# Facing Lung Cancer?

Learn why **da Vinci® Surgery** may be your best treatment option for lung cancer.



#### The Condition: Lung Cancer

The lung is the organ that moves oxygen through your body. You have two lungs one on each side of your heart.

Lung cancer is a disease that attacks the lung tissue. It usually develops in adults older than age 65.<sup>1</sup> It is the most common cancer worldwide, with 1.2 million new cases every year.<sup>2</sup>

Tobacco smoke is the leading cause of lung cancer. That's why smoking cigarettes, pipes, or cigars – or being exposed to secondhand smoke - can increase your risk for this disease.<sup>2</sup>

Of the two main types of lung cancer, nonsmall cell is the most common. Fortunately, it is also the slower growing of the cancers.<sup>3</sup>

Sometimes lung cancer does not cause any symptoms but is found during a routine x-ray. If symptoms are present, they may include a chronic cough, trouble breathing, chest pain and unexplained weight loss.<sup>3</sup>



Cancer affecting one lung

<sup>1</sup>"What You Need to Know about Lung Cancer: Risk Factors," National Cancer Institute, www.cancer.gov. <sup>2</sup>"Global cancer rates could increase by 50% to 15 million by 2020," World Health Organization, www.who.int/en/.<sup>3</sup> "General Information About Non-Small Cell Lung Cancer," National Cancer Institute, www.cancer.gov.

## The Treatment: Lung Cancer Surgery

After your doctor makes a diagnosis and determines the stage (extent) of the cancer, he/ she will suggest appropriate treatment options. The goal of treatment is to eliminate the cancer and prevent it from spreading.

Different types of treatment are available to patients with non-small cell lung cancer. Patients may have surgery, chemotherapy, radiation therapy or a combination of treatments.<sup>4</sup>

Radiation therapy uses high-energy X-rays to kill cancer cells. External radiation is the most common type of radiation for lung cancer. Treatments are usually 5 days a week for several weeks. Side effects mainly depend on the type of radiation and dose. While it is non-invasive, this treatment may harm the esophagus and cause problems with swallowing.<sup>4</sup>



While clinical studies support the effectiveness of the *da Vinci*<sup>®</sup> System when used in minimally invasive surg *da Vinci* Surgical System may not be appropriate for every individual. Always ask your doctor about all treat © 2010 Intuitive Surgical. All rights reserved. *Intuitive®*, *Intuitive Surgical*, *da Vinci*, *da Vinci*, *S<sup>®</sup>*, *da Vinci*, *S*I trademarks of Intuitive Surgical. PN 873435 Rev. A 6/10 Chemotherapy uses anti-cancer drugs to kill cancer cells. These drugs can be given through a vein or taken by mouth. Chemotherapy is given in cycles with a rest period after each treatment cycle. Side effects — which range from fatigue, hair loss, and diarrhea to infection, nausea and vomiting — depend mainly on which drugs are given and how much.

During lung cancer surgery, your physician will remove either a piece of the lung containing the tumor and some healthy tissue around it; a section of the lung containing the tumor (lobectomy); part of the airway leading to the lung; or, the entire lung, if the cancer has spread.<sup>5</sup>

This procedure is traditionally performed through a long incision called a thoracotomy. Your surgeon may also spread the ribs to access the lung.

Following these procedures, your remaining lung tissue will still be functional. However, you will have less lung capacity overall.



da Vinci Incisions

Open Surgery (Thoracotomy) Incision

rgery, individual results may vary. Surgery with the atment options, as well as their risks and benefits. *Si*<sup>\*\*</sup> and *EndoWrist*<sup>®</sup> are trademarks or registered

#### da Vinci Surgery for Lung Cancer: A Less Invasive Surgical Procedure

If your doctor recommends surgery to treat lung cancer, you may be a candidate for a safe, effective and minimally invasive procedure – *da Vinci* Surgery. Using the most advanced technology available, *da Vinci* provides your surgeon with superior vision, precision and control, allowing for improved access inside the chest cavity.

Because *da Vinci* Surgery is performed through tiny incisions, spreading your ribs to access the lung is avoided. *da Vinci* is minimally invasive, unlike thoracotomy - traditional lung surgery which requires a long incision, and often a long recovery.<sup>6</sup>

Potential benefits of a da Vinci Lobectomy include:

- Low cancer recurrence in advanced disease<sup>7</sup>
- > Minimal pain<sup>7</sup>
- > Low blood loss<sup>8</sup>
- > Few complications<sup>8</sup>
- > Fast return of pulmonary function<sup>7</sup>
- > Short hospital stay<sup>8</sup> and fast recovery<sup>7</sup>

As with any surgery, these benefits cannot be guaranteed, as surgery is patient-and procedure-specific.



### 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 and complimented by the advanced technology of da Vinci Surgery. This allows for even complex procedures to be performed through a few tiny incisions. As a result, you may be able to get back to life faster without the usual recovery following major surgery.

The *da Vinci* System has been used successfully worldwide in hundreds of thousands of procedures to date.

<sup>4</sup>What You Need To Know About Lung Cancer – Treatment. National Cancer Institute, www.cancer.gov. <sup>5</sup>Non-Small Cell Lung Cancer: Treatment Options Overview. National Cancer Institute, www.cancer.gov. <sup>6</sup>Lung Cancer. American Cancer Society, URL: http:// www.cancer.org/downloads/CRI/CRC\_\_\_LUNG\_\_CANCER.pdf?sitearea=CRI. <sup>7</sup>KH Kernstine, CA Anderson, A Falabella. Robotic Lobectomy. Operative Techniques in Thoracic and Cardiovascular Surgery. 2008. 204e20-23. <sup>4</sup>MR Dylewski, R Estape, JF Pereira. Early experience with robotic-video-assisted thoracoscopic anatomical lung resection. Accepted for publication as of May 2010. European Journal of Cardio-Thoracic Surgery. All surgeries, including *da Vinci* Surgery, involve risk of major complications. Before you decide on surgery, discuss treatment options with your doctor. Understanding the risks of each treatment can help you make the best decision for your individual situation.

#### Your doctor is one of a growing number of surgeons offering *da Vinci* Surgery for Lung Cancer.

For more information about da Vinci Surgery and to find a da Vinci Surgeon near you, visit: www.daVinciSurgery.com