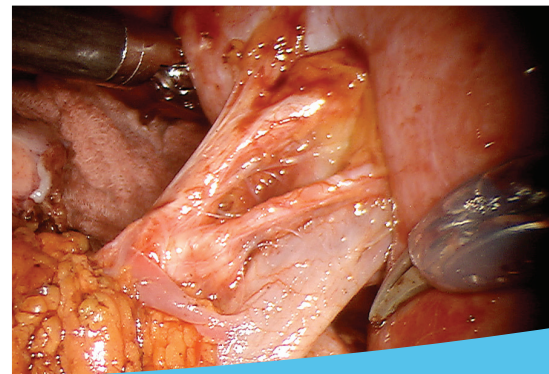
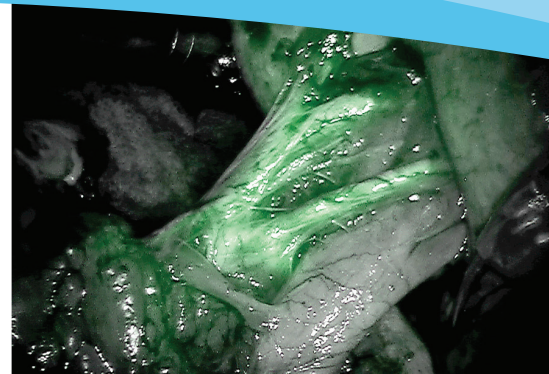
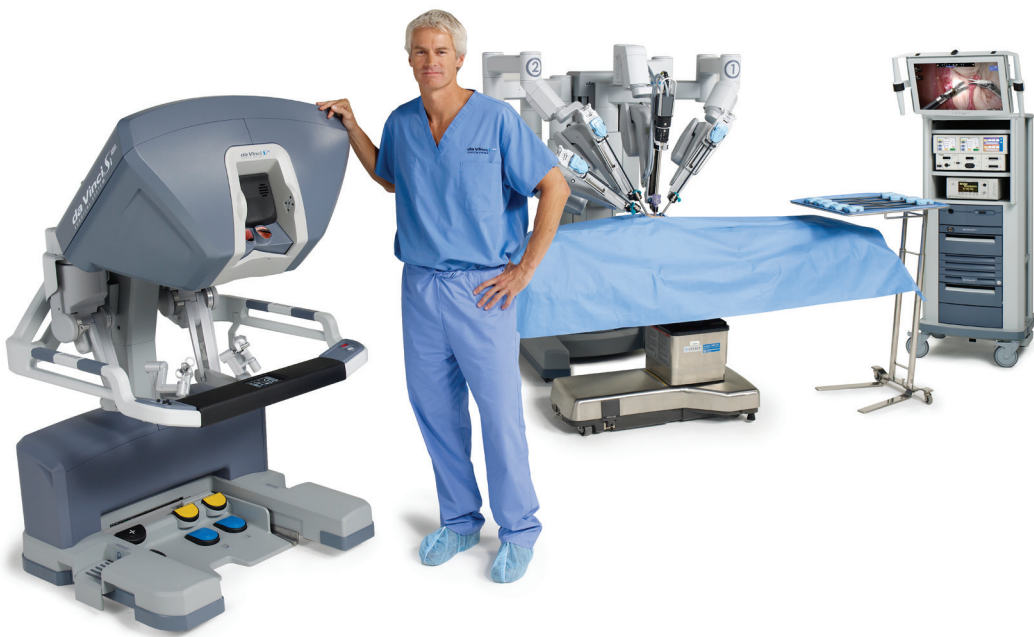


