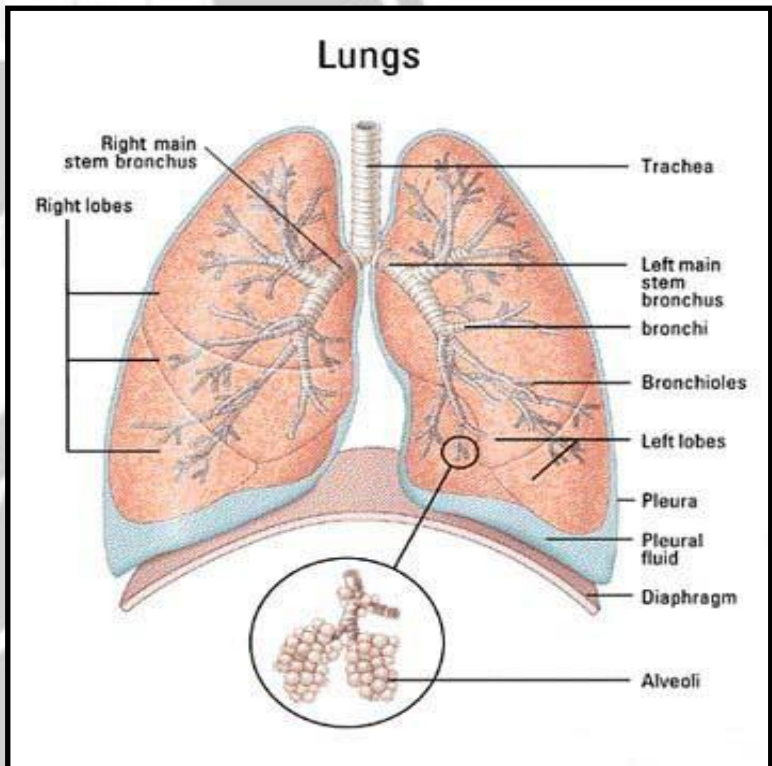




The Prince of Wales Hospital
& Community Health Service

Lung Surgery

Information for patients
and relatives



Health
South Eastern Sydney
Local Health District

This information booklet is designed to prepare you and your family for your lung surgery. The aim is to inform you of pre-operative tests that may be required, the different types of surgery performed, and post-operative recovery. Please take the time to read through the information, to enable you to plan, and participate in your own recovery.

This booklet is a guide only for preparation and recovery from lung surgery and the information presented here is by no means exhaustive. It should not replace advice from your GP, Cardiologist or Surgeon.

Please always seek medical attention from your GP or local hospital if you are concerned about your own, or your relative's wellbeing.

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Adapted from:
SESAHS information for patients undergoing lung surgery
RPAH preparing for lung surgery, patient information

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TYPES OF LUNG SURGERY

There are many different types of lung surgery, the type you will require depends on the type of lung condition you have. Surgery may be performed for various reasons, to diagnose a condition (take a biopsy), to remove disease, or to repair a condition (collapsed lung) and prevent disease.

Depending on the type of operation you have, your hospital stay will vary from overnight to 5 –7 days. Listed below are the procedures performed and necessary post-operative treatments. Your surgeon will discuss with you which operation you are having.

Bronchoscopy: While you are asleep (under anaesthetic) the surgeon will pass an instrument called a bronchoscope down your windpipe (trachea). This will give the surgeon a direct view of your air passages. Tissue can be taken for biopsy if required. Post-operatively you will be transferred to the cardiothoracic recovery unit and monitored until awake before being transferred back to the ward. You may have a drip and oxygen for a short time. This procedure is commonly performed as a day only procedure requiring no overnight stay in hospital.

Mediastinoscopy: This allows the surgeon to access the mediastinal lymph nodes for biopsy. This is done via a small incision just above the breastbone, allowing a scope to be inserted. Post-operatively you will spend a short time in CTICU (cardiothoracic intensive care/ recovery unit) before being transferred back to the ward; you will probably stay in hospital overnight and be discharged the next day.

