JOHNS HOPKINS
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NEWS FROM THE JOHNS HOPKINS
DIVISION OF GASTROENTEROLOGY AND HEPATOLOGY

JOHNS HOPKINS MEDICINE

New, Endoscopic Approaches to Weight Loss

Overweight and obesity continue to be chronic problems in the United States, affecting about two-thirds of adults. Even though bariatric surgery can be a very effective long-term weight loss solution, only a fraction of those who need to lose weight qualify for this intervention—and of those, about 1 to 2 percent choose bariatric surgery over other weight loss methods.

For many patients considering weight loss surgery, says **Vivek Kumbhari**, Johns Hopkins' director of bariatric endoscopy, the invasive nature of Roux-en-Y gastric bypass and other traditional bariatric surgical techniques is undesirable. More conservative weight loss methods, such as medication, diet and exercise, typically aren't effective for most who try them.

"Until recently," Kumbhari says, "there hasn't been anything in between medical therapies and traditional bariatric surgery. That's where endoscopic weight loss surgery comes in."

Kumbhari and registered nurse **Margo Dunlap** run the Johns Hopkins Concierge Weight Loss Program, a clinic that offers several endoscopic options for weight loss. These procedures, which aren't yet covered by insurance, offer ways for patients to potentially lose between 5 and 20 percent of their total body weight. The program's close partnership with the Johns Hopkins Weight Management Center helps ensure that patients' results continue for the long term.

On a patient's first visit to the clinic, Kumbhari and Dunlap take a detailed medical history, including past weight loss attempts and how successful they were. They then present all possible options, including several types of gastric balloons that are placed in the stomach and retained for six months. These devices occupy space, helping patients eat less at mealtimes. They also slow stomach emptying, so those who receive the procedure feel less hungry between meals. Weight loss from the technique averages between 12 and 15 percent of a patient's total body weight.

Another option is endoscopic sleeve gastroplasty, in which sutures hold the walls of the stomach closer together, decreasing its volume by up to 70 percent. Like balloons, this technique helps patients eat less. Hormonal changes that aren't yet well understood also contribute to decreasing appetite. Together, these effects lead to an average weight loss of 20 percent of total body weight.

Some patients choose another option in which botulinum toxin is injected into the stomach muscle, leading to a feeling of prolonged fullness. This method results in an average weight loss of 5 to 10 percent of total body weight. Although this method doesn't have results as dramatic as other options, it's also the least invasive, Kumbhari says.

Although each of these procedures can kick-start weight loss, Kumbhari explains,

(continued on back cover)

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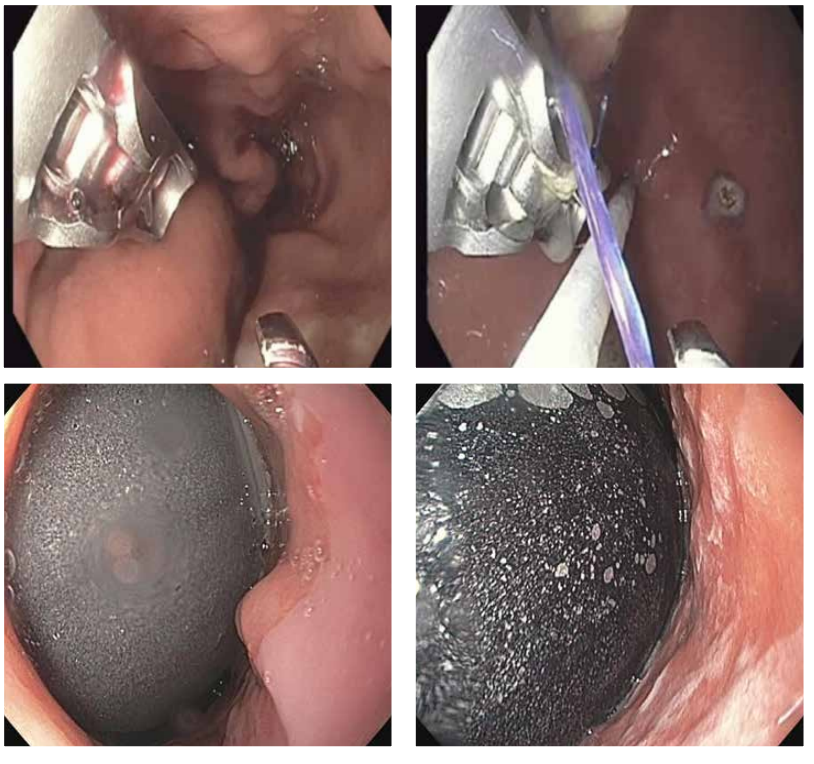
—VIVEK KUMBHARI

Vivek Kumbhari and Margo Dunlap lead the Johns Hopkins Concierge Weight Loss Program.



