

# Video Assisted Thoracic Surgery (VATS)

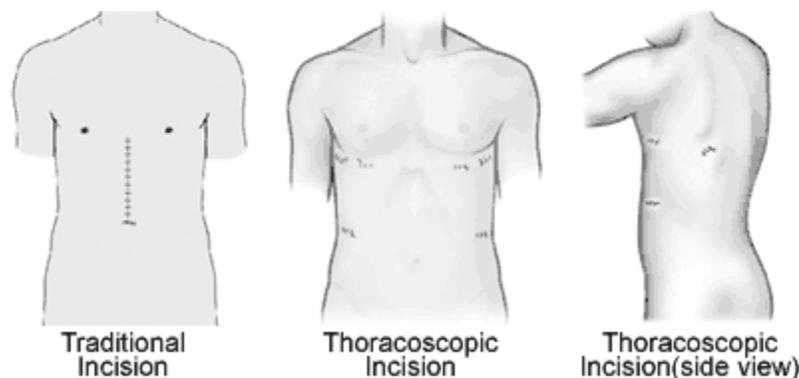
## What is minimally invasive thoracic surgery?

Minimally invasive thoracic surgery, also called thoracoscopy or thoracoscopic surgery, is surgery of the chest that is performed with a thoracoscope (small video-scope) using small incisions and special instruments to minimize trauma.

Other names for this procedure include pleuroscopy or VATS (video assisted thoracic surgery).

The thoracoscope transmits images of the operative area onto a computer monitor that is positioned next to the patient.

During thoracoscopic surgery and video assisted thoracic surgery, three small (approximately 1-inch) incisions are used, as compared with one long 6- to 8-inch incision that is used during traditional, “open” thoracic surgery. Surgical instruments and the thoracoscope are inserted through these small incisions.



As compared with traditional surgery, patients who undergo minimally invasive surgery experience:

- Decreased postoperative pain
- Shorter hospital stay
- More rapid recovery and return to work

Other possible benefits of minimally invasive video assisted thoracic surgery include reduced risk of infection and less bleeding.

## Who is a candidate for minimally invasive surgery?

Almost all traditional thoracic surgeries can be performed using a minimally invasive technique.

If you need thoracic surgery, a minimally invasive surgical approach should first be considered. However, there are still some procedures that are best performed using a traditional, “open,” technique. Your surgeon will carefully evaluate you to determine the safest surgical approach to treat your medical condition.

## Types of Thoracoscopic Surgery Procedures

Commonly performed thoracic surgery procedures using a minimally invasive technique include:

- VATS lobectomy
- Wedge resection
- Lung biopsy
- Drainage of pleural effusions
- Mediastinal, pericardial and thymus thoracoscopic procedures

## **Video-Assisted Lobectomy**

Lobectomy (removal of a large section of the lung) is the most common surgery performed to treat lung cancer.

Lobectomy has been traditionally performed during thoracotomy surgery. During thoracotomy surgery, an incision is made on the side of the chest between the ribs. The ribs are then spread apart so the surgeon can see into the chest cavity to remove the tumor or affected tissue.

Surgeons routinely perform lobectomy using a minimally invasive approach. During video-assisted lobectomy, three 1-inch incisions and one 3- to 4-inch incision are made to provide access to the chest cavity without spreading of the ribs. The lobectomy patient experiences a more rapid recovery with less pain and a shorter hospital stay (usually 3 days) with video-assisted lobectomy as compared with traditional thoracotomy surgery.

Although minimally invasive approaches should be considered for every lobectomy patient, in some cases, patients who have a large or more central tumor may not be candidates for video-assisted lobectomy.

## **Wedge Resection**

A wedge resection is the surgical removal of a wedge-shaped portion of tissue from one, or both, lungs. A wedge resection is typically performed for the diagnosis or treatment of small lung nodules.

## **Lung Biopsy**

A lung biopsy is a procedure in which a small sample of lung tissue is removed through a small incision between the ribs. The lung tissue is examined under a microscope by expert pathologists and may also be sent to a microbiological laboratory to be cultured. The lung tissue is examined for the presence of lung diseases such as infectious or interstitial lung disease.

## **Drainage of Pleural Effusions**

A pleural effusion is the build-up of excess fluid between the layers of the pleura – the thin membrane that lines the outside of the lungs and the inside of the chest cavity. Normally, very little fluid is present in this space. The excess fluid is removed (drained) during a thoracoscopic procedure called thoracentesis and may be collected for analysis to indicate possible causes of pleural effusion such as infection, cancer, heart failure, cirrhosis or kidney disease. Sterile talc or an antibiotic may be inserted at the time of surgery to prevent the recurrence of fluid build-up.

## **Mediastinal, Pericardial and Thymus Thoracoscopic Procedures**

The **mediastinum** is the area in the middle of the chest between the lungs. The **pericardium** is the area surrounding the heart. The **thymus** is a small organ located in the upper/front portion of the chest, extending from the base of the throat to the front of the heart. The cells of the thymus form a part of the body's normal immune system. Early in life, the thymus plays an important role in the development of the immune system. Thoracoscopic techniques can be used to examine the mediastinum, pericardium or thymus, remove tissue samples or surgically remove cancerous growths in the affected area.

## **How long will I stay in the hospital after thoracoscopic surgery?**

The length of your hospital stay will vary, depending on the procedure that is performed. In general, patients who have thoracoscopic lung biopsies or wedge resections are able to go home the day after surgery. Patients who have a VATS lobectomy are usually able to go home 3 to 4 days after surgery.

## **What will happen after my thoracoscopic surgery?**

Your health care team will provide specific instructions for your recovery and return to work, including guidelines for activity, driving, incision care and diet. Most people who undergo minimally invasive thoracic surgery can return to work within 3 to 4 weeks.

**References:**

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