

# Taking the natural routes to limit scarring and pain

By Jeremy Manier | Tribune staff reporter

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The new surgical procedure being tried at Northwestern Memorial Hospital sounds a bit like that old threat about reaching down a guy's throat and pulling his heart out through his mouth.

Replace "heart" with "gallbladder," and the description works pretty well. Surgeons at the hospital lowered a tube down 44-year-old Albert Pagliuca's throat Aug. 31, removed his defective gallbladder through an incision in his stomach wall, and pulled it out through his mouth.

Only in the last few months have some American doctors attempted such "natural orifice" operations, in which the goal is to reduce surgical scarring, pain and recovery times by threading endoscopic instruments through a patient's existing openings. That means operating via the mouth, vagina, anus, navel or urethra.

The very thought might give some people the willies. But the prospect of being the first such patient in the Chicago area didn't faze Pagliuca, a wine buyer for a local hotel.

"I've had worse sore throats," Pagliuca said of the surgery's effects. "It was nothing."

Dana Johnson, who had her gallbladder removed through her vagina at the University of California at San Diego on Sept. 11, applauded the technique.

"I think it would be more gross to have it taken out of my mouth, but that's just me," said Johnson, 42.

## **Potential benefits uncertain**

No one knows how the potential benefits of such procedures will stack up against the risks. The biggest concern is infection following leakage from the internal incision. Before each operation, the Northwestern team and its collaborators at the Oregon Clinic in Portland spray the inside of the patient's stomach with antibiotics. To guard against missing a leak, they also insert a camera through an incision in the abdomen as they normally would do.

"Ultimately the goal is to do this without any [outside] incisions at all," said Dr. Eric Hungness, who led the Northwestern team along with chief of surgery Dr. Nathaniel Soper.

Experts see potential for such procedures beyond the 800,000 or so gallbladder removals performed each year. Similar techniques could be applied to weight-loss surgery, operations for acid reflux or other abdominal procedures that could be done with no outside scarring.

Although doctors say acceptance of the technique will be driven by patients, much of the impetus has come from the medical-devices industry, which has funneled more than \$1 million into research through a group called NOSCAR, the Natural Orifice Surgery Consortium for Assessment and Research. The company that made the equipment being used at Northwestern and in Portland is providing instruments at no cost for the study, which the researchers expect to include 25 patients.

"No doubt there's industry interest in this," said Dr. Lee Swanstrom, director of the Oregon Clinic's division of minimally invasive surgery. At the same time, he said, "If patients say they want this and will settle for nothing less, our responsibility is to do it in a safe way."

**'Not ready for prime time'**

Perfecting the technique and making it common may require more advances in medical equipment, said Dr. Irving Waxman, director of endoscopy at the University of Chicago. Waxman said his group has tested natural orifice surgery using animals in recent years but has not taken the step to operations on people.

"I think it has promise. I also think it's not ready for prime time," Waxman said.

To do such operations reliably, Waxman added, surgeons may need endoscopic instruments that are better able to close incisions or retract tissue -- tasks that remain difficult with current devices.

Another hurdle will be determining whether the natural-orifice technique actually improves patient outcomes, said Dr. Santiago Horgan, the surgeon who did Johnson's procedure at UCSD.

"We are seeing less pain from the patients so far, that's for sure," said Horgan, who moved to San Diego last year from the University of Illinois at Chicago. "The question is whether that trend will be maintained over time. We hope it will."

And while a survey of 192 patients at Northwestern and Oregon indicated that most would be receptive to natural-orifice surgery, 44 percent said they would choose more established methods. Some surgeons have been turned down by numerous patients before finding one willing to undergo the procedure.

"Some people are going to be averse," said Hungness of Northwestern. "But if you can do it safely, patients are interested."

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