da Vinci® Surgical System

Frequently Asked Questions

Q. What is Minimally Invasive Surgery (MIS)?
A. MIS is surgery typically performed through small incisions, or operating ports, rather than large incisions, resulting in potentially shorter recovery times, fewer complications, reduced hospitalization costs and reduced trauma to the patient. While MIS has become standard-of-care for particular surgical procedures, it has not been widely adopted for more complex or delicate procedures – for example, prostatectomy and mitral valve repair.

Intuitive Surgical believes that surgeons have been slow to adopt MIS for complex procedures because they generally find that fine-tissue manipulation – such as dissecting and suturing – is more difficult than in open surgery. Intuitive Surgical's technology, however, enables the use of MIS techniques for complex procedures.

Q. Why do we need a new way to do minimally invasive surgery?
A. Despite the widespread use of minimally invasive or laparoscopic surgery in today's hospitals, adoption of laparoscopic techniques, for the most part, has been limited to a few routine procedures. This is due mostly to the limited capabilities of traditional laparoscopic technology, including standard video and rigid instruments, which surgeons must rely on to operate through small incisions.

In traditional open surgery, the physician makes a long incision and then widens it to access the anatomy. In traditional minimally invasive surgery – which is widely used for routine procedures -- the surgeon operates using rigid, hand-operated instruments, which are passed through small incisions and views the anatomy on a standard video monitor. Neither this laparoscopic instrumentation nor the video monitor can provide the surgeon with the excellent visualization needed to perform complex surgery like valve repair or nerve-sparing prostatectomy.

Q. What are the benefits of *da Vinci* ® Surgery compared with traditional methods of surgery?
A. Some of the major benefits experienced by surgeons using the *da Vinci* ® Surgical System over traditional approaches have been greater surgical precision, increased range of motion, improved dexterity, enhanced visualization and improved access. Benefits experienced by patients may include a shorter hospital stay, less pain, less risk of infection, less blood loss, fewer transfusions, less scarring, faster recovery and a quicker return to normal daily activities. None of these benefits can be guaranteed, as surgery is necessarily both patient- and procedure-specific.

Q. Why can't surgeons perform complex procedures such as cardiac surgery through 1-2 cm ports today?
A. Complex procedures like cardiac surgery require an excellent view of the operative field and the ability to maneuver instruments within tight spaces with precision and control. Surgeons historically have used invasive approaches like "open sternotomy" for heart surgery, which

means splitting the breastbone and pulling back the ribs and typically results in a foot-long incision. This provides visibility and allows room for the surgeon to get his or her hands and instruments very close to the operative site, but results in significant pain, blood loss and a long recovery for patients. More recently, smaller incisions have been used to perform a variety of cardiac procedures. However, many cardiac surgeons feel the reduced access may limit visualization and may impede access to the operative field.

Q: Where is the *da Vinci* ® Surgical System being used now?
A. Currently, The *da Vinci* ® Surgical System is being used in hundreds of locations worldwide, in major centers in the United States, Austria, Belgium, Canada, Denmark, France, Germany, Italy, India, Japan, the Netherlands, Romania, Saudi Arabia, Singapore, Sweden, Switzerland, United Kingdom, Australia and Turkey.

Q. Has the *da Vinci* ® Surgical System been cleared by the FDA?
A. The U.S. Food and Drug Administration (FDA) has cleared the *da Vinci* ® Surgical System for a wide range of procedures. Please see the FDA Clearance page for specific clearances and representative uses.

Q: Is *da Vinci* ® Surgery covered by insurance?
A. *da Vinci* Surgery is categorized as robot-assisted minimally invasive surgery, so any insurance that covers minimally invasive surgery generally covers *da Vinci* ® Surgery. This is true for widely held insurance plans like Medicare. It is important to note that your coverage will depend on your plan and benefits package. For specifics regarding reimbursement for *da Vinci* ® Surgery, or if you have been denied coverage, please call the Reimbursement Hotline at 1-888-868-4647 ext. 3128. From outside the United States, please call 33-1-39-04-26-90.

Q. Will the *da Vinci* ® Surgical System make the surgeon unnecessary?
A. On the contrary, the *da Vinci* ® System enables surgeons to be more precise, advancing their technique and enhancing their capability in performing complex minimally invasive surgery. The System replicates the surgeon's movements in real time. It cannot be programmed, nor can it make decisions on its own to move in any way or perform any type of surgical maneuver without the surgeon's input.

Q. Is a surgeon using the *da Vinci* ® Surgical System operating in "virtual reality"?
A. Although seated at a console a few feet away from the patient, the surgeon views an actual image of the surgical field while operating in real-time, through tiny incisions, using miniaturized, wristed instruments. At no time does the surgeon see a virtual image or program/command the system to perform any maneuver on its own/outside of the surgeon's direct, real-time control.

Q. Is this telesurgery? Can you operate over long distances?
A. The *da Vinci* ® Surgical System can theoretically be used to operate over long distances. This capability, however, is not the primary focus of the company and thus is not available with the current *da Vinci* ® Surgical System.

Q. While using the *da Vinci* ® Surgical System, can the surgeon feel anything inside the patient's chest or abdomen?
A. The system relays some force feedback sensations from the operative field back to the surgeon throughout the procedure. This force feedback provides a substitute for tactile sensation and is augmented by the enhanced vision provided by the high-resolution 3D view.

Q: What procedures have been performed using the *da Vinci* ® Surgical System? What additional procedures are possible?
A. The *da Vinci* ® System is a robotic surgical platform designed to enable complex procedures of all types to be performed through 1-2 cm incisions or operating "ports." To date, tens of thousands of procedures including general, urologic, gynecologic, thoracoscopic, and thoracoscopically-assisted cardiotomy procedures have been performed using the *da Vinci* ® Surgical System.

Q. Why is it called the *da Vinci* ® Surgical System?
A. The product is called "*da Vinci* ®" in part because Leonardo *da Vinci* ® invented the first robot. He also used unparalleled anatomical accuracy and three-dimensional details to bring his masterpieces to life. The *da Vinci* ® Surgical System similarly provides physicians with such enhanced detail and precision that the System can simulate an open surgical environment while allowing operation through tiny incisions.