



TURNING POINTS

Personal Stories of Transformation and Triumph

 ETHICON ENDO-SURGERY, INC.
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BARIATRIC **EDGE**SM

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Paul Franer • INNOVATION

themselves were able to verbalize them.

➤ The team started out by observing surgeons as they performed bariatric procedures, noticing areas where the trocar had potential to advance. "As surgeons were dealing with more advanced cases, it became apparent that what they needed was something they didn't have,"

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says Franer. "That was our job: to take care of what surgeons needed and evaluate how to deliver it while going above and beyond their expectations." ➤ As bariatric cases were becoming more complex, with larger-sized patients dealing with health problems and comorbidities, Franer and his team saw the need for a trocar design that could allow surgeons to work more efficiently. "Sometimes the surgeons thought they were asking for the impossible,"

says Franer. "They'd say: 'It would be great if the trocar could do this, but I don't know how you'd do it.'" ➤ Through research, fieldwork, and numerous discussions with leading bariatric surgeons, Franer and his team were able to isolate three areas to focus innovation: retention, or the trocar sleeve's ability to stay

in place within the abdominal wall; a reduction in drag force, allowing for more precise movement; and one-handed insertion, freeing up the surgeons to work more effectively. ➤ Meeting the first challenges was purely a matter of physics. During an operation, it's critical that the sleeve doesn't slip out when the surgeon pulls out an instrument. Also, when surgeons are inserting instruments through the sleeve, if the drag force is too strong, the

FOR PAUL FRANER'S WORK ON THE ENDOPATH® XCEL™ TROCAR, HE RELIES ON INSIGHTS GLEANED FROM HOURS SPENT OBSERVING

bariatric surgeons and talking with them about their needs. ➤ When Franer joined Ethicon Endo-Surgery, Inc. as head of the development team for the ENDOPATH Xcel trocar, trocar technology was at a turning point. First developed for use in cholecystectomy, the original trocar was finding application in more complicated bariatric procedures, where surgeons use a wider range of instruments, passing them through the trocar as many as 100 times. In studying the trocar's application throughout various procedures, particularly bariatric surgery, his team recognized the potential to optimize the device. ➤ Always a problem solver, Franer embraced the task of creating a new trocar, knowing that if he and his team took the time to immerse themselves in the field, they could not only deliver solutions to wow even the most experienced bariatric surgeons, but they also could anticipate needs before the surgeons

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resistance it creates means the surgeon can't be as exact. ➤ Franer and his team went back to the drawing board to find ways around these issues. "We did a lot of research and development, a lot of prototyping, using new materials, new manufacturing techniques, and new designs," he says. "We were able to see if