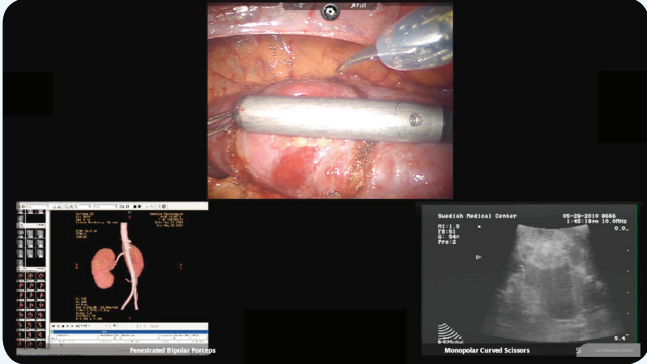
da Vinci

PARTIAL NEPHRECTOMY | NEPHRECTOMY



Solutions for minimally invasive renal surgery

The *da Vinci* Surgical System



TilePro™ Multi-Input Display

Allows the surgeon to view 3D video of the operative field along with up to two additional video sources, such as ultrasound and EKG

Dual Console: Available exclusively on the *da Vinci* Si™

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*® instrumentation
- *Intuitive*® motion

Surgeon Benefits

Enables surgeons to offer an effective, minimally invasive nephron-sparing procedure, where indicated

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

- ❖ Precise tumor removal and kidney reconstruction^{1,2}
- ❖ Precise intracorporeal suturing for renal reconstruction, facilitating procedure completion with reduced warm ischemia times^{1,2}
- ❖ Excellent chance of preserving the kidney, where indicated²
- ❖ Shorter operative time when compared to laparoscopic partial nephrectomy^{3,4,5}

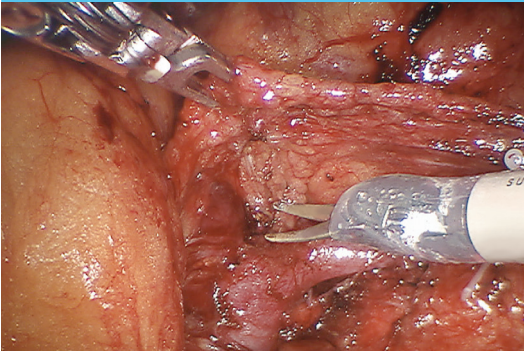


Monopolar
Hot Shears™

Application Highlights

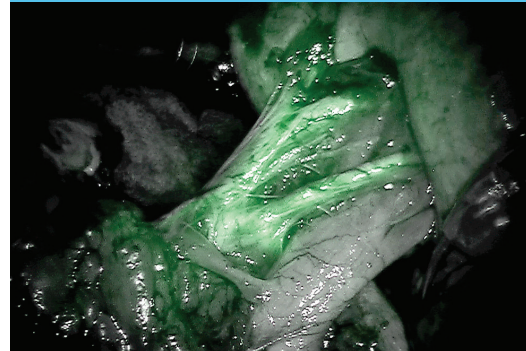
Six ways *da Vinci* technology facilitates a precise renal surgery:

Hilar Dissection



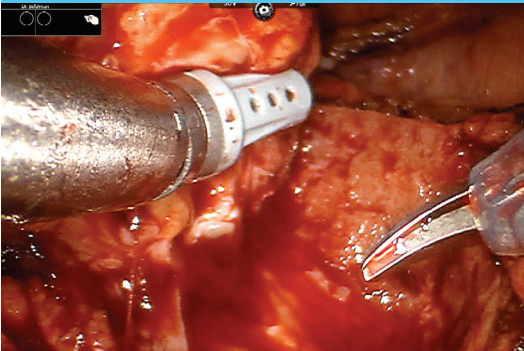
The *da Vinci* System with 3D HD vision and *EndoWrist* instrumentation allows for accurate identification and precise dissection of the renal hilum and surrounding structures

Firefly™ Fluorescence Imaging



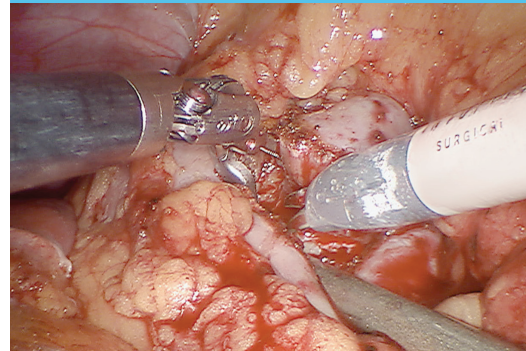
Utilizes fluorescent visualization to provide additional information on tissue perfusion, and location of renal vasculature. When combined with selective clamping, *Firefly* may also allow the surgeon to maintain perfusion to part of the kidney, thus reducing potential harm of warm ischemia.

