7. Lung Surgery: Preparation and Recovery

Preparing for surgery

How you recover from lung surgery will depend on many factors. However, you can control two factors.

If possible, increase your fitness and physical activity level prior to surgery to help with your recovery. Walking is a great exercise (not power walking, just moving regularly). Any walking will benefit your overall recovery from surgery. Prior to surgery, aim to walk at least 20 to 30 minutes, once or twice a day. Begin by walking short distances often, and then slowly increase the distance.

If you’re a smoker, it is critical that you stop smoking. Smoking drastically increases the risk of post-operative complications after lung surgery. This means it’s beneficial to stop smoking before surgery. Speak to your GP for advice and support on quitting smoking (also see Chapter 11).

Planning a hospital stay

When planning for your hospital stay, consider the following.

- How you will get to hospital and home from hospital?
- Arrange to have someone at home with you for at least two or three days after you leave hospital.
- Organise help with chores at home such as your shopping, laundry, housework, pets and mowing.
- Look into any changes that need to be made to your financial arrangements.
- Request medical certificates from your doctor, if required.

Allied health professionals

Allied health professionals are available to assist with problems that may interfere with your hospitalisation and recovery progress. These professionals may be drawn from various health departments including social work, occupational therapy, dietary and pharmacy. If you’re concerned about how you will cope at home after the surgery, notify your case manager before your admission and a consultation will be arranged with the appropriate allied health worker.

Anaesthetic

Before going to surgery, you will have an anaesthetic assessment in preparation for your general anaesthetic. You will be given an injection before going to the operating room. If you have had problems with an anaesthetic previously, let the anaesthetist know. The injection will make you feel relaxed, drowsy and dry in the mouth before you go to sleep.

Blood transfusion

Blood transfusions are seldom needed during lung surgery, but if unexpected bleeding occurs, you may need a transfusion. During your pre-admission process, a blood sample is taken so donor blood can be matched with your blood. This is so that in the event of bleeding, blood can be obtained quickly.

Bowels

No special bowel preparation is necessary prior to lung surgery. However, if you normally have bowel problems, discuss with your doctor any medication or treatments you use for this, including prescription medications, over-the-counter or herbal remedies.
Diabetes
If you have diabetes, make sure you tell your surgeon prior to admission and tell the staff on admission. Special arrangements will be made as necessary. Your blood sugar levels will be monitored closely from the time you start fasting (prior to surgery) until normal eating resumes. It’s important that you don’t take diabetic medication on the morning of your surgery.

Fasting, fluids and food
You must fast from midnight the night before your surgery. That means no food or fluids after midnight. This is called ‘Nil by Mouth’ or NBM. The only exception to this is that you can take morning tablets with a sip of water at 6am.

The evening after your surgery, you can have ice and sips of water only. If you have a complete lung removed, your fluids will be restricted after surgery.

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Medications
Bring with you a list of the names, dose and time of day that each of your medications is taken. This enables the accurate and timely ordering of the medications you will take while in hospital.

You must continue to take your medication up to the time of admission, except if your surgeon requests you to stop any particular medications. For example, if you’re taking blood-thinning tablets such as Aspirin, Warfarin/Coumadin or Plavix/Clopidigrel your doctor will ask you to stop taking these prior to surgery.

Skin preparation
You should shower the evening before and the morning of surgery.

For men, your chest area will be shaved or clipped once you’re admitted. It’s recommended that you don’t attempt to shave the area yourself before going to hospital.

Physiotherapy
Your recovery process from lung surgery is dependent on effective physiotherapy.

Physiotherapy maximises the functioning of your lungs by:

- helping you remove secretions from within your lung;
- improving distribution of air throughout the lungs;
- preventing collapse of the lung; and
- preventing pneumonia or chest infection.

You should begin physiotherapy at home during the days before going to hospital. Your physiotherapist may recommend the following breathing exercises both before and after surgery.

Active cycle of breathing technique
This technique involves using certain breathing manoeuvres in the following sequence to improve airflow and remove secretions.

1) Take three deep breaths (hold each one for three seconds)
2) Return to normal breathing
3) Huff twice
4) Strong cough

Breathing manoeuvres
Deep breathing: Breathe in as deeply as possible, directing the air into the bottom of your lungs. Hold your breath for two to three seconds then breathe out slowly. Repeat three to five times.

