



Thoracic Surgery for Symptom Control

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Many lung cancer patients undergo thoracic surgery for resection of their tumours. Surgical intervention can also be considered for symptom control or palliation as part of a multidisciplinary approach to keeping patients comfortable.

Patients frequently describe dyspnea (shortness of breath with minimal exertion) as a common symptom of their lung cancer. This is often due to multiple patient factors, but sometimes one particular problem can be contributing significantly to a patient's dyspnea.



Figure 1

A patient can experience breathlessness or painful breathing if an important part of the lung is collapsed. A patient can have portions of collapsed lung due to a tumour growing into and blocking a major section of the airway (Figure 1).

If left unattended, this blockage can develop into an infection or post-obstructive pneumonia. If the

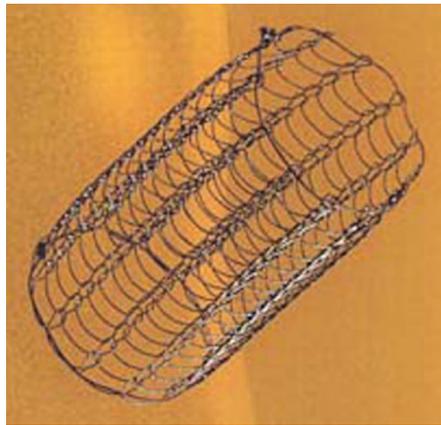


Figure 2

blockage occurs in a large enough part of the airway, a stent can be placed there, to allow air to travel to the lung and to allow mucous and secretions to drain out (Figure 2). The stent is inserted using a rigid bronchoscope (a straight hollow metal tube) under a general anesthetic. A rigid bronchoscopy can be performed to core out the airway if a stent cannot be inserted and if the tumour is occluding a proximal or large bronchus. Both cases require a general anesthetic, and can often be performed as a one day procedure.

If cancer spreads to the lining of the lung (pleura) there can be a build up of fluid around the lung. This fluid can compress or collapse parts of the lung resulting in breathlessness. If there is excessive fluid collecting around the lung, the medical team can consider a number of interventions such as:

- **Thoracentesis:** needle drainage of the fluid (Figure 3);
- **Thoracoscopy:** placing a telescope into the chest under general anesthesia; or
- **Chest Tube Insertion:** (Figure 4).

Thoracentesis can be done in a clinic setting with minimal discomfort. The drainage of the fluid can cause quick resolution of shortness of breath however many times the fluid returns.

With a **thoracoscopy**, the surgical team can drain the fluid, but can also instill substances that reduce the risk of the fluid returning. Talc or bleomycin, for example, can be instilled to cause irritation and then scarring in the lining of the lung. This scarring will fill the space within which the fluid would normally collect in the lungs. A thoracoscopy is usually done as a day surgery and carries minimal risk.

Chest tube insertion is called for if the patient needs drainage of the pleural effusion but is not a surgical



Figure 3



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candidate. This requires a patient to be in hospital until the tube is removed. The chest tube will drain the fluid, allow the lung to re-expand and facilitates the instillation of sclerosing agents to prevent the return of the pleural fluid (Figure 4).

Pericardiocentesis or a *pericardial window* are two procedures which can be used if cancer spreads to the sac covering the heart (pericardium). In this case, fluid can accumulate and constrict the heart. This will cause a fast heart rate, low blood pressure, weakness and shortness of breath. If left to progress, the fluid can

ultimately cause the heart to stop. A pericardiocentesis can be done with echocardiography to alleviate



Figure 4

symptoms in the short term. A pericardial window is a procedure where a hole in the sac around the heart is made to allow the fluid to drain into either the chest or the abdomen. These are both one day procedures and are very effective in palliating fluid accumulation around the heart.

There are many other roles for surgery in the palliation of metastatic or locally advanced cancer. An open discussion with your oncologist about your symptoms is important in order to plan for the most effective intervention.

Sources:

For more information on coping and for emotional support: Speak with your Oncology treatment team which includes a Social Worker, Physician, Nurse, Psychologist and/or Psychiatrist.

Lung Cancer Support Information, Programs and Services:

Lung Cancer Canada; Wellspring; Gilda's Club; Canadian Cancer Society (for information, referral and peer support)

Lung Cancer Canada

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