the care of a trusted pediatrician to move to an adult-centered IBD specialist can be challenging. "Adolescents have a lot going on in their lives as they leave home, go to college, and take on adult responsibilities," notes Lisa B. Malter, MD, associate professor of medicine and director of the Inflammatory Bowel Disease Program at NYC Health + Hospitals/Bellevue. "Beginning to manage their own healthcare in collaboration with unfamiliar care providers can be very stressful."

It's for this reason that the transition of care initiative was established two years ago by Dr. Hudesman and

Jeremiah Levine, MD, director of the Division of Pediatric Gastroenterology, to ensure that adolescents and young adults with IBD have the education and services they need. Excellence in adolescent IBD is also manifested by a unique and important collaboration of Dr. Feza Remzi and the experienced pediatric surgical team comprised of Drs. Howard B. Ginsburg, MD, Sandra S. Tomita, MD, Keith A. Kuenzler, MD, and Jason C. Fisher, MD. Working together preoperatively, intraoperatively, and postoperatively, this group, along with gastroenterologist Dr. Levine and colleagues ensure the most up-to-date and professional care encompassing the entire spectrum of IBD disease, from primary procedures and interventions to the most complicated surgical revisions. In addition, the development of the Hassenfeld Children's Hospital of New York has placed an important focus on ancillary services providing comfort and support for both the adolescent IBD patient and the entire family.

### **MANAGING IBD BEFORE AND DURING PREGNANCY**

Another critical priority is to ensure that women in their reproductive years have appropriate information about treatment during preconception and pregnancy. "For women with IBD, maintaining disease remission is the most important factor in optimizing maternal health and pregnancy outcomes. We emphasize the importance of using appropriate IBD treatments to achieve remission prior to conception, and to maintain it throughout pregnancy," says Dr. Hudesman. Through the preconception care program, gastroenterologists, surgeons, obstetricians, and other specialists work together to provide education and optimal treatment for IBD in the context of potential effects on fertility, pregnancy, and overall health.

### Clinical Trials Test Promising New IBD Therapies

Although biologic therapies have revolutionized treatment for many people with IBD, it remains a complex, challenging, and lifelong disease. NYU Langone investigators are leading several clinical trials to test new strategies to prevent, diagnose, and treat Crohn's disease, ulcerative colitis, and their potential complications. A few highlights of clinical trials currently under way are:

**VEDOLIZUMAB.** This selective antibody was approved in 2014 for the treatment of moderate to severe Crohn's disease. In the recently concluded, multicenter US VICTORY Consortium trial, which enrolled more than 200 adults with Crohn's disease, the drug induced clinical remission and mucosal healing in one-third of the patients, with the greatest benefit occurring after six months of treatment. Although serious adverse events occurred in about 8-10 percent of patients, most could be managed without discontinuation of therapy. These findings offer a potentially safer, more effective option for patients with poor response or treatment-limiting side effects with TNF-antagonists, the current standard of care.

**ALICAFORSEN.** Investigators are now enrolling patients in an international, multicenter phase III trial to test this topical enema in patients who have IBD with chronic antibiotic-refractory pouchitis, for which there are no approved therapies. Alicaforsen has the potential to provide a much-needed treatment option for patients with ulcerative colitis and pouchitis, who may require a colectomy and ileal pouch after failing to respond to first-line antibiotics. In phase II studies, the drug showed successful treatment of patients' flares, with responses lasting an average of six months.

**MONGERSEN.** Phase III studies are underway for this oral medication for moderate Crohn's disease with a novel mechanism of action, shown in a phase II study to significantly increase rates of remission and clinical response compared to placebo. The drug, an oral SMAD7 antisense oligonucleotide, controls gut inflammation by keeping transforming growth factor  $\beta$  function normal.

### UNDERSTANDING THE ROLE OF THE CHANGING MICROBIOME

NYU Langone researchers are at the forefront of exploring the interaction of the gut microbiome and IBD. Although it is known that IBD results from an abnormal immune reaction to microbes in the gut in genetically susceptible people, the exact pathogenic mechanisms and role of the microbiome are currently unknown.

In one recent development, Ken Cadwell, PhD, and P'ng Loke, PhD, associate professors of microbiology, and colleagues reported in *Science* that a parasitic worm called the helminth can play a helpful role in the intestines of both animals and humans. In the study, published last April, the investigators reported that helminth infection in IBD-susceptible mice inhibited colonization of an inflammatory *Bacteroides* species while promoting growth of the beneficial gut bacteria *Clostridia*. Separately, Drs. Cadwell and Loke also studied the Orang Asli, native Malaysians who live in an area where helminth is common, finding that the worm's presence in the digestive tract led to a bacterial balance that resisted autoimmune-mediated inflammatory bowel disorders. They are now looking at novel *Clostridia* strains isolated from the Orang Asli study participants, hoping to develop a highly potent probiotic that could target the microbiome in patients with autoimmune diseases.

"Patient testimonials and anecdotes lead many to think that the worms directly cure IBD, while in reality, they appear to act on the gut bacteria thought to cause the disease," says Dr. Cadwell, a Howard Hughes Medical Institute Faculty Scholar. "Our study could change how scientists and physicians think about treating IBD."

**USTEKINUMAB.** This biologic, an interleukin (IL)-12 and IL-23 inhibitor, which is FDA-approved for psoriasis and now Crohn's disease, is under investigation in a phase III clinical trial for patients with refractory moderate to severe ulcerative colitis. The naturally occurring cytokines IL-12 and IL-23 are involved in inflammatory and immune responses.





↑ Feza Remzi, MD, and David P. Hudesman, MD

## IBD Expert Feza Remzi, MD, Joins NYU Langone

Feza Remzi, MD, professor of surgery and director of the Inflammatory Bowel Disease Center, previously chaired the Department of Colorectal Surgery at Cleveland Clinic, and is one of the world's foremost IBD surgeons and an expert in pelvic pouch surgery and reconstruction. He joined NYU Langone in 2016 to lead the IBD Center.