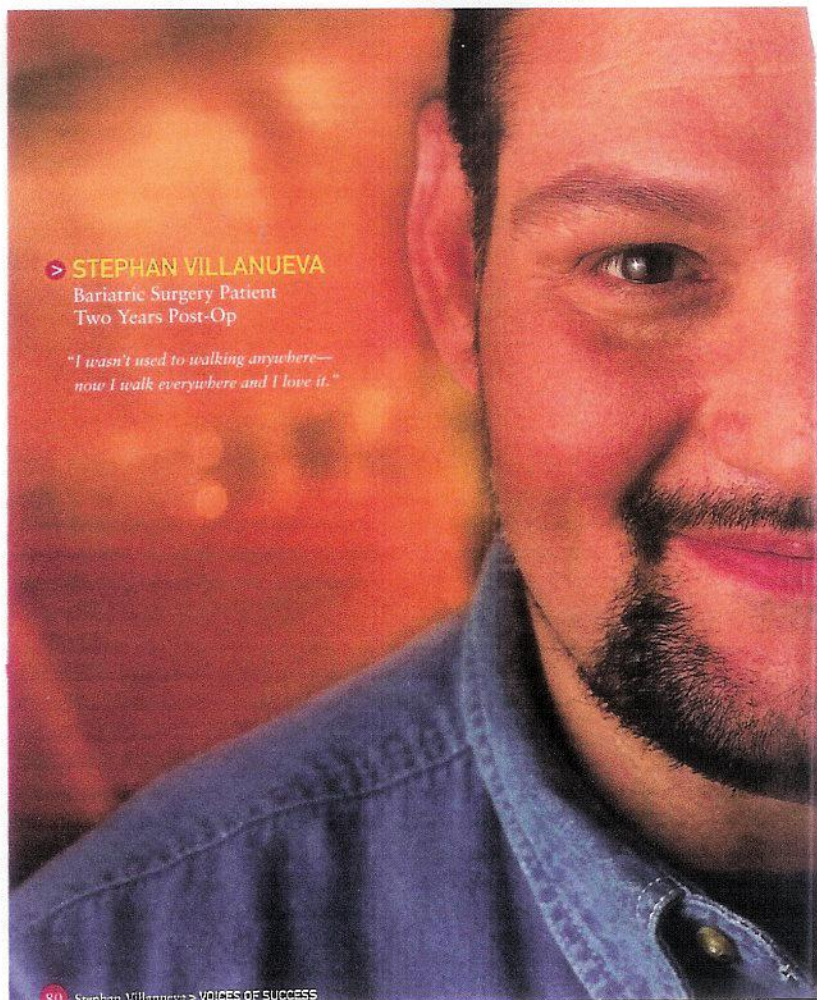
engineering team that it was something they needed." ➤ Coming up with a way to design the one-handed insertion was the team's biggest challenge yet, and it involved taking some creative risks and pushing the envelope. The answer proved to be an unconventional design of the seals on the trocar. "It took a bit of science and research for us to come up with the operating characteristics—it was a departure from what we had been doing with seals," Franer explains. ➤ But his intuition paid off. "In test cases, the response from surgeons has been overwhelming," he says. His role as a design engineer, he says, is to make the trocar as inconspicuous as possible, so that the surgeon only has to think about it twice—at the beginning and at the end. "We're going to get to the point where the trocar is not a second thought to the surgeon."

➤ That end goal continues to drive Franer as he explores next-generation solutions. "The sky's the limit," he says. For Franer, taking on the role of surgeon advocate and anticipating surgeons' needs is just business as usual. *"We solve problems—that's just what we do."*



something was going to work fairly quickly." That ingenuity and quick thinking allowed them to find successful solutions to both the retention and the drag-force reduction issues. ➤ One of the real innovations, however, was something even the surgeons didn't expect. "We never had a request for one-handed insertion," Franer says. "Surgeons didn't think to ask for it. But observing procedure after procedure, it was pretty obvious to the





> STEPHAN VILLANUEVA

Bariatric Surgery Patient
Two Years Post-Op

*"I wasn't used to walking anywhere—
now I walk everywhere and I love it."*

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hunting. An auto mechanic for the New York City police department, Stephan had a hard time maneuvering under the hood of a car. And when he would go to the mall with his daughter, he moved from bench to bench,

going to a support group, he also met with surgeons. One surgeon said that Stephan was too large for a laparoscopic procedure and would have to undergo an open procedure instead. "His bedside manner was terrible,"

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unable to walk more than a few steps at a time. He was profoundly unhappy. "My quality of life was zero," he says. Of course, he had tried to lose weight dozens of times. But he was trapped in the cycle of losing 50 pounds only to gain back 75—nothing worked. It was his endocrinologist who first suggested gastric bypass surgery. "He said if I didn't do it, I wouldn't make it to my 40th birthday," says Stephan, who was 37 at the time. "And I believed him." Stephan began researching the gastric bypass procedure; in addition to

Stephan says. That experience taught him that doing research—especially when it involves making a huge life change—is key. "You should never take the first opinion," he says. Then, one evening, he saw a television special on gastric bypass surgery featuring a local surgeon. After undergoing several evaluations—both physical and psychological—and attending educational seminars about the procedure, Stephan had his laparoscopic gastric bypass surgery performed in November 2002. He lost

