Body has holes; Can surgeons use them?

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An appendix pulled out through the mouth. A gallbladder removed through the vagina.

It almost sounds bizarre. But surgeons at a handful of medical centers across the country are performing these experimental procedures.

This type of surgery, which involves removing organs through natural body openings, could be available locally if a Nebraska Medical Center surgeon succeeds in making a device to improve the procedure.

The operation is intended to take the concept of minimally invasive surgery to the next level by further reducing pain and recovery times and leaving no visible scars. It's called NOTES, for natural orifice translumenal endoscopic surgery.

Dr. Dmitry Oleynikov, the medical center's director of minimally invasive surgery, said his hospital hasn't offered the procedure yet because he believes the available equipment is inadequate. Most of the roughly 30 such surgeries performed in the United States so far used endoscopes, or flexible tubes more commonly used for colon cancer screenings.

Oleynikov is developing a miniature robotic device that he says will make the surgery better for patients and closer to the goal of avoiding any cuts in the skin. Getting funds and federal approval for the device could take several years, he said.

Nationally, some surgeons have raised concerns about the new procedure, saying alternatives are available that are safe and only slightly more invasive, such as laparoscopic surgery.
Laparoscopic surgery typically involves three to six external incisions through the abdominal wall, although advances are being made allowing fewer and smaller incisions.

The goal of the new procedure: no incisions through that wall, although one external incision usually is required with existing equipment.

Key questions patients should ask before considering such surgery: How many times has a surgeon performed it? And what were the results?

Linda Qua of San Diego, Calif., underwent the procedure in May. A surgeon at the University of California San Diego Medical Center removed her gallbladder through her vagina.

At first, said Qua, 47, the procedure sounded "wild." But the more she thought about it, the more practical it seemed.

"It all made sense to go through an opening that is already there," she said.

She also bore the memory of surgery she had as a teenager to straighten her spine, and the painful recovery that followed.

"I knew what being cut open meant."

Qua's doctor told her that she could have her gallbladder removed laparoscopically or through the new procedure. The key advantage of the latter, he said, was a quicker recovery. He said the potential for infection and other risks were no greater than with laparoscopic surgery.

After the operation, Qua said, she had soreness in her stomach, but minimal and gone within seven days. She took low doses of a painkiller for two or three days.

She had no vaginal pain, she said, and had a good overall recovery without complications. Insurance covered the procedure, she added.

Dr. Charles Filipi, professor of surgery at Creighton University School of Medicine, said preliminary research on the new procedure has been done at Creighton. Although he was not aware of immediate plans to perform the procedure at Creighton University Medical Center, he predicted it would become a common way to remove gallbladders and appendixes.

"The public is always interested in less pain," he said.

Filipi said better instruments, such as the one Oleynikov is developing, are needed.
Still, issues are being raised about the surgery.

Dr. Ira Kodner, a surgery professor at Washington University School of Medicine in St. Louis, questions whether the benefits outweigh the risks. When the procedure is done through the mouth, one risk is the chance of infection from an incision that's made in the stomach wall to allow the endoscope to reach the gallbladder.

Dr. Nathaniel Soper, chairman of the surgery department at Northwestern University, said no major complications have been reported in the United States from the surgery. He has performed it himself and said a study beginning within the next year will compare it with laparoscopic surgery to assess risks and benefits.

Oleynikov said the new procedure could be performed safely with proper equipment. The device he's working on would be run by remote control and be equipped with a camera and tiny instruments. It would be more precise than an endoscope and wouldn't require an external incision, he said.

Most surgeons using an endoscope must make at least one external incision in the abdomen so a laparoscope can be inserted to help the surgeons see where they are working and sometimes to lift the organ being removed.

NOTES so far has been performed at a small number of centers, including Northwestern Memorial Hospital in Chicago.

Guidelines for conducting the procedure have been established by NOSCAR, the Natural Orifice Surgery Consortium for Assessment and Research. Soper said the guidelines call for the experimental procedure to be monitored by an independent panel of experts.

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