"The recruitment of Dr. Remzi, a recognized leader in the field of IBD and colorectal surgery, strengthens our ability to provide an expanded set of options and the highest level of care for patients with IBD and other serious colorectal diseases," says H. Leon Pachter, MD, the George David Stewart Professor of Surgery and chair of the Department of Surgery. "Dr. Remzi is renowned not only for the world-class, specialized surgical care he provides, but also for his care, compassion, and attention to the whole person and family. We are delighted to have the benefit of his expertise and leadership at NYU Langone, working in collaboration with David P. Hudesman, MD, the medical director of the IBD Center, and Dr. Lisa B. Malter, director of the IBD Program at NYC Health + Hospitals/Bellevue," says Mark B. Pochapin, MD, the Sholtz/Leeds Professor of Gastroenterology and director, Division of Gastroenterology.

### MULTIDISCIPLINARY APPROACHES TO ROUTINE AND COMPLEX CASES

Dr. Remzi takes a multidisciplinary approach to treating patients with ulcerative colitis and Crohn's disease, working closely with gastroenterologists, colorectal surgeons, radiologists, enterostomal therapy nurses, psychologists, psychiatrists, social workers, and nutritionists. He is often asked to consult on the most complex and severe cases involving patients nationally and globally.

He is particularly known for performing procedures involving intestinal pouches, an alternative way to store and pass stool in patients who have had their colons and rectums removed due to chronic ulcerative colitis, familial adenomatous polyposis, or cancer. In a primary intestinal pouch procedure, the surgeon performs an ileal pouch-anal anastomosis (IPAA), mostly a J design, which creates a reservoir to substitute for the removed rectum.

The pouch is created from the ileum and joined to the anal canal, thus eliminating the need for a permanent ileostomy. Next, surgeons create a temporary upstream ileostomy to divert the fecal stream and protect the pouch while the patient heals.

It is very important for the primary J-pouch procedure to be done the right way in order to prevent many avoidable complications,” explains Dr. Remzi.

### MANAGING AND REPAIRING PELVIC POUCHES

Any missteps during the primary J-pouch procedure can lead to septic complications that necessitate additional surgery. Dr. Remzi is one of the world’s foremost experts in performing complex J-pouch redo procedures to manage and repair these complications.

“Patients who develop leaks, for example, often come to us in misery, devastated and drained,” he says. “They are often told that they will need permanent ileostomies, but we have been able to repair the vast majority of these pouches, because they are likely due to technical or mechanical problems from the initial surgery.” The most challenging first-time and reoperative patients with Crohn’s disease seek his expertise as well.

During the revision or redo procedure, which can take an average of five hours in the operating room, Dr. Remzi disconnects the pouch from the anus, cleans up any infections, and either makes a new pouch or redoes the connection using the old one to fix the leak.

### ENABLING PATIENT DECISION-MAKING

“Although redo pouch procedures are often successful in experienced hands, the decision to undergo the complex operation should be patient driven,” notes Dr. Remzi.

“The keys to success are appropriate patient selection, patient counseling, and a multidisciplinary approach,” he says. “NYU Langone—with an experienced team of experts dedicated to the diagnosis and management of pouch problems—has the infrastructure to handle even the most complex cases successfully.”

### Research Milestones of Feza Remzi, MD

**> 85 %**

#### SUCCESS RATE

avoiding permanent ileostomy in over 500 cases of failed pouches salvaged or reconstructed through transabdominal peritoneal approach (October 2015 study published in *Annals of Surgery*)

**permanent  
stomas**

avoiding permanent stomas for patients with prior colorectal anastomatic complications who might otherwise require permanent fecal diversion (2009 retrospective study published in the *British Journal of Surgery*)

**1st**

definition describing portal vein thrombi after ileal pouch-anal anastomosis (IPAA) surgery (2002 article published in *Surgery*)

## Expanded Options for Patients with Complex GI Disease

Gregory B. Haber, MD, is helping to pioneer advances in endoscopy that promise to revolutionize the diagnosis and treatment of conditions that once required major surgery.

This year, NYU Langone recruited Gregory B. Haber, MD, an internationally renowned expert in therapeutic endoscopy, as chief of Endoscopy and director of Advanced Therapeutics and Innovation in the Division of Gastroenterology. “The addition of Dr. Haber builds on our team’s already considerable strengths in advanced diagnosis and treatment for complex digestive conditions,” says Mark B. Pochapin, MD, director of the Division of Gastroenterology. Working collaboratively with other experts, Dr. Haber uses innovative endoscopic options in the prevention, diagnosis, and treatment of esophageal, gastric, hepatobiliary, pancreatic, small intestinal, and colorectal conditions. Dr. Haber comes to NYU Langone after being on the faculty at the University of Toronto, and after having led the Center for Advanced Therapeutic Endoscopy at Lenox Hill Hospital in New York City. He has published more than 100 peer-reviewed studies and was an associate editor of the journal *Gastrointestinal Endoscopy*. As part of his educational efforts, Dr. Haber has launched an advanced fellowship program at NYU Langone Medical Center.

### MINIMALLY INVASIVE, ADVANCED TREATMENT OPTIONS

Dr. Haber and colleagues provide such advanced endoscopic procedures as Zenker’s cricopharyngeal myotomy (CPM) and peroral endoscopic myotomy (POEM), which offer effective, minimally invasive treatment options. Where major surgery once was the only option, patients can now be treated endoscopically with no external excisions. As a result, they often spend less time in the hospital and recover more quickly. Similarly, Dr. Haber performs endoscopic full thickness resection to remove tumors that have penetrated the wall of the stomach and other areas of the gastrointestinal tract. “Instead of performing resection laparoscopically from outside the gastric wall, we can do it from inside,” says Dr. Haber. “We can remove the entire wall to ensure complete tumor excision and close off the defect using endoscopic suturing. Devices are also now available that allow us to do full thickness resection in the colon.”

