

## The Medical Minute: Robotic surgery for treatment of prostate cancer

September 25 2009, By Jay D. Raman

(PhysOrg.com) -- Prostate cancer is the most commonly diagnosed cancer in the United States (excluding skin cancers) and is second only to lung cancer as a contributor to cancer deaths in American men.

In 2009, it is estimated that 192,280 new cases will be diagnosed and more than 27,000 men will die of prostate cancer. The lifetime probability of developing prostate cancer is one in six for American men. Current treatment alternatives for clinically localized prostate cancer include removal of the prostate gland (surgery), radiation to the cancerous prostate (external beam or radioactive seed implants), active surveillance, or other treatments (hormonal or cryotherapy).

Radical prostatectomy via an open approach has historically been the gold standard therapy for the surgical treatment of prostate cancer. While oncologic and functional outcomes following open radical prostatectomy are excellent, prolonged recovery is a legitimate concern for physicians and patients. With such considerations, an impetus within the surgical community has been to reduce the complications of procedures without compromising on established standards of care. To that end, laparoscopic surgery, which is performed via several tiny holes rather than one long incision, has been shown to reduce perioperative complications while improving recovery. Robotic surgery represents the next potential iteration for advances in minimally invasive surgery.

The first robotic-assisted surgery performed in 1995 utilized a robotic platform to eliminate the need for an assistant to hold the camera during



laparoscopic procedures. The more contemporary <u>da Vinci</u> system represents the next evolutionary step, offering an instrument that can control a camera with one hand while simultaneously manipulating tiny laparoscopic surgical tools in its other hands. With a human surgeon at the controls, da Vinci filters out tremor, enhances precision, offers threedimensional imaging and may eliminate some of the fatigue associated with conventional laparoscopy.

Robotic surgery appears particularly advantageous from the standpoint of added precision for some procedures. It has experienced great popularity for urologic surgery; particularly cancers of the prostate located deep in the pelvis. Current utilization, however, is quite widespread including applications for general surgery (esophagus, stomach, and biliary reconstruction), cardiac <u>surgery</u> (coronary artery bypass grafting and valve replacement), and gynecology (hysterectomy, oopherectomy, and tubal reconstruction). It is likely that the array of surgical procedures performed with robotic technology only will increase over time.

Starting fall 2009, Penn State Milton S. Hershey Medical Center will be home to the newest robotic system, the da Vinci SI system, and surgeons will be offering this newest surgical advancement to patients in central Pennsylvania.

Provided by Pennsylvania State University (<u>news</u> : <u>web</u>)

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