

Glossary

Achalasia: A condition characterized by loss of synchronized muscle contraction in the oesophagus and failure of the lower oesophageal muscle to relax with swallowing.

Ablation: The removal or destruction of tissue.

Abscess: A localized formation of pus in a cavity caused by the disintegration or displacement of tissue due to bacterial infection.

Acute: Abrupt onset that usually is severe; happens for a limited period of time.

Adjuvant therapy: Treatment provided in addition to the primary treatment to prevent cancer recurrence.

Alveoli: Thin-walled, small sacs located at the ends of the smallest airways in the lungs where the exchange of oxygen and carbon dioxide takes place.

Antiplatelet medication: A medication, such as aspirin or Plavix (clopidogrel), used to prevent platelets from clumping together and causing the formation of blood clots.

Arterial blood gas test: A blood test that measures oxygen and carbon dioxide in the blood.

Aspiration pneumonia: A condition that occurs when the contents of the stomach or oesophagus are breathed into the airways.

Asthma, chronic: A disease of the air passages that carry air in and out of the lungs. Asthma causes the airways to narrow, the lining of the airways to swell and the cells that line the airways to produce more mucus. These changes make breathing difficult and cause a feeling of not getting enough air into the lungs. Common symptoms include shortness of breath, wheezing and excess mucus production.

Atelectasis: Partial or complete collapse of the lung, usually due to a blockage of the air passages with fluid, mucus or infection. Symptoms include dry cough, chest pain and mild shortness of breath.

Balloon (pneumatic) dilation: A nonsurgical treatment for achalasia. While the patient is under light sedation, the gastroenterologist inserts a specially designed balloon through the lower oesophageal sphincter and inflates it. The balloon disrupts the oesophageal muscle to relieve the pressure that blocks

food from passing easily into the stomach. Some patients may have to undergo repeat dilation treatments to achieve an improvement in symptoms, or other treatments may also be needed.

Barium swallow test: A test in which the patient swallows a barium preparation (liquid or other form) and its movement through the oesophagus is evaluated using X-ray technology. Barium is safe and does not dissolve or react in the body. It is used as a contrast material because it blocks x-rays so the area being evaluated appears white against a dark background.

Barrett's oesophagus: A condition that develops in some people who have chronic gastroesophageal reflux disease (GERD) or inflammation of the oesophagus.

Biopsy: The removal of a sample of tissue via a small needle. The tissue is removed for examination to determine a diagnosis.

BIPAP (bi-level positive airway pressure) machine: A breathing machine that uses two pressure levels (inspiratory and expiratory) to provide breathing assistance. This machine is often used for patients with sleep apnoea or respiratory failure.

Botox (botulinum toxin) injections: A treatment for some patients with achalasia. Botox is a protein made by the bacteria that cause botulism. When injected into muscles in very small quantities, Botox can relax spastic muscles. It works by preventing nerves from sending signals to the muscles that tell them to contract.

Breath sounds: Sounds heard through a stethoscope. The intensity of the sound of air moving in and out of the lungs may indicate the amount of obstruction.

Breathing rate: the number of breaths per minute.

Breathing tube (endotracheal tube): A temporary tube put into the nose or mouth. Anaesthesia or air and oxygen pass through the tube allowing artificial breathing.

Bronchi: A pair of breathing tubes that connect the trachea to the lungs. Oxygen and carbon dioxide travel in opposite directions through the bronchi.

Bronchial tubes: Branches of the airways (air passages) in the lungs.

Bronchioles: The smallest branches of the airways in the lungs. They connect to the alveoli (air sacs).

Bronchitis, chronic: Irritation and inflammation of the lining of the bronchial tubes. The irritation causes coughing and excess amounts of mucus in the airways which can lead to difficulty breathing. Bronchitis is considered chronic when the person has a productive cough (coughs up mucus) and shortness of breath that lasts at least three months each year for at least two years in a row.

Bronchodilator: Medication used to relax the muscle bands that tighten around the airways to increase air flow. Bronchodilators also help clear mucus from the lungs.

Bronchoscope: A long, thin tube with a small camera at the end that is used to evaluate the airways. The bronchoscope is passed through the nose or mouth, past the vocal chords and down the airway as far as necessary. The camera transmits the images on a television monitor. Bronchoscopy can be used to remove objects or mucus blocking the airway, or to remove growths in the airway.

