Pleural biopsy and drainage of pleural effusion
Information for patients
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This booklet will explain the reasons for the operation, the procedure itself and potential risks involved. It will also explain the care you need before and after surgery. Please feel free to ask any questions raised or not addressed by this booklet. The doctors and nurses are available to support you at this time.

The lungs are covered by two thin membranes called the pleura. The space between these two layers is called the pleural space.

Patients are referred to a thoracic (chest) surgeon for management and/or investigation of symptoms they have been having, which may include increasing shortness of breath and sometimes pain or discomfort and general malaise.

Often patients have had a chest x-ray or CT scan that has shown fluid between the two pleura and/or thickening of the pleura. As the fluid builds up it collapses (squashes) the lung. The surgeon is asked to drain the fluid to allow the lung to inflate, however in some patients it is not possible to get the lung fully inflated. The surgeon will also take a biopsy from the pleura to find out why the fluid has collected there.

You will normally meet a chest surgeon at a clinic appointment to discuss the reasons for offering surgery, what is involved and any risks associated with the procedure.

It is your decision whether or not you have surgery. The doctors and nurses will be available to offer information, advice and support at this time, so please feel free to ask any questions and discuss any concerns you may have.

The procedure

The operation is normally done under a general anaesthetic, although occasionally in some circumstances it is done under a local anaesthetic.

The surgeon may sometimes do a bronchoscopy first, using a telescope to look into the windpipe and airways.

The surgeon will then make one, two or three small cuts on the chest about two to four centimetres long.

Using a special telescope the surgeon will look into the pleural space and then drain the fluid off, as well as taking biopsies from the membrane. In some patients the surgeon will put some sterile talc into the pleural space to stick the two membranes together to try and prevent the fluid returning.

The surgeon will need to leave a chest tube in the space to drain any air and fluid after the operation. The drain will need to stay in place for about two to three days. Once the drain has been taken out the stitch will need to be removed seven to ten days later, by your local surgery nurse or the district nurse.

The operation usually takes 45 minutes to one hour.

The biopsies will be sent to the laboratory for analysis. This normally takes ten to 14 days.

Changes to the planned surgery

For technical reasons the surgeon may be unable to do your operation using the telescope and may therefore have to extend one of the cuts or make a new, longer cut to complete the operation. This is called an open pleural biopsy.

Very occasionally if there is bleeding during the operation that cannot be controlled through the telescope, the surgeon will need to make one of the cuts larger to gain direct vision and control the bleeding.
Preparation for surgery

You may be admitted to hospital day before your operation, or on the day itself.

To reduce the risk of infection, you will need to have a bath, or shower in an antiseptic solution the night before your operation. We will give you this special liquid soap.

You must not eat anything after midnight the night before your operation. After midnight you can only drink water, and you must stop this at 6am.

If you take any medications the nurses will advise you which you may take before your operation.

On admission you will need to have the following tests.

- Blood tests
- ECG – heart tracing
- Chest x-ray
- A full set of observations - blood pressure, pulse, oxygen levels, temperature, respiratory rate, weight and height

On the morning of your operation you may need to have your chest, back and underarm shaved with special clippers. You will need to have another bath, shower, or full wash and a hair wash in the antiseptic solution. After this you will be asked to put on a hospital gown. We will also give you compression stockings to wear, which help to prevent you developing blood clots in your legs.

All patients are screened for MRSA on admission by doing a nose and groin swab.

A nurse will need to complete some paperwork with you and a doctor or nurse specialist/practitioner will take a medical history and do an examination. This may have been done in a pre-admission clinic.

The anaesthetist will see you to discuss having a general anaesthetic. We do not routinely give pre-medications; however if you are particularly anxious then please mention this to the anaesthetist.

If you need other tests specific to you these will be explained.

The procedure will be explained to you again and any questions you may have will be answered.

Once everything has been completed a doctor will ask you to sign a consent form giving your permission (consent) for the operation to take place.

Before your operation a doctor will mark the side you are to be operated on. Please let a member of staff know if this gets washed off.

We will give you two name bands to wear, with the ward, your name, date of birth and hospital number. If you are allergic to anything you will also need to wear a red band. Please let a member of staff know if you lose one, or if any of the information is incorrect.

Before going to theatre the nurses will complete a check-list with you. This will be repeated several times when you go to theatre. This is for your safety.

After the operation

After the operation you will be taken to the recovery room. The staff will be constantly monitoring you and making you comfortable. Once they are happy with your condition you will return to the ward. You will normally stay in recovery for about two hours. Some patients will have a chest x-ray.

