



A lifetime of specialist care

Royal Brompton & Harefield **NHS**  
NHS Foundation Trust

# Your lung surgery





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*This booklet gives you information about having lung surgery at Royal Brompton and Harefield hospitals. The booklet cannot replace advice from your surgeon or a member of their team. Please ask them if you have any questions.*

## Preparing for your lung surgery – key things to remember

### 1. Physical and mental health

Try to stay active in the weeks before your surgery. If you are worried about your treatment, please speak to a member of your surgical team. If you have a nurse specialist, he/she may be a good person to contact.

### 2. Care at home

It is a good idea to have someone with you for the first few days after you go home following your surgery. If you live alone or are the carer for someone else, think about the care you (or the person you care for) will need when you come out of hospital. Do you have a relative or friend who can come and stay for a few days, for example? If you think you will need extra help when you go home, please let your nurse know as soon as possible.

### 3. Travel home

You will need to arrange your transport to and from the hospital. Hospital transport is not offered to all patients. It is based on your medical condition and most people will have to arrange their own transport to and from the hospital.

### 4. Bring your medications with you

Please bring all your own medications with you when you come into hospital, in their original packaging or containers.

### 5. Valuables in hospital

Please do not bring a large volume of cash or expensive items into hospital. There is wifi on the wards, and you may bring in a mobile or tablet device, at your own risk.



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## Why lung surgery may be needed

Surgery can help doctors diagnose a lung condition, or treat long-term lung conditions, benign (non-cancerous) diseases and cancers. Your surgeon will discuss why you need surgery, and the benefits and risks.

If you have any questions about your surgery, please talk to your surgeon, or any member of the surgical team.

If you have a known or suspected cancer, Macmillan specialist cancer nurses can also answer questions and provide support before, during and after your surgery (see contact details at the end of this booklet).

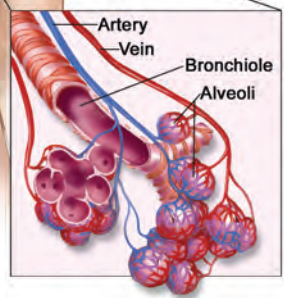
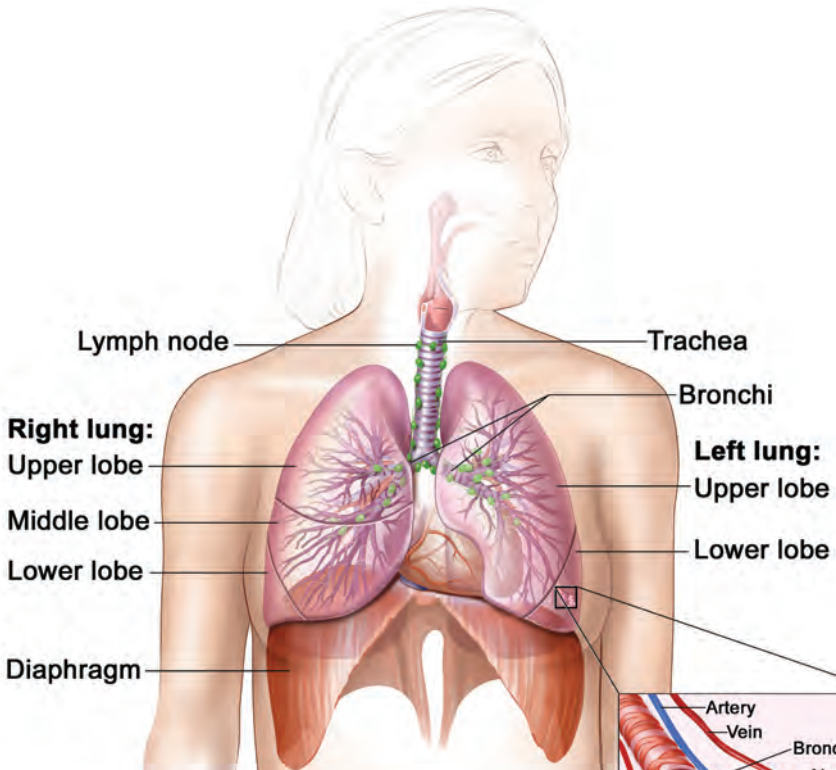
## Your lungs and chest

You may find it helpful to use this diagram to discuss your surgery in more detail with your surgeon or specialist nurse.