### REVERSING CHALLENGING BLEEDS

Because Dr. Haber has extensive experience using over-the-scope clips to halt major GI-related bleeds, he is often consulted on these challenging cases. For example, Dr. Haber recently used such a clip to successfully stop bleeding from the duodenum in a patient whose physicians had exhausted other treatment options and were preparing to perform surgery. “Often, stopping the bleeding has to do with how you find the source, as well as with making the necessary interventions to close the vessels,” says Dr. Haber. “It’s a combination of understanding the disease and knowing how to apply the clip.”

### NEW ADVANCED ENDOSCOPY FELLOWSHIP

will include

## training and mentorship

in the full range of innovative, state-of-the-art diagnostic and therapeutic advanced endoscopy procedures



↑ Gregory B. Haber, MD



↑ Endoscopic ultrasound of the upper gastrointestinal tract

### LARGE FLAT POLYP WITH HIGH-GRADE DYSPLASIA REMOVED BY ESD

Dr. Haber is much sought after for his expertise in a variety of techniques, including endoscopic submucosal dissection (ESD), which is used to treat premalignant and early-stage cancers of the esophagus, stomach, and colon. In the past, patients often underwent major surgery to remove these lesions. “Now, we can use high-definition optics and dissect the tumors millimeter by millimeter from the wall of the esophagus, stomach, and colon,” says Dr. Haber. It’s a meticulous technique; it can take four to eight hours to remove the cancer or premalignant lesion while preserving the organ’s integrity.

Recently, Dr. Haber was called in to review the case of an elderly male patient with a large polyp and high-grade dysplasia in the stomach who also had a history of coronary artery disease and two previous coronary stent placements. Upper endoscopy and ultrasound had revealed a large, superficial, spreading lesion along the lesser curve of the stomach. The entire gastric polyp measured 13 x 10.5 cm. With the patient seeking to avoid a gastrectomy as a way to prevent progression to cancer, Dr. Pochapin consulted with Dr. Haber and it was decided that Dr. Haber would perform an ESD.

In the procedure, Dr. Haber first inserted an endoscope through the esophagus to the stomach and cauterized the borders of the lesion to define the resection margins of the tissue. Hyaluronic acid was then injected to raise the lesion and obtain an appropriate resection cushion. After obtaining a proper lift of the periphery of the lesion, Dr. Haber began the dissection, working from the periphery to the center. He used several dissection devices throughout the procedure, including

an electro surgical knife, a hook knife, and an insulated tip knife, and he cauterized several bleeding vessels. After completing the dissection, he placed three resolution clips in the center of the submucosal defect and cauterized scattered vessels with a hot biopsy forceps. The procedure took approximately eight hours to complete. At a recent follow-up visit, the patient had increased appetite, weight, and energy and his biopsies tested negative for *Helicobacter pylori* and any residual tumor or dysplasia. The patient’s condition continues to be monitored with surveillance upper endoscopy.



↑ (Top row from left) pre-pyloric stomach; 2nd portion of the duodenum; gastric polyps  
(Bottom row from left) 2nd portion of the duodenum; 2nd portion of the duodenum; gastric polyps



## Mining the Secrets of Pancreatic Cancer

At Perlmutter Cancer Center, collaborative teams are revealing how pancreatic cancer cells use the process of autophagy to their advantage.

The subject of the 2016 Nobel Prize in Physiology and Medicine was the discovery of mechanisms for autophagy, a fundamental cellular process that has been shown to be critical in normal physiology and disease.

“Autophagy plays a key role in a variety of biological processes, including tumor growth and survival,” says Alec Kimmelman, MD, PhD, professor of radiation oncology and chair of the Department of Radiation Oncology. “Our research has demonstrated how autophagy contributes to pancreatic cancer growth and how targeting this pathway may be an effective therapeutic approach.”

In 2016, a multi-institutional research team led by Dr. Kimmelman discovered that pancreatic ductal adenocarcinomas (PDAC), one of the most aggressive and lethal of all cancers, engage neighboring cells and use autophagy to supply them with nutrients. The finding appeared in the August 25, 2016, issue of *Nature*.

Their study was the first to reveal that pancreatic cancer cells send signals to stellate cells, a type of supporting cell in the pancreatic environment, causing

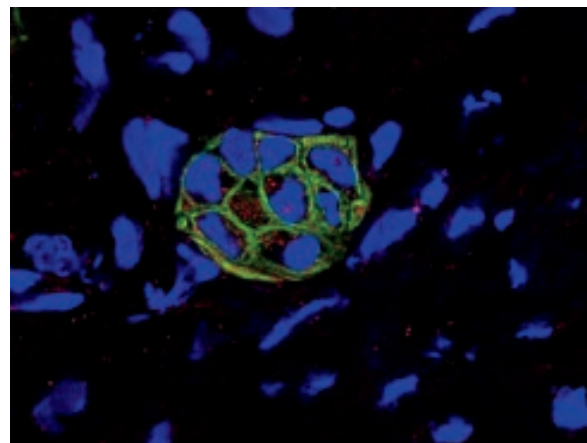
them to break down their own cell parts into various building blocks, including the amino acid alanine. The research team established that the PDAC cells specifically use the amino acid alanine as a fuel source when sugars like glucose become scarce in the nutrient-poor tumor microenvironment. When researchers selectively disrupted autophagy in the stellate cells using mouse models, tumor growth was largely blocked.

“This work establishes the existence of a new kind of metabolic crosstalk between pancreatic cancer and stellate cells,” says Kimmelman. “Understanding this unique metabolism may allow us to design approaches to impair the ability of these tumors to grow and survive.”

Dafna Bar-Sagi, PhD, professor of medicine, biochemistry and molecular pharmacology, and senior vice president, vice dean for science, and chief scientific officer at NYU Langone, had previously found that pancreatic cancer cells create vesicles on their own surfaces to capture nutrients nearby, pulling them into the cells in a process called macropinocytosis. Dr. Bar-Sagi and Dr. Kimmelman are now working collaboratively to determine if macropinocytosis and autophagy cooperate to deliver scavenged proteins and lipids to lysosomes in starving cancer cells. If so, then targeting both processes simultaneously might be a new therapeutic strategy for this usually fatal disease.