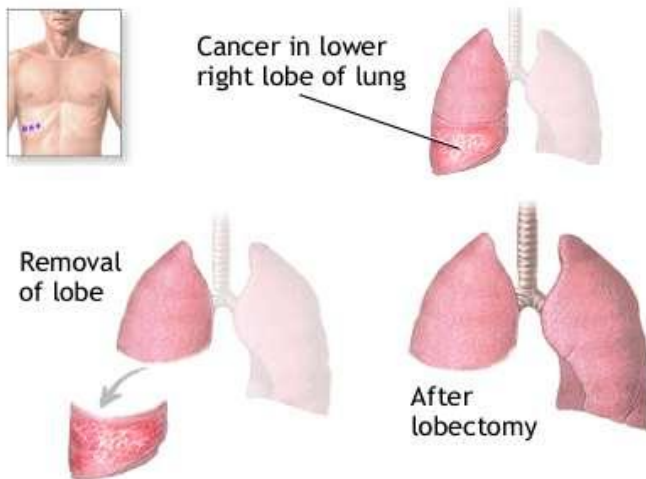
Pleurodesis: This procedure is performed to create an inflammation within the 2 membranes that surround the lung (visceral and parietal) so that the membranes adhere to each other and prevent the lung collapsing or to prevent fluid re-collecting in the

space between the membranes. 2 small incisions are made on the chest wall and the surgery is performed under video guidance (VATS). Post-operatively you will have a drip, chest drains, and oxygen.

Wedge Resection: This is the removal of a wedge shaped section of lung tissue. Post-operatively you will have a drip, oxygen and chest drains.

Decortication: This is the removal of a restrictive fibrous membrane, which can inhibit expansion of the lungs. Decortication is where the lung lining is scraped clean, allowing the lung to fully expand and thus work more effectively. Post-operatively you will have a drip, one or two chest drains, and oxygen.

Lobectomy: Lungs are divided into lobes. The left lung has 2 lobes and the right lung has 3 lobes. A lobectomy is where a lobe is removed from a lung. Post-operatively you will have a drip, chest drains, oxygen, urinary catheter, and pain relief. You may or may not spend the night in cardiothoracic intensive care (CTICU), check with your doctor.



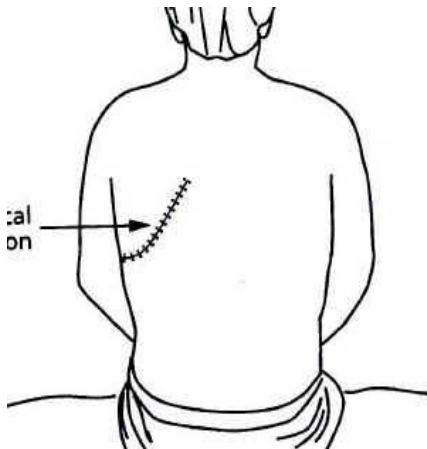
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Pneumonectomy: This is the complete removal of a lung. There are many people living fulfilling lives with only one lung. Post-operatively you will spend the night in CTICU; you will have a drip, chest drains, oxygen, and a urinary catheter.

How is the surgery performed?

There are a number of techniques used to perform lung surgery. Your surgeon will discuss with you the most appropriate method for your problem.

Thoracotomy: (Open surgery) an incision is made into the chest cavity between the ribs on your back which is approximately 15-25cm long. This technique is used for pneumonectomy, and lobectomy.



Thoracoscopy or video assisted thorascopic surgery

(VATS): Keyhole surgery – A number of small incisions called portholes are made in the side of the chest to allow a small television camera and instruments to be passed into the chest. The surgery is performed via these portholes. This technique is used for decortication, pleurodesis, wedge resection,



PRE-OPERATIVE PREPARATION

Pre-admission clinic: If you are well enough and your surgeon recommends it, you will be asked to attend the pre-admission clinic to prepare for your surgery. This is done in the week or even the day before your surgery. Once you have attended the clinic you need only be admitted to hospital the day of your surgery.