Top row, medical images: Endoscopic sleeve gastroplasty can reduce stomach volume by up to 70 percent. Bottom row: Endoscopic balloons placed in the stomach for a period of six months can reduce hunger and lead to a loss of 5 to 20 percent of body weight.

Listening Versus Hearing

There's a difference between listening to our patients and really hearing them.

In this issue of *Inside Tract*, you'll meet Vivek Kumbhari, our specialist in endoscopic weight loss. Dr. Kumbhari spends a great deal of time paying attention to his patients and their needs. He not only listens to their reasons for having difficulty losing weight, he hears those reasons. Dr. Kumbhari, along with our concierge weight loss staff, crafts programs based on what he learns from patients. No two patients are exactly the same; therefore, neither are their weight loss plans.

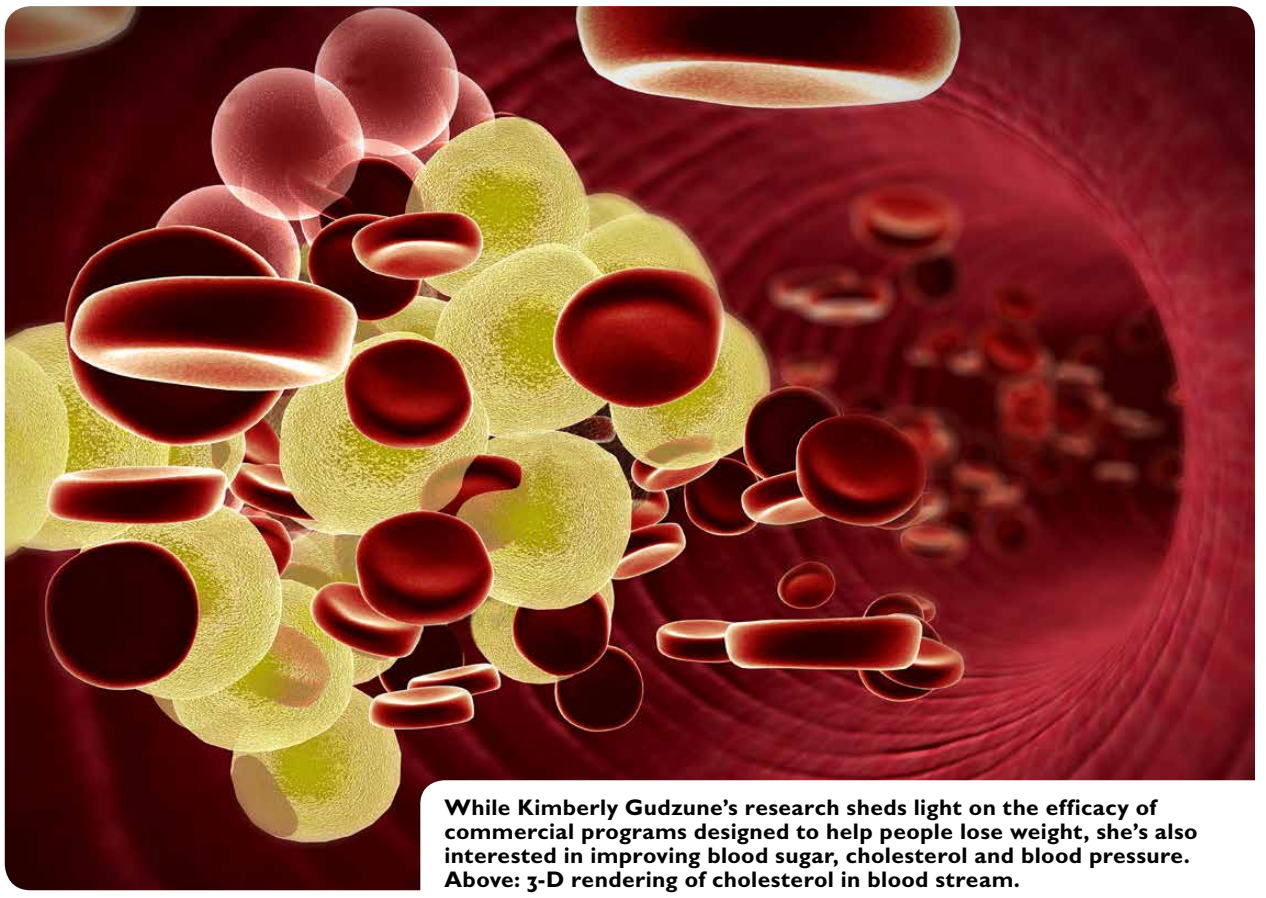
Kimberly Gudzune has become a leader in the burgeoning field of obesity medicine because of her superior clinical skills, her tireless innovative research, and her ability to hear and understand her patients. Obesity is an intimate topic, full of opportunities for patients to feel vulnerable and unsafe. Dr. Gudzune's patients know she's not only providing them great care; they also know she understands them.

