

# Facing Surgery for Throat Cancer?

Learn about minimally invasive **da Vinci® Surgery** for early to moderate stage throat cancer.



**da Vinci® Surgery**

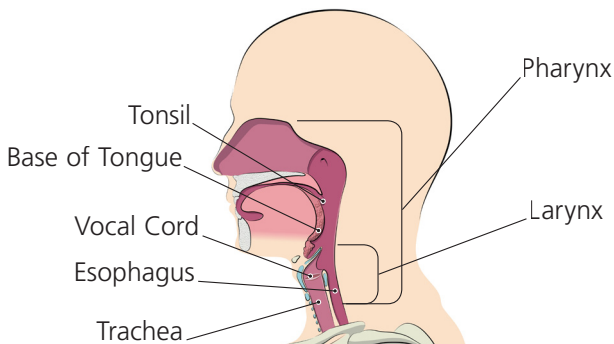
# The Condition:

## Throat Cancer

Cancer that occurs in your throat (pharynx), voice box (larynx), base of the tongue or tonsils is commonly called throat cancer. It is more common in adults over 50, and men are 10 times more likely to develop the disease.<sup>1</sup> Worldwide, there are about 290,000 cases of throat cancer diagnosed each year.<sup>2</sup>

Studies show people who are dependent on alcohol and/or tobacco have a higher rate of throat cancer.<sup>1,3</sup> Also, oropharyngeal squamous cell carcinoma (OSCC), which affects the tonsils and base of tongue, is increasing rapidly among younger people as the rate of the human papillomavirus (HPV) rises.<sup>4</sup> HPV is a virus commonly passed from person to person during sexual activity.

A neck and throat exam may show the presence of cancer. Mucus or phlegm that is coughed up (sputum) may look bloody and a lump may appear on the outside of the neck. Symptoms also can include abnormal sounding breathing, coughing, neck or throat pain, and difficulty swallowing. It is important to be aware of these symptoms since throat cancer is highly curable when found early.<sup>1</sup>



# Treatment & Surgical Options:

After a diagnosis is made and the stage (extent) of the throat cancer is determined, your doctor will suggest treatment options.

The goal of treatment is to get rid of the cancer and prevent it from spreading. Treatment options include surgery, chemotherapy and radiation, often given in combination.<sup>5</sup>

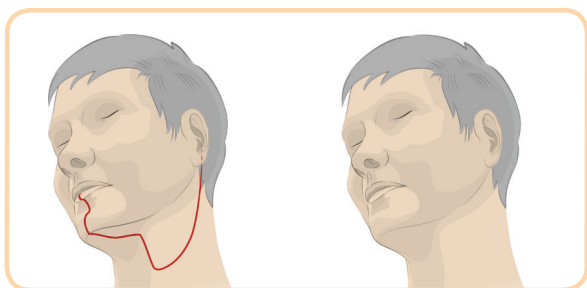
Depending on the tumor size, location and stage, your doctor may recommend surgery. There are two main types: open surgery and transoral (through the mouth) laser surgery.

Traditional open surgery to remove cancer requires your surgeon to make a long incision through the jaw and throat. Your surgeon may also need to break the jawbone to access the tumor. This can cause disfigurement as well as difficulty eating, speaking and swallowing.<sup>1</sup> Reconstructive or plastic surgery may be needed to rebuild the bones or tissues removed during surgery.



Transoral laser surgery is a minimally invasive alternative to open surgery. Using a surgical camera and microscope passed through the mouth, the surgeon directs the laser to the tumor - avoiding facial disfigurement and a tracheostomy (incision in front of neck used as an airway).

There is another minimally invasive option for patients diagnosed with early to moderate stage throat cancer: *da Vinci* Surgery.



Open Surgery  
Incision

*da Vinci* / Transoral  
Laser Surgery  
No Incision, No Scars



# da Vinci Surgery:

## A Minimally Invasive Surgical Option

The *da Vinci* System allows your surgeon to operate through the mouth – similar to other minimally invasive options. *da Vinci* features a magnified 3D high-definition vision system and special wristed instruments that bend and rotate far greater than the human wrist. The *da Vinci* Surgical System provides your surgeon with enhanced vision, precision and dexterity.

As a result of *da Vinci* technology, potential benefits of *da Vinci* Transoral Robotic Surgery include:

- › Precise removal of cancerous tissue<sup>6,7,8</sup>
- › Low rate of complications<sup>7,8</sup>
- › Low blood loss<sup>8,9</sup>
- › Minimal need for tracheotomy (breathing tube)<sup>9</sup>
- › Minimal need for chemoradiation therapy<sup>6,7</sup>
- › Ability to swallow following surgery<sup>6,7,8,9</sup>
- › Short hospital stay<sup>9</sup>
- › No visible scarring or disfigurement<sup>10</sup>



### Risks & Considerations Related to Throat Cancer Surgery & *da Vinci* Transoral Robotic Surgery:

Potential risks of any throat cancer procedure include:

- Vocal cord damage
- Speech and swallowing dysfunction
- Need for a tracheostoma (hole in neck) to breathe

There are potential risks related to minimally invasive surgery, including *da Vinci* TORS, such as post-operative hemorrhage and bleeding from the surgical site.<sup>11</sup>

### Important Information for Patients:

The *da Vinci* System is indicated for transoral otolaryngologic surgical procedures (i.e., use in removing tumors from the mouth, tonsils, tongue and throat through the mouth), but restricted to cancerous and non-cancerous tumors

classified as T1 and T2 (i.e., early and mid-stage cancers only). The *da Vinci*® System is not indicated for pediatric transoral otolaryngology surgical procedures. The safety and effectiveness of the *da Vinci* Surgical System has not been established in patients with poor mouth openings (< 1.5 cm), advanced tumors (e.g., invading the mandible, abutting the carotid artery, requiring bone resection, etc.). The *da Vinci*® System is not recommended for use in dental surgery (i.e. tooth extraction).