When you get back to the ward you will be closely monitored for the first part of your recovery.

You will have oxygen via a mask which will need to stay on for at least the first few hours.

You will not be able to drink for four hours after your operation, so you will have fluids given by a tube going into a vein until you can drink freely.

The chest drain normally stays in for 48 to 72 hours depending on how much drainage there is and if there is an air leak. The nurses will be measuring the amount of drainage from your drain. With a chest x-ray and this information the doctors will decide when the drain can be removed.

Occasionally you may have a tube in your bladder to measure your urine; this will normally be removed the following day.

You will be shown how to do breathing exercises and how to cough to prevent a chest infection, as well as exercises to prevent getting a frozen
shoulder or a blood clot. It is very important to do these exercises as they will help with your recovery.

**Pain relief**

After your operation you will need to have some pain relief. This is normally by patient controlled analgesia (PCA), a device designed to ensure you receive safe levels of pain relief. It consists of a syringe containing pain relief medication, attached to a vein in your arm. When you require pain relief you press a button to release a dose. This allows you to be in control of your own pain relief when you need it. As your pain improves you will be given tablets and the PCA and local anaesthetic will be stopped.

The nursing staff will be monitoring your pain levels so please tell them if your pain is not controlled.

**General care**

You will need help to begin with but gradually you will be able to do more for yourself.

You can eat the following day but expect to have a poor appetite to begin with.

The majority of patients having this surgery will find they are able to start walking around on the first day after their operation. Gradually as you recover you will be expected to move more, but be careful not to overdo it. The nurses will help you decide how much you should do.

You will have dressings over your wounds and these will be removed 24 to 48 hours after the operation. The dressing around the drain will need to stay on while the drain is in place and then for about two days after the drain comes out. Dressings are normally changed on alternate days or more frequently if necessary.

We would hope that by the time you go home you will be comfortable and gently walking around the ward. Your pain should be controlled on tablets, and you should be able to shower or wash yourself and get yourself dressed. You may still need some help to wash your back and feet.

The doctors will come and see you regularly to discuss your progress. If you have anything you wish to ask them please do so.

Expect to stay in hospital for three to four days in total, but don’t worry if you need longer, you will recover at your own pace.

**Side effects, risks and possible complications**

With any surgical procedure, there are certain risks attached. The risks will depend on how well you were before undergoing the operation. Your surgeon will discuss the risks with you.

**Sore throat**
It is normal to have a sore throat from being anaesthetised, this should settle in a few days.

**Damage to teeth**
Teeth can sometimes be damaged from the anaesthetic and bronchoscopy instruments. The surgeon and anaesthetist will try very hard to prevent this.

Please ensure you let the doctors know if you have any loose teeth, crowns or bridges before your operation.

**Changes to blood pressure**
Sometimes your blood pressure may be lower after an anaesthetic. This is normally due to not having anything to drink for while. You will either be asked to drink more or you may need to have fluids through a tube into a vein in your arm.

**Chest infection**
Breathing exercises, early mobilisation and adequate pain relief can help reduce this risk. If you do develop a chest infection you may need physiotherapy and sometimes treatment with antibiotics. You may need to stay in hospital for a little while longer.

**Pain**
It is normal to have pain after this operation. Regular pain relief will be given to control the pain and it should settle in a few weeks. Very occasionally pain does not settle and you may need to see a specialist at a pain clinic.
Painful shoulder
This is very common after chest surgery. It can be eased with pain relief and moving the shoulder regularly.

Bleeding
Following chest surgery some blood loss into your chest drains is normal and is usually minimal. However; very occasionally a blood transfusion is necessary. If this is the case, information will be given to you. Very occasionally patients having this procedure will need to return to theatre to control the bleeding.

Wound infection
Showering in an antiseptic solution before surgery, frequent hand washing and using the alcohol rubs provided all help to prevent this risk.

Very occasionally patients having this surgery will develop a wound infection requiring antibiotics and wound dressings. This may require help from the district nurses to dress the wound once you are discharged.

Blood clots
These can occur in the legs and then travel to the lung. The risk is greatly reduced by wearing compression stockings, daily injections of a blood thinning drug and early mobilisation.

Faster heartbeat
This can occur following chest surgery and may be treated with drugs to slow down the heart.

Air leaks
This is when the lung leaks air and may occur after chest surgery. It usually settles within a few days but will mean that the chest drain has to stay in the chest while it settles. Occasionally, as mentioned previously because of the underlying condition the lung is not able to fully inflate; if this is the case the surgeon will need to discuss this with you.

