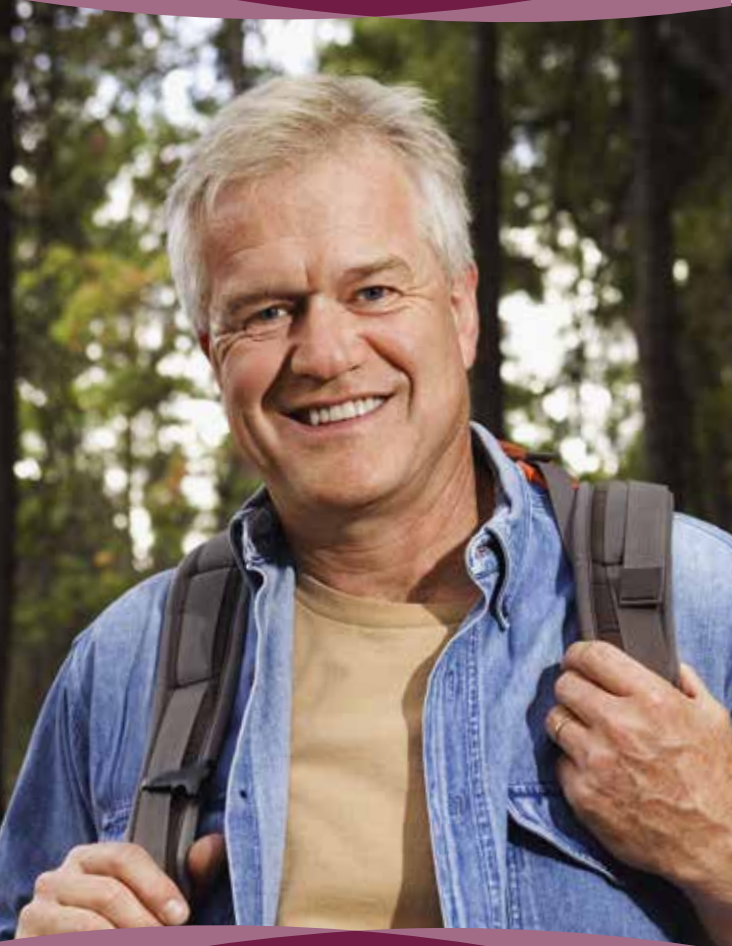


# Facing Pancreatic Surgery?

Learn about minimally invasive  
*da Vinci*® Surgery



*da Vinci*.Surgery

# The Condition:

## Pancreatitis/Pancreatic Cancer

The pancreas is an organ that produces enzymes and hormones to help your body digest food and regulate blood sugar. The pancreas is located behind your stomach and is about 6 inches long.

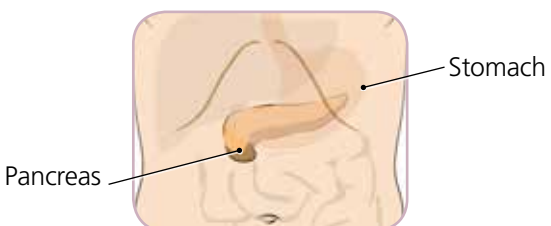
Pancreatitis is a disease in which the pancreas becomes inflamed. It can be acute or chronic.

**Acute pancreatitis** occurs suddenly and usually goes away in a few days with treatment.<sup>1</sup> Symptoms may include: pain, swelling or tenderness in the upper abdomen, nausea, vomiting, back pain, and fever.

**Chronic pancreatitis** occurs over many years and can lead to permanent damage.<sup>1</sup> Symptoms may include: upper abdominal pain, nausea, vomiting, diarrhea, and oily stool.

Pancreatitis often develops between ages 30 and 40. The most common causes are: gallstones, heavy alcohol use, cystic fibrosis, high triglycerides, certain medicines, and structural problems in the pancreas.

