

Robotic surgery lowers risk of a rare but serious complication of gastric bypass

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The use of a robot to assist with the most commonly performed weight-loss surgery appears to significantly lower a patient's risk of developing a rare but serious complication, according to a study published in the most recent edition of the *Journal of Robotic Surgery*.

Minimally-invasive surgeons at The University of Texas Medical School at Houston statistically analyzed operative times, length of hospital stay and complications in 605 patients who either underwent laparoscopic Roux-en-Y gastric bypass or the same procedure with the assistance of a robot at Memorial Hermann – Texas Medical Center.

The one significant difference that stood out was the gastrointestinal leak rate. None of the patients in the robotic-assisted surgery group experienced a gastrointestinal leak, while six in the laparoscopy group suffered this complication within 90 days after their surgery.

Other results were similar. Robotically-assisted surgery took only 17 minutes longer than the laparoscopic procedure. Hospital stays were an average of three days in both groups, and the overall complication rate was 14 percent, with fewer than 4 percent being classified as major complications among the two groups of patients.

"While robotic surgery may take slightly longer and be more costly to use than traditional laparoscopy, we believe that the improved outcome and decreased leak rates may offset the cost to some extent," said Erik B. Wilson, M.D., the study's senior author and director of the UT

Medical School at Houston's Minimally Invasive Surgeons of Texas group.

A gastrointestinal leak, which can occur when the small intestine is reconnected to a small pouch created in the stomach, often produces symptoms of abdominal and chest pain, shortness of breath, fever, nausea, vomiting and rarely death. In this five-year study, there were no deaths in either group, and the rate for both gastrointestinal leaks and other complications was slightly lower than what has previously been reported in scientific journals.

Lead author Brad E. Snyder, M.D., assistant professor in the Department of Surgery, said the robotic technique offers numerous advantages to bariatric surgeons, and these advantages may play a role in the reduced leak rate.

"The most important advantage is that the robot allows for precise, ambidextrous forehand and backhand suture placement," Snyder said. "The angles encountered during a laparoscopic gastric bypass are sometimes awkward and can make the surgical technique challenging. With the robot, this additional challenge is minimized and the bariatric surgeon can suture the area between the stomach and the section of the small intestine with confidence."

Wilson, medical director of the bariatric surgery program at Memorial Hermann – TMC, said another advantage of robotics is the clear, three-dimensional view of the operative field which allows the surgeon to better visualize tissue planes and place more precise sutures.

"As a result, there is improved surgical performance and lower leakage rates," Wilson said. "We believe this is the most important factor contributing to our zero percent leak rate. In addition, the robot allows us to work in tighter spaces, control our own camera and have a very steady

operative view even when magnified. Overall, we feel that this attribute gives us the ability to offer the safest, most effective surgery results for our patients who want to achieve successful, long-term weight loss."

Source: University of Texas Health Science Center at Houston

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