Our story on Ellen Stein's work with patients suffering from fecal incontinence also demonstrates a deep sensitivity and compassion. Patients are often too embarrassed to mention this problem, even to their physician. Dr. Stein's approach has helped so many of her patients with this difficult problem. "By asking the right questions," she says, "I hear answers that they haven't told to other people or that they've been too ashamed to say."

Patient trust is about confidence not only in their providers, but in the institution overall. Eun Ji Shin led a critical push to make sure that our endoscopes are microbe-free. After an outbreak of antibiotic-resistent bacteria at a West Coast medical center, Dr. Shin redoubled Johns Hopkins' commitment to the cleanest, safest patient environment possible. I'm pleased to report that her efforts, along with those of our entire division, have allowed us to avoid these problems.

I hope you enjoy this edition of *Inside Tract*. As always, if you have any questions or any patient referrals, I hope you'll contact me.

Tony Kalloo, Director
Division of Gastroenterology and Hepatology
Johns Hopkins University School of Medicine



While Kimberly Gudzune's research sheds light on the efficacy of commercial programs designed to help people lose weight, she's also interested in improving blood sugar, cholesterol and blood pressure. Above: 3-D rendering of cholesterol in blood stream.

Commercial Diets Short on Science

Americans looking to lose a few pounds face a dizzying array of options when it comes to commercial diets. From meal substitutes to low-carbohydrate diets, the options can seem overwhelming.

In the interest of providing physicians better information on these programs, obesity expert **Kimberly Gudzune** has published several journal articles on commercial weight loss programs over the past few years. Taking a close look at 32 major commercial weight loss programs, she and her research colleagues have discovered that very few of them are scientifically sound.

In a comprehensive study published last year in the *Annals of Internal Medicine*, Gudzune led a team of researchers to comb through 4,200 studies of commercial diets, searching for evidence of their effectiveness. Their finding: Only a few dozen were up to acceptable scientific standards.

Gudzune's study suggests that few commercial weight loss programs can claim their users lose more weight than people not using the programs.

"We wanted to provide primary care physicians with up-to-date scientific information on these programs since, more and more, they're the ones giving advice on weight loss," she says. "It's important that they can find research that is as current as possible."

The study found that, of 32 major commercial weight loss programs marketed nationwide, only 11 had been rigorously studied in randomized controlled trials. And of those studies, only two programs—Jenny Craig and Weight Watchers—were supported by gold-standard data showing that participants, on average, lost more than dieters not on the program.

But weight loss is only one part of a healthy outcome, says Gudzune. "I also want to see blood sugar and cholesterol improve, and blood pressure go down."

In several journal articles since the study, she and her team of Johns Hopkins researchers found that even fewer commercial diets pay attention to these other indicators of health.

"A1Cs are also important," says Gudzune. In patients without diabetes, they saw few signs of encouragement outside marginal weight loss. But in patients with diabetes, there were some encouraging results.

"A few of the programs had glycemic-lowering benefits for people with type 2 diabetes," she says, pointing out Jenny Craig, Nutrisystem and Optifast in particular. ■

BACKGROUND PHOTO COURTESY OF UCONN RUDD CENTER FOR FOOD POLICY & OBESITY

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—KIMBERLY GUDZUNE

Evolving Practices for Endoscope Hygiene

When a U.S.-based hospital saw a rash of patient illnesses and deaths due to "superbug" infections from inadequately cleaned duodenoscopes, gastroenterologists at The Johns Hopkins Hospital put their scopes on lockdown.

"There were patients who died because they contracted these antibiotic-resistant infections," says gastroenterologist **Eun Ji Shin**. "It turned out these so-called superbugs were being transmitted by duodenoscopes with recent modifications to the working tip, which allowed bacteria to persist even after the standard cleaning methods."

The most recent outbreak occurred on one particular model of the duodenoscope, a special scope that lets physicians see into the pancreatic and bile ducts via endoscopic retrograde cholangiopancreatography. When news of the outbreak was reported, the Johns Hopkins GI team immediately removed from its rotation the model of the scope associated with the infections.

"We swabbed them and tested them for any kind of microbe," says Shin, one of the leaders of the charge to ensure patient safety. "We were glad to learn that we had no infection here at Johns Hopkins."