Heart attack or stroke
This can occur during or after any surgery. The risk is higher in patients with a cardiac history or undiagnosed cardiac disease. For this reason every patient will have investigations and be fully assessed before surgery takes place.

Please remember you may ask any questions and voice any concerns you or your family may have with the doctors and nurses looking after you.

Going home
Once your consultant feels you are able to go home a member of staff will discuss your ongoing recovery with you.

Rest
It is normal to feel very tired for at least the first week after discharge and often longer. Rest is a very important part of your recovery so ensure that you have several rest periods during the day, between activities.

Don’t be surprised at how tiring activities can be at first, increase them gradually as you feel able to. Restrict any activities that cause pain or wear you out. Try to go to bed at a regular, reasonable time and don’t rush to get up in the morning.

It is nice to see visitors when you are at home but it can be very tiring. Try and restrict visitors to begin with and don’t be afraid to excuse yourself from company if you feel tired and want to rest.

Tiredness and sometimes periods of feeling low in mood are all part of your recovery and a natural reaction to surgery. Try not to compare yourself with anyone else; you will recover at your own pace.

If you have concerns about how you are recovering, then please contact the ward, thoracic nurse specialists or your GP.

Mobility and exercise
It is important to exercise after your surgery to maintain mobility and help with your recovery. Carry on with what you have been doing in hospital and increase steadily.

You should carry on wearing the compression stockings after you leave hospital, until you are fully recovered. If you experience any pain or discomfort in your calves (lower legs) or they become swollen please contact the ward or your GP for advice.
Remember to do your breathing exercises and move your shoulder regularly. Be aware of your limits and rest between activities. Please ask if there is anything you are unsure about. Walking is a good form of exercise which you can do at your own pace and increase gradually.

If you feel tired or have pain while exercising, stop and rest.

**Medication**

Any medication you brought into hospital will be returned to you unless it has been stopped by your doctors during your admission. On discharge you will be given a seven day supply of medication. This will include any of your own supply that has run out and any new tablets that you have been started on, such as pain relief. All medication will be labelled with instructions on how and when they should be taken. Please ensure you are clear about the instructions before you leave hospital.

**Pain relief**

It is important to take your pain relief regularly to begin with. This allows you to cough, deep breath and mobilise in order to aid your recovery. Do not try to stop them too soon.

Most patients need to take some form of pain relief for one to three weeks.

Once your pain is improving reduce them gradually.

You may need to get further supplies from your GP.

If you find that your pain relief is not as effective as it was to begin with, speak to your GP about trying different ones.

Do not exceed the stated dose.

**Wound care**

The ward staff will give you advice about your wound before you go home. It will normally take two to four weeks to heal.

You will have a drain stitch that will need to be removed by your practice nurse or district nurse seven to ten days after the drain is removed. You will be given a letter for the practice nurse, and instructions about when to make an appointment.

If you still have a light dressing over your wound when you leave hospital you will be given instruction about this.

You may shower/bath daily, but do not soak the wound. Avoid very hot water as this may cause you to feel faint. Ensure there is someone in your home with you when you bath or shower in case you need some help. Take care when washing around your wound and pat dry carefully.

Do not put any lotions or talcum powder on your wound until fully healed.

It is normal to have some numbness, tingling and pins and needles around your wound and at the front of your chest. This will normally settle over time but can take several weeks to months.

If you are worried at any time about the healing of your wound, if it becomes more painful, red, inflamed or oozy please telephone the thoracic nurse specialists or the ward for advice, or see your practice nurse or GP.

**Diet**

A balanced diet is important following any surgery to help with your recovery.

It is normal to have a poor appetite to begin with. If this is the case, have small, frequent meals. Ensure you are drinking sufficient fluids.

**Alcohol**

Alcohol can sometimes react with medication you may be on, so always check with a member of the ward staff before you are discharged.
**Smoking**
We strongly advise you not to smoke following your surgery and to avoid smoky environments. There are some leaflets available on the ward with advice and help on quitting.

**Driving**
You will normally be able to drive two weeks after your surgery. Always check with your insurance company first. In some instances it may be necessary to inform the DVLA.

If when you first drive you find it difficult due to pain and restrictions in your mobility, leave it for a few days before trying again. It is always a good idea to take a competent driver with you the first time you go out.

**Returning to work**
Depending on your job you will need approximately two to four weeks off work. If you have a very physical job you may need a bit longer. Please ask for advice.