**Pancreatic cancer** is hard to detect in its initial stages since it often does not cause early symptoms.<sup>2</sup> If symptoms are present, they may include: yellowing skin or eyes, pain in the abdomen and back, loss of appetite, depression and blood clots. Some risk factors include: smoking, obesity, diabetes, chronic pancreatitis, and certain hereditary disorders.



# Treatment/Surgery

Your doctor will suggest a treatment plan based on the severity or stage of the disease. If surgery is recommended, the type of surgery (listed below) will depend on how much of your pancreas is affected.

When cancer is suspected, your surgeon will remove your pancreas and send it to a lab to be tested for cancer.

**Distal Pancreatectomy:** If the bottom half or tail of the pancreas is affected and needs to be removed, this is known as a distal pancreatectomy.

**Whipple Pancreatectomy:** During the Whipple procedure, the head of the pancreas, most of the duodenum (part of small intestine), gallbladder, part of bile duct, and nearby lymph nodes are removed.

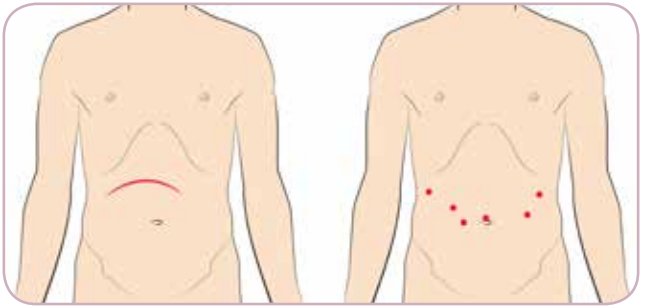
**Central Pancreatectomy:** Performed when there is a benign (non-cancerous) tumor in what is called the neck of the pancreas.

**Total Pancreatectomy:** A total pancreatectomy is an operation to remove your entire pancreas.



Surgery on the pancreas can be performed using traditional open surgery (through one large incision) or minimally invasive surgery.

Minimally invasive surgery (laparoscopy) is done through a few small incisions using long, thin surgical instruments and a tiny camera. The camera takes images inside your body. These images are sent to a video monitor in the operating room to guide surgeons as they operate.



Open Surgery  
Incision

*da Vinci* Surgery &  
Laparoscopy Incisions



# *da Vinci* Surgery:

## A Minimally Invasive Surgical Option

*da Vinci* Pancreatectomy (distal and whipple procedures) is another minimally invasive option for many patients facing pancreatic surgery.

The *da Vinci* System features a magnified 3D HD vision system and special wristed instruments that bend and rotate far greater than the human wrist. *da Vinci* enables your doctor to operate with enhanced vision, precision, and control.

As a result of this technology, *da Vinci* Pancreatectomy offers the following potential benefits when compared to open surgery:

- › Lower rate of complications<sup>3</sup>
- › Shorter hospital stay<sup>3,4,5</sup>
- › Greater chance of saving the spleen (benign cases)<sup>5</sup>
- › Less risk of follow-up surgery<sup>3</sup>

*da Vinci* Pancreatectomy offers the following potential benefits compared to traditional laparoscopic surgery:

- › More precise removal of cancerous tissue<sup>6</sup>
- › Less risk of converting to open surgery<sup>6,7</sup>
- › Greater chance of saving the spleen (benign cases)<sup>5</sup>
- › Reduced risk of blood loss<sup>6</sup>
- › Shorter hospital stay<sup>5</sup>

### **Risks & Considerations Related to Pancreatic Surgery:**

- Inflamed pancreas
- Leaking of pancreatic juices
- Narrowing/leaking at the spot where the pancreas is connected to the bowel
- Injury to spleen or bowel
- Insufficient pancreatic function (for example, diabetes)

