



The Robotic Revolution

Mark Jones, M.D.



Robotic assisted surgery is considered a mainstay in all aspects of urologic surgery. Six surgeons practicing with The Urology Center of Colorado (TUCC) specialize in using the **da Vinci Surgical System** to perform numerous urologic procedures.

Robotic assisted laparoscopic surgery is performed through several small ½ inch long incisions on the abdominal wall. In contrast, open urologic surgeries are performed through a 6-12 inch long incision. The robotic cart is positioned over the patient and its four arms have surgical instruments that are inserted through laparoscopic ports to access the body cavity during the operation. The robotic instruments are just like the human wrist and allow for six degrees of freedom. The surgeon console is a separate unit that controls the movements of the robot cart inside the body. da Vinci technology provides surgeons with a magnified, high-definition and three-dimensional view of the body cavity. By utilizing robotic technology, a surgeon's hand movements are motion scaled and any hand tremor is filtered resulting in perfectly translated, precise movements of the instruments.

Minimally invasive robotic surgery has been demonstrated to be equivalent or superior to most open urologic surgical techniques. Distinct advantages to robotic surgery include decreased blood loss, shorter hospital stays, reduced recovery times, less post-operative pain, superior vision and improved cosmetics.

The first robotic prostatectomy was performed in the U.S. in 2000. Now, the da Vinci robotic prostatectomy is the number one treatment choice for prostate cancer in the country today. At TUCC, our surgeons have performed more than 2,000

robotic prostatectomies since 2006. We perform more robotic prostatectomies than any other group of urologic surgeons in the Rocky Mountain region. TUCC surgeons strive for the "trifecta" of robotic prostatectomy surgery - effective cancer control, maintenance of continence and preservation of sexual function.

Robotic kidney surgery is one of the fastest growing fields in urology. The da Vinci system is used to perform partial and total nephrectomies for cancer of the kidney. We are proud to report we are the most experienced robotic kidney surgeons in Colorado and surrounding states. At TUCC, we also use this technology to perform reconstructive kidney surgeries including pyeloplasties (repair of ureteropelvic junction obstructions).

Robotic bladder surgery was one of the last frontiers of robotic urologic surgery. TUCC surgeons performed the first robotic radical cystectomy in Denver in January 2010 and remain the most experienced team with this complicated surgery in the region.

TUCC surgeons have also utilized robotic technology to perform ureteral surgeries, lymph node dissections, adrenal surgery, partial cystectomies, pyeloplasties for UPJ (ureteropelvic junction) obstruction and pelvic prolapse repairs. In August 2011, we performed the first robotic-assisted laparoscopic simple prostatectomy for benign prostatic hyperplasia (BPH) in Colorado and the first robotic-assisted laparoscopic vesicovaginal fistula repair in Denver. As the technology continues to advance, TUCC surgeons are poised to offer the least invasive and most effective surgical techniques to treat urologic diseases.

To learn more about the use of robotic technology to treat urologic conditions and TUCC's involvement as a physician partner of The Porter Robotics Institute at Porter Adventist Hospital, please visit www.tucc.com.