Bronchoscopy: A diagnostic test used to view the inside of the airway. The test can be performed to diagnose lung diseases or locate the source of a problem by visualizing the throat, larynx, trachea and lungs and collecting tissue samples for biopsy.

Bronchospasm: The sudden tightening of the bands of muscle that surround the airways, causing the airways to become narrower. Bronchospasm may result in wheezing.

Carbon dioxide: A colorless, odorless gas that is formed in tissues of the body and is delivered to the lungs for removal.

Carcinogen: Cancer-causing substance.

Chest x-ray: Procedure used to view the lungs and lower respiratory tract. A chest X-ray may be used for diagnosis and therapy.

Chronic: Continuing over a certain period of time; long-term.

Cilia: Hair-like structures that line the airways in the lungs and help to clean out the airways.

Clinical trials: Research programs conducted with patients to evaluate a new medical treatment, drug or device. The purpose of clinical trials is to find new and improved methods of treating different diseases and special conditions.

Computed tomography (CT) scan: An x-ray procedure that combines many x-ray images with the aid of a computer to generate cross-sectional views of the body.

Contraindication: Any condition which indicates that a particular course of treatment (or exercise) would be inadvisable or cause harm.

COPD (chronic obstructive pulmonary disease): A general term used to describe several lung diseases. The most common diseases in this group include chronic bronchitis and emphysema. Chronic asthma may also be included. COPD worsens gradually, causing limited airflow in and out of the lungs.

CPAP (continuous positive airway pressure) machine: A breathing machine that provides pressure to keep the upper airways open during breathing. This machine is often used for patients with obstructive sleep apnea.

Creatinine: A waste product in the blood that is removed by the kidneys and eliminated in the urine. Regular testing of the creatinine level indicates how well the kidneys are functioning.

Diaphragm: The thin muscle below the lungs and heart that separates the chest cavity from the abdomen. The diaphragm is the most efficient breathing muscle.

Diaphragmatic surgery: Surgery performed on the diaphragm. Diaphragmatic surgery may be performed to treat a hernia or any other conditions that affect the diaphragm.

Diffusion capacity: A measurement of how much oxygen is carried from your lungs into your bloodstream.

Dysphagia: Difficulty swallowing.

Dysplasia: Abnormal or precancerous cells or tissue.

Dyspnoea: Shortness of breath, difficulty breathing.

Oedema: Swelling that may occur in the ankles, feet or legs.

Electrocardiogram (ECG): A test that records on graph paper the electrical activity of the heart via small electrode patches attached to the skin. An ECG helps a physician determine the causes of abnormal heartbeat or detect heart damage.

Emphysema: A degenerative disease characterized by the destruction, or breakdown, of the walls of the alveoli (air sacs) located at the end of the bronchial tubes. The damaged alveoli are not able to exchange oxygen and carbon dioxide between the lungs and the blood. The bronchioles lose their

elasticity and collapse during exhalation, trapping air in the lungs. The trapped air keeps fresh air and oxygen from entering the lungs.

Empyema: A collection of pus in the pleural space (the cavity between the lung and the membrane that surrounds it).

Exacerbation: Worsening.

Gastroenterologist: Physician who specializes in diagnosing and treating disorders of the digestive system, such as hepatitis, ulcerative colitis, Crohn's disease, and colon or rectal cancer.

Gastroenterologists may perform many specialized tests, such as endoscopy, to diagnose or treat diseases. When necessary, they may consult with surgeons.

Gastroesophageal reflux disease (GERD): A condition that occurs when the contents of the stomach travel back up into the oesophagus. When you swallow, food passes down your throat and through your oesophagus to your stomach. A valve called the lower oesophageal sphincter (LES) controls the passage of food from the oesophagus to the stomach when you swallow. It remains tightly closed except when you swallow food. When this muscle fails to close or opens spontaneously, the acid, bile and food contents of the stomach can travel backward into the oesophagus. When stomach acid enters the lower part of the oesophagus, it can produce a burning sensation, commonly referred to as heartburn.

