The Johns Hopkins Center for Bariatric Surgery
Offering Options to Fit Every Patient
When the Johns Hopkins Center for Bariatric Surgery at the Johns Hopkins Bayview Medical Center opened in 1997, the procedure for safe and effective weight-loss surgery was virtually limited to the Roux-en-Y gastric bypass. Today, Roux-en-Y remains the gold standard for bariatric surgery in the United States, yielding a loss of 67-75% of excess weight in most patients during the first 18 to 24 months. More importantly, 80% of patients with type 2 diabetes experience normalization of their blood sugar and are able to come off their medications after losing the weight. About 90% of sleep apnea patients experience complete resolution. Hypertension, urinary stress incontinence, high cholesterol and other comorbidities also improve.

“Gastric bypass is probably the most common operation done in the United States today,” says Thomas Magnuson, M.D., Director of the Bariatric Surgery Center and Chief of General Surgery at Bayview.

The laparoscopic Roux-en-Y is basically the same as the open procedure, creating a small pouch and then bypassing most of the stomach by bringing up a Roux limb and sewing it to the gastric pouch. Food is transported away from the large portion of the stomach that has been separated from the pouch and the first part of the intestine. Over the years, the procedure has not changed; only the approach has changed.

“Through research, we are learning that the segments of the stomach and intestine that are bypassed appear to have a lot of hormonal control that most likely helps gastric bypass patients keep the weight off,” says Michael Schweitzer, M.D., associate professor of surgery, Johns Hopkins University, Director of Minimally-Invasive Bariatric Surgery and Co-director of Minimally-Invasive Surgery at Johns Hopkins Medical Institutions.
MORE SURGICAL OPTIONS

Patients looking to achieve a high degree of weight loss but wanting to eat more calories per day may be candidates for a laparoscopic duodenal switch with biliopancreatic diversion. The amount of weight lost is similar to or better than the results with gastric bypass. However, this operation brings with it a significant component of malabsorption. The duodenal switch preserves the pylorus of the stomach, which controls the emptying of the stomach and prevents patients from experiencing “dumping syndrome.” The average weight loss with duodenal switch is 75–85% of excess weight at two years.

“Malabsorption of vitamins and nutrients is more significant with duodenal switch. Therefore, it’s important for patients to follow up with their surgeon and their primary care physician,” says Dr. Schweitzer. “Patients need to be highly compliant with postoperative vitamins and nutrition, more so than with any other operation.”

The least invasive option is laparoscopic adjustable gastric banding (AGB or LAP-BAND) — so named because a silicone band with an inner balloon is used to create a restriction around the stomach. There is no cutting of the bowel in this operation. The band has a port that sits in the subcutaneous tissue and is filled with saline to create a feeling of fullness.

“Patients with the LAP-BAND must be very compliant in order to be successful with it,” says Kimberley Steele, M.D., assistant professor of surgery, Johns Hopkins University. “They must return to the clinic for adjustment of the band and for band fills.” Weight loss with the LAP-BAND is between 30 and 50% of excess weight.

A newer procedure, still being reviewed by the surgical community, is laparoscopic sleeve gastrectomy. “We say it’s new but it is part of the duodenal switch procedure,” says Steele. “Basically, we make the stomach a long, thin tube. Like the LAP-BAND, the sleeve gastrectomy is also just a restrictive procedure; there is no malabsorption involved. By removing the greater curve of the stomach, we reduce the capacity of the stomach. This procedure has been described in patients who are extremely obese as a two-part procedure. Sleeve gastrectomy is the first part and then, once they lose some weight, we convert to a Roux-en-Y gastric bypass or duodenal switch.”

A CENTER OF EXCELLENCE

The American Society for Bariatric Surgery has designated the Johns Hopkins Center for Bariatric Surgery at the Johns Hopkins Bayview Medical Center a “Bariatric Center of Excellence” based upon its overall excellent outcomes, high clinical volume and dedication to the care of bariatric patients. “There is a strong effort nationally to have a center show good outcomes and commitment,” Dr. Magnuson says. “Being named a ‘Center of Excellence’ assures our patients that we have a demonstrated track record of safety, efficiency and overall positive surgical results.”