### Have you seen our patient videos?

They provide more information about preparing for lung surgery, your stay in hospital, going home and your recovery. View the videos here:

[www.rbht.nhs.uk/our-services/lung/lung-surgery](http://www.rbht.nhs.uk/our-services/lung/lung-surgery)



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## Types of lung surgery

There are three main types of lung surgery. Your surgeon will discuss with you which option is best for you:

- **Thoracotomy**

Thoracotomy is a cut (incision) between the ribs to let the surgeon access the lungs. The incision runs around the side of the chest towards the shoulder blade, and may be a few centimetres long, or up to 30 centimetres long. Usually there is no need to cut any ribs.

- **Video assisted thoracoscopy (keyhole surgery)**

Video assisted thoracoscopy surgery (VATS) involves making between one and three small incisions, about 1–5 centimetres long, on the side of the chest. The surgeon performs the operation using a video camera and surgical instruments through the incisions. Sometimes during keyhole surgery the surgeon needs to change the procedure and carry out a thoracotomy, if it is not possible to safely complete the procedure using VATS.

- **Sternotomy**

Sternotomy is an incision through the length of the sternum (breastbone) to let the surgeon access the central part of the chest.

## Other types of surgery

If you need another type of surgery, your surgeon will discuss this with you.

## Chest wall reconstruction

Occasionally the surgeon needs to remove one or more ribs, or part of a rib. The chest is repaired (reconstructed) with synthetic mesh, or metal bars. Sometimes plastic surgery is also used to repair the skin and tissue. If you need chest wall reconstruction, your surgeon will discuss this with you.

## Risks of lung surgery

It is important you understand the risks and benefits of surgery and the alternatives available to you. All surgical procedures carry some risk and lung surgery can include a risk of death. The risks will be different for each operation and each patient, so we will discuss the risks that apply to you in more detail before the procedure. If you have any questions, please ask your surgeon or a member of the surgical team.

Possible risks include:

### Risks associated with the general anaesthetic

Modern anaesthetics are very safe. However, all procedures have some risks. Risks vary for each patient and your anaesthetist will discuss this with you (see page 11). Further information can be found on the Royal College of Anaesthetists website: [www.rcoa.ac.uk/patientinfo/risks](http://www.rcoa.ac.uk/patientinfo/risks).

### Blood clots, such as deep vein thrombosis (DVT) or pulmonary embolism (PE)

Having an operation increases the risk of getting a blood clot, which can lead to serious problems such as stroke or even death. We reduce this risk by giving you a daily injection to thin your blood, and compression stockings to improve circulation. Being as mobile as possible and drinking plenty of fluids can also help to reduce your risk.

### Bleeding

It is normal to lose a small amount of blood during surgery and through your chest drains during your immediate recovery (see page 15). If the blood loss is severe, you may need to go back to the theatre so that your surgeon can find the cause of the bleeding. You may need to have a blood transfusion. Please see the booklet *Will I need a blood transfusion?*, which is available from us.



## Chest infection

Chest infections can develop after lung surgery. Your nurses will help you get up and about as soon as possible after your operation, as being active reduces the chances of getting a chest infection. You may also see a physiotherapist for advice on breathing and coughing techniques.

## Wound infection

There is a small risk of developing a wound infection after surgery. To reduce the risk, we ask that you:

- shower before your surgery with antibacterial liquid soap
- wash your hands frequently, and use the alcohol rubs provided
- ask your visitors to also wash their hands
- avoid touching your wound.

If you do develop a wound infection, it may be treated with antibiotics.

We have a separate booklet, *Hygiene and wound care for heart and lung operation patients*, which you will be given when you are discharged. Please ask if you do not receive a copy.