## **Important Information for Patients:**

Serious complications may occur in any surgery, including *da Vinci*<sup>®</sup> Surgery, up to and including death. Examples of serious or life-threatening complications, which may require prolonged and/or unexpected hospitalization and/or reoperation, include but are not limited to, one or more of the following: injury to tissues/organs, bleeding, infection and internal scarring that can cause long-lasting dysfunction/pain. Risks of surgery also include the potential for equipment failure and/or human error. Individual surgical results may vary. Risks specific to minimally invasive surgery, including *da Vinci* Surgery, include but are not limited to, one or more of the following: temporary pain/nerve injury associated with positioning; temporary pain/discomfort from the use of air or gas in the procedure; a longer operation and time under anesthesia and conversion to another surgical technique. If your doctor needs to convert the surgery to another surgical technique, this could result in a longer operative time, additional time under anesthesia, additional or larger incisions and/or increased complications. Patients who are not candidates for non-robotic minimally invasive surgery are also not candidates for *da Vinci*<sup>®</sup> Surgery. Patients should talk to their doctor to decide if *da Vinci* Surgery is right for them. Patients and doctors should review all available information on non-surgical and surgical options in order to make an informed decision. For Important Safety Information, including surgical risks, indications, and considerations and contraindications for use, please also refer to [www.davincisurgery.com/safety](http://www.davincisurgery.com/safety) and [www.intuitivesurgical.com](http://www.intuitivesurgical.com).

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## The Enabling Technology: *da Vinci* Surgical System

The *da Vinci* Surgical System is designed to provide surgeons with enhanced capabilities, including high-definition 3D vision and a magnified view. Your doctor controls the *da Vinci* System, which translates his or her hand movements into smaller, more precise movements of tiny instruments inside your body.



Though it is often called a “robot,” *da Vinci* cannot act on its own. Surgery is performed entirely by your doctor. Together, *da Vinci* technology allows your doctor to perform routine and complex procedures through just a few small openings, similar to traditional laparoscopy.

The *da Vinci* System has brought minimally invasive surgery to more than 2 million patients worldwide. *da Vinci* - changing the experience of surgery for people around the world.

## Your doctor is one of a growing number of surgeons worldwide offering *da Vinci*® Surgery.

For more information and to find a *da Vinci* Surgeon near you, visit:

[www.daVinciSurgery.com](http://www.daVinciSurgery.com)

<sup>1</sup> National Digestive Diseases Information Clearinghouse (NDDIC); Pancreatitis. Available from: <http://digestive.niddk.nih.gov/ddiseases/pubs/pancreatitis/>.  
<sup>2</sup> American Cancer Society, Signs and symptoms of pancreatic cancer. Available from: <http://www.cancer.org/cancer/pancreaticcancer/detailedguide/pancreatic-cancer-signs-and-symptoms>.  
<sup>3</sup> Zhang J1, Wu WM, You L, Zhao YP. Robotic versus open pancreatectomy: a systematic review and meta-analysis. *Ann Surg Oncol*. 2013 Jun;20(6):1774-80. doi: 10.1245/s10434-012-2823-3. Epub 2013 Mar 17.  
<sup>4</sup> Chalikonda S1, Aguilar-Saavedra JR, Walsh RM. Laparoscopic robotic-assisted pancreaticoduodenectomy: a case-matched comparison with open resection. *Surg Endosc*. 2012 Sep;26(9):2397-402. doi: 10.1007/s00464-012-2207-6. Epub 2012 Mar 22.  
<sup>5</sup> Waters JA1, et al. Robotic distal pancreatectomy: cost effective? *Surgery*. 2010 Oct;148(4):814-23. doi: 10.1016/j.surg.2010.07.027. Epub 2010 Aug 24.  
<sup>6</sup> Daouadi M1, et al. Robot-assisted minimally invasive distal pancreatectomy is superior to the laparoscopic technique. *Ann Surg*. 2013 Jan;257(1):128-32. doi: 10.1097/SLA.0b013e31825fff08.  
<sup>7</sup> Winer J1, et al. The current state of robotic-assisted pancreatic surgery. *Nat Rev Gastroenterol Hepatol*. 2012 Aug;9(8):468-76. doi: 10.1038/nrgastro.2012.120. Epub 2012 Jun 26.