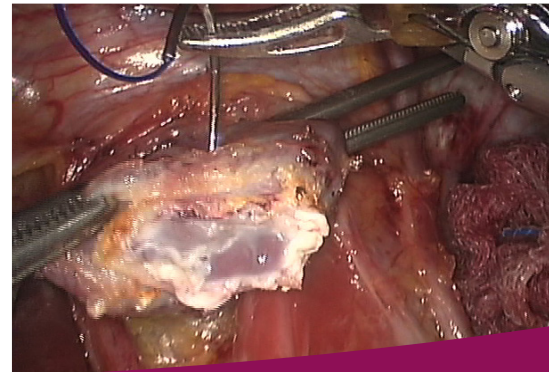
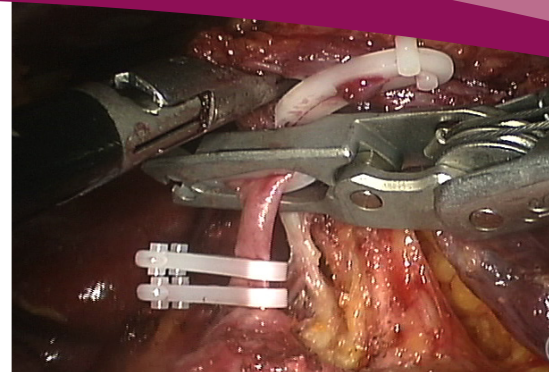
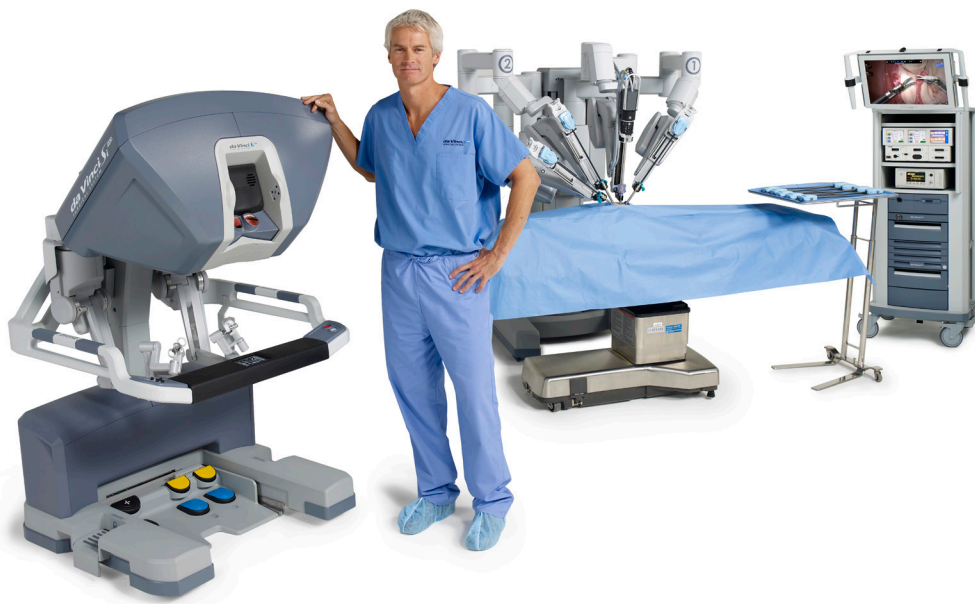
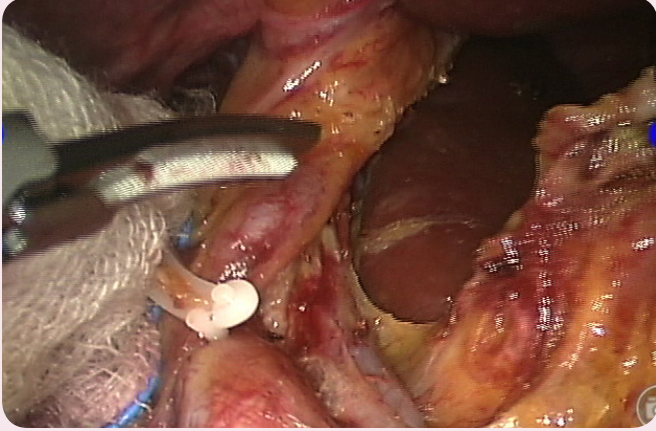


da Vinci
GASTRECTOMY



Solutions for minimally invasive gastric surgery

The *da Vinci* Surgical System



Hepatic Lymph Node Dissection

Surgeon control of all three *da Vinci* arms and *EndoWrist* instrumentation offer stable retraction and exposure of the portal vein and common hepatic artery for complete dissection of hepatic and celiac lymph nodes.