WHEN STEPHAN LOOKED 40 IN THE EYE, HE DIDN'T LIKE WHAT HE SAW REFLECTED. BETWEEN SPECIAL ORDERING SIZE 72 PANTS, TAKING 14 PILLS A DAY, AND RESTING ON A BENCH AFTER EVERY 15 STEPS,

the Bronx native knew it was time to make a change—for good. Stephan's father passed away at the age of 41 from a massive coronary. Suffering from diabetes and high blood pressure and weighing in at 575 pounds, Stephan feared he would meet the same fate. He had struggled with weight gain his entire life. By the time he was in the sixth grade, he weighed 27 pounds and wore size 48 pants. Meanwhile, his brother—who had a diet almost identical to Stephan's—never gained weight. Stephan learned early on that life wasn't fair. Then at age 31, he was diagnosed with diabetes. "After 30, it was all downhill," he says. He started taking medications for diabetes, high blood pressure, and depression—and then more medications to counter the side effects of those. Before he knew it, he was up to 14 pills a day.

His large size made a lot of things he enjoyed difficult, such as airplane travel, fishing, and

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weight quickly—100 pounds in the first four months—and as soon as he was able, began walking. "Walking and drinking water are two really important things they emphasize," he says. "I wasn't used to walking anywhere—



now I walk everywhere and I love it." Stephan is down to 310 pounds; his goal weight is around 275 pounds. Now he's getting ready to start the next phase—trying to lose the excess skin. Stephan now rides his bike to work, walks for miles at auto swap meets, and goes hunting and fishing—things he wasn't able to do before. "I had tried to fish once, but I had to stand in the middle of the boat so I wouldn't tip it over," he says. The little things are sometimes the sweetest—such as riding a roller coaster with his daughter—because they

are things thin people just take for granted.

His diabetes has disappeared completely and his blood pressure and cholesterol levels have come way down. Not only is he healthier than before, but he no longer has to pay outrageous out-of-pocket amounts for prescription drugs. And for the first time in adult life, Stephan can shop in a regular store for clothes—another major cost savings.

Whenever he gets the chance, Stephan enjoys talking to prospective gastric bypass surgery patients. He understands their struggles, but he knows what waits on the other side. "I tell them it takes a lifelong commitment and they have to be prepared," he says. He knows gastric bypass surgery isn't a miracle cure. "It's not a solution by itself, but it's a tool," he says, comparing it to the tools he uses to fix cars. Just as a tool used improperly can't make a car run, gastric bypass surgery in itself can't fix the problem. He has accepted responsibility for making right eating choices, and he admits that he has had to make sacrifices. "But what have to give up is nothing compared to what you get," he says. "It doesn't even compare."



> TITUS DUNCAN, MD. FACS
Bariatric Surgeon

"I want everyone who needs gastric bypass surgery to have access to it."

BARIATRIC SURGEON DR. TITUS DUNCAN HAS LONG BEEN AN ADVOCATE FOR TREATING OBESITY AS A SERIOUS AND COMPLICATED DISEASE, EVEN AS HIS PEERS REJECTED SURGICAL OPTIONS. A PIONEER IN THE

field of bariatric surgery, his commitment to helping streamline laparoscopic surgery is eclipsed only by his commitment to the community. ➤ When Dr. Duncan became a surgeon in 1983, he took notice of the bariatric procedures being performed at the time. These were the days before laparoscopic technology, when gastric bypass surgeries were performed as open procedures. He hesitated, however, because of the complications involved in open procedures, such as internal hernias—which almost always required opening the patient up again.