Gastrostomy: An artificial opening from the stomach to a hole (stoma) in the abdomen where a feeding tube is inserted. The feeding tube allows the delivery of nutrients directly into the small intestine, bypassing the stomach. A feeding may be needed temporarily after certain surgeries to allow recovery. *See also enteral nutrition.*

H2-receptor antagonists: Also called H2 receptor blockers or histamine receptor blockers. Medications that control or eliminate acid, but may not be as effective as proton pump inhibitors. H2-receptor antagonists may be used to treat gastroesophageal reflux disease (GERD) and include cimetidine (Tagamet HB), famotidine (Pepcid AC), nizatidine (Axid AR), and ranitidine (Zantac 75). Some of these medications are available over-the-counter, but should not be used for more than a few weeks at a time.

Heartburn: A burning sensation in the chest that may occur after eating, bending, stretching, exercise and sometimes at night when lying down. Heartburn symptoms are usually relieved by antacids and may be more frequent or worse at night.

Heller myotomy: A surgical treatment for achalasia in which the muscles of the valve between the oesophagus into the stomach are cut. Traditional Heller myotomy surgery is completed through an open incision in the abdomen or through an incision in the left side of the chest between the ribs. Laparoscopic Heller myotomy surgery can be performed using smaller incisions with a minimally invasive approach.

Hiatus: An opening in the diaphragm -- the muscular wall separating the chest cavity from the abdomen.

Hiatal hernia: Also called hiatus hernia. An area of the stomach that bulges up into the chest through the hiatus. Normally, the oesophagus (food pipe) goes through the hiatus to drain into the stomach. In a hiatal hernia, the stomach bulges up into the chest through that opening.

Histamine: A naturally-occurring substance that is released by the immune system after being exposed to an allergen. When you inhale an allergen, mast cells located in the nose and sinus membranes release histamine. Histamine then attaches to receptors on nearby blood vessels, causing them to enlarge (dilate). Histamine also binds to other receptors located in nasal tissues, causing redness, swelling, itching and changes in the secretions.

Histamine receptor blockers (H2 blockers) : *See H2 receptor antagonists.*

Hyperhidrosis: A medical condition in which a person sweats excessively and unpredictably. People with hyperhidrosis can sweat even when the temperature is cool, and when they are at rest.

Hyperventilation: Excessive rate and depth of breathing.

Hypoxia: Insufficient oxygen in the tissues, even though blood flow is adequate.

I/E ratio: Inhalation/exhalation ratio, or the relative length of inhalation (breathing in) compared to exhalation (breathing out).

Immune system: The body's response mechanism for fighting against bacteria, viruses and other foreign substances. If the body does not recognize a cell or tissue (such as bacteria or a transplanted organ), the immune system will act against the "invader." The immune system is the body's way to fight disease.

Incentive spirometer: A device that is used to encourage deep inspiration to expand the lungs and improve cough effectiveness.

Inflammation: One of the body's defence mechanisms, inflammation results in increased blood flow in response to infection and certain chronic conditions. Symptoms of inflammation include redness, swelling, pain and heat.

Intensive care unit: A special nursing area that provides continuous and immediate care to patients recovering right after surgery or to seriously ill patients.

Intubation: Placing a tube in the trachea (wind pipe) to enable artificial breathing.

Jejunostomy tube (J-tube): A feeding tube that is inserted through the skin on the abdomen into the small intestine. The feeding tube allows the delivery of nutrients directly into the small intestine, bypassing the stomach. A J-tube may be needed temporarily after certain surgeries to allow recovery.

Laparoscopic surgery: A minimally invasive surgical technique. During laparoscopic surgery, the surgeon inserts a thin, telescopic-like instrument called a laparoscope through a small incision above the umbilicus (belly button). The laparoscope is connected to a tiny video camera -- smaller than a dime -- that projects a view of the abdomen onto video monitors located in the operating room. The abdomen is inflated with carbon dioxide, a gas, to allow your surgeon a better view of the operative area. Three or four additional small incisions are made in the abdomen through which the surgeon inserts specialized surgical instruments. The surgeon uses these instruments to perform the operation. As compared with traditional surgery, patients who undergo laparoscopic surgery experience decreased postoperative pain, shorter hospital stay and a more rapid recovery and return to work. Other possible benefits include reduced risk of infection and less bleeding.