- High-definition 3D vision
- *EndoWrist*[®] instrumentation
- *Intuitive*[®] motion

Surgeon Benefits

Achieve complete extended lymphadenectomy using a minimally invasive approach to gastrectomy.

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

- ❖ Stable retraction and exposure, enabling meticulous dissection^{1,2,3,4}
- ❖ Complete D2 lymph node dissection with a minimally invasive surgical approach^{2,3,4}
- ❖ Ability to perform intracorporeal (including esophageal) anastomosis³
- ❖ Excellent vascular identification and access for precise dissection and transection^{3,4,5}
- ❖ Short learning curve^{6,7}

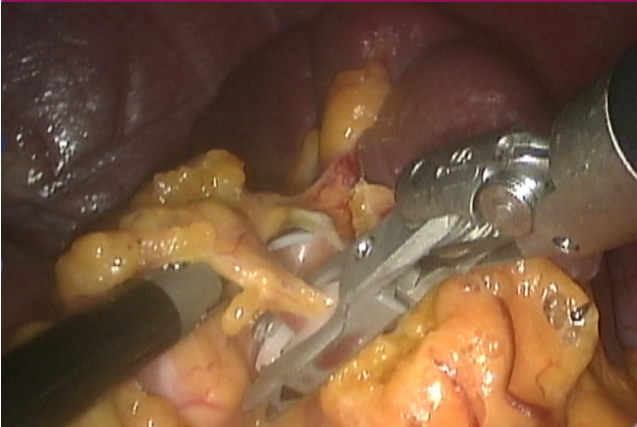


Monopolar
Hot Shears™

Application Highlights

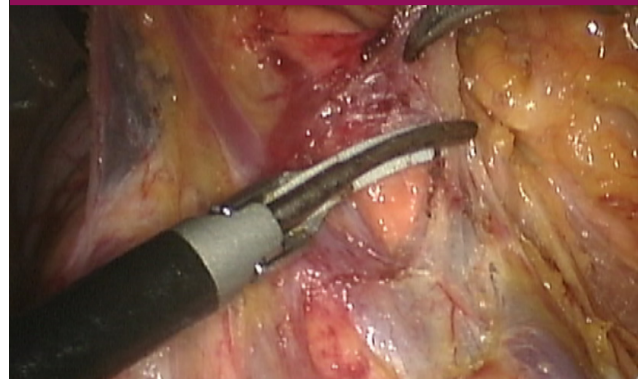
Four ways *da Vinci* technology facilitates a precise gastrectomy:

Greater Curvature Mobilization



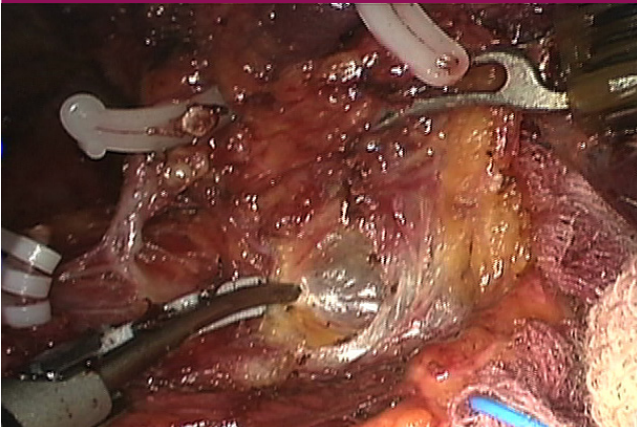
Excellent visualization, wristed instrumentation and surgeon autonomy allow for easier control of left gastroepiploic vessels while preserving the vessels to the omentum.

