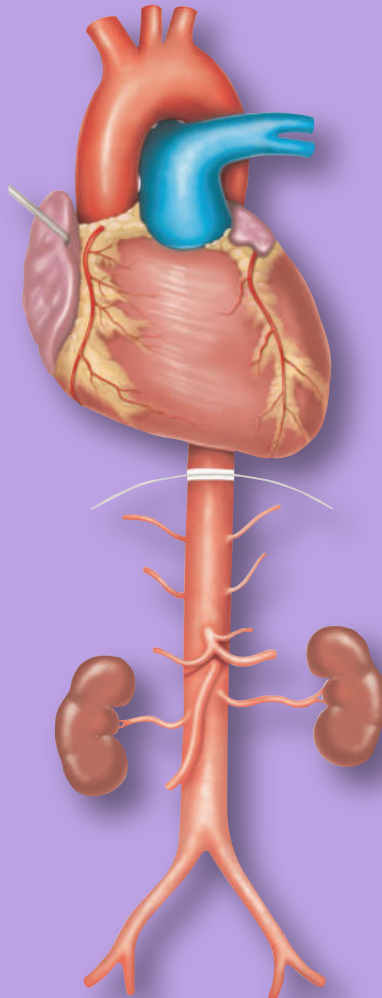


Information for Patients & Families

Thoracic Aortic Aneurysm Surgery

Surgery to the main blood vessel in the body



CONTENTS

Introduction	3
Section 1 – Where is my Aorta and What Does it do?	4
Outpatient Clinic/Waiting List	5
Aortic Virtual Clinic	6
What is a Thoracic Aortic Aneurysm?	7
Frequently Asked Questions	10
Section 2 – Pre-Admission Clinic	16
Following Your Operation	22
Discharge Home	28
A Guide to the First Few Weeks at Home	30
Who to Contact if I have any Problems after Going Home	35
Useful Information	36
List of Useful Telephone Numbers	39

Introduction

This information booklet has been written to help you and your family understand more about the operation that is planned for you. It will give you general information about what to expect before coming into the Liverpool Heart and Chest Hospital NHS Foundation Trust.

Within the booklet are details of organisations and specialists that may be able to provide further information. You will find a list of useful telephone numbers at the back of this booklet and you can use the space below to write down any questions you may want to ask during your admission or at your outpatients appointment.

The first section of this booklet looks at you and your condition. The second section looks at planning and admission to the hospital for an operation on your aorta. We hope this booklet answers some of the questions or concerns you may have about your surgery. It is not intended to replace talking with medical or nursing staff.

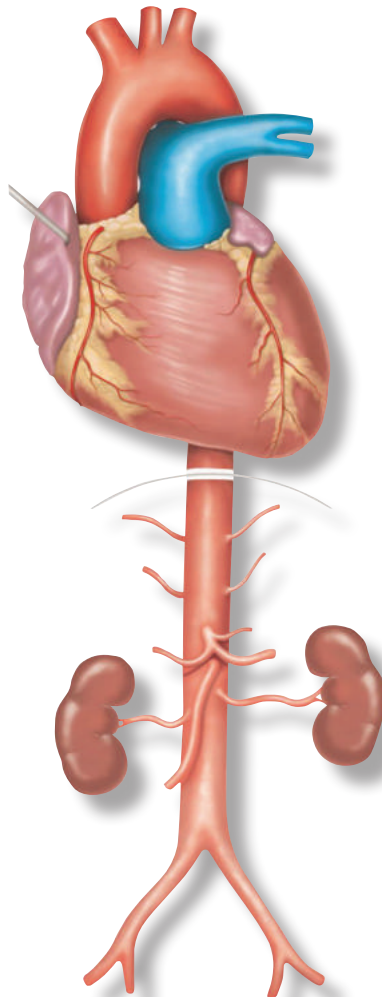
Patient and Family Experience

The Liverpool Heart and Chest Hospital is committed to providing patients and their families with an exceptional care experience. Patient and family centred care is at the heart of what we do. You may wish to involve your family members or carers in your care to assist and support you whilst in hospital. With your permission we are happy to share information about your care and condition with your family members. Please tell us with who and how much information you would like us to share. Your experience is very important to us. If you, your family or carers have any concerns during your admission, please let us know immediately.

Section 1

Where is my Aorta and what does it do?