EndoWrist® One™ Suction Irrigator



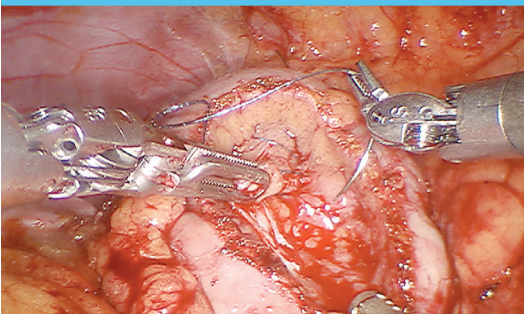
Maintain a clear visual field during tumor resection and defect repair

Excision of Renal Mass



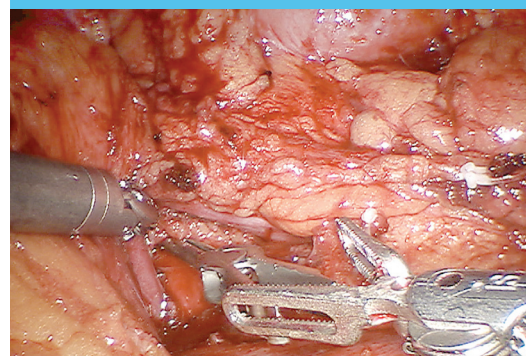
Complex renal lesions may be efficiently excised using the unparalleled precision and dexterity provided by the *da Vinci EndoWrist* instrumentation

Closing Small Vessels & Collecting System Defects



Increased dexterity with the *EndoWrist Large Needle Drivers* combined with robotic control allows for more precise needle placement

Occlusion of Renal Vessels



The *EndoWrist ProGrasp*™ is used to guide and attach the robotically-controlled bulldog clamps when occluding the renal vessels, enhancing surgeon autonomy during this critical step

For technology videos visit
www.daVinciSurgeryCommunity.com

Clinical Data

Comparative Outcomes and Assessment of "Trifecta" in 500 Robotic and Laparoscopic Partial Nephrectomies: A Single Surgeon Experience³

In this single-surgeon, single-institutional study, the desired "trifecta" was defined as a combination of 1) warm ischemia time (WIT) <25 minutes, 2) negative surgical margins, 3) no perioperative complications. Multivariate analysis indicated that patients undergoing robotic partial nephrectomy (RPN) had a 4x higher chance of achieving the trifecta.³

	LPN (n = 231)	RPN (n = 269)	p value
OR time (min)	197.1	169.8	<0.001
EBL (ml)	330.2	262.77	0.087*
WIT (min)	25.2	17.9	<0.001
Unclamped (%)	11 (4.76)	34 (12.64)	<0.001
Length of stay (LOS) (days)	3.7	3.45	0.155*
Intraoperative complications (%)	13 (5.6)	7 (2.6)	<0.001
Conversions (%)	12 (5.2)	3 (1.12)	<0.001
To Lap	---	3 (1.12)	---
To Open	8 (3.5)	0	<0.001
To Radical Nephrectomy (RN)	5 (2.2)	0	0.015
Postoperative complications, overall (%)	74 (32.03)	66 (24.53)	0.004
Readmissions	8 (3.5)	0	0.002
Secondary procedures (%)	6 (2.6)	2 (0.07)	0.034
Trifecta rate (%)	31.6	58.7	<0.001

*Not statistically significant

Robot Assisted Partial Nephrectomy Versus Laparoscopic Partial Nephrectomy for Renal Tumors: A Multi-Institutional Analysis of Perioperative Outcomes⁶

In this multi-institutional study, 3 experienced laparoscopic surgeons at 3 high-volume centers were able to significantly reduce warm ischemia time and patient blood loss, for both simple and complex tumors, with *da Vinci* Partial Nephrectomy as compared with manual laparoscopy.