There are a number of tests that need to be completed prior to your surgery, these need to be organised by your GP and brought with you to the pre-admission clinic. These include a chest x-ray, and

blood tests. This will be discussed further when you are notified of your clinic appointment

On the day of the pre-admission clinic you will:

- have an electrocardiogram(ECG), a painless test that records the electrical activity of the heart
- have a breathing test called spirometry
- sign your consent form for the surgery (if not already done)

Either during the pre-admission clinic, or the day before your surgery (if you are already in hospital) you will be seen by the following people:

Nursing staff will take a brief history of your past and present health status. Your blood pressure, pulse, temperature and weight will be recorded. A urine sample and skin swabs will be taken for routine analysis(if not already done by your GP)

The Doctor will take a full medical history and perform a physical examination. This will involve routine blood tests (different to the ones your GP organised), and any other necessary investigations. A doctor called a cardiothoracic registrar will explain the operation and ask you to sign a consent form. **Be sure that you understand the operation and ask any questions that you may have before signing.**

The Anaesthetist will discuss your anaesthetic with you. It is important that you **let them know if you have had any problems with previous anaesthetics.** The anaesthetist will advise you of when to fast (stop eating and drinking) and what if any medications to have on the day of your surgery. They will also discuss post-operative pain relief with you.

The Physiotherapist will assess your lung function. They will educate you on post-operative physiotherapy and breathing exercises

A surgical dresser or nurse will use electric clippers to remove hair from the appropriate areas for your particular surgery. This is done because the operation site needs to be hair free to decrease to risk of infection.

IMPORTANT INFORMATION

Preparing for lung surgery: Recovery from lung surgery depends on many factors. There are 2 that you have total control over:

- **Stop smoking. Smoking drastically increases the risk of post-operative complications after lung surgery.** Your GP can help you with this. Your local chemist can advise about nicotine replacement therapy. You can call the national Quitline on 131 848. There is also a smoking clinic in the department of respiratory medicine at Prince of Wales Hospital (ph: 9382 4641).



- There is a no smoking policy in all NSW public hospitals. If you were smoking prior to surgery, and are having difficulty stopping please inform staff so we can provide you with nicotine replacement therapy (patches, gum).

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- **Have a positive attitude.** This will aid healing, and help to decrease your time in hospital. It is expected that by the time you leave hospital you will be able to shower, dress yourself, perform your deep breathing and coughing exercises and move around independently, even though you are likely to be slower than usual and tire more quickly.

Please plan for your hospital experience. Some things you need to include in your plan are:

- How you will get your pre-operation tests organised
- How you will get home from hospital
- Arrange to have someone at home with you for at least 2 or 3 days after you leave hospital
- Organise help with your shopping, laundry, housework etc.
- Arrange leave from work if necessary
- Bring a good book or magazines to read while you are in hospital

Accommodation and transport

You are expected to make your own arrangements to get to and from hospital for your surgery. If you need to travel to Sydney before the admission date and are unable to stay with relatives or friends, then you may want to consider the following:

The Sydney Lodges, Randwick www.sydneylodges.com

Avoca Lodge (ph 9399 7779)

High Cross Park Lodge (ph 9314 5553)

Perouse Lodge (ph 9314 6686)

St Marks Lodge (ph 9310 0752)

The Blenheim (ph 8345 8400)

The Randwick Lodge (ph 9310 0700)

Elizabeth Hunter Lodge – www.wmhw.org.au

(Ph 9369 0307)

The Royal Hotel- www.royalhotel-sydney.com

(Ph 9399 3006)

If you are travelling a long distance to Sydney, you may be eligible to claim back your travel expenses through the Isolated Patients Travel and Accommodation Assistance Scheme (IPTAAS). This applies to those people who live 100km or more away from Prince of Wales Hospital. Your GP or referring specialist can provide you with the form required for this.