*“Our findings are the first to show that cancer cell death via necroptosis can actually promote tumor growth, as it suppresses the body’s immune response against the cancer”*

—George Miller, MD



↑ Human PDAC tumors show co-expression of CXCL1 (red) and CK19 (green; a marker of PDAC) by confocal microscopy

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## How Pancreatic Cancer Shields Itself from the Immune System

Two separate but complementary studies from Perlmutter Cancer Center have revealed that pancreatic cancer cells employ multiple mechanisms to shield themselves from attempts by the immune system to destroy them.

Pancreatic cancers are known to be complex and resistant to immunotherapy approaches that have shown success in other types of cancer. By using a mouse model to study the complex interplay of pancreatic cancer cells and immune cells in the tumor microenvironment, George Miller, MD, the H. Leon Pachter, MD Associate Professor of Surgery and associate professor of cell biology, and his research team discovered that some tumor cells undergo a specific type of orchestrated cell death termed necroptosis. Paradoxically, as these cells die, they help ensure survival of the remaining cancer cells—and even accelerate their growth.

The team's report, published in the journal *Nature*, pinpoints specific proteins released during necroptosis that attract tumor-associated macrophages, which reduce the immune system's ability to recognize and destroy the cancer.

"The phenomenon of apoptosis, or programmed cell death, is well known and very important in cancer,

but necroptosis had never been studied in this context. Our findings are the first to show that cancer cell death via necroptosis can actually promote tumor growth, as it suppresses the body's immune response against the cancer," says Dr. Miller, the study's senior investigator and co-leader of the Cancer Immunology Program at the Perlmutter Cancer Center.

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*"Perlmutter Cancer Center's seamless approach to pancreatic cancer care brings together basic science and multidisciplinary expertise across medical, surgical, and radiation oncology. These powerful clinical and scientific collaborations, help optimize treatment options and connect patients with novel clinical trials."*

*—Elliot Newman, MD*

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↑ Dafna Bar-Sagi, PhD, and Alec Kimmelman, MD, PhD

### INVESTIGATING NEW THERAPIES

Dr. Miller is now collaborating with Deirdre J. Cohen, MD, medical oncologist and assistant professor of medicine, to investigate the anticancer potential of an investigational compound that inhibits necroptosis. The team is exploring the possibility of a clinical trial that would combine a necroptosis inhibitor with immunotherapy.

Another team, led by Dr. Miller and surgical resident Donnele Daley, MD, identified a specific subset of T cells called  $\gamma\delta$  T cells that prevent other tumor-fighting T cells from attacking pancreatic tumors, possibly explaining why immunotherapy hasn't produced meaningful outcomes. The September 8, 2016, paper, published in *Cell*, demonstrated that unless  $\gamma\delta$  T cells—which make up 40 percent of T cells in pancreatic tumors—can be blocked, immunotherapy will have limited impact on the disease.

Further complicating the situation, B cells, a critical part of the adaptive immune response and potential ally in targeting tumors for destruction, have the opposite effect in pancreatic cancer. In the March 2016 issue of *Cancer Discovery*, Dr. Bar-Sagi and her Perlmutter Cancer Center colleagues reported that certain B cells

recruited to pancreatic tumors secrete the growth-promoting substance IL-35, resulting in tumor cell proliferation. The findings, say Dr. Bar-Sagi, point to new treatment approaches that target this subset of B cells.

### SMOKING CHANGES MICROBIOME

Separately, Dr. Ahn and colleagues recently completed the most comprehensive study to date examining how smoking alters the bacterial species that live in the mouth. Smoking drastically alters the oral microbiome, which may have health effects that we are only beginning to understand, according to Dr. Ahn. This finding appeared in the *International Society for Microbial Ecology Journal* in March 2016. "Further research will be needed to determine whether oral microbiome changes triggered by smoking influence subsequent risk of developing cancer," says Dr. Ahn.

Pancreatic cancer protects itself from destruction by the immune system, according to a series of

## groundbreaking RESEARCH STUDIES

by Perlmutter Cancer Center researchers  
(published in *Nature*, *Cell*, and  
*Cancer Discovery* in 2016)

# >700

different bacterial species colonize  
the human oral cavity, known collectively  
as the oral microbiome  
(*Gut*, published online 10/14/16)

Pancreatic tumors treated with high-dose radiation were filled with

## macrophages and T cells

which indicated an immunosuppressive  
tumor microenvironment  
(June 2016 issue of *Gastroenterology*)

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## M-CSF Blockade May Unlock Radiation's Potential for Pancreatic Cancer Treatment

Radiation therapy has characteristically provided modest benefits to pancreatic cancer patients, and increasing its efficacy could dramatically improve outcomes. A collaborative research project between the departments of Radiation Oncology and Surgery may have uncovered a critical mechanism behind this treatment's inefficacy: radiation-induced local immune suppression. The mouse study, published in June 2016 in the journal *Gastroenterology*, revealed that pancreatic tumors treated with high-dose radiation were filled with macrophages and T cells that indicated an immunosuppressive tumor microenvironment.

Examination of pancreatic tumor cells treated with radiation showed increased production of macrophage colony-stimulating factor (M-CSF), a chemical signal that induces macrophage proliferation. When researchers inhibited this signal by administering M-CSF antibodies in combination with radiation, tumor response to radiation therapy was dramatically increased. The role of M-CSF was further demonstrated by transferring T cells from irradiated tumors to untreated control mice, which caused an increase in tumor growth that researchers could again harness using M-CSF blockade.

To further assess the blockade's effectiveness, the M-CSF antibodies were administered at the time of radiation therapy, which reversed the typical progression of invasive cancer development from pancreatic neoplasia and induced a fibrotic reaction in pancreatic normal tissue. This blockade reduced both the development of new cancers from radiation exposure and the degree of radiation-induced fibrosis.

"This blockade is a targeted therapy that has the very exciting potential to improve the therapeutic effect of radiation for pancreatic cancer patients," says Kevin L. Du, MD, PhD, assistant professor of radiation oncology and co-senior study investigator.