The aorta has 3 layers and is the largest artery in the body. It is an area of high pressure and carries blood from the left ventricle (left chamber of the heart) out of the heart. It is described as a large trunk that leads into an arch then down to the abdomen and branches off into 2 smaller arteries.



Outpatient Clinic/Waiting List

You have been referred to the Liverpool Heart and Chest Hospital by either your: General Practitioner (GP), a Vascular Surgeon or a medical doctor to attend the Outpatient Clinic for a consultation with a member of the Thoracic Aortic Team.

The team comprises of five Thoracic Aortic Consultants: Mr Kuduvalli, Mr Field, Miss Harrington, Mr Nawaytou and the Aortic Advanced Nurse Practitioner, Mr Jamie Doolan.

You will have had a CT (Computed Tomography) scan or an MRI (Magnetic Resonance Imaging) scan before attending your clinic appointment. If you have not had a scan prior to your appointment, it is important to let us know and so please contact one of the Personal Assistants to the thoracic aortic team on 0151 600 1660 or 0151 600 1254.

On arrival at the Outpatient Clinic you will undergo further tests before your consultation, such as an ECG (electrocardiogram) which is a heart tracing that looks at the rhythm of your heart, a pulmonary function test (PFT) which looks at your lung capacity, blood tests and possibly an echocardiogram (echo), which is an ultrasound scan of the heart. Therefore, you will be required to be in the clinic for a long period of time, approximately 1-3 hours. Please arrive early and prepare to stay for the afternoon. Food and drinks are available at the shop or bring your own if you prefer.

The consultant will then review you and all the results of your tests will be available to him (except the blood tests) and he can explain the reason for your referral. The consultant will explain the findings from your CT and/or MRI scans to you in as much detail as you wish and discuss the condition of your aorta and the options available to you. Sometimes the consultant will place you on a "Watch & Wait"

or surveillance waiting list where you will have repeat scans every 1-3 years so your aorta can be monitored. This will be explained to you by the consultant if this is the case.

Aortic Virtual Clinic

The Aortic Virtual Clinic at Liverpool Heart and Chest Hospital is a new service led by an Aortic Advanced Nurse Practitioner (ANP) and is designed to improve patient experience and satisfaction for aortic follow-up patients, both post – operatively and those who are under long-term surveillance.

The virtual clinic aims to;

- Reduce waiting times
- Reduce unnecessary visits to the outpatient department
- Reduce costs associated with travel to and from the hospital
- Provide one to one consultation in a more timely and convenient manner

The Virtual Clinic

Patients with a planned appointment will be contacted by telephone by the Aortic Advanced Nurse Practitioner (ANP) at a time and date confirmed in advance with the patient. During the consultation the Aortic ANP will provide the patient with information regarding investigations, proposed investigations and management as well as offering patients educational advice on the management of their condition and answering any questions or concerns that patients may have.

In the event the Aortic Advanced Nurse Practitioner cannot make contact with the patient via phone at the designated time and date then a letter will be sent to the patient.

After the Virtual Clinic

For the telephone consultation, a short outcome letter summarising the discussion will be documented and posted to the patient and GP/ Consultant. The document will also be retained electronically for the patient's hospital record. It is important to note that those patients who attend a virtual clinic will not be discharged from the care of Liverpool Heart and Chest Hospital.

Patients will be notified of future appointment dates.

What is a Thoracic Aortic Aneurysm?

A thoracic aortic aneurysm is a swelling or bulge, which is formed by a weakening of the aortic wall and can be found in the chest and the abdomen, leading to an abdominal aneurysm.

A thoracic aortic aneurysm is commonly found among patients who have atherosclerosis (hardening of the arteries) and general "wear and tear" of the aorta. A thoracic aortic aneurysm can also be found by chance.

You can also have an aortic aneurysm if you have:

- Marfan's Syndrome – a connective tissue disorder
- A bicuspid valve – a double flap (leaflet), in your aortic valve which is one of the valves in your heart
- An inherited condition

There are two types of thoracic aortic aneurysm: **Fusiform and Saccular** (see diagram overleaf) and these can be found at points along the aorta. This will be discussed by your consultant in clinic, who will describe which part of your aorta will need operating upon.

Aneurysms



a) Sacular

b) Fusiform

The surgical option for this condition is to perform open heart surgery, either through a vertical incision on the front of your chest (a sternotomy) or on the left hand side of your chest (a thoracotomy). The reason for operating depends upon whether you are experiencing symptoms or the size of the aneurysm.