OTHER INFORMATION

- The use of mobile phones is not permitted in the ward as they interfere with monitoring equipment.
- Please inform nursing staff if you intend to leave the ward at any time in case a test has been booked.
- Although support from family and friends is important, **rest after surgery is vital**. For this reason we ask all visitors to please respect the visiting hours. If other times are needed, this can be discussed with the nursing unit manager (NUM).

Visiting hours:
10am – 1pm
3pm – 8pm

We also ask that only 2 people visit at any one time due to space restrictions in the rooms. Children are generally not permitted in CTICU.

THE DAY OF SURGERY

You will be asked to shower the night before, and the morning of surgery using antibacterial soap (which we will give you). **Do not use talcum powder, deodorant, or perfume.** On the morning of your operation you will be asked to put on a hospital gown, (ties go to the back).

If you will be staying in CTICU, the nursing staff will provide a plastic bag for you to put 1 pair of pyjama's (or nightie), toiletries, dentures, hearing aid, glasses,

Jewellery, nail polish, dentures, hearing aids must be removed prior to leaving the ward for surgery. Please leave valuables at home.

Anti-embolism stockings:

These improve circulation and help to prevent blood clots from forming in your legs. You will start wearing the stockings on the day of surgery and need to continue to wear them for 6 weeks.

POST-OPERATIVE CARE

Return to Ward: After the operation, some people go to Cardiothoracic Intensive Care (CTICU), and some go back to the ward, you will return to the ward once you are awake and comfortable, this could be a number of hours after surgery, or the next day depending on the type of surgery you are having.

Pain Relief: Depending on the type of lung surgery you are having, pain relief is administered in different forms. For minor procedures such as bronchoscopy, or mediastinoscopy, pain relief (analgesia) will be administered either by injection or tablet form. More involved surgery, such as decortication, lobectomy, , pneumonectomy, pleurodesis, or wedge resection will have either patient controlled analgesia (PCA) or an epidural infusion.

PCA is where you have an intravenous drip with analgesia which you can administer yourself with the push of a button. The machine is programmed to deliver small amounts of analgesia as prescribed by the anaesthetist and it is not possible to overdose because after each dose the machine has a safety lock out period of 5 minutes.

Epidural The anaesthetist inserts this pre-operatively. It sits between a ligament and vertebrae in the vertebral column and runs continuously (like a drip) to provide you with pain relief.

Chest Drains These are necessary to help the lung re-expand, as well as to drain excess fluid and/or blood from the operation site. These drains will be the cause of most of your pain, hence the need for adequate pain relief. Depending on the type of lung surgery you have, length of insertion time will vary, and ultimately this will also determine your length of stay in hospital.

Chest x-ray x-rays will be performed regularly whilst you are in hospital, especially while you have chest drains in.

Physiotherapy This will begin as soon as you are awake and comfortable. Physio is an important part of your recovery, and if done effectively will speed up your discharge. Adequate pain relief is vital for you to perform your exercises so please let the physio or nurses know if you need pain killers.

Pathology Depending on the tests required, results could take up to 7 days to be processed. Your surgeon will discuss these with you, and advise you of any additional treatments.

PHYSIOTHERAPY

Your recovery from lung surgery depends on effective physiotherapy.

Physiotherapy maximises the functioning of your lungs by:

1. Helping to remove secretions from your lungs
2. Improving air distribution within the lungs
3. Preventing collapse of the lung
4. Preventing pneumonia or chest infection

Physiotherapy consists of breathing exercises, arm exercises, and walking.

1. Breathing exercises

Active cycle of breathing technique:

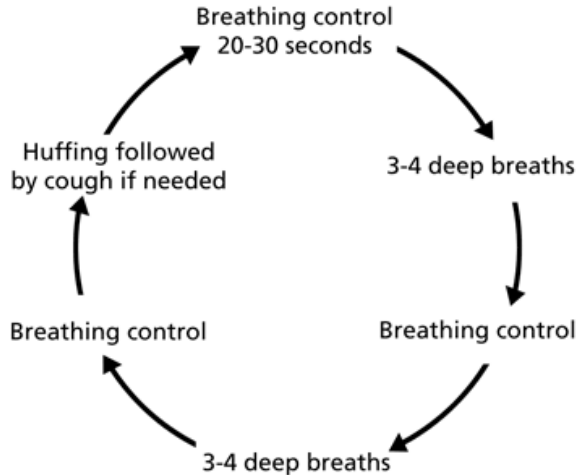
These exercises use the 'active cycle of breathing technique'.