➤ But in 1989, laparoscopic technology revolutionized the way surgeons performed procedures, starting with gallbladder surgery. "I remember the first time I witnessed a laparoscopic gallbladder surgery," Dr. Duncan says. "Everyone thought it was crazy, but I knew it was the wave of the future." ➤ That foresight also allowed Dr. Duncan to become an early advocate for laparoscopic gastric bypass surgery, which minimized the invasiveness and recovery times. "It was just catching on then," he says. "Even my chief of surgery wasn't sure about it."

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➤ But Dr. Duncan was sure. All he had to do was look around his own African-American community in Atlanta, where obesity was rampant. Convincing the community, as well as his surgical peers, that gastric bypass surgery was an effective tool—and he always prefers to define it as a tool rather than a solution in and of itself—for reducing comorbidities and saving lives was an uphill battle from the very start, he says. "There's this belief that to control your weight, all you need

"PATIENTS GET THEIR LIVES BACK," DR. DUNCAN SAYS. "AND THEY ARE SO APPRECIATIVE—AS A PHYSICIAN, YOU LIVE FOR THAT."

to do is push away from the table," he says. But that's an overly simplistic answer to a complex problem. "I saw people in my community suffering from a disease process that no one was paying attention to, and suffering from high blood pressure, heart disease, and diabetes."

➤ Still, within the African-American community, the idea of using surgery to control weight was a taboo topic. But thanks to educational efforts by surgeons, including Dr. Duncan and other pioneers, that perception is starting to shift—both in the African-American community and the wider

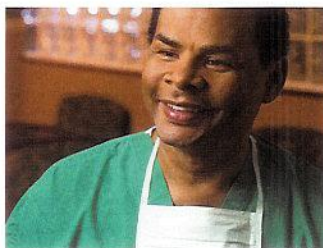
medical community. "It's taken lots of centers across the country doing lots of good things to bring about a shift in thinking," he says.

➤ One thing that has helped convince people on the fence is the scientific data that's been collected

about postoperative patients—especially the fact that the surgery can resolve diabetes. Anecdotal evidence, such as patients' individual stories, also has helped turn the tide. "Patients get their lives back," Dr. Duncan says. "And they are so appreciative—as a physician, you live for that." As someone who has performed more than 1,600 laparoscopic gastric bypass surgeries, Dr. Duncan has the gratitude of many thankful patients who were close to losing hope before they met him.

➤ In fact, patients' success stories always have been one of Dr. Duncan's strongest motivations,

such as the 31-year-old, 750-pound woman who came to see him. She couldn't walk or function on her own, and all other surgeons had turned her case down because of her size. "She was so young, but she had no life," he says. "I had to



try to help her." Six months post-op, the woman was down to 480 pounds. By one year, she had dropped 500 pounds, and weighed in around 250 pounds. Now she walks and swims, and is one of Dr. Duncan's star patients. ➤ Dr. Duncan credits such dramatic, life-changing results to the strength of his aftercare program. Led by a medical bariatrician, the aftercare program is the most important component of follow-up care, he says. Post-op patients work with a team of healthcare providers, including an exercise physiologist, a nutritionist, and a psychologist, to implement

lifestyle changes, lose fat, gain muscle, and keep the weight off for good. ➤ Though the public has begun to accept and embrace bariatric alternatives, unfortunately, the tide seems to be turning the other way in the insurance world. Insurance reimbursement and access to care are the biggest challenges patients face these days, according to Dr. Duncan. Ultimately, insurance reimbursement will determine the fate of obese people who can't afford the procedure, but can't effectively fight the disease without it.

➤ "I want everyone who needs gastric bypass surgery to have access to it, but that's not the reality," he says. For a man so committed to saving lives in his own community, that's heartbreaking. Dr. Duncan isn't giving up, though; instead, he and fellow bariatric surgeons have lobbied insurance companies strongly, holding educational seminars, explaining how gastric bypass procedures actually can wind up saving the insurance companies money in the long term. *"These patients are special. And they have a statement to make,"* Dr. Duncan says.

Now he just needs to make sure the right people are listening.



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