The diseased part of the aorta is removed and replaced with a tube-shaped graft. If the aneurysm is near to your aortic valve and you are displaying symptoms, then this may need to be replaced at the same time, this is called an aortic valve replacement.

You will have a general anaesthetic prior to the surgery and the surgery is performed using a cardiac bypass machine which supports your heart during the operation. You will spend at least one night on the Post-Operative Critical Care Unit (POCCU) following your surgery, or this may be longer depending on which operation you will need.

Aortic Valve Replacement

The aortic valve allows blood to flow from the left ventricle of the heart up into the aorta. The normal aortic valve has three leaflets; it is therefore called tricuspid (tri=three). If the valve is not working the flow of blood can be impaired or even flow back into the left ventricle, this is known as aortic regurgitation. The valve can also become narrowed and this is known as aortic stenosis.

Aortic valve disease can be congenital (from birth), can develop as part of the ageing process or stem from rheumatic disease as a child or an infection. The symptoms associated with aortic stenosis (narrowing of the valve) and aortic regurgitation are; shortness of breath on exertion or at rest, swollen ankles, angina (chest pain), tiredness or syncope (fainting).

A coronary angiogram procedure is usually performed prior to surgery to study your coronary arteries in case other surgery is required. It is a specialised procedure that allows a doctor to examine the arteries that supply blood to the heart. This procedure also gives vital information about the blood pressure inside your heart, the pumping chambers and heart valves.

The procedure is usually carried out through blood vessels in the groin or wrist. You will be awake during the procedure but will be given a local anaesthetic to numb the skin. A small cut is made either in your wrist or your groin. A thin tube (called a catheter) and fine wires are inserted into the artery and passed up through the blood vessel to the heart. A special type of dye that can be seen on X-ray is injected through the tube to enable the doctor to examine the coronary arteries and the heart.

Frequently asked questions

If I am put on surveillance what does this mean?

When you are put on surveillance this means that your aneurysm does not require an operation at this moment, whether this is because of the size of your aneurysm or because you are not experiencing any symptoms. This can mean in some cases that you might never need surgery and you will continue to have repeat CT/MRI scans and you will be seen in clinic to check on your progress.

If I have an aortic aneurysm how big should it be before I am offered surgery?

Your aneurysm usually needs to measure a specific size and/or for you to have an increase in symptoms before you will be considered for surgery. This will be explained to you by your consultant in clinic.

How long would I be in hospital for if I had surgery?

Length of stay depends on the type of surgery you require. We estimate that a usual hospital stay is 7-10 days, but if you require a complex 'all day operation' then this can increase to a longer period in hospital depending on your recovery time.

Can I drive if I have an aortic aneurysm and after I have surgery?

You are allowed to drive if you have an aortic aneurysm unless you are given instruction by your consultant not to, but you **must contact the DVLA and inform them of your condition.**

You can normally drive 6 weeks after your surgery, but sometimes your consultant will give you a specific plan for driving depending on how you recover following your operation and if it is connected to your job.

How much pain will I have following surgery?

You are likely to have some discomfort and pain following surgery, but this is normal. We will, however, aim to keep you as pain free and comfortable as possible as it is important that we manage your pain according to your needs so that you can get back to a normal lifestyle. The doctors will prescribe you regular pain medication and we have a Pain Specialist Nurse who is available to assess you on the ward.

If I don't have surgery what other options do I have?

During your consultation the consultant will discuss in detail with you the 'risks and benefits' of having an operation and you will have time to think about them with your family. The consultant will make sure you are on the correct medication and will continue to monitor your aneurysm and your symptoms even if you are unsure about having an operation.

How does having an aneurysm affect my life?

If you have an aortic aneurysm, your lifestyle should not have to change dramatically. We advise maintaining a low blood pressure and no heavy lifting or exercise, otherwise you should continue to live and work as normal. If you do have a heavy manual job please discuss with your consultant any concerns you might have.