To build on these results, the team is now collaborating with Deirdre J. Cohen, MD, a medical oncologist, to explore the possible launch of a clinical trial combining radiation therapy and an M-CSF inhibitor for patients with pancreatic cancer, says George Miller, MD, the study's senior author, the H. Leon Pachter, MD Associate Professor of Surgery, associate professor of cell biology, and co-leader of the Cancer Immunology Program.

### MOUTH BACTERIA LINKED WITH PANCREATIC CANCER RISK

A simple spit sample might help identify people at greater risk of developing pancreatic cancer. While the link between poor oral health and pancreatic cancer has been known for some time, recent research by Jiyoung Ahn, PhD, associate professor of population health and environmental medicine, and associate director of Population Sciences at Perlmutter Cancer Center, and her team ties certain oral bacteria directly to disease risk—and could help flag patients for screening. The findings were presented at the American Association for Cancer Research annual meeting in April 2016 and appear online in the October issue of the journal *Gut*. Using oral wash samples obtained from healthy

patients who ultimately developed cancer, along with data from two prospective cohort studies—the American Cancer Society Cancer Prevention Study II and the NCI Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial—the team showed that participants carrying the bacteria *Porphyromonas gingivalis* and *Aggregatibacter actinomycetemcomitans* had at least twice the risk of developing pancreatic cancer. Both varieties of bacteria have also been tied to periodontal disease. In contrast, the bacterial family *Fusobacteria*, and its genus *Leptotrichia*, was associated with decreased risk of pancreatic cancer.



## Weight Loss Options Highlight a Path to Lifelong Health

Recent research at NYU Langone offers some of the first insights into the potential for bariatric surgery and endoscopic procedures to help patients maintain weight loss and enjoy better health throughout their lives.

Surgery can be a successful treatment option for morbidly obese patients, but there has been little research on whether it's effective over the long term.

"It's very important to look at what happens to people 10 years after surgery because that tends to dictate their lifelong health," says Christine Ren-Fielding, MD, professor of surgery and chief of the Division of Bariatric Surgery. "We've found that surgery really gives people the best chance of living a healthy life compared with diets and other lifestyle interventions alone."

### HIGHLIGHTING LONG-TERM OUTCOMES

Over the past year, Dr. Ren-Fielding has led two major studies looking at long-term outcomes following major weight loss surgery. Following are some of the highlights of their findings:

- After 10 years, 134 patients who underwent Roux-en-Y gastric bypass surgery had a mean excess weight loss of 59 percent, along with significant improvements in blood pressure, lipid panel, and hemoglobin A1c. In addition, there were notable remission rates in hypertension and hyperlipidemia (46 percent) and diabetes (58 percent). The study was published in the January 2016 issue of *Surgery for Obesity and Related Diseases*.
- Adolescents who underwent laparoscopic adjustable gastric band surgery showed significant improvements in liver function two years after undergoing surgery. Nonalcoholic fatty liver disease (NAFLD) scores decreased by an average of .68 after one year and .38 after two years among teens who showed evidence of the disease prior to surgery. The findings were published in the March–April 2016 issue of *Surgery for Obesity and Related Diseases*.



↑ Christine Ren-Fielding, MD

### METABOLIC SURGERY FOR DIABETES

Metabolic surgery has been shown to reduce or eliminate symptoms of type 2 diabetes, but patients must have a body mass index (BMI) higher than 35 kg/m<sup>2</sup> to qualify under current federal guidelines. Recent research at NYU Langone/NYC Health + Hospitals/Bellevue makes a case for lowering that threshold and also identifies a potential biomarker for predicting which patients would be mostly likely to benefit.

"Our research suggests that earlier surgical intervention is better in terms of long-term outcomes for patients with type 2 diabetes," says Manish Parikh, MD, associate professor of surgery, director of Bariatric Surgery at Health + Hospitals/Bellevue, chief of Perioperative Services at Bellevue, and assistant professor of population health. "Yet metabolic surgery is not an option for the millions of patients who have BMIs less than 35," he says.

Dr. Parikh led a 2014 study, published in *Annals of Surgery*, showing that surgery led to much higher remission rates after six months compared with medical

weight management in patients with diabetes and BMIs between 30 and 35 at baseline. The researchers also found an association between higher concentrations of the soluble form of receptor for advanced glycation end products (sRAGE) in the blood and greater weight loss.

More recently, Dr. Parikh and colleagues reported three-year follow-up data on the same cohort of patients. They found a 63 percent diabetes remission rate in the surgery group, compared to zero in the weight management group, and an association between higher baseline sRAGE and better outcomes after surgery.

Surgery was effective in promoting remission of diabetes in 63 percent of patients with BMIs between 30 and 35. Interestingly, diabetes remission was not dependent on weight loss, the authors note, suggesting that sRAGE may be an independent predictor

of improvement. The findings were published in the January 2016 issue of *Surgery for Obesity and Related Diseases*. Dr. Parikh is now planning a larger randomized trial to follow up on the findings. “We now know that metabolic surgery can be very effective in treating diabetes in patients with BMIs below the traditional cutoff,” he says. “Our studies also bring up the intriguing possibility that sRAGE may hold clues to the underlying mechanisms of diabetes remission.” ERAS pathways are in place for patients undergoing elective colon and rectal surgery and bariatric surgery. “We have seen a significant reduction in the time patients spend in the hospital after surgery, as well as reduced rates of infection, and lower readmissions,” says Paresh Shah, MD, professor of surgery and vice chair of surgery for quality and innovation.

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## New Minimally Invasive Alternatives for Weight Loss

NYU Langone surgeons Christine Ren-Fielding, MD, and Bradley F. Schwack, MD, and gastroenterologists Seth A. Gross, MD, and Violeta B. Popov, MD, PhD, are helping to pioneer the burgeoning field of bariatric endoscopy to treat obesity and its associated complications, such as diabetes.

“Obesity is associated with metabolic disease and increased cardiovascular risk,” notes Dr. Popov, assistant professor of medicine. “Bariatric surgery is often more effective than lifestyle changes or pharmacotherapy, and bariatric endoscopy offers additional minimally invasive options.”