Infrapyloric Dissection (Distal Gastrectomy)



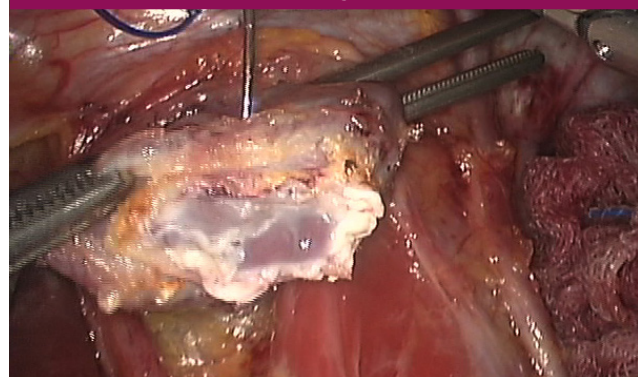
Stable 3D high-definition vision and *EndoWrist* instruments support precise removal of soft tissues around the root of the superior mesenteric vein without damage to the head of the pancreas.

Pancreatic Lymph Node Dissection



Three *EndoWrist* instrument arms enable reorientation of the stomach, offering excellent access to the suprapancreatic lymph nodes and precise dissection along the splenic artery.

Roux-en-Y Reconstruction (Total Gastrectomy)



Dexterous wristed instrumentation facilitates mobilization of the esophagus and placement of intracorporeal, hand-sewn purse-string sutures for esophagojejunostomy.

For technology videos visit
www.daVinciSurgeryCommunity.com

Clinical Data

Robotic gastrectomy for gastric cancer: surgical techniques and clinical merits

Kim MC, Heo GU, Jung GJ. Robotic gastrectomy for gastric cancer: surgical techniques and clinical merits. Surg Endosc. 2010 Mar;24(3):610-5. Epub 2009 Aug 18.

Author comment: "Robotic gastrectomy offered better short-term surgical outcomes than the open and laparoscopic methods in terms of blood loss and hospital stay. Therefore, this procedure may be a preferable alternative for the treatment of gastric cancer."

	Open (n = 12)	Laparoscopic (n = 11)	Robotic (n = 16)	p Value
Estimated blood loss (ml)	78.8 ± 74.1	44.7 ± 37.1	30.3 ± 15.1	0.0312*
Operation time (min)	126.7 ± 24.1	203.9 ± 36.4	259.2 ± 38.9	<0.0001+
Time to first flatus (days)	3.4 ± 0.9	3.6 ± 0.9	3.2 ± 1.1	0.5193
Postoperative hospital stay (days)	6.7 ± 1.4	6.5 ± 0.8	5.1 ± 0.3	<0.0001+
Complication				
No/Yes	10/2	10/1	16/0	0.2561

*Statistically significant difference between open surgery and robotic surgery

+Statistically significant difference between open, laparoscopic and robotic surgery

Limitations of this study include but are not limited to: small patient numbers; retrospective nature



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

Potential Patient Benefits & Risks

POSSIBLE BENEFITS COMPARED TO OPEN SURGERY:

- ❖ Shorter hospital stay^{2,4,5}
- ❖ Quick return to soft diet²
- ❖ Fewer complications^{2,5}
- ❖ Less blood loss⁵

POSSIBLE RISKS INCLUDE:

- ❖ Ileus (bowel blockage)⁵
- ❖ Intestinal leakage⁸
- ❖ Bleeding⁸
- ❖ Infection⁸



EndoWrist® Instruments Optimized for da Vinci® Gastrectomy

STANDARD/S, Si PNs	FEATURES	STANDARD/S, Si PNs	FEATURES
 Maryland Bipolar Forceps 400172/420172	<ul style="list-style-type: none"> ❖ Curved tip profile for dissecting ❖ Fenestration for secure grasping ❖ Pin-point delivery of bipolar energy 	 ProGrasp™ Forceps 400093/420093	<ul style="list-style-type: none"> ❖ Grasping and retracting
 Harmonic™ Curved Shears 400174/420174	<ul style="list-style-type: none"> ❖ Ultrasonic energy ❖ Curved jaw design 	 Graptor™ (Grasping Retractor) 400278/420278	<ul style="list-style-type: none"> ❖ Grasping and retracting
 Hem-o-lok™ Clip Applier, Large 400230/420230	<ul style="list-style-type: none"> ❖ Wristed clip applicator ❖ Enhanced robotic application 	 Permanent Cautery Hook 400183/420183	<ul style="list-style-type: none"> ❖ Dissecting and coagulating
 Cadiere Forceps 400049/420049	<ul style="list-style-type: none"> ❖ Fenestrated, wide jaw profile ❖ Atraumatic grasping 	 Fenestrated Bipolar Forceps 400205/4202052	<ul style="list-style-type: none"> ❖ Grasping, retracting, dissecting and coagulating
 Hot Shears™ (Monopolar Curved Scissors) 400179/420179 Requires Tip Cover 400180	<ul style="list-style-type: none"> ❖ Cutting, dissecting and coagulating 	 Large Needle Driver 400006/420006	<ul style="list-style-type: none"> ❖ Intracorporeal hand-sewn anastomosis ❖ Purse-string suture for esophagojejunostomy