## Alternatives to lung surgery

Some lung conditions can be treated without surgery, but not all. Your doctor will discuss any alternative treatments for your condition.



## Preparing for lung surgery

Looking after your physical and emotional health before your operation can help your recovery afterwards.

### Diet

Try to eat five portions of fresh fruit and vegetables every day, and plenty of protein-rich foods, such as meat, fish, pulses, eggs or cheese. If you have been losing weight, please let one of your surgical team know. Supplement drinks (drinks that are high in calories) and dietary advice can help with reducing weight loss before surgery. If you have had significant weight loss, you may be referred to one of our dietitians for advice.

### Physical activity

Try and keep as active as possible before your surgery, and build up a routine of daily exercise if you can. Walking can help to improve your muscle strength and your breathing. Try and increase the length and pace of your walk gradually each day. You could use a pedometer or activity monitor to track your exercise.

### Smoking


If you smoke, it is a good idea to try and stop. Your surgeon will advise you about the best time for you to stop, which may be after your operation, if you are due to have it very soon.

If someone in your family smokes, ask them to support you and improve their own health by also stopping.

You can get help with giving up smoking from your local pharmacy or your GP. Contact details of organisations that can also help are at the end of this booklet.

### Infections

If you develop a chest infection or diarrhoea in the week before your operation, please contact your surgeon's secretary (see the



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telephone numbers at the end of this booklet) or ring the ward or bed manager using the details on your admission letter.

They will discuss this with the surgical team and give you further advice.

## Your emotions

It is natural to feel anxious about having lung surgery. Keeping physically active, talking with friends and family, or relaxation techniques can help. You can also talk to your clinical nurse specialist (CNS) about your concerns. Your CNS can also help you get psychological support, if you feel this might help you.

## Financial issues

A welfare rights adviser can offer advice on benefit entitlement and financial issues.

## Teams involved in your care

Your surgical team will manage your care. The team includes a consultant thoracic surgeon, registrar, junior doctor and an advanced nurse practitioner in thoracic surgery. You will see a member of the team every day that you are in hospital, usually on a morning ward round.

You will usually also see a **pain management nurse specialist**, who will work with you and the nursing and medical teams looking after you to minimise any pain or discomfort.

You may also see a **physiotherapist**, who will work with you and explain how to keep your lungs clear and how to exercise to help your recovery.

Other staff who you may meet include:

- **Pharmacist** – to check your medication and discuss any issues you may have.
- **Dietitian** – for advice and support on food and nutrition.

- **Lung cancer nurse specialist/Macmillan nurse** – can give information and emotional and practical support to patients and families when cancer is diagnosed or suspected.
- **Occupational therapist** – for advice on daily activities and equipment to help you live more independently after surgery.

## Assessment before your surgery

Before your surgery you will have tests to check your general health and fitness for surgery.

Most patients will be given an appointment for a **pre-assessment clinic** one to two weeks before their operation. The appointment usually lasts for around two hours. At this appointment you will see a nurse practitioner, who will assess you to make sure you are fit enough to have your planned surgery safely and arrange any further tests that you need, for example a blood test and chest X-ray.

Please bring all your current medications with you, in their original containers or packets.

Please tell the doctor or nurse practitioner if you are taking anticoagulants (medicines to prevent blood clots), aspirin or other antiplatelet drugs.

You will also see an anaesthetist (a doctor who has had specialist training in anaesthesia, the treatment of pain and the care of very ill patients). He/she will discuss any previous anaesthetics you have had, your medical history, what will happen to you while you are asleep and the risks of having a general anaesthetic. He/she will also plan your care for immediately after the surgery, including pain relief and your recovery.

If you do not have a pre-assessment clinic appointment, these checks and tests will be done once you arrive at hospital for your surgery.



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## Coming into hospital

If you have been seen in a pre-assessment clinic, you will normally be admitted to hospital on the morning of your operation. Arrangements for this will be discussed with you during your pre-assessment clinic appointment.

