

Taking NOTES: A Q&A with Surgeon Santiago Horgan, MD

By Jackie Carr | October 27, 2017

Surgeons at UC San Diego Health are looking for ways to take the cutting edge out of surgery by making operations incision-less. The trick is to operate through natural body openings, such as the mouth. Almost a decade ago, [Santiago Horgan, MD](#), chief of minimally invasive surgery, pioneered a national trend to explore a new way of doing surgery that turned the traditional way of doing things upside down, or rather inside out. Today, these scar-free surgeries are an option for patients in need of operations such as appendectomy and cholecystectomy.



Question:

What kinds of surgeries can be performed through the mouth or other natural body

openings?

Answer: There are a variety of common surgeries that can be performed without incisions in the abdomen. For example, we can perform the removal of diseased appendixes and gallbladders through the mouth. The technique is called Natural Orifice Translumenal Endoscopic Surgery

(NOTES) and was pioneered at UC San Diego Health almost a decade ago. UC San Diego was with first health system in the United States to remove an appendix through the mouth. It was a phenomenal experience for the patient, who was able to avoid multiple incisions, and who experienced no pain.

Q: One of the most notable advantages of scarless surgeries is, as you note, less pain. What other benefits exist for patients?

A: What we are seeing is that patients recover more quickly from natural orifice surgery. Less time in the hospital means more time at home. Since there are not long incisions to the muscles in the abdomen, the risk of post-operative hernia is significantly reduced. Additionally, patients like the cosmetic effect of not having a scar.

Q: Are there new scarless surgeries being developed?

A: NOTES is now offered as a standard of care for many surgical procedures. Hybrid versions have been developed for weight loss surgeries, treatments of swallowing disorders such as [achalasia](#) and tumor removal. While some patients remain skeptical, the research results are persuasive.

Q: What has research shown about NOTES?

A: In a study published in the journal of *Surgical Endoscopy*, my team noted average pain scores in patients, on a scale of 1 to 10, ranging from zero to 2.5 after a NOTES surgery. Typically we don't recommend pain medication for pain less than 4 out of 10. I have seen up to four times less post-operative pain with NOTES compared to traditional open surgery.

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