For eligible patients, several alternative endoscopic techniques are available at NYU Langone, including:

**INTRAGASTRIC BALLOONS** (IGBs) are silicone-filled single or double balloons placed in the stomach via endoscopy for up to six months, restricting oral intake and delaying gastric emptying. The devices have resulted in up to 15 percent weight loss in overweight patients, with minimal adverse events.

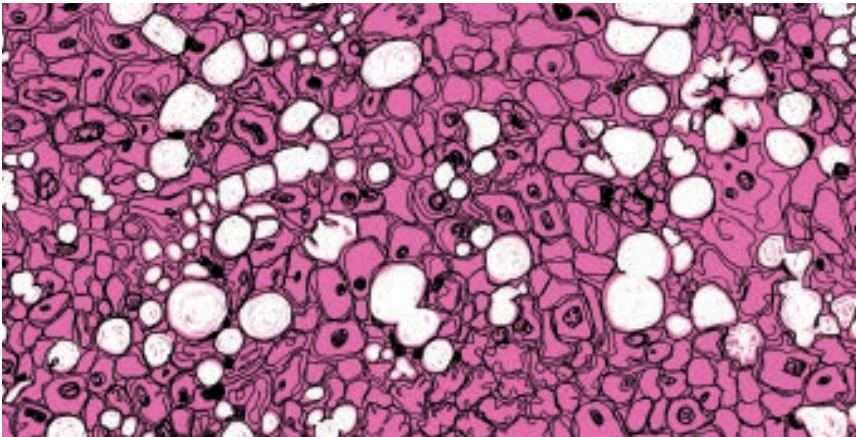
**ENDOSCOPIC GASTROPLASTY** is a minimally invasive alternative to surgical gastroplasty. Endoscopic sutures are placed along the stomach from the antrum

to the fundus in order to restrict food intake. In contrast to surgery, the procedure often does not require an overnight stay in the hospital, and patients typically resume their normal diet in one to three days.

**ENDOSCOPIC ASPIRATION THERAPY** involves endoscopic placement of a gastrostomy tube, or “A” tube, attached to a connector valve and an aspiration device. Aspiration occurs about 20 minutes after meals and typically results in 30 percent of calories removed. The process can be performed in the outpatient setting and typically takes less than an hour.

## intra gastric balloons

may be an effective short-term treatment for  
nonalcoholic fatty liver disease  
(September 2016 issue of  
*Digestive Diseases and Sciences*)



#### EMERGING ENDOSCOPIC TREATMENTS FOR DIABETES

Looking ahead, several experimental endoscopic therapies are being evaluated for their potential to control the progression of type 2 diabetes and nonalcoholic fatty liver disease (NAFLD). These interventions are aimed at improving liver function and reversing insulin resistance. Our goal is to identify safe and effective minimally invasive options for patients with diabetes, NAFLD, and obesity.

#### IGBs HELP KEEP WEIGHT OFF

In a paper published at *Digestive Disease Week 2016*, Dr. Popov and her colleagues conducted a review of more than 600 studies examining the impact of IGBs on obesity-related comorbidities. Adults enrolled in the studies had baseline BMIs of between 30 and 66 and kept the IGB devices inserted for up to six months.

They found that IGBs resulted in greater weight loss as well as higher reductions in fasting glucose levels, blood pressure, and waist circumference, compared with controls. Dr. Popov has also looked at whether patients were able to maintain weight loss over time following IGB procedures. In a review of the data, she reported that excess weight loss ranged from 38 percent at balloon removal to 24 percent after 18 months. “IGBs are effective at inducing long-term weight loss, although patients tend to regain some of the weight over time,” she says.

#### IMPACT ON LIVER DISEASE

Dr. Popov also led a meta-analysis on the effect of IGBs on liver enzymes, the first study of its kind. She and her colleagues concluded that the therapy could be an effective short-term treatment for

non-alcoholic fatty liver disease (NAFLD), although more research is needed. The study is published in the September 2016 issue of *Digestive Diseases and Sciences*.

Obesity is associated with increased risk of NAFLD, the most common form of liver disease in the United States for which there are few treatment options. In the study, Dr. Popov and colleagues pooled data from clinical trials that measured changes in liver enzymes before and after IGB therapy. They found that IGB placement improved markers of liver disease, including liver enzymes and hepatic steatosis by ultrasound or in liver biopsy specimens in overweight and obese patients.

Obesity is a chronic disease that requires long-term multidisciplinary management encompassing endoscopic therapies as well as lifestyle changes, medications, and surgery.

“In our study, IGB was sufficient to lower liver enzymes by almost 30 percent,” says Dr. Popov. “This approach is potentially more effective than medications or lifestyle changes alone and offers minimally invasive endoscopy in addition to surgical options.”

Ultimately, successfully treating obesity and related conditions calls for a multipronged approach, says Dr. Popov.





# Education & Knowledge Development

INNOVATION, ANALYTICS, AND COLLABORATION YIELD  
EXCELLENCE ACROSS A GROWING FOOTPRINT OF CLINICAL CARE  
AND RESEARCH ENVIRONMENTS.

↑ Elliot Newman, MD; Alexis L. Grucela, MD; Mitchell A. Bernstein, MD; and Steven M. Cohen, DO



## A Continuum of Learning Opportunities

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Mentorship, professional development, and continuing medical education are hallmarks of NYU School of Medicine.

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### First-Rate Research Near and Far

**AS A DOCTORAL STUDENT AT BROWN UNIVERSITY, NATIVE NEW YORKER VICTORIA RUIZ, PHD**, studied the body's immune response to *Helicobacter pylori* and its role in gastric cancers. When it came time to select an institution for her postdoctoral work, she opted for NYU School of Medicine.

"The choice," she says, "made perfect sense. Martin J. Blaser, MD—one of the top scientists studying *H. pylori*—is here."

She joined researchers at the Blaser Lab in investigating the human microbiome. Now in her fourth postdoctoral year, she studies the effects of early-life antibiotic use on the microbiome and immune function.