Some people may be admitted to hospital a day or more before surgery in order to have the assessments and tests required. Your surgeon will tell you whether you need to be seen in the pre-assessment clinic or if you will be admitted to the ward before your surgery.

You will receive a letter before your operation date giving you information about what you will need to do on the day you come into hospital and where you need to go to.

### What to bring

Please bring with you:

- a two-week supply of your medications
- a light dressing gown and comfortable slippers
- pyjamas and day clothes
- a wash bag and toiletries.

You can also bring:

- books and magazines
- a mobile phone
- a small personal radio or MP3 player, with earphones
- a laptop or tablet computer (free wifi is available).

If you use a walking stick or walking aid, please also bring it with you.

Please avoid bringing large amounts of money and other valuables into hospital.

## Before your surgery

Before the operation you will have the opportunity to discuss any questions you may have about your surgery or your stay with the surgical team.

Usually patients should not eat anything from midnight on the day of their operation. You will usually be able to drink water until two hours before your operation. Your surgeon will give you exact times for when to stop eating and drinking on the day of your operation.

You should take a shower using antibacterial liquid soap during the evening before your surgery (you will be given soap during your pre-assessment appointment if you are not going to be in hospital the night before your surgery).

On the morning of your operation, you will be asked to take another shower and use the antibacterial liquid soap. You will then need to put on a clean hospital gown and compression stockings. Your nurse can help you if needed. The stockings help prevent blood clots during surgery.


Before you go to theatre, your surgeon will mark an area on your skin where you will have the operation, using a special marker pen.

When you go into theatre, your nurse will lock away your personal items for safekeeping until you return to the ward. Put your toiletries and other small items in a separate bag, in case you need them straight after surgery.

## Going for your surgery

If your family members want to wait with you on the ward before the surgery, please tell the ward staff.

When you met the anaesthetist, he/she will have discussed with you whether or not you would benefit from taking a pre-medication (pre-med) before your operation (a tablet to help you relax). Many patients do not need a pre-med. You may be able to



walk to the operating department if you do not take a pre-med. Your nurse will go with you to the operating department.

When you arrive at the operating department, a member of theatre staff will check your details and then you will go into the anaesthetic room.

In the anaesthetic room, the staff will check your consent form and wristband. The anaesthetist will place a small drip in the back of your hand to allow them to give you your anaesthetic and get you to sleep. Once you are asleep, the anaesthetist will insert a tube into your windpipe to help manage and monitor your breathing during the operation.

Your surgeon can advise you about how long your operation is likely to take. You will be away from the ward for longer than the operation time itself, as we need to make sure you are put to sleep safely, woken up afterwards, monitored and made comfortable.

## After your surgery

When you wake up, the tube in your windpipe will be removed and you will be given oxygen through a facemask.

You will be taken to the recovery unit, where a nurse will look after you. You may have a chest X-ray to check that your drains are in place (see opposite page) and your lungs are inflating properly.

You will stay on the recovery unit overnight, or may go back to the high dependency unit (HDU) or the ward. Your doctor and nurses will monitor your progress closely.

Your family and friends can visit when you are back on the HDU or the ward. If you are feeling well enough, a nurse will help you sit out of bed for one or two hours. It is important that you wear your own slippers, or anti-slip socks provided by the hospital.

## Medical equipment

Most people have one or more chest drains after surgery. Chest drains remove blood, fluid and air that collect within the chest cavity after surgery.

There are two types of drains:

- an electronic drain that can automatically monitor the amount of drainage
- an underwater seal drain, which is monitored by the nurses.

Your nurse will give you more information about your drain when you are on the ward.



*Example of an electronic chest drain*



*Patient with an underwater seal drain in place*

For one to three days after surgery, you may also have:

- a cardiac (heart) monitor, to check your heartbeat
- one or two drips in your hand(s), for fluids and medication
- arterial line – a drip that goes into an artery, to monitor your blood pressure and oxygen levels
- neck line – a drip that goes into a vein in your neck, to monitor your blood pressure and fluid levels

- bladder catheter – a tube going into your bladder, to drain away urine
- oxygen saturation monitor – a clip attached to your finger or ear lobe, to measure the amount of oxygen circulating in your blood
- oxygen mask (over your mouth and nose) or nasal prongs (two soft plastic tubes under your nostrils) for oxygen.