Still, Shin says, they refrained from using that particular model of the scope until all cultures came back negative and rented multiple scopes of the other models to continue patient care in the meantime.

"A lot of patients need this procedure to survive," she says. "We had to find a solution, and we did—very quickly."

> "A LOT OF PATIENTS NEED THIS PROCEDURE TO SURVIVE. WE HAD TO FIND A SOLUTION, AND WE DID."
>
> —EUN JI SHIN

Shin says Johns Hopkins has, at a given time, 130 endoscopes of various kinds in its rotation. And with 14,000 endoscopic procedures a year, many of those scopes get used multiple times a day.

"Our cleaning room staff members go above and beyond the minimum standards," Shin says. "They and our nurses are certified regularly to make sure they're up on the latest methods."

Shin says scope cleaning happens in multiple stages.

"First, as soon as the procedure is done, the nurse or the technician manually wipes down the scope with an antimicrobial solution right there in the procedure room and shoots a detergent through the channels," she says. "The quicker you can do that, the less chance there is for any infection."

The scopes then go to the cleaning room for the full disinfecting and flushing.

"When the problem happened, we got calls from a lot of other hospitals, asking us how we were handling our scopes," she says. "We were happy to try to help." ■

Fecal Incontinence: Helping Patients Regain Control

Johns Hopkins gastroenterologist **Ellen Stein** focuses on caring for patients with complex motility disorders. As one of the relatively few women in her specialty, her practice tends to attract female patients. She's often the first doctor they've ever told about their fecal incontinence.

"Doctors sometimes hint at it, but oftentimes patients can't bring themselves to talk about what happens to a lot more people than they suspect," she says. "By asking the right questions, I hear answers that they haven't told to other people or that they've been too ashamed to say."

Many of these patients are women who gave birth when episiotomies or forceps births were more common, or those who had tearing with births of larger children. Consequently, with age, they often suffer from pelvic floor weakness that impacts multiple systems, including the bowel.

The consequences can be devastating, Stein says. Many patients with incontinence issues have accidents multiple times a day, spurring the need to bring several changes of clothes everywhere they go. For those who work, having even a single accident can affect their professional lives. Eventually, she says, leaving the house can become too difficult. "Their quality of life plummets," Stein adds.

To treat these patients, Stein starts with a complete workup. This always include a rectal exam to investigate a patient's anatomy and reflexes, anorectal manometry to determine muscle strength, and in some cases, a dynamic pelvic MR defecography to assess for structural problems, such as a rectocele or prolapse. Once a problem is detected, she works closely with other specialties, including physical therapy, gynecology and urogynecology, to develop a personalized treatment plan.

> "BY ASKING THE RIGHT QUESTIONS, I HEAR ANSWERS THAT THEY HAVEN'T TOLD TO OTHER PEOPLE OR THAT THEY'VE BEEN TOO ASHAMED TO SAY."
>
> —ELLEN STEIN

On the opposite end of the spectrum, she and her colleague **Shreya Raja** also recently presented some initial data at a Digestive Disease Week meeting on an anxiety-related condition known as shy bowel disorder, or parcopresis. Similar to the better-known shy bladder disorder, or paruresis, sufferers have trouble initiating bowel movements in public restrooms—and many can't have bowel movements anywhere other than the familiarity of their own homes. By developing a better understanding of how this condition is connected to other aspects of mental and physical health, she and other physicians can develop better treatments.

In the future, she says, her research might be able to further customize treatment for patients based on a factor that's received little direct attention in health care thus far: personality. Based on a growing body of research suggesting that personality characteristics play a role in health, Stein and her collaborators are in the early phases of looking for connections between various aspects of personality and bowel disorders—research that could not only assist with diagnoses, but also with tailoring interventions.

"Motility disorders can be extremely debilitating," she says. "When we help patients regain control, they get their lives back." ■

New, Endoscopic Approaches to Weight Loss *(continued from front cover)*

none are effective on their own. That's why, before patients undergo any of them, they meet with experts at The Johns Hopkins Weight Management Center, directed by gastroenterologist **Larry Cheskin**. A team composed of dieticians, behavioral psychologists, exercise physiologists and Cheskin helps patients begin their journey and continue it over the next year.

"We're used to seeing patients who have tried very hard to lose weight, sometimes for decades," Kumbhari says. "Through our practices, we're now able to offer patients a broader range of options than they've ever had before." ■

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Inside Tract is one of many ways the Johns Hopkins Division of Gastroenterology and Hepatology seeks to recognize and enhance its partnership with its thousands of referring physicians. Comments, questions and thoughts on topics you would like to see covered in upcoming issues are always welcome.

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