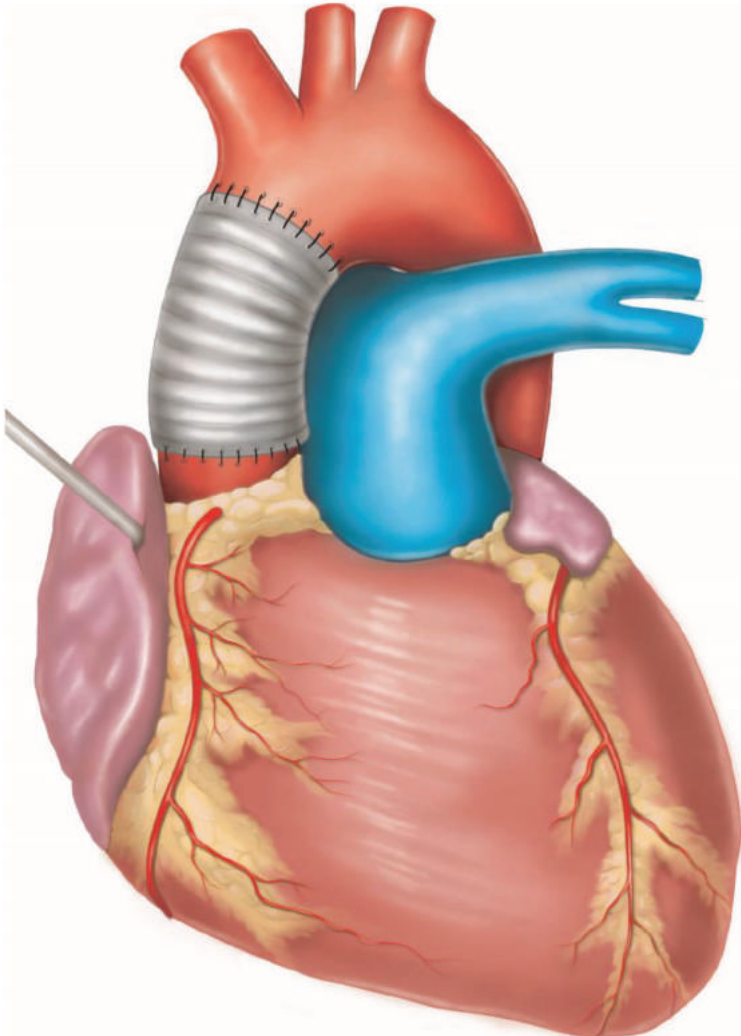
What symptoms will I expect to get with my aneurysm?

Most people do not experience any symptoms with having an aortic aneurysm. If your heart valve function has started to deteriorate, you may start to experience shortness of breath on exertion or walking uphill or stairs, chest pain and peripheral oedema which is swelling around your ankles and lower legs. If you develop a hoarse voice and/or difficulty in swallowing you should speak to your GP or your consultant when attending clinic. If you have any severe chest or back pain then you should call 999 and be taken to your nearest Accident & Emergency Department (A&E) for assessment.

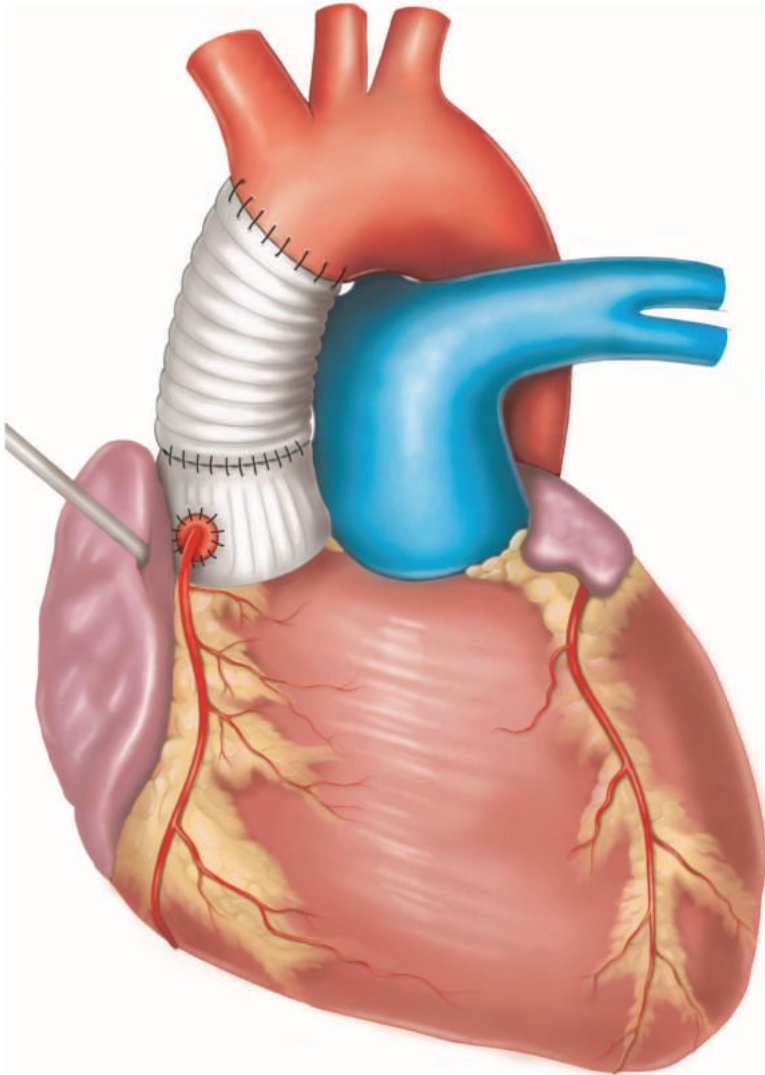
If I require surgery what type of surgery is available?