The Center’s approach to bariatric surgery includes not only its expert surgeons — Thomas Magnuson, M.D.; Michael Schweitzer, M.D.; Kimberly Steele, M.D.; and Anne Lidor, M.D., assistant professor of surgery at the Johns Hopkins School of Medicine — but also a team of specialists in psychiatry, nutrition, and plastic surgery, to educate and support patients through the entire weight-loss process.

“A multidisciplinary approach is important in bariatric surgery — from the extensive pre-op workup, including psychiatric and dietary evaluations, to the lifelong post-op follow-up,” Dr. Magnuson says. “Often, a surgeon will operate and see a patient once. We explain to our patients that this is a lifetime thing. We’ve been doing this for 10 years, so we regularly see patients that are 10 years post-op, and we continue to drag them back in! Actually, they are usually very eager to come back and show off how much weight they’ve lost and how much their medical problems have improved.”

COMING FULL CIRCLE

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Skin redundancy — rashes, hygiene problems due to sweating, pain from skin bunching, or difficulty exercising because the excess skin is disabling when they try to run or swim. “People come in with back pain; some have baseline osteoarthritis or lumbar disc disease,” says Michele Shermak, M.D., associate professor of plastic surgery at the Johns Hopkins School of Medicine and chief of the Division of Plastic Surgery at the Johns Hopkins Bayview Medical Center. “The greatest enticement for plastic surgery is the cosmetic aspect and we try to bring the weight-loss treatment to completion. As in breast reconstruction after cancer surgery, is treatment really done when the disease is taken care of? What about the body issues? The biggest thing we can do for our patients is improve their self-esteem and body image. We work on the body from head to toe, front and back, because different people have different problem areas. It’s very individualized.”

Patients who are relatively young and lose a lot of weight also lose much of the fatty tissue in the face. “This is analogous to the aging process,” Dr. Shermak points out. “If you lose the fullness in the face, you lose that youthful appearance. We work on the hanging skin in the neck area and the lack of fullness in the cheek area. We also work on the arms, chest, upper and lower back, abdomen and thighs, where there is deflation and excess skin.”

While it may not be comparable in importance to the resolution of comorbidities like diabetes, hypertension and other obesity-related medical conditions, body image is becoming a topic of serious consideration in the bariatric medicine community. Dr. Shermak is currently working with Dr. Varsha Vaidya, assistant professor of psychiatry at Johns Hopkins Center for Bariatric Surgery, on a study of body image and self-esteem issues that may appear around the time of massive weight loss. “Improvement of body image empowers patients to be more confident,” Dr. Shermak says. “The confidence they project is the image the public perceives. After body-contouring surgery, improved body image translates to an individual who is more active and successful within both the public and professional realms.”

Safety issues surrounding plastic surgery following massive weight loss are extremely important to consider. These include correct positioning in the OR to avoid nerve compression, protection against significant blood loss, appropriate hydration, and movement of patients who are at risk for blood clots. “Procedures can be quite lengthy,” Dr. Shermak says. “To put it very broadly, the safety issues relate to the patient’s overall medical issues as well as to the operation itself. For this reason, it is very important to only refer patients to a board-certified plastic surgeon who has experience in bariatric cases.”

BETTER THAN EVER

About 5% of operations done at the Center involve revision of previous bariatric procedures. “Some of the older operations for obesity may require revision because patients regain the weight,” Dr. Magnuson says. “We will convert an old stomach stapling to a gastric bypass in most of these cases. Our current operations, including gastric bypass, duodenal switch, sleeve gastrectomy and LAP-BAND surgery, all result in excellent and durable weight loss with excellent long-term outcomes.”

Even though it’s a major operation, bariatric surgery in general is reasonably safe. “We’ve done more than 1,600 gastric bypass procedures with less than a 0.2% mortality,” Dr. Magnuson says. “That’s pretty low, considering that many of our patients are pretty sick to begin with. The risk of a major complication such as a bowel leakage or pulmonary embolism is also less than 1%.”

Bariatric procedures of the future will include endoscopic techniques that avoid abdominal incisions. Dr. Schweitzer was the first in the world to publish a technique for endoscopic stomach reduction using transoral endoscopic suturing. He is currently investigating endoscopic techniques to do a sleeve gastrectomy without making any skin incisions.