"It's a great lab to be a part of," she says. "I always wanted my research to have direct health implications, and this is it."

**GOING GLOBAL.** Leaders of the SSO and the ESSO convened a Joint Global Curriculum Committee co-chaired by SSO representative Russell S. Berman, MD, chief, Division of Surgical Oncology, Perlmutter Cancer Center [SSO Executive Council member and past chair of SSO's Training Committee] and ESSO President Riccardo A. Audisio, MD, to develop a global curriculum for surgical oncology education and training to address global variations in training and standards. "It is my fervent hope that this proposed global curriculum in surgical oncology will serve as a major step forward in our international efforts to address the continued dramatic rise in the global cancer burden," said Dr. Berman.

### CME: Save the Date

#### **BIG GUT SEMINARS\***

##### **Day 1: Focus on Complex Inflammatory Bowel Disease**

*Friday, March 31, 2017*

*Location: NYU Langone Medical Center  
New York, New York*

Course directors:

*David P. Hudesman, MD*

*Lisa B. Malter, MD*

*Feza Remzi, MD*

##### **Day 2: Focus on Complex Colorectal Disease**

*Saturday, April 1, 2017*

*Location: NYU Langone Medical Center  
New York, New York*

Course directors:

*Mitchell A. Bernstein, MD*

*Seth A. Gross, MD*

*Gregory B. Haber, MD*

*Elliot Newman, MD*

Provided by NYU Post-Graduate Medical School

\*This activity has been approved for  
AMA PRA Category 1 Credit™

#### **MULTISPECIALTY ROBOTICS COURSE**

##### **Robotic General and Colorectal Surgery: A Team Approach**

*October 6–7, 2017*

*Location: NYU Langone Medical Center*

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**[cme@nyumc.org](mailto:cme@nyumc.org)**

**[med.nyu.edu/cme](http://med.nyu.edu/cme)**

## Ongoing Research Grant Support Highlights

Listed by Principal Investigator

### → GEORGE MILLER, MD

#### **National Institutes of Health / R01 CA168611**

“Toll-Like Receptor Regulation of Pancreatic Tumorigenesis”  
04/01/13–03/31/18

#### **National Institutes of Health / R01 DK106025**

“Dectin-1 Regulates Chronic Liver Fibro-Inflammatory Disease”  
08/01/16–07/30/19

#### **National Institutes of Health / R01 CA206105**

“Regulation of Pancreatic Oncogenesis by the Gut Microbiome”  
01/01/17–12/31/21

#### **National Institutes of Health / T32 CA193111-01**

“Research Training for Physician-Scientists in Gastrointestinal Oncology”  
07/01/15–06/30/20

#### **Pancreatic Cancer Action Network—AACR Innovative Grant**

“Regulation of Pancreatic Tumorigenesis by Necroptosis”  
07/01/14–06/30/16

#### **Society of Surgical Oncology Clinical Investigator Award**

“Modulation of Tumor-Promoting Influences of  $\gamma\delta$  T Cells in Pancreatic Carcinoma in a Phase II Clinical Trial Utilizing Perioperative Gemcitabine + Nab-Paclitaxel”  
04/01/15–03/30/17

#### **Cancer Center Developmental Program Project (NCI P30CA016087)**

“Modulation of Tumor-Promoting Influences of  $\gamma\delta$  T Cells in a Phase Ib Clinical Trial Utilizing Novel Immunotherapy Regimens for Advanced Pancreatic Carcinoma”  
09/01/15–08/31/16

#### **Hirshberg Foundation for Pancreatic Cancer Research Seed Grant**

“ $\gamma\delta$  T Cell-Mediated Immune Suppression in Pancreatic Oncogenesis”  
11/01/15–10/31/16

#### **NYU Langone Office of Therapeutic Alliances**

“Depletion of  $\gamma\delta$ T Cells in Invasive Murine Pancreatic Ductal Adenocarcinoma”  
11/01/15–10/31/16

#### **Incentive Award—NYU Office of Science and Research**

“Gamma Delta T Cell Mediated Immune Suppression in Pancreatic Oncogenesis”  
4/01/16–03/31/17

#### **NYU Langone Office of Therapeutic Alliances**

“Galectin-9 Neutralization in Invasive Murine Pancreatic Ductal Adenocarcinoma”  
4/01/16–07/30/16

### → JIYOUNG AHN, PhD

#### **National Institutes of Health / R01 CA164964**

“Prospective Study of Oral Microbiome with Pancreatic Cancer”  
09/01/14–06/30/18  
Role: Co-Investigator

### → LENA TOMKOETTER, PhD

#### **German Research Foundation (Federal Career Development Award)**

“The Role of  $\gamma\delta$  T Cells in Pancreatic Tumorigenesis”  
09/01/14–08/31/17

### → DONNELE DALEY, MD

#### **Schwartz Research Fellowship in GI Oncology**

“The Role of Necroptosis in the Development and Progression of Pancreatic Cancer”  
07/01/14–06/30/16

### → ALEJANDRO TORRES-HERNANDEZ, MD

#### **NYU Langone Physician-Scientist Training Program**

“Syk Signaling in Liver Fibrosis”  
07/01/15–06/30/16

#### **American Liver Foundation Postdoctoral Fellowship Award**

“Role of GM-CSF in Liver Fibrosis”  
07/01/15–06/30/16

#### **Society of University Surgeons Resident Research Award**

“Role of GM-CSF in Liver Fibrosis”  
05/01/15–04/31/16

#### **CTSI Training Program in Clinical and Translational Research**

“Syc Regulation of Liver Fibrosis”  
07/01/16–06/30/17

### → MAUTIN HUNDEYIN, MD

#### **American Society of Colon and Rectal Surgery Research Grant**

“Role of Dectin-1 in Ulcerative Colitis and Colon Cancer”  
10/01/15–09/30/16

### → BERK AYKUT, MD

#### **German Research Foundation (Federal Career Development Award)**

“The Role of  $\gamma\delta$  T Cells in Pancreatic Tumorigenesis”  
07/01/16–06/30/18

