



Meta-analysis published in Annals of Surgery shows benefits of da Vinci surgery across seven oncologic procedures compared to laparoscopic and open

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Analysis included 230 studies—a mix of randomized, prospective, and database research

SUNNYVALE, Calif., Dec. 05, 2024 (GLOBE NEWSWIRE) -- (NASDAQ:ISRG)

The peer-reviewed Annals of Surgery published [a meta-analysis of 30-day surgical outcomes across seven oncological surgical procedures](#), comparing robotic, laparoscopic, and open surgical approaches. The study covered a 12-year timeframe and analyzed 230 studies from 22 countries: 34 randomized controlled trials, 74 prospective studies, and 122 database reviews. Each surgical approach represented more than a million procedures.

The meta-analysis, conducted by scientists from Intuitive and Massachusetts General Hospital, demonstrated multiple benefits for robotic surgery using Intuitive's da Vinci system as compared to laparoscopy and open surgery.

"Robotic surgery with da Vinci showed fewer conversions, less blood loss, fewer blood transfusions, fewer readmissions and reoperations, and a shorter length of stay after 30 days," said Intuitive Executive Vice President and Chief Medical Officer Myriam Curet, MD.

"The editors at the Annals of Surgery thoroughly scrutinized and peer-reviewed this study prior to acceptance," said Curet. "The quality of scientific data we are seeing after decades of robotic surgery underscores the value that the da Vinci robotic approach continues to have for improved surgical care."

Notable study results included:

- Da Vinci robotic cases were 56 percent less likely to convert to open surgery versus laparoscopy.
- Da Vinci robotic cases saw less blood loss versus open, comparable blood loss with laparoscopy.
- Da Vinci robotic cases were 21 percent less likely to require blood transfusions versus laparoscopy and 75 percent versus open.
- Da Vinci cases were 10 percent less likely to experience 30-day postop complications versus laparoscopy; 44 percent versus open.
- Da Vinci cases saw a half-day savings in hospital stay compared to laparoscopy and 1.9 days compared to open.
- Operative time for da Vinci cases was 17.7 minutes longer than laparoscopy and 40.9 minutes longer than open.

"The data presented in our study describes the value of robotics in both the controlled clinical setting of randomized controlled trials and in the 'real-world' of population-based studies," said Rocco Ricciardi, MD, MPH, lead study author and chief of colon and rectal surgery at the Massachusetts General Hospital.

"Ultimately, demonstrating population-based gains with robotics allows us to determine value of robotic procedures for the average person who might need surgery."

Traditional minimally invasive surgery offers many benefits but presents several technical limitations—notably lower quality vision and depth perception, camera instability, limited range of motion and dexterity due to the straight and rigid hand-held instruments, and it can take a severe physical toll on the surgeon.

Intuitive technology introduced in the da Vinci surgical system has helped surgeons overcome many of those technological limitations via advanced 3DHD vision, wristed instrumentation, and greater precision, especially in deep, limited, or narrow areas of the body such as the chest, abdomen, and pelvis.

There have been numerous studies comparing perioperative outcomes between robotic, laparoscopic, and open surgery but they have focused on individual procedures, which result in procedure-specific evaluations.

Intuitive's study in the Annals of Surgery looked at randomized controlled trials, prospective cohort, and database studies published within the last 12 years, and it shows multiple benefits for robotic surgery using the da Vinci system compared to laparoscopic and open surgery, which may be useful to decision makers who are considering the use of robotics in a multi-specialty setting.

The study scope focused on 30-day outcomes specific to oncology procedures that often require deep and narrow surgical access. It did not review oncologic outcomes.

About Intuitive

Intuitive (NASDAQ:ISRG), headquartered in Sunnyvale, California, is a global leader in minimally invasive care and the pioneer of robotic surgery. Our technologies include the da Vinci surgical system and the Ion endoluminal system. By uniting advanced systems, progressive learning, and value-enhancing services, we help physicians and their teams optimize care delivery to support the best outcomes possible. At Intuitive, we envision a future of care that is less invasive and profoundly better, where disease is identified early and treated quickly, so that patients can get back to what matters most.

About da Vinci Surgical Systems

There are several models of the da Vinci Surgical System. The da Vinci surgical systems are designed to help surgeons perform minimally invasive

surgery and offer surgeons high-definition 3D vision, a magnified view, and robotic and computer assistance. They use specialized instrumentation, including a miniaturized surgical camera and wristed instruments (i.e., scissors, scalpels, and forceps) that are designed to help with precise dissection and reconstruction deep inside the body.

For more information, please visit the company's website at www.intuitive.com.

Important Safety Information

Serious complications may occur in any surgery, including da Vinci surgery, up to and including death. Serious risks include, but are not limited to, injury to tissues and organs and conversion to other surgical techniques which could result in a longer operative time and/or increased complications. For summary of the risks associated with surgery refer to www.intuitive.com/safety.

For product intended use and/or indications for use, risks, cautions, and warnings and full prescribing information, refer to the associated user manual(s) or visit <https://manuals.intuitivesurgical.com/market>.

Individual outcomes may depend on a number of factors—including but not limited to—patient characteristics, disease characteristics, and/or surgeon experience.

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The logo for Intuitive Surgical, featuring the word "INTUITIVE" in a bold, sans-serif font. Above the letter "I" is a small circle, and above the letter "U" is a small dot, creating a stylized "UI" monogram.

Source: Intuitive Surgical, Inc.