There are many different types of operation that will be discussed with you by your consultant but the most common procedures are:

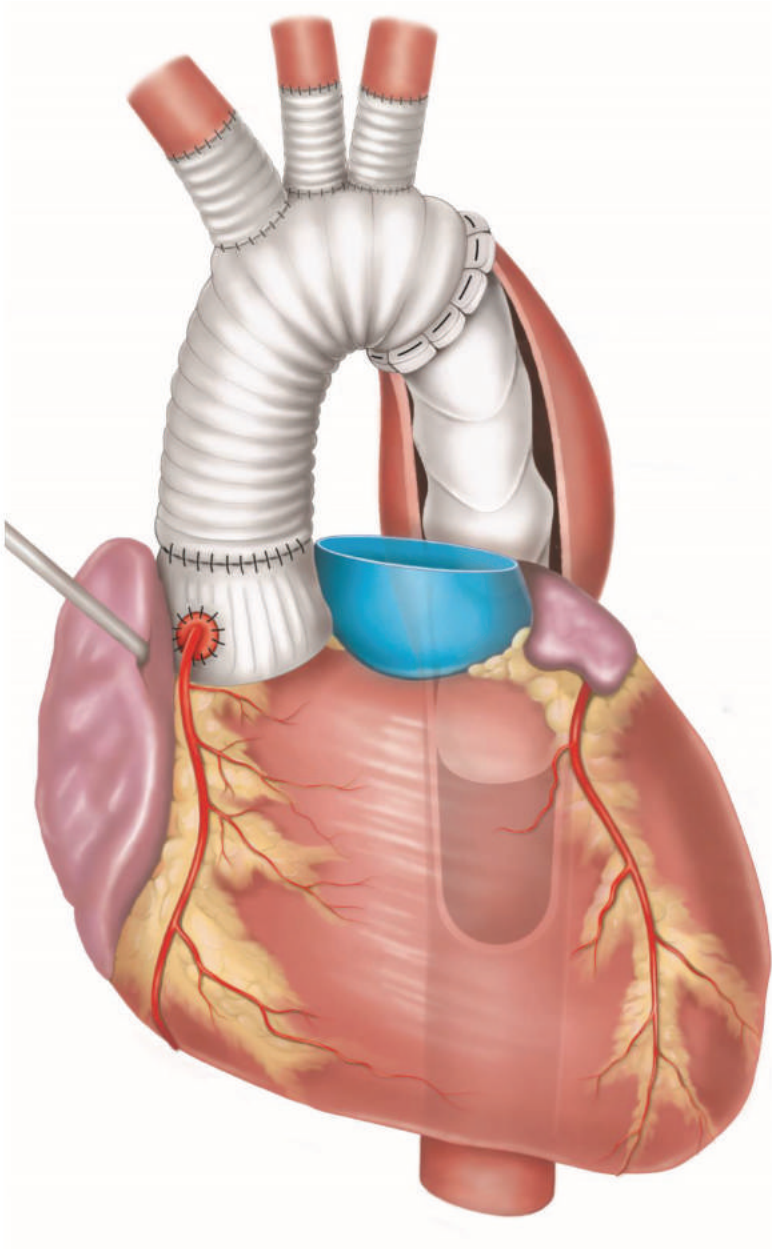
- Ascending aorta replacement