	Simple (no collecting system)			Complex (entered collecting system)		
	RPN	LPN	p value	RPN	LPN	p value
OR Time (min)	185.1	158.8	0.01	194.0	190	0.9*
Warm Ischemia Time (min)	15.3	25.2	<0.0001	25.9	36.7	0.0002
EBL (mL)	154	165	0.8*	155.2	225.0	0.01

*Not statistically significant

Study limitations

Retrospective study with a relatively small n value (n = 247). The relative expertise of participating surgeons may be a confounding factor in the relatively low positive margins after LPN compared to reports from other authors.



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

Potential Patient Benefits & Risks

POSSIBLE BENEFITS COMPARED TO OPEN SURGERY:

- ❖ Precise tumor removal and kidney reconstruction^{1,2}
- ❖ Excellent chance of preserving the kidney, where indicated²
- ❖ Low rate of operative complications²
- ❖ Short hospital stay⁵

POSSIBLE BENEFITS COMPARED TO TRADITIONAL LAPAROSCOPIC SURGERY:




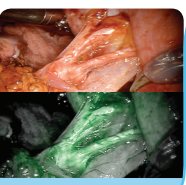




- ❖ Shorter operation^{4,5}
- ❖ Shorter warm ischemic time (shorter is better for kidney function)^{4,5}
- ❖ Less blood loss⁴
- ❖ Shorter hospital stay³

POSSIBLE RISKS INCLUDE:

- ❖ Urine leakage
- ❖ Internal bleeding
- ❖ Injury to surrounding organs



EndoWrist[®] Instruments Optimized for *da Vinci*[®] Nephrectomy/Partial Nephrectomy

STANDARD/S, <i>Si</i> PNs	FEATURES	STANDARD/S, <i>Si</i> PNs	FEATURES
 <p>Hot Shears™ (Monopolar Curved Scissors) 400179/420179 Requires Tip Cover: 400180</p>	<ul style="list-style-type: none"> ❖ Combined scissors and monopolar cautery ❖ Tapered tip profile 	 <p>ProGrasp Forceps 400093/420093</p>	<ul style="list-style-type: none"> ❖ Very high closing force ❖ Fenestrated jaw profile
 <p>Maryland Fenestrated Bipolar Forceps 400172/420172</p>	<ul style="list-style-type: none"> ❖ Curved, tapered jaw design ❖ Bipolar energy 	 <p>Firefly™ Fluorescence Imaging 400214</p>	<ul style="list-style-type: none"> ❖ Near-infrared imaging mode to visualize injectable fluorescent dye from the surgeon console
 <p>Large SutureCut™ Needle Driver 400296/420296</p>	<ul style="list-style-type: none"> ❖ Strong grasping force ❖ Scissor blades at the base ❖ Tapered, smooth outer jaw 	 <p>Stapler Cannula NA/420295</p>	<ul style="list-style-type: none"> ❖ Efficient introduction of handheld staplers through <i>da Vinci</i> instrument ports
 <p>Large Needle Driver 00006/420006</p>	<ul style="list-style-type: none"> ❖ Carbide-insert style jaws ❖ Diamond pattern jaw profile 	 <p>Suction Irrigator 550595</p>	<ul style="list-style-type: none"> ❖ <i>da Vinci</i> console controlled ❖ 45° articulating snake wrist



INTUITIVE SURGICAL®

www.IntuitiveSurgical.com
www.daVinciSurgery.com

Taking Surgery Beyond the Limits of the Human Hand.™

Worldwide Headquarters

1266 Kifer Road, Building 101
Sunnyvale, CA 94086-5304
Tel: +1.408.523.2100
Fax: +1.408.523.1390

Asia Pacific Headquarters

Room 2051, 20th Floor
No. 989 Chang Le Road
Shanghai 200031 P.R. China
Tel: +86.21.5116.6881
Fax: +86.21.5116.6899

European Headquarters

Intuitive Surgical Sàrl
1, chemin des Mûriers
1170 Aubonne,
Suisse
Tel: +41.21.821.20.20
Fax: +41.21.821.20.21

To contact a representative or receive additional information, visit www.intuitivesurgical.com or call Intuitive Surgical Customer Service in the U.S. at 1.877.408.3872, in Europe at +41 21 821 20 00 or +800 0 821 20 20 or in the rest of the world, 1.408.523.2100.