If you need a medical certificate please ask for one before going home. You may need to get further certificates from your GP.

**Help at home**
After your surgery you will need someone to be at home with you for the first few days. You will need help with heavier housework such as hoovering, changing the bed, loading and unloading the washing machine, hanging up washing, shopping and mowing the lawn. Family and friends are often very willing to help, so please ask them and accept their help.

If you live alone and do not have anybody to provide support please tell the ward nurses on admission.

**Outpatients appointment**
The results from the biopsies normally take ten to 14 days to be ready. They are then sent back to your referring doctor and you will be sent an outpatients’ appointment to discuss the results.

If you have any questions about this information please discuss them with a member of staff before you leave hospital.

**Further information**
If you have any concerns or questions once you are home then please feel free to contact the following for advice:

- Thoracic nurse specialists: **023 8120 8457**
- Hospital switchboard on: **023 8077 7222** and ask for bleep **2949**
- E4 ward: telephone **023 8120 6498**
- Consultant’s secretary on: ...........................................................
- Your GP
Wessex Heartbeat

The story so far...

Wessex Heartbeat is a registered charity dedicated to providing support to the Wessex Cardiovascular and Thoracic Centre (WCC), its patients and their loved ones so they can receive the best possible care and support.

Wessex Heartbeat has raised over £13 million, helping the WCC become and remain a Centre of Excellence for cardiac care in the UK. We receive no funding of any type and rely solely on the donations of our generous supporters.

Key Services
We fund Heartbeat House; a home from home providing free accommodation for the Wessex Cardiovascular and Thoracic Centre patients’ relatives, located just a few minutes walk from the hospital. For information about staying at Heartbeat House please ask the Ward Sister.

Wessex Heartbeat are continually funding projects to ensure the Centre remains at the forefront of cutting edge services. Wessex Heartbeat continues to help patients, loved ones and medical staff in many ways, including:

- Funding specialist equipment
- Providing patient literature
- Funding educational and training grants for medical staff

We are also taking the message of keeping healthy out to the community through our ‘Healthy Heart’ campaign, offering on the spot health checks to staff at businesses and organisations.

It is thanks to the generosity of many individuals and organisations that we are able to fund these projects past and present.

With an increasing number of patients being treated by the WCC, there are always more ways in which Wessex Heartbeat can help and ensure that the cardiac care these patients receive continues to get even better.

Our next major projects will be the development of a Cardiac Day Case Lounge and Heart Failure service.

For more information on our work please visit our website at www.heartbeat.co.uk

With your help, however large or small, we can continue to make a difference and change the lives of the people in our community.

Thank You

Registered Charity No 1116510
Company Limited by Guarantee No 5924982

Please help Wessex Heartbeat make a difference

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I would like to receive more information on:
Events WHB Community Groups Healthy Heart Campaign

How to make a donation

1. By Cheque
I enclose a cheque for £..................... made payable to Wessex Cardiac Trust.
Please send cheques to the address at the bottom of this form.

2. By Credit or Debit Card
To make a donation by debit/credit card please call the Fundraising Team on 023 8070 6095. We regret that we cannot accept American Express or Diners Club cards.

3. Direct Debit Mandate
We are very grateful for any amount you are able to give. Please complete the Direct Debit section below.

I / we wish to pay Wessex Heartbeat the amount of £..................... monthly / quarterly / annually, until further notice.

Instructions to your Bank or Building Society to pay by Direct Debit

Bank name.............................................................................................................................................
Bank address ...........................................................................................................................................
Account name(s).................................................................................................................................
Account number.................................................................................................................................
Branch sort code ...............................................................................................................................
Starting on................................................. Signature................................................. Date ..........................

By completing your details below, we can reclaim an extra 25p for each pound you donate.

I am a United Kingdom taxpayer and want this donation and all future donations to be treated as Gift Aid until I notify you otherwise.

Signature ..................................................... Date ..................................................

Please send this form to:
Wessex Heartbeat, PO Box 270, Southampton General Hospital, Southampton SO16 6GE
T 023 8070 6095
E info@heartbeat.org.uk

All data is protected under the Data Protection Act and not shared with any other organisation. Wessex Heartbeat would like to keep you updated with our work. If you do not wish to receive information from us please tick the box.

Ward Sister.

staying at Heartbeat House please ask the hospital. For information about located just a few minutes walk from Thoracic Centre patients’ relatives, for the Wessex Cardiovascular and home providing free accommodation.

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