You will have regular chest X-rays to monitor how well your lungs are recovering.

When they are no longer needed, your chest drains will be taken out, usually one to three days after surgery. If your chest drain needs to stay in for longer, your doctor will discuss this with you.

## Pain relief

You will have medication to help manage pain after your surgery. Feeling comfortable will help you take deep breaths, cough and move more. Your doctor or nurse will discuss pain relief with you. In the first one to three days after surgery, you may have pain medication by:

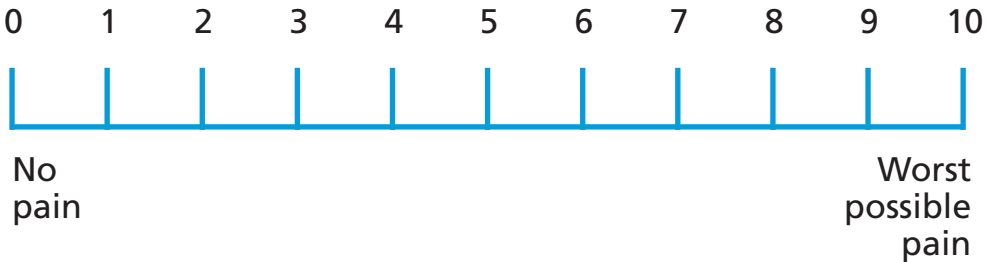
- **Epidural:** medication through a small tube in your back, usually inserted during surgery. Please ask for a copy of our booklet *Epidurals for pain relief after surgery*.
- **Paravertebral block (PVB):** medication through a small tube, placed in the chest cavity during surgery.
- **Patient controlled analgesia (PCA):** medication through a drip in your hand or arm, controlled by yourself when you need it. Please ask for a copy of our booklet *Patient controlled analgesia*.
- **Intravenous infusion:** medication through a drip in your hand or arm, controlled by a pump to give you a constant dose.



Once you are eating and drinking again, you will be able to take pain relief tablets instead.

Your nurses will regularly assess your pain and may change your medication if needed. Please tell a nurse if you are in pain so we can help you to feel more comfortable.

Your nurse will use a scale of 0 to 10 (0 being no pain, 10 being worst pain) to check your pain level with you (see image below).



If you would like a copy of our booklet *Managing your pain at home after lung surgery*, please ask a nurse.

## On the ward

- Remind your visitors to respect the visiting times. You will be tired after your operation and will need your rest.
- The strong pain medication that you need after the surgery may make you drowsy, forgetful and you may even have hallucinations. If you experience problems with your pain medication, please tell your nurse. The specialist pain team will help you to get the right medication and dose for your needs.
- You may forget things that you have been told and need to have someone repeat them. Don't worry, this phase passes quickly.
- Find out from your surgical team when they will have the results ready after your operation. You may want your family or a friend to be with you and to help you remember everything that you have been told.
- If you do not understand or remember anything, don't be afraid to ask more questions or get someone to write things down for you.

## Keeping active after surgery

Exercise is an important part of recovery after surgery. Your nurses will help you get out of bed and get dressed as soon as you can. Sitting up in a chair helps you expand your lungs and recover quicker.

The nurses or physiotherapist will help you take short walks around the ward. As you become more confident, try to walk by yourself at least four times a day, and aim to walk further each day. You can use the distance markers on the walls to see

how far you have walked. If you have lines and drains, you can exercise by walking on the spot or using a static exercise bike, which is available on the ward.

Not every patient needs to be seen by a physiotherapist after lung surgery. If it is difficult to cough up sputum (phlegm) after surgery, a physiotherapist can show you how to clear it effectively.