### → LEA ANN CHEN, MD

#### **American Gastroenterological Association-Takeda Pharmaceuticals International Research Scholar Award in Gut Microbiome Research**

“Microbial Predictors of Clinical Response to Biologic Therapy in IBD”  
11/01/15–07/31/18

### → ILSEUNG CHO, MD

#### **Doris Duke Charitable Foundation**

“Hypermethylation as a Microbiome-Mediated Epigenetic Phenomenon in CIMP(+) Colorectal Cancers”  
07/01/14–06/30/17

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# Select Publications

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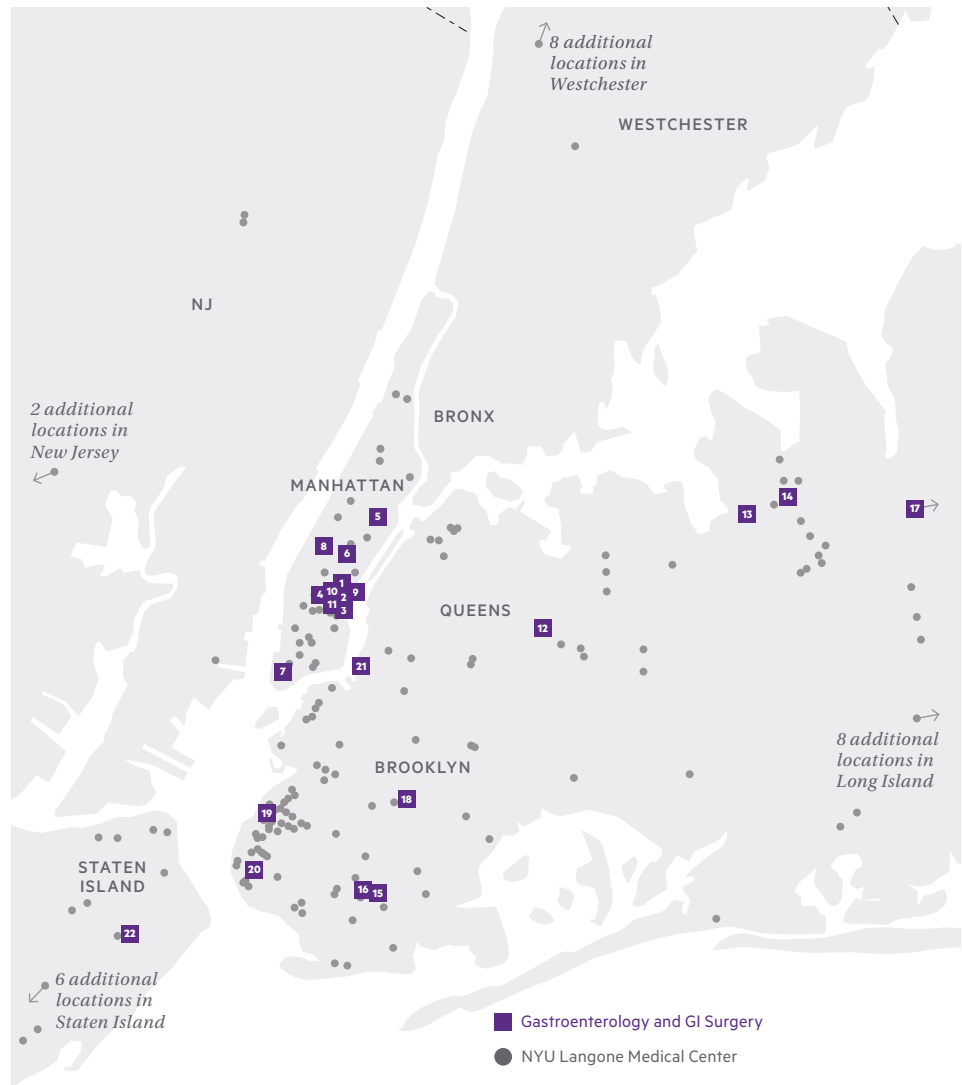
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## **Mark B. Pochapin, MD**

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*Vice Chair of Quality and Innovation*

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*Chief of Medicine, Tisch Hospital*

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*Gastroenterology Section Chief, VA NY*  
*Harbor Healthcare System—Manhattan*  
*Director, Gastroenterology*  
*Fellowship Program*

**Hillel Tobias, MD, PhD**

Clinical Professor of Medicine and Surgery  
*Medical Director, Liver Transplant*

**Gerald A. Villanueva, MD**

Clinical Associate Professor of Medicine  
*Gastroenterology Section Chief,*  
*NYC Health + Hospitals/Bellevue*

**Elizabeth H. Weinshel, MD**

Professor of Medicine  
*Director, Gastroenterology Faculty*  
*Development, Mentorship, and*  
*Leadership Program*

.....  
**Transplant Institute**

**Robert Montgomery, MD**

Professor, Department of Surgery  
*Director, NYU Langone Transplant Institute*

**Nabil N. Dagher, MD**

Associate Professor, Department of Surgery  
*Chief, Abdominal Transplant Surgery*  
*Director, Transplant Surgery Fellowship*

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Development and Learning

## NYU Langone By the Numbers\*

<b>1,519</b> Beds	<b>100</b> Operating Rooms	<b>145,907</b> Emergency Room Visits	<b>68,602</b> Patient Discharges	<b>3,850,000</b> Outpatient Faculty Practice Visits	<b>9,649</b> Births	
<b>3,584</b> Physicians	<b>4,899</b> Nurses	<b>574</b> MD Candidates	<b>80</b> MD/PhD Candidates	<b>233</b> PhD Candidates	<b>397</b> Postdoctoral Fellows	<b>1,472</b> Residents and Fellows
<b>4,381</b> Original Research Papers**	<b>550,500</b> Square Feet of Research Space	<b>\$334M</b> NIH Funding	<b>\$328M</b> Total Grant Revenue			

\*Numbers represent FY16 (Sept 2015–Aug 2016) and include NYU Lutheran  
\*\*Calendar year 2015



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On the cover: Cross section of large intestine



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