Labeling Information for Medical Professionals

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 US 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.

Firefly™ Fluorescence Imaging

Firefly™ Fluorescence Imaging is cleared for commercial distribution in the U.S. for visual assessment of vessels, blood flow and related tissue perfusion using near-infrared imaging. Intuitive's ICG packs are available for sale in the US ONLY. They are not available through Intuitive outside US markets. Intuitive's ICG packs are cleared for commercial distribution in the US for use in combination with the fluorescence capable *da Vinci Si*™ HD vision system and *Firefly* integrated hardware. Intuitive-distributed ICG contains necessary directions for use for effective use of ICG with *Firefly* Fluorescence Imaging. Using generic ICG with *Firefly* Fluorescence Imaging is considered off-label. Anaphylactic deaths have been reported following ICG injection during cardiac catheterization. Total ICG dosage should not exceed 2 mg/kg per patient. Anaphylactic or urticarial reactions have been reported in patients with or without histories of allergy to iodides. For complete instructions for use, indications, contraindications, warnings and precautions, and safety information, please refer to the Instruments and Accessories User Manual, PN 550675; to the Fluorescence Imaging for the *da Vinci Si* Surgical System User Manual addendum, PN 550563, and to the Fluorescence Imaging Procedure Kit for the *da Vinci Si* Surgical System Instructions for Use, PN 550976.

EndoWrist One™ Suction Irrigator

The *EndoWrist One*™ Suction Irrigator is intended for use as a general purpose suction and/or irrigation device used during surgical procedures. For complete instructions for use, indications, contraindications, warnings and precautions, and safety information, please refer to the Instruments and Accessories User Manual, PN 550675, and to the *EndoWrist One* Suction/Irrigator Instruments and Accessories User Manual Addendum, PN 550595.

Hem-o-lok® 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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¹ Rogers CG, Menon M, Weise ES. Robotic partial nephrectomy: a multiinstitutional analysis; J Robotic Surgery (2008)2:141-143 DOI 10.1007/s11701-008-0098-2. ² Bhayani SB, Das N. Robotic-assisted laparoscopic partial nephrectomy for suspected renal cell carcinoma. BMC Surgery 2008;8:16. ³ Khalifeh, A., Autorino, R., Hillyer, S.P., Laydner, H., Eyraud, R., Panumatrassamee, K., Long, J.A., Kaouk, J.H., Comparative Outcomes and Assessment of "Trifecta" in 500 Robotic and Laparoscopic Partial Nephrectomies: A Single Surgeon experience, The Journal of Urology® (2012), doi: 10.1016/j.juro.2012.10.021. ⁴ Pierorazio PM, Patel HD, Feng T, Yohannan J, Hyams ES, Allaf ME. Robotic-assisted versus traditional laparoscopic partial nephrectomy: comparison of outcomes and evaluation of learning curve. Urology. 2011 Oct;78(4):813-9. Epub 2011 Jul 29. ⁵ Wang AJ, Bhayani SB. Robotic partial nephrectomy versus laparoscopic partial nephrectomy for renal cell carcinoma: single-surgeon analysis of >100 consecutive procedures. Urology. 2009 Feb;73(2):306-10. Epub 2008 Nov 26. ⁶ Benway BM, Bhayani SB, Rogers CG, et al. Robot assisted partial nephrectomy versus laparoscopic partial nephrectomy for renal tumors: A multi-institutional analysis of perioperative outcomes. J Urol 2009;182:866-872.