The nurses or physiotherapist will also check that you can move your arm on the side of your operation, so it does not develop into a stiff shoulder, which would require treatment in the future. A nurse or physiotherapist will give you exercises to help with this if you have a problem.

## **Eating and appetite**

It is important to eat and drink well after the operation, to help your recovery. You need energy from food and drink to help your body heal and regain strength. You also need fibre to help you have regular bowel function.

It may be easier to eat small amounts of food more often. If you need more snacks, please ask your nurse. Also tell a nurse if you have a poor appetite or are eating less than normal. A dietitian can give advice about diet and food supplements, if necessary.


If you feel sick or are being sick, please tell your nurse. We can give you additional medicines that can help stop this.

## **Your bowels**

You may have constipation after surgery, caused by your medications, reduced mobility and diet changes. Your nurse will give you laxatives to relieve the constipation. We recommend that you take them even if you are not yet back to your normal diet. Please tell a nurse if you have not opened your bowels 48 hours after your surgery.

## **Ward rest periods**

Your ward has a rest period after lunch, without visitors or non-essential care. Please switch electronic devices to silent, and



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avoid making phone calls on the ward, so you do not disturb other patients.

## Visitors' accommodation

If you live a long way from Royal Brompton or Harefield hospitals, your close family may want to stay nearby while you have your surgery. Both Royal Brompton and Harefield hospitals have accommodation that you may be able to book, for a reasonable cost. If you would like to ask about booking, please call **020 7351 8044** (Royal Brompton) or **01895 828 823** (Harefield) as soon as you have a date for your surgery.

## Going home

Please ask a family member or friend to take you home when you leave hospital. On some wards you can stay in the discharge lounge or day room until they can pick you up.

We will give you a supply of your new medicines when you are ready to go home.

We can only arrange hospital transport for patients who are in medical need and cannot get home from hospital any other way.

It is a good idea to have someone with you for the first few days after you go home. If you live alone, it may be useful to stay with a friend or relative, or see if they can stay with you.

If you think you will need help at home, please tell a nurse as soon as possible when you come into hospital. The complex discharge teams can give advice and help plan your discharge home. Applying for care by your local social services department requires an assessment, and can take several days to arrange.

Before you leave hospital, you will be given a booklet called *After your lung surgery*, with more information about going home and looking after yourself.

## Useful contacts

### Royal Brompton Hospital contacts

*Where a bleep or extension number is listed, call the main switchboard and ask for the bleep or extension number. Please contact the individual ward to check visiting times.*

Switchboard  
**020 7352 8121**

Princess Alexandra ward  
**020 7351 8596** (24 hours)

Sir Reginald Wilson ward  
**020 7351 8483** (24 hours)

Adult intensive care unit (AICU)  
**020 7351 8587** (24 hours)

Recovery unit  
**020 7351 8478**

High dependency unit (Elizabeth Ward)  
**020 7351 8595** (24 hours)

Specialist physiotherapist  
**bleep 7301**

Macmillan lung nurse specialist  
extension **84134** or **84133** or **bleep 7068** or **7079**

Advanced practitioner – thoracic surgery  
**bleep 1353**

Pain management nurse specialist  
extension **82408** or **bleep 7037** or **7064**

Occupational therapy  
extension **84453**



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Macmillan welfare rights advisor

**020 7351 8060**

Patient Advice and Liaison Service (PALS)

**020 7349 7715**

Medicines helpline

**020 7351 8901**

Relatives' accommodation office

**020 7351 8044**

### **Medical secretaries**

Secretary to Mr Dusmet **020 7352 8228**

Secretary to Mr Jordan **020 7352 8559**

Secretary to Mr Lim **020 7352 8591**

Secretary to Ms Begum **020 7352 8553**

### **Harefield Hospital contacts**

*Where a bleep or extension number is listed, call the main switchboard and ask for the bleep or extension number. Please contact the individual ward to check visiting times.*