All surgery presents risk, including *da Vinci* Surgery. Results, including cosmetic results, may vary. Serious complications may occur in any surgery, up to and including death. Examples of serious and life-threatening complications, which may require hospitalization, include injury to tissues or organs; bleeding; infection, and internal scarring that can cause long-lasting dysfunction or pain. Temporary pain or nerve injury has been linked to the inverted position often used during abdominal and pelvic surgery. Patients should understand that risks of surgery include potential for human error and potential for equipment failure. Risks specific to minimally invasive surgery may include: a longer operative time; the need to convert the procedure to other surgical techniques; the need for additional or larger incision sites; a longer operation or longer time under anesthesia than your surgeon originally predicts. Converting the procedure to open could mean a longer operative time, 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. Patients who bleed easily, have abnormal blood clotting, are pregnant or morbidly obese are typically not candidates for minimally invasive surgery, including *da Vinci* Surgery. Other surgical approaches are available. Patients should review the risks associated with all surgical approaches. They should talk to their doctors about their surgical experience and to decide if *da Vinci* is right for them. For more complete information on surgical risks, safety and indications for use, please refer to <http://www.davincisurgery.com/safety>.

# 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 Institutes of Health. Cancer, Throat or Larynx. Available from: <http://www.nlm.nih.gov/medlineplus/ency/article/001042.htm>. <sup>2</sup> "Global Cancer Statistics, 2002"; A Cancer Journal for Clinicians; American Cancer Society; [www.caonline.amcancersoc.org](http://www.caonline.amcancersoc.org). <sup>3</sup> [www.Cancer.org](http://www.Cancer.org) Smokeless Tobacco and How to Quit. Available from: [http://www.cancer.org/docroot/PED/content/PED\\_10\\_13X\\_Quitting\\_Smokeless\\_Tobacco.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_10_13X_Quitting_Smokeless_Tobacco.asp?sitearea=PED). <sup>4</sup> CDC, Oropharyngeal Cancer Epidemic & HPV. Available from: [http://wwwnc.cdc.gov/eid/article/16/11/10-0452\\_article.htm](http://wwwnc.cdc.gov/eid/article/16/11/10-0452_article.htm). <sup>5</sup> [www.CancerTrialsHelp.org](http://www.CancerTrialsHelp.org). Treatment for Throat Cancer. Available from: [http://www.cancertrialshelp.org/blog/?page\\_id=1590](http://www.cancertrialshelp.org/blog/?page_id=1590). <sup>6</sup> Weinstein GS, Quon H, O'Malley BW Jr, Kim GG, Cohen MA. Selective neck dissection and deintensified postoperative radiation and chemotherapy for oropharyngeal cancer: a subset analysis of the University of Pennsylvania transoral robotic surgery trial. *Laryngoscope*. 2010 Sep;120(9):1749-55. <sup>7</sup> White HN, Moore EJ, Rosenthal EL, Carroll WR, Olsen KD, Desmond RA, Magnuson JS. Transoral robotic-assisted surgery for head and neck squamous cell carcinoma – one- and 2-year survival analysis. *Laryngoscope*. 2010 Sep;120(9):1749-55. <sup>8</sup> Weinstein GS, O'Malley Jr. BW, Synder W, Sherman E, Quon H. Transoral robotic surgery, radical tonsillectomy. *Arch Otolaryngol, Head Neck Surg*, Dec 2007;133(12). <sup>9</sup> Boudreaux BA, Rosenthal EL, Magnuson SJ, Newman RJ,, Desmond RA, Clemons L, Carroll WR; Robot-Assisted Surgery for Upper Aerodigestive Tract Neoplasms; *Arch Otolaryngol Head Neck Surg/Vol 135 (No. 4)*, Apr 2009. <sup>10</sup> Weinstein GS, O'Malley Jr BS, Desai SC, Quon H. Transoral robotic surgery: does the ends justify the means? *Current Opinion in Otolaryngology & Head and Neck Surgery*, 2009;17:126–131. <sup>11</sup> Salassa JR, Hinni ML, Grant DG, Hayden RE. Postoperative bleeding in transoral laser microsurgery for upper aerodigestive tract tumors. *Otolaryngol Head Neck Surg*. 2008 Sep;139(3):453-9. doi: 10.1016/j.otohns.2008.06.010.

## 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 been used successfully worldwide in approximately 1.5 million various surgical procedures to date. *da Vinci* - changing the experience of surgery for people around the world.