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Contraindications applicable to the use of conventional endoscopic instruments also apply to the use of all *da Vinci* instruments, including *Single-Site* Instrumentation. General contraindications for endoscopic surgery include bleeding diathesis, morbid obesity and pregnancy.

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. Temporary pain or nerve injury has been linked to the inverted position often used during abdominal and pelvic surgery. Risk specific to minimally invasive surgery may include a longer operative time, the need to convert to an open approach, or for additional or larger incision sites. Converting the procedure could mean a longer operative time, a long time under anesthesia, and could lead to increased complications. Research suggests that there may be an increased risk of incision-site hernia with single-incision surgery. We encourage you to discuss your surgical experience and review these and all risks with your patients, including potential for human error and for equipment failure. 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.

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. Training provided by Intuitive Surgical is limited to the use of the *da Vinci* System. Intuitive is not responsible for teaching surgeons how to perform surgery. Procedure descriptions are provided by independent surgeons. For complete technical information, including warnings and cautions, please refer to the product documentation. 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.

The *Harmonic*® Curved Shears Instrument is designed to be used in conjunction with both the *da Vinci* System (standard, *S* and *Si* models) and a compatible *Ethicon* Endo-Surgery Generator and Hand Piece. It is intended for soft tissue incisions when bleeding control and minimal thermal injury are desired.

This instrument 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 instrument is not intended for contraceptive tubal occlusion. This instrument should not be used in Cardiac or Central Nervous System applications. The use of the *Harmonic* Curved Shears Instrument in conjunction with the standard *da Vinci*® and *da Vinci*® *S*™ (Models IS1000 and IS1200) is contraindicated for pediatric patients. In case of Emergency Stop or fault condition, the Instrument Arm may move due to gravity. Should this movement occur when the instrument is in contact with tissue, unintended injury may result.

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 Anderson C, Hellan M, Kernstine K, Ellenhorn J, Lai L, Trisal V, Pigazzi A. Robotic surgery for gastrointestinal malignancies. *Int J Med Robot.* 2007 Dec;3(4):297-300. ² Anderson C, Ellenhorn J, Hellan M, Pigazzi A. Pilot series of robot-assisted laparoscopic subtotal gastrectomy with extended lymphadenectomy for gastric cancer. *Surg Endosc.* 2007 Sep;21(9):1662-6. Epub 2007 Mar 8. ³ Patriti A, Ceccarelli G, Bellochi R, Bartoli A, Spaziani A, Di Zitti L, Casciola L. Robot-assisted laparoscopic total and partial gastric resection with D2 lymph node dissection for adenocarcinoma. *Surg Endosc.* 2008 Dec;22(12):2753-60. Epub 2008 Sep 24. ⁴ Song J, Oh SJ, Kang WH, Woo Jin Hyung WJ, Choi SH, and Noh SH. Role of robotic gastrectomy using da Vinci system compared with laparoscopic gastrectomy: initial experience of 20 consecutive cases. *Surg Endosc.* 2009 June; pp. 1204-1211(8). ⁵ Kim MC, Heo GU, Jung GJ. Robotic gastrectomy for gastric cancer: surgical techniques and clinical merits. *Surg Endosc.* 2010 Mar;24(3):610-5. Epub 2009 Aug 18. ⁶ Giulianotti PC. Robotics in general surgery. *Arch Surg.* 2003;138:777-784. ⁷ Eom BW, Yoon HM, Ryu KW, Lee JH, Cho SJ, Lee JY, Kim CG, Choi JJ, Lee JS, Kook MC, Rhee JY, Park SR, Kim YW. Comparison of surgical performance and short-term clinical outcomes between laparoscopic and robotic surgery in distal gastric cancer. *Eur J Surg Oncol.* 2012 Jan;38(1):57-63. Epub 2011 Sep 25. ⁸ National Institutes of Health. Gastrectomy. Available from: <http://www.nlm.nih.gov/medlineplus/ency/article/002945.htm>