## *da Vinci*. PROSTATECTOMY



Solutions for minimally invasive urologic surgery



# The da Vinci Surgical System



**3D HD Vision** 3D HD visualization of tissue planes, target anatomy and neurovascular bundles

**Dual Console: Available exclusively on the** *da Vinci*<sub>☉</sub> *Si*<sup>™</sup> Dual console capability allows an additional surgeon to provide an assist or can facilitate teaching and proctoring by connecting a second surgeon console.

- High-definition 3D vision
- EndoWrist<sup>®</sup> instrumentation
- Intuitive<sup>®</sup> motion

## **Surgeon Benefits**

## Enables surgeons to offer an effective, minimally invasive surgical approach for prostatectomy

The visualization, precision, dexterity and control provided by the *da Vinci* Surgical System offers the following potential surgeon benefits:

- **\*** Compared to traditional open surgery:
  - More precise removal of cancerous tissue<sup>1,2,3,4</sup>
  - Less risk of complications<sup>1,4,5,6,7</sup>
  - Less chance of needing follow-up surgery<sup>1</sup>
- Compared to traditional laparoscopy
  - Lower risk of complications<sup>1</sup>
  - Less chance of nerve injury<sup>1</sup>
  - Less chance of injuring the rectum<sup>1</sup>
  - Shorter operation time<sup>6</sup>

Monopolar Hot Shears™

# **Application Highlights**

### Six ways da Vinci technology facilitates a precise prostatectomy:



Tissue planes surrounding the endopelvic fascia can be identified, delineated, and exposed using the *da Vinci* System's 3D HD vision system and the fully articulating *EndoWrist* Instruments.



The increased retraction and control provided by the *da Vinci* System's third instrument arm provides for efficient exposure of the posterior urethra to aid in the transection of the bladder neck.



The prostatic apex can be readily identified and transected while preserving urethral length with the assistance of the *da Vinci* 3D HD vision system and *EndoWrist* Curved Scissors.

Ligation of the Dorsal Venous Complex (dVC)



Locating the correct anatomical angles while suture-ligating the DVC can be precisely carried out with the aid of the *EndoWrist* Needle Drivers and the steerable *da Vinci* 3D HD endoscopic camera.



A cautery-free nerve-sparing dissection can be carefully performed while hugging the capsule of the prostate and accessing the unique anatomic angles exposed by the cold *EndoWrist* Curved Scissors.



Increased dexterity provided by using the *EndoWrist* Needle Drivers combined with the *da Vinci* System allows for precise needle placement and suturing required to perform a watertight urethrovesical anastomosis.

### For technology videos visit www.daVinciSurgeryCommunity.com

### Systematic meta-analysis encompassing over 286,000 prostatectomy cases<sup>1</sup>

The objective of this meta-analysis was to review the literature from 2002 to 2010 and compare margin and perioperative complication rates for open retropubic RP (ORP), laparoscopic RP (LRP), and robot-assisted LRP (RALP). The study authors concluded that RALP is at least equivalent to ORP or LRP in terms of margin rates and suggests that RALP provides certain advantages, especially regarding decreased adverse events.<sup>1</sup>

	ORP	<i>p</i> value ORP vs. RALP	LRP	p value LRP vs. RALP	RALP
Overal PSM <sup>*</sup> %	24.2	<0.0001	20.4	<0.0001	16.2
Estimated blood loss (ml)	745.3	<0.0001	377.5	<0.0001	188
Blood transfusions (%)	16.5	<0.0001	4.7	<0.0001	1.8
Length of stay (US)	3.1	<0.0001	2.1	<0.0001	1.4
Length of stay (OUS)	9.9	<0.0001	6.3	<0.0001	4
Readmission	3	Not statistically significant	11.3	0.01	3.5
Reoperation	2.3	<0.0001	1.9	0.0005	0.9

