INTUITIVE

# Study Shows Robotic-Assisted Prostate Surgery Reduces Hospital Readmission and Complication Rates Compared to Open Surgery

December 19, 2013

**Highlights Impact on Cost of Care**

SUNNYVALE, Calif., Dec. 19, 2013 (GLOBE NEWSWIRE) -- A national, multi-institutional database study found readmission and complication rates were significantly lower for robotic-assisted prostate surgery than for open prostate surgery.[1] The full study results were published in the November 19 electronic edition of the *Journal of Endourology*.

"Readmissions for Medicare patients alone currently add $17.4 billion each year in health care spending," said Lead Investigator Robert Nadler MD, Northwestern Medicine Vice Chair of Urology. "The findings from this study show that beyond the patient benefit, robotic-assisted surgery may be relevant to reducing health care costs as it results in reduced readmission rates compared to open surgery."

This retrospective study used the National Surgical Quality Improvement (NSQIP) database to analyze data on patients who received a prostatectomy in 2011. A total of 5,471 patients and more than 400 hospitals were included in the study. Of those patients, 1,097 (20 percent) had an open procedure and 4,374 (80 percent) had a minimally invasive robotic-assisted procedure. No patients had a laparoscopic procedure.

Overall, the robotic-assisted group experienced significantly lower overall complication rates, surgical complication rates, and unplanned readmission rates. Although the operative time was significantly longer for the robotic-assisted group than for the open group, this did not result in higher complications during or after surgery. A full comparison between the two procedures showed:[1]

| | **Robotic-assisted Prostatectomy (n=4374)** | **Open Prostatectomy (n=1097)** |
|---|---|---|
| Overall Complication Rate (p<0.001)* | 5.62% | 23.25% |
| Surgical Complication Rate (p<0.001)* | 0.91% | 3.37% |
| Unplanned Readmission Rate (p=0.002)* | 3.48% | 5.47% |
| Operative Time (p=0.001)* | 212.3 minutes | 174.0 minutes |

*p<0.05 denotes a statistically significant value.

Because this was a retrospective study, the researchers could not factor in certain variables, such as patient selection bias and co-morbidities (other illnesses that could affect the outcomes of the patient's surgery). The only lifestyle variables included in the analysis were smoking and alcohol use.

**Important Information for Patients**

Potential risks of any prostatectomy procedure include urinary and/or sexual dysfunction due to nerve damage[2], rectal or bowel injury[3], blocked artery in the lung[3], or blocked bowel.[3]

All surgery presents risk, including *da Vinci*® Surgery and other minimally invasive procedures. Serious complications may occur in any surgery, up to and including death. Examples of serious or life-threatening complications which may require hospitalization include injury to tissues or organs, bleeding, infection or internal scarring that can cause long-lasting dysfunction or pain. Temporary pain or nerve injury has been linked to the inverted position often used during abdominal and pelvic surgery. Risks of surgery also include potential for equipment failure and human error. Risks specific to minimally invasive surgery may include: A long operation and time under anesthesia, conversion to another technique or the need for additional or larger incisions. If your surgeon needs to convert the procedure, it could mean a long operative time with additional time under anesthesia and increased complications. Temporary pain or discomfort may result from pneumoperitoneum, the presence of air or gas in the abdominal cavity used by surgeons in minimally invasive surgery. Research suggests that there could be an increased risk of incision-site hernia with single-incision surgery. Results, including cosmetic results, may vary. Patients who bleed easily, who have abnormal blood clotting, are pregnant or morbidly obese are typically not candidates for minimally invasive surgery, including *da Vinci*® Surgery. Other options may be available. Patients should talk to their doctors about their surgical experience and to decide if *da Vinci* Surgery is right for them. We encourage patients and physicians to review all available information on surgical options and treatment in order to make an informed decision. Clinical studies are available through the National Library of Medicine at www.ncbi.nlm.nih.gov/pubmed. For more complete information on surgical risks, safety, and indications for use, please refer to www.davincisurgery.com.

**About Intuitive Surgical, Inc.**

Intuitive Surgical, Inc. (Nasdaq:ISRG), headquartered in Sunnyvale, Calif., is the global leader in robotic-assisted, minimally invasive surgery. Intuitive Surgical develops, manufactures and markets the *da Vinci*® Surgical System. Intuitive Surgical's mission is to extend the benefits of minimally invasive surgery to those patients who can and should benefit from it.

**About the *da Vinci* Surgical System**

The *da Vinci* Surgical System is a surgical platform designed to enable complex surgery using a minimally invasive approach. The *da Vinci* Surgical System consists of an ergonomic surgeon console or consoles, a patient-side cart with three or four interactive arms, a high-performance vision system and proprietary *EndoWrist*® instruments. Powered by state-of-the-art technology, the *da Vinci* Surgical System is designed to scale, filter and

seamlessly translate the surgeon's hand movements into more precise movements of the *EndoWrist* instruments. The net result is an intuitive interface with improved surgical capabilities. By providing surgeons with superior visualization, enhanced dexterity, greater precision and ergonomic comfort, the *da Vinci* Surgical System makes it possible for skilled surgeons to perform more minimally invasive procedures involving complex dissection or reconstruction. For more information about clinical evidence related to *da Vinci* Surgery, please visit www.intuitivesurgical.com/company/clinical-evidence/.

**Forward-Looking Statement**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding hospital readmission rates and complication rates when comparing robotic-assisted prostate surgery to open surgery. These forward-looking statements are necessarily estimates reflecting the best judgment of our management and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. These forward-looking statements should, therefore, be considered in light of various important factors, including those under the heading "Risk Factors" in our annual report on Form 10-K for the year ended December 31, 2012, as updated from time to time by our quarterly reports on Form 10-Q and our other filings with the Securities and Exchange Commission. Statements using words such as "estimates," "projects," "believes," "anticipates," "plans," "expects," "intends," "may," "will," "could," "should," "would," "targeted" and similar words and expressions are intended to identify forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release. We undertake no obligation to publicly update or release any revisions to these forward-looking statements, except as required by law.

[1] Pilecki MA, McGuire BB, Jain UK, et al. National multi-institutional comparison of 30-day post-operative complication and re-admission rates between open retropubic radical prostatectomy (RRP) and robot-assisted laparoscopic prostatectomy (RALRP) using NSQIP. *J Endourol*. 2013 Nov 19. [Epub ahead of print].

[2] Health Information and Quality Authority (HIQA), reporting to the Minister of Health-Ireland. Health technology assessment of robot-assisted surgery in selected surgical procedures, 21 September 2011.

[3] Tewari A, Sooriakumaran P, Bloch DA, Seshadri-Kreaden U, Hebert AE, Wiklund P. Positive surgical margin and perioperative complication rates of primary surgical treatments for prostate cancer: a systematic review and meta-analysis comparing retropubic, laparoscopic, and robotic prostatectomy. Eur Urol. 2012 Jul;62(1):1-15. Epub 2012 Feb 24

CONTACT: Intuitive Surgical Corporate Communications
408-523-7337
corpcomm@intusurg.com

Intuitive Surgical, Inc.