Laparoscopic antireflux surgery: *See Nissen fundoplication.*

Laparoscopic Heller myotomy: A minimally-invasive surgical procedure used to treat achalasia. This surgical treatment opens up the lower valve (lower oesophageal sphincter) so that food passes from the mouth to the stomach by gravity. Because the lower oesophageal sphincter's function is to stop the return of gastric contents into the oesophagus, a partial fundoplication procedure is also performed to minimize reflux and protect the oesophagus from damaging gastroesophageal reflux (GERD).

Laparoscopy: An evaluation that involves looking into the abdominal cavity with a special camera (called a laparoscope).

Leukotriene modifier: medication that blocks chemicals called leukotrienes in the airways. Leukotrienes occur naturally in the body and cause tightening of airway muscles and production of

excess mucus and fluid. Leukotriene modifiers work by blocking leukotrienes and decreasing these reactions.

Lobectomy: Removal of a lobe of the lung. Lobectomy is the most common surgery performed to treat lung cancer. *Also see video-assisted lobectomy surgery.*

Lower oesophageal sphincter (LES): A valve located at the end of the oesophagus that controls the passage of food from the oesophagus to the stomach when you swallow.

Lung biopsy: A procedure in which several small samples of lung tissue are 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 laboratory to be cultured. The lung tissue is examined for the presence of lung diseases such as infectious or interstitial lung disease.

Lung cancer: The uncontrolled growth of abnormal cells in the lung or lungs. The uncontrolled reproduction of cells results in the formation of tumours that can block or compress airways and displace or damage normal lung tissue. This can make the lung stop functioning as it should.

Lung failure: Also called respiratory failure. The sudden inability of the lungs to provide normal oxygen delivery or normal carbon dioxide removal.

Lung nodule: Also called pulmonary nodule. A round lesion or growth located within the lung. Lung nodules usually do not cause symptoms, but may be detected on a chest x-ray. More than half of lung nodules are noncancerous (benign) and may be caused by a previous infection. A needle biopsy may be required to test the nodule to determine if is benign or malignant.

Lung volume reduction surgery: A surgical procedure performed to remove diseased, emphysematous lung tissue. This procedure reduces the size of an over-inflated lung and allows the expansion of the remaining, often more functional lung. This surgery has been shown to help improve breathing ability, lung capacity and overall quality of life in selected patients.

Lymphoma: Cancer that occurs in cells of the lymphatic system. Lymphoma includes Hodgkin's disease and non Hodgkin's lymphoma.

Magnetic resonance imaging (MRI): A test that produces high-quality still and moving pictures of the heart and large blood vessels. MRI uses large magnets and radiofrequency waves to produce pictures of the body's internal structures. No X-ray exposure is involved.

Mediastinal tumor: A benign or cancerous growth that forms in the area of the chest that separates the lungs (mediastinum).

Mediastinoscopy: A minimally invasive surgical technique. During this procedure, a small incision is made through which an instrument is passed to biopsy lymph nodes in the chest cavity. This test is performed under general anaesthesia in the operating theatre.

Mediastinotomy: A procedure in which a tube is inserted into the chest to view the organs in the mediastinum. The tube is inserted through an incision next to the breastbone.

Mediastinum: The area of the chest that separates the lungs. It is surrounded by the breastbone in the front, the spine in the back and the lungs on each side. It contains the heart, aorta, oesophagus, thymus and trachea.

Minimally invasive thoracic surgery: *See video-assisted thoracic surgery.*

Motility disorder: Also called oesophageal motor disorder. A disorder affecting the movement of food from the oesophagus to the stomach.

Mucus clearing device: Also called a PEP device. A device used to loosen mucus in the airways so it can be coughed up more easily.

Myasthenia gravis: A chronic disease characterized by weakness and rapid fatigue of the voluntary muscles. The weakness is due to a breakdown in communication between a nerve ending and its adjoining muscle fibre. The onset of myasthenia gravis can be sudden, with severe and generalized muscle weakness, but more often its symptoms in the early stages are subtle and variable, making it difficult to diagnose correctly.

Nasal Cannula: A small plastic tube used to supply extra oxygen through the nose.

Nissen fundoplication : A minimally invasive procedure that corrects gastroesophageal reflux by creating an effective valve mechanism at the bottom of the oesophagus.

Oesophagus: The muscular tube that extends from the neck to the abdomen and connects the throat to the stomach.