### Randomized Controlled Trial of 120 Patients Examining Outcomes of RARP vs. Lap Prostatectomy<sup>8</sup>

The objective of this single-surgeon, single-institutional study was to compare robot-assisted radical prostatectomy (RARP) over laparoscopic radical prostatectomy (LRP) in terms of functional, perioperative and oncologic outcomes. The study authors concluded that, "RARP provided better functional results in terms of the recovery of continence and potency."<sup>8</sup>

	Robotic (RARP) n = 60	Lap (LRP) n = 60	<i>p</i> value
OR Time (minutes)	147.6	138.1	Not statistically significant
EBL (ml)	202	234.1	Not statistically significant
Continence @ 3 months (0-1 pad)	80%	61.6%	0.044
Continence @ 3 months (0-1 pad)	95%	83.3%	0.042
Erectile function @ 1 year (IIEF scores >17)	80%	54.2%	0.020
Overall PSM	26.6%	20%	Not statistically significant
Biochemical recurrence-free survival rates @ 1 year	98%	92.5%	Not statistically significant



For additional data pertaining to these studies visit www.daVinciSurgeryCommunity.com

## **Potential Patient Benefits & Risks**

## POSSIBLE BENEFITS COMPARED TO OPEN SURGERY:

- Faster return of erectile (sexual) function: Studies show patients who are potent prior to *da Vinci* Surgery experience a faster return of erectile function than previously potent patients who have open surgery<sup>9,10</sup>
- Better chance for return of urinary continence: Studies show more patients with *da Vinci* Surgery have return of urinary continence within 6 months as compared to patients having open surgery<sup>4,9,10</sup>

## POSSIBLE BENEFITS WHEN COMPARED TO TRADITIONAL LAPAROSCOPY:

- Lower risk of complications<sup>1</sup>
- \* Less blood loss and need for a transfusion<sup>1,6</sup>
- X Shorter hospital stay<sup>1,6</sup>
- More patients return to pre-surgery erectile function at 12-month checkup<sup>8,11</sup>
- \* Faster return of urinary continence<sup>8</sup>

### **POSSIBLE RISKS INCLUDE:**

- Urinary and/or sexual dysfunction due to nerve damage
- × Rectal or bowel injury
- Blocked artery in the lung
- Blocked bowel



### EndoWrist<sup>®</sup> Instruments Optimized for da Vinci<sup>®</sup> Prostatectomy

	STANDARD/ <i>S,Si</i> PNs	FEATURES		STANDARD/ <i>S,Si</i> PNs	FEATURES
Joursel .	Large Needle Driver 400006/420006	<ul> <li>Carbide-insert style jaws</li> <li>Diamond pattern jaw profile</li> </ul>		EndoWrist PK™ Dissector 400214/420214	<ul> <li>Grasping, dissection, and coagulation of tissues and pedicles</li> </ul>
	Hot Shears <sup>™</sup> (Monopolar Curved Scissors) 400179/420179 Requires Tip Cover 400180	<ul> <li>Combined scissors and monopolar cautery</li> <li>Tapered tip-profile</li> </ul>		Curved Scissors 400178/420178	<ul> <li>Cutting and dissecting of tissues and pedicles</li> </ul>
	Maryland Bipolar Forceps – Fenestrated 400172/420172	<ul> <li>× Bipolar energy</li> <li>× Curved, tapered jaws</li> <li>× Fenestration at jaw base</li> </ul>	A CONTRACTOR	Large <i>SutureCut</i> <sup>™</sup> Needle Driver 400209/420209	<ul> <li>Ligation of the dorsal vein complex (DVC) and creation of the urethro- vesical anastomosis</li> </ul>
	ProGrasp™ 400093/420093	<ul> <li>Very high closing force</li> <li>Fenestrated jaw profile</li> </ul>		<i>Hem-o-lok</i> ® Clip Applier 400230/420230	* Grasping and retracting the prostate