Switchboard

**01895 823 737**

Maple ward

**01895 828 552** (24 hours)

Cedar ward

**01895 828 525** (24 hours)

Cherry Tree ward day-case unit

**01895 828 658**

Juniper ward

**01895 828 588** (24 hours)

Recovery  
extension **85339** or **85330**

High dependency unit (HDU)  
**01895 828 572** (24 hours)

Intensive therapy unit (ITU)  
**01895 828 685/2** (24 hours)

Advanced practitioners in thoracic surgery  
**bleep 6253, 6317** or **6182**

Specialist physiotherapist  
**bleep 6306**

Macmillan lung nurse specialist  
**01895 828 989** or **bleep 6180** or **6310**

Pain management nurse specialist  
**bleep 6144** or **6165**

Occupational therapy  
**bleep 6304** or **6406**

Macmillan welfare rights advisor  
**01895 828 934**

Relatives' accommodation  
**01895 828 823** or **01895 828 599**

Patient Advice and Liaison Service (PALS)  
extension **86572**

Medicines helpline  
**020 7351 8901**

### **Medical secretaries**

Secretary to Mr Anikin **01895 828 558**

Secretary to Ms Beddow **01895 828 948**

Secretary to Mr Finch **01895 828 528**

Secretary to Mr Asadi **01895 828 621**



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## Other useful contacts

Age UK (*advice and support for older people and their carers*)

**0800 055 6112**

**[www.ageuk.org.uk](http://www.ageuk.org.uk)**

Carers UK (*support and advice for people who are caring for others*)

**0808 808 7777**

**[www.carersuk.org](http://www.carersuk.org)**

Disability Benefits helpline

**0800 121 4600**

**[www.gov.uk/disability-benefits-helpline](http://www.gov.uk/disability-benefits-helpline)**

SMOKEFREE (*advice to help you quit smoking*)

**0300 123 1044**

**[www.smokefree.nhs.uk](http://www.smokefree.nhs.uk)**

British Lung Foundation (BLF)

**03000 030 555**

**[www.blf.org.uk](http://www.blf.org.uk)**

Macmillan Cancer Support

**0808 808 0000**

**[www.macmillan.org.uk](http://www.macmillan.org.uk)**

Cancer Research UK

**0808 800 4040**

**[www.cancerresearchuk.org](http://www.cancerresearchuk.org)**

Roy Castle Lung Cancer Foundation

**0333 323 7200**

**[www.roycastle.org](http://www.roycastle.org)**



Mesothelioma UK

**0800 169 2409**

**[www.mesothelioma.uk.com](http://www.mesothelioma.uk.com)**

Sarcoma UK

**0808 801 0401**

**[www.sarcoma.org.uk](http://www.sarcoma.org.uk)**

Lymphoma Association

**0808 808 5555**

**[www.lymphomas.org.uk](http://www.lymphomas.org.uk)**



## Your notes

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If you have any concerns about any aspect of the service you have received in hospital and feel unable to talk to those people responsible for your care, call the Patient Advice and Liaison Service (PALS) on:

- Royal Brompton Hospital – 020 7349 7715
- Harefield Hospital – 01895 826 572

You can also email [pals@rbht.nhs.uk](mailto:pals@rbht.nhs.uk). This is a confidential service.



Royal Brompton Hospital  
Sydney Street  
London  
SW3 6NP  
tel: 020 7352 8121

Harefield Hospital  
Hill End Road  
Harefield  
Middlesex  
UB9 6JH  
tel: 01895 823 737

Website: [www.rbht.nhs.uk](http://www.rbht.nhs.uk)

إذا كنت ترغب في الحصول على ترجمة فورية لمضمون هذه الوثيقة إلى اللغة العربية، يرجى منك الاتصال بأحد مستخدمينا بجناح المصلحة التي يتم فيها استشفائك. أحد موظفينا سيسعى لترتيب إجراءات الترجمة وإتمامها في الوقت المناسب لك.

Brosurteki bilginin Türkçe tercumesi için tedavi görüyor olduğunuz bölüme bas vurunuz. Bölüm personeli tercümenin gerçekleşmesini en kısa zamanda ayarlayacaktır.