Oesophageal cancer: The uncontrolled growth of abnormal cells in the oesophagus. The uncontrolled reproduction of cells results in the formation of tumours that can block or compress the oesophagus.

Oesophageal diverticulum: A sac or pouch protruding from the oesophagus.

Oesophageal manometry: A test that measures the timing and strength of the contractions of the oesophagus and the relaxations of the lower oesophageal sphincter valve.

Oesophageal perforation: A tear in the oesophagus that requires emergency surgical treatment.

Oesophageal pH test: A test that measures the pH in the oesophagus to determine if you have GERD.

Oesophagectomy: Also called oesophageal resection surgery. Surgical removal of the oesophagus. An oesophagectomy may be performed as a treatment for high-grade dysplasia or cancer.

Oesophagitis: An inflammation of the lining of the oesophagus.

Oesophagoscopy: A diagnostic test in which a flexible, narrow tube called an endoscope is passed through the mouth or nose into the oesophagus to produce images of the inside of the oesophagus. This video examination projects images onto a screen.

Oesophagogastrectomy: The removal of a portion of the lower oesophagus and part of the stomach for treatment of tumours or strictures of those organs.

Odysphagia: Pain when swallowing.

Parenteral nutrition: A method of providing food through a tube placed in the nose, the stomach or the small intestine. A tube in the nose is called a nasogastric or nasoenteral tube. A tube that goes through the skin into the stomach is called a gastrostomy or percutaneous endoscopic gastrostomy (PEG). A tube into the small intestine is called a jejunostomy or percutaneous endoscopic jejunostomy (PEJ) tube. Also called tube feeding. *See also gastrostomy and jejunostomy.*

Pectus excavatum:(Also known as sunken or funnel chest). A congenital chest wall deformity in which several ribs and the sternum grow abnormally, producing a concave, or caved-in, appearance to the front of the chest wall.

Pericardial effusion: Presence of an abnormal amount and/or type of fluid in the pericardial space.

Pericardial space: The space between the layers of the pericardium. It contains fluid that lubricates the membrane surfaces and allows easy heart movement.

Pericardium: The sac that surrounds the heart.

Peritoneum: The inner lining of the abdomen.

Pleura: The thin membrane that lines the outside of the lungs and the inside of the chest cavity. The pleura acts as a lubricant to help you breathe easily. Normally, very little fluid is present in the pleura.

Pleural effusion: An excessive build-up of fluid between the layers of the pleura.

Pleural mesothelioma: A rare form of cancer in which tumours form in the sac lining the chest (the pleura) or the abdomen (the peritoneum). Most people with mesothelioma have worked in jobs where they breathed asbestos. Symptoms include shortness of breath, pain in the chest, or pain or swelling in the abdomen.

Pleural space: The cavity between the lung and the membrane that surrounds it.

Pneumonectomy: Surgical removal of a lung, usually as a treatment for cancer.

Pneumonia: A group of diseases that cause infection or inflammation (swelling) in the lungs. Pneumonia causes air sacs in the lungs to fill with pus and other fluids, making it difficult for oxygen to reach the blood. People who are otherwise healthy often recover quickly when given prompt and proper care. However, pneumonia is a serious infection that affects thousands of older people each year.

Pneumothorax: A collection of air or gas in the space surrounding the lungs.

Prokinetics : Medications that help strengthen the LES and make the stomach empty faster. Prokinetics may be used to treat gastroesophageal reflux disease (GERD) and include bethanechol (Urecholine) and metoclopramide (Reglan).

Proton pump inhibitors (PPIs): Medications that control or eliminate acid by blocking the enzyme in the stomach that produces acid. Proton pump inhibitors may be used to treat gastroesophageal reflux disease (GERD) and include omeprazole (Prilosec), lansoprazole (Prevacid), pantoprazole (Protonix), rabeprazole (Aciphex), and esomeprazole (Nexium).

Pulmonary function test: A test used to reveal lung capacity and function, and to determine the blood's capacity to transport oxygen.

Pulmonary hypertension: A rare lung disorder in which the arteries in the lungs have become narrowed, making it difficult for blood to flow through the vessels.

Pulmonary rehabilitation: A program that can help a patient learn how to breathe easier and improve quality of life. It includes treatment, exercise training, education and counselling.

Regurgitation: The uncontrolled flow of stomach contents back into the oesophagus and mouth.