# INTUITIVE SURGICAL®

Taking Surgery Beyond the Limits of the Human Hand.™

All surgeries carry risks of adverse outcomes. While clinical studies support the use of the *da Vinci* Surgical System as an effective tool for minimally invasive surgery for specific indications, individual results may vary. Contraindications applicable to the use of conventional endoscopic instruments also apply to the use of all *da Vinci* instruments. General contraindications for endoscopic surgery include bleeding diathesis, morbid obesity and pregnancy. Be sure to read and understand all information in the applicable user manuals, including full cautions and warnings, before using *da Vinci* products. Failure to properly follow all instructions may lead to injury and result in improper functioning of the device. Unless otherwise noted, products featured are cleared for commercial distribution in the U.S. and bear the CE mark. For availability and clearances outside the US, please check with your local representative or distributor. We encourage patients and physicians to review all available information. Clinical studies are available through the National Library of Medicine at www.ncbi.nlm.nih.gov/pubmed.

### The *PK*<sup>®</sup> Dissecting Forceps

The *PK*<sup>®</sup> Dissecting Forceps and *PK* instrument cords are intended to be used with the *da Vinci* and *da Vinci S/Si* Surgical System for endoscopic manipulation of tissue including: grasping, dissecting, approximation, coagulation, retraction and ligation. The *PK* Dissecting Forceps may only be used on soft tissue. Do not use it on cartilage, bone or hard objects. Doing so may damage the instrument or make it impossible to remove from the cannula. The *PK* Dissecting Forceps is not intended for contraceptive coagulation of the fallopian tube, but may be used to achieve hemostasis following transection of the fallopian tube. The *PK* Dissecting Forceps is classified as a BF applied part. This instrument is hence not suitable for direct cardiac applications.

### *Hem-o-lok*<sup>®</sup> Clip Applier

*Hem-o-lok* ligating clips are intended for use in procedures involving ligation of vessels or tissue structures. Surgeons should apply the appropriate size clip for the size of the vessel or tissue structure to be ligated such that the clip completely encompasses the vessel or tissue structure. *Hem-o-lok* Ligating Clips are not intended for use as a fallopian contraceptive tubal occlusion device. *Hem-o-lok* Ligating Clips are contraindicated for use in ligating the renal artery during laparoscopic donor nephrectomies.

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<sup>3</sup> 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 <sup>2</sup> Weerakoon M, Sengupta S, Sethi K, Ischia J, Webb DR. Predictors of positive surgical margins at open and robot-assisted laparoscopic radical prostatectomy: a single surgeon series. J Robotic Surg. 2011. http://dx.doi.org/10.1007/s11701-011-0313-4 <sup>3</sup> Coronato EE, Harmon JD, Ginsberg PC, Harkaway RC, Singh K, Braitman L, Sloane BB, Jaffe JS. A multiinstitutional comparison of radical retropubic prostatectomy, radical perineal prostatectomy, and robot-assisted laparoscopic prostatectomy for treatment of localized prostate cancer. J Robotic Surg (2009) 3:175-178. DOI: 10.1007/ s11701-009-0158-2. <sup>4</sup> 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. http://www.hiqa.ie/system/files/HTA-robot-assisted-surgery.pdf <sup>5</sup> Carlsson S, Nilsson AE, Schumacher MC, et al. Surgery-related complications in 1253 robot-assisted surgery compared with Open Surgery and Laparoscopic Surgery: Clinical Effectiveness and Economic Analyses [Internet]. Ottawa: Canadian Agency for Drugs and Technologies in Health (CADTH); 2011 (Technology report no. 137). <sup>7</sup> Trinh QD, Sammon J, Sun M, Ravi P, Ghani KR, Bianchi M, Jeong W, Shariat SF, Hansen J, Schmitges T, Jacker C, Rogers CG, Peabody JO, Montorsi F, Menon M, Karakiewicz PI. Perioperative outcomes of robot-assisted radical prostatectomy: results from the nationwide inpatient sample. Eur Urol. 2012 Jul 20: [Epub ahead of print] <sup>6</sup> Rocco B, Matei DV, Melegari S, Ospina JC, Mazzoleni F, Errico G, Mastropasqua M, Santor L, Detti S, de Cobelli O. Robotic vs open prostatectomy: na laparoscopic and Robot