

# Transvaginal NOTES®

*Opens New Avenues for Abdominal Surgery*

By Scott P. Edwards



Drs. Oz Harmanli, John Romanelli, David Desilets, and David Earle teamed up to perform transvaginal cholecystectomy NOTES®.

Nearly two years ago, a team of surgeons at Baystate Medical Center performed the world's first reported stapled NOTES® pancreatic pseudocystgastrostomy. In doing so, they not only saved the patient's life, but they opened up new avenues for next-generation minimally invasive abdominal surgery.

Since then, Baystate surgeons have become pioneers in the emerging field of NOTES®—Natural Orifice Transluminal Endoscopic Surgery—having removed three gallbladders transvaginally with this cutting-edge surgical and gastroenterological approach during the past year. Baystate was the first hospital in New England to offer NOTES® procedures.

NOTES® involves passing flexible surgical tools and a tiny camera through a patient’s natural orifice—generally the mouth, vagina, or rectum—to perform surgery, eliminating the need for skin incisions.

During the transvaginal cholecystectomy procedure, the surgeon passes an endoscope through the patient’s vagina and enters the abdomen behind the uterus. Tiny surgical tools are threaded through the endoscope, allowing the surgeon to remove the gallbladder through the vagina. The surgeon then closes the opening in the vagina.

This technique eliminates the biggest downside to abdominal surgery, says John Romanelli, MD, FACS, director of Bariatric Surgery at Baystate, “which is the abdominal incision itself.” He says that gallbladder removal was chosen as one of the first NOTES® procedures because of its relative simplicity and frequency.

“This new procedure offers advantages over traditional, open procedures,” says David Desilets, MD, Baystate’s chief of Gastroenterology. “It eliminates the potential for abdominal wall incisional hernias, and there is limited risk of wound infection. Plus, there’s no scarring, less pain, and a shorter recovery.”

## New Technique, Established Method

The transvaginal approach to cholecystectomy, says Dr. Romanelli, “has taken off the fastest” as opposed to an approach via the stomach because surgeons have been doing procedures such as vaginal hysterectomies for years.

Oz Harmanli, MD, Baystate’s chief of Urogynecology and Pelvic Reconstruction Surgery, notes that most of the hysterectomies he performs have long been through the vagina, with no external incision.

“Transvaginal hysterectomy with standard surgical instruments is an established surgical method; it’s not brand new,” he says. “It is considered superior to all other

hysterectomy approaches. However, transvaginal endoscopic surgery is new and exciting.”

## Looking Ahead

David Earle, MD, director of Minimally Invasive Surgery at Baystate, says that before the first NOTES® procedure was performed, NOSCAR®, the Natural Orifice Surgery Consortium for Assessment and Research, was established to serve as a “guide for the responsible development of NOTES®,” according to the organization’s website (noscar.org), identifying research questions and issues, bringing together thought leaders to guide the technology, and training surgeons.

Because NOTES® is so new, a track record of positive results has not yet been developed. Baystate is participating in a NOSCAR®-funded study, the first in the world to try to determine if transvaginal NOTES® gallbladder removal offers cosmetic, pain, recovery, and quality of life benefits over laparoscopic cholecystectomy.

As NOTES® continues to catch on—fewer than 100 of the procedures have been done in the United States so far, according to Dr. Romanelli—surgeons at Baystate say this approach has not yet reached the level of a paradigm shift in surgery. One of the biggest obstacles to physicians increasing the effective use of NOTES® as a surgical option is the lack of sufficient tools to perform the surgery.

Dr. Romanelli says that new NOTES®-specific surgical instruments have not been introduced since the first procedures were performed four years ago. “Surgeons are using 20th century tools for a 21st century procedure,” he says.

Dr. Earle believes that with more surgeons now performing laparoscopic surgery through one port rather than the traditional four, the industry will “ultimately be motivated to make the tools necessary for NOTES®.” Dr. Desilets agrees, saying that NOTES® has yet to change how surgeons perform abdominal surgery, adding that such a change is anywhere from five to ten years away.

## Refer a Patient

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