Reoperation: A repeat surgery, or duplication of a previous procedure. The repeat surgery may involve surgery at the same site, at another site for the same condition, or to repair a feature from a previous surgery.

Respiratory Physician: A doctor who specializes in caring for people with lung diseases and breathing problems.

Sleep apnoea: A sleep disorder in which a person's breathing stops in intervals that may last from 10 seconds to a minute or longer. When an apnoeic event occurs, air exchange may be impaired.

Spirometry test: A breathing test that provides information about lung function and the extent of a patient's lung disease.

Sternotomy: A type of surgical procedure in which an incision is made along the sternum, after which the sternum itself is divided, or "cracked". This procedure provides access to the heart and lungs for surgical procedures.

Thoracentesis: Procedure used to drain fluid from the chest, such as a pleural effusion.

Thoracic outlet syndrome: A group of distinct disorders that affect the nerves in the brachial plexus (nerves that pass into the arms from the neck) and various nerves and blood vessels between the base of the neck and axilla (armpit).

Thoracic cavity: The area of the body located between the neck and diaphragm. The thoracic cavity includes the heart and lungs, oesophagus, trachea, pleura (lining of the thoracic cavity)

- mediastinum (space behind the sternum and in between the lungs)
- chest wall
- diaphragm (thin muscle below the lungs and heart that separates the chest from the abdomen)

Thoracic surgery: A surgical field focusing on treatments for lung cancer, tumours of the chest wall, emphysema, oesophageal swallowing problems, lung transplantation, oesophageal cancer and gastroesophageal reflux.

Thoracic surgeon: A surgeon who specializes in treating problems that affect all organs in the chest (thoracic) cavity, such as *cancers and diseases of the lung, oesophagus, and chest wall; birth defects of the chest; and tumours in the organs contained in the chest cavity.*

Thoracoscopy: Another term for minimally invasive thoracic surgery. *See video-assisted thoracic surgery (VATS).*

Thorascope: Small video-scope used during video-assisted thoracic surgery to project images on a video screen for the surgeon to view during the procedure.

Thoracotomy surgery: A type of surgery in which an incision is made on the side of the chest between the ribs. The ribs are then spread apart so the surgeon can see inside the chest cavity.

Thoracosotomy, chest drain: A procedure performed to drain fluid, blood or air from the space around the lungs (pleural space).

Thorax: Area of the body located between the neck and abdomen. The thorax contains the heart, lungs, oesophagus and great vessels surrounded by the breastbone or sternum in front, the ribs on each side, and the spine in the back.

Thymoma: Disease in which cancerous (malignant) cells are found in the tissues of the thymus.

Thymus: 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.

Total lung capacity test: a test that measures the amount of air in the lungs after a person has breathed in as much as possible.

Trachea: Also called the "windpipe." The main airway (windpipe) supplying air to both lungs.

Tracheal stricture: A narrowing in the trachea that restricts air flow to the lungs.

Tracheostomy: Small opening or incision made in the throat. Through the tracheostomy, a tube is placed to aid breathing for patients who may need to be supported longer than expected with mechanical ventilation. Instead of breathing through the nose and mouth, the patient then breathes through the tracheostomy.

Video-assisted thoracic surgery (VATS): Surgery of the chest that is performed with a thoracoscope (small video-scope) using small incisions and special instruments to minimize trauma. During thoroscopic 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. As compared with traditional surgery, patients who undergo minimally invasive surgery may experience decreased postoperative pain, shorter hospital stay and a more rapid recovery and return to work. Other possible benefits include reduced risk of infection and less bleeding.

Video-assisted lobectomy surgery (VATS lobectomy) : A minimally invasive surgical technique that is less invasive than traditional thoracotomy surgery. During VATS lobectomy surgery, two 2-3cm incisions and one larger incision around 4-5cm are made to provide access to the chest cavity without spreading of the ribs. With VATS lobectomy, the patient may experience a more rapid recovery with less pain and a shorter hospital stay (usually around 3 days) than traditional thoracotomy surgery.

Vena cava: The two large veins that collect blood returning from all parts of the body and return it to the heart (right atrium). The inferior vena cava brings blood from the lower half of the body; and the superior vena cava brings blood from the upper half.

Wedge resection: 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.