Huffing: Take a medium-sized breath in. Then, with a half opened mouth, force the air out while making a soft ‘haa’ sound (similar to the sound you make when huffing on spectacles to clean them).
Supported cough (post surgery): Place your hand or a towel over your incision and secure it with your elbow. Take a deep breath, and then cough. One good strong cough per cycle is more effective than repeated little ones.

**Note:** If you feel dizzy while doing any of these exercises, stop immediately. You may be taking too many deep breaths, one after the other. After you have rested, try again with fewer repetitions. Before, and to prepare for, your surgery, practice these exercises at home. Take note of how it feels to take a maximal deep breath.

### Walking

Walking is important to maintain your overall fitness prior to surgery. Walking daily improves your fitness levels, clears your lungs, and facilitates a speedy recovery after surgery.

### Recovering from surgery

Your multidisciplinary team will devise a program to help you return to your pre-surgery level of activity. A speedy recovery after lung surgery requires work.

Initially, your mobility will be limited because of the chest tubes attached to a suction unit. However, exercising continues at the bedside and your activity will be increased according to what you can tolerate.

Your aim is to be independently mobile when you leave hospital, though you may be slower than usual and tire more quickly. This will include being able to shower, dress and feed yourself and do your deep breathing and coughing exercises.

Regaining your strength is best done at home in combination with healthy food, good company for support, and quietness for rest.

### Immediately after the operation

You will wake up from the anaesthetic with an oxygen mask over your face. You will be observed closely in the recovery room of the operating theatres. When sufficiently awake and comfortable, you will return to the ward or intensive care unit. The nursing staff will wash you, make you comfortable and observe you closely. Observations will involve monitoring your blood pressure, temperature, pulse, blood oxygen level, chest drain tubes, wound and pain levels.

### Anti-blood clotting methods

Blood clots forming in the legs and lung are a risk factor with any surgery. To help prevent clots, you will be given an injection.

If you’re required to wear compression stockings while in hospital, it’s a good idea to continue wearing them for several weeks at home. For them to be effective, you will need to ensure they are worn properly, that is, pulled up to the knees.

Exercise has been proven to reduce the risk of blood clots after surgery.

### Chest tubes/drains

When you wake from surgery, you will have one or two tubes in your chest wall. These tubes are necessary to:

- assist the lung that has been operated on to re-expand;
- enable fluid related to the operation to be drained from the chest cavity; and
- to allow air that has leaked from the operation site to escape.

The tube will cause some initial pain. The time it remains in place varies from patient-to-patient. Chest x-rays are performed regularly while the tube(s) is in place and an x-ray will be taken after the tube(s) is removed.

After your chest drain has been removed and your wound has closed and healed (that is, it no longer requires dressings), you can start massaging your scar. Massage keeps the scar tissue mobile and helps with your shoulder movement.
Initially, the scar may be uncomfortable to touch and may feel more sensitive than normal. However, the more you touch it, the less sensitive and more comfortable it will become.

You can use Vitamin E cream, sorbolene or lanolin oil to massage the scar. Using your fingertips massage in a circular motion, so the scar and skin move over your ribcage. Begin gently, then as you get used to it, press more firmly. Generally, the tip of your fingernail should turn white while massaging your scar.

**Nausea and vomiting**

Some patients experience nausea and or vomiting after surgery. These symptoms may be related to the anaesthetic or pain relief medication. Nausea and vomiting can be treated with medication so please tell the nursing staff if you experience these symptoms. Also, tell the anaesthetist and staff about any prior experiences you have had with nausea and/or vomiting following anaesthesia.

**Oxygen therapy**

All patients require oxygen via a mask immediately after surgery. The mask is usually replaced with nasal prongs – a fine tube that sits inside the nose. The oxygen will dry your mouth and lips, so apply lip cream while on oxygen therapy.

The need for oxygen varies between patients. Most patients are weaned off oxygen therapy before returning home, however, when required home oxygen can be arranged.

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**Physiotherapy**

A physiotherapist will visit you soon after you return to the ward and prescribe a specific exercise program.

Physiotherapy is the most important aspect of your post-operative recovery. After your drains have been removed, you will be expected to move, walk, or be active every hour during waking time. Pain relief will help you to do the necessary exercises.