This involves using certain breathing manoeuvres in the following order:

1. Normal breathing
2. Deep breathing
3. Normal breathing
4. Huffing

5. Cough

The order is important to improve airflow and remove lung secretions.



How to perform breathing manoeuvres

1. **Normal breathing** - sit comfortably in an upright position. Breathe in slowly. Let your abdomen swell slightly as you inhale and keep your shoulders relaxed. Breathe out gently. Repeat 3 or 4 times.
2. **Deep breathing - sustained maximal inspirations** - take a deep breath in, keep inhaling for 3-5 secs, even if your lungs feel full try to keep breathing in. Breathe out slowly. Repeat 3-5 times.

OR

Inspiratory hold - breathe in as deeply as possible, directing the air to the bottom of your lungs, hold your breath for 2-3 secs then breathe out slowly. Repeat 3-5 times.

3. **Huff** - Take a medium size breath in. Then with your mouth half open, force the air out while making a soft “haa” sound. (Like when you breathe on glasses to clean them).
4. **Cough** - Take a deep breath then cough. **One good strong cough per cycle is more effective than repeated little ones.**

IMPORTANT if you feel dizzy whilst doing any of these exercises then stop. You may be taking too many deep breaths one after the other, have a rest then try again with fewer repetitions.

The physiotherapist will instruct you in these exercises before surgery.

2. Arm exercises

Flexion – Lift your arm forward and raise it toward the ceiling. Hold for a few secs then lower it.

Abduction – Lift your whole arm sideways away from your body until your arm is parallel to the floor. Hold for a few secs, then lower it gently.

Continue with these exercises, as pain permits, until you are back to the range of movement you had before the surgery.

3. Walking

It is important to walk regularly after your surgery. Your physio will walk with you until you are able to do it alone. They will let you know when you are able to walk by yourself.

GOING HOME

Discharge time is usually 10am. If this is not possible please let the nursing staff know. If any extra assistance is required at home please let the nursing unit manager know as soon as you can so your needs can be met.

It is important that you follow up with your GP during your first week at home and give him/her the discharge letter. Hospital staff will provide you with your discharge letter before you leave hospital.

Before you leave hospital you will be given an appointment to see your surgeon for follow-up (normally 6 weeks after surgery). The physio will advise you of exercises to do at home.

Pain:

You will continue to experience some discomfort for at least 2-3 weeks after surgery. Most pain will be relieved with Panadol or Panadiene.

If you are experiencing severe pain or shortness of breath see your GP.

Bowel function:

Surgery, medication, loss of appetite and decreased mobility may cause your bowels to become sluggish. This is easily fixed. Eating a diet high in fibre, drinking plenty of water and gently increasing activity will all help to alleviate constipation. It may be necessary to use a gentle laxative – your pharmacist can advise you on an appropriate one.

SUGGESTED SITES FOR MORE INFORMATION

- **Asbestos Diseases Foundation of Australia (ADFA)**
www.adfa.org.au
Ph: 1800 006 196
- **Cancer Council Australia**
www.cancer.org.au
Helpline Ph: 131120
- **Lung Foundation Australia**
www.lungfoundation.com.au
Ph: 1800 654 301
- **Sydney Cancer centre**
www.sydneycancer.com.au
Ph: 1300 852 500

Your GP or community nurse will be able to advise of community groups, lung cancer support groups and pulmonary rehab groups in your area.

Beth Ivimey (lung cancer nurse co-ordinator) is also available at Prince of Wales on 9382 2222, page number 46572

QUESTIONS TO ASK:

NOTES:

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