To maximise your recovery, you should continue the exercises you learn in hospital after you return home.

**Maintaining your posture**

After the operation, you may be tempted to ‘favour’ or lean towards your operated side. This can lead to unnecessary discomfort due to muscle spasm from holding an abnormal position. You will be assessed, advised and assisted to maintain your posture. If you’re not sure, look in a mirror or ask a friend/relative if you appear to favour one side.

**Getting out of bed and early walking**

Walking soon after surgery is an effective way to prevent complications of the chest. Walking causes you to take deeper breaths and expand the bases of your lungs. This leads to stronger and more effective coughs that help to remove secretions from your lungs and to prevent infections.

The day after surgery, you will be asked to sit out of bed. The physiotherapist will help you to start ‘marching on the spot’. When the chest drain is detached from suction, and you become less restricted by the chest tube(s), you will start walking down the corridor.

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“I had my surgery on the 20th October 2011. The surgeons removed my right lung and all the tumours in and around my chest. My recovery was good. I was up and walking the next day – no tubes or oxygen, just me and the physiotherapists.”

Sandy (diagnosed July 2011)
7. Lung Surgery: Preparation and Recovery

**Getting ready for home and after discharge**

When the physiotherapist advises you that you’re ready to walk on your own, your self-directed walking program will begin. This involves walking in the ward five to six times throughout the day.

By the time, you leave hospital you will be independent, able to walk up a flight of stairs (if you could do this before admission) and increasing your physical activity daily.

At home, you will be expected to walk regularly – aiming to return to at least your pre-operation level of activity within four to six weeks. Continuing with a frequent walking program will help to improve your lung fitness and assist with secretion clearance. Walking and exercise also stimulates bowel activity, appetite and an overall feeling of mental and physical well-being.

**Arm exercises post-thoracotomy**

After a thoracotomy, your rib cage may feel stiff or tight on the side of the operation. A physiotherapist will assist you to do simple arm exercises to help relieve the tightness. You should keep doing these exercises until you no longer feel tightness.

You may be given the following exercises. Do these exercises every morning and night, three times each, and hold each movement for 10 seconds. Within four to six weeks, your shoulder movement should be similar to how it was before surgery.

- **Shoulder flexion**: Lift your arm forward and raise it towards the ceiling. Hold for 10 seconds, and then lower slowly. (If it’s too sore to lift straight up, walk your fingers up a wall. Hold for 10 seconds when you feel a stretch (not pain) and repeat three times. As soon as you can, progress to lifting your arm straight up to the ceiling.)

- **Shoulder abduction**: Lift your whole arm sideways, away from your body. Hold for 10 seconds, and then lower gently. (If it’s too sore to lift straight out, walk your fingers up a wall, hold for 10 seconds when you feel a stretch (not pain) and repeat three times. As soon as you can, progress to lifting outwards.)

- **Side flexion**: With both arms relaxed by your side, gradually lean sideways and slide one arm down your leg. Lean away from the operation side to feel a stretch on that side. Hold for 10 seconds and repeat three times.

- **Postural stretch**: Sit firmly on a chair, holding a stick (or towel) with a wide grip. Lift the stick up with your arms straight and extend your upper trunk at the same time. If you have restricted movement in your shoulder, simply move within your pain-free range.
Chapter Summary

Preparing for surgery

- Improve the speediness of your recovery by walking daily and, if you’re a smoker, speak to your GP about quitting smoking.

- A physiotherapist will provide you with breathing exercises to begin before surgery to maximise your lung function.

- Plan for your hospital stay by arranging transport, post-hospital support at home and medical certificates; allied health professionals may be able to help you prepare for coping at home post-surgery.

- Before surgery, you will need to:
  - have an anaesthetic assessment and your blood type;
  - fast from midnight the night before your surgery; and
  - shower the evening before and the morning of surgery.

Recovering from surgery

- You will wake from surgery, wearing an oxygen mask and with one or more drainage tubes in your chest. You will be given an injection to prevent blood clots.

- Immediately after surgery, you may experience some nausea or vomiting – this can be treated.

- A physiotherapist will work with you to develop an exercise program to aid your recovery. They will oversee your exercise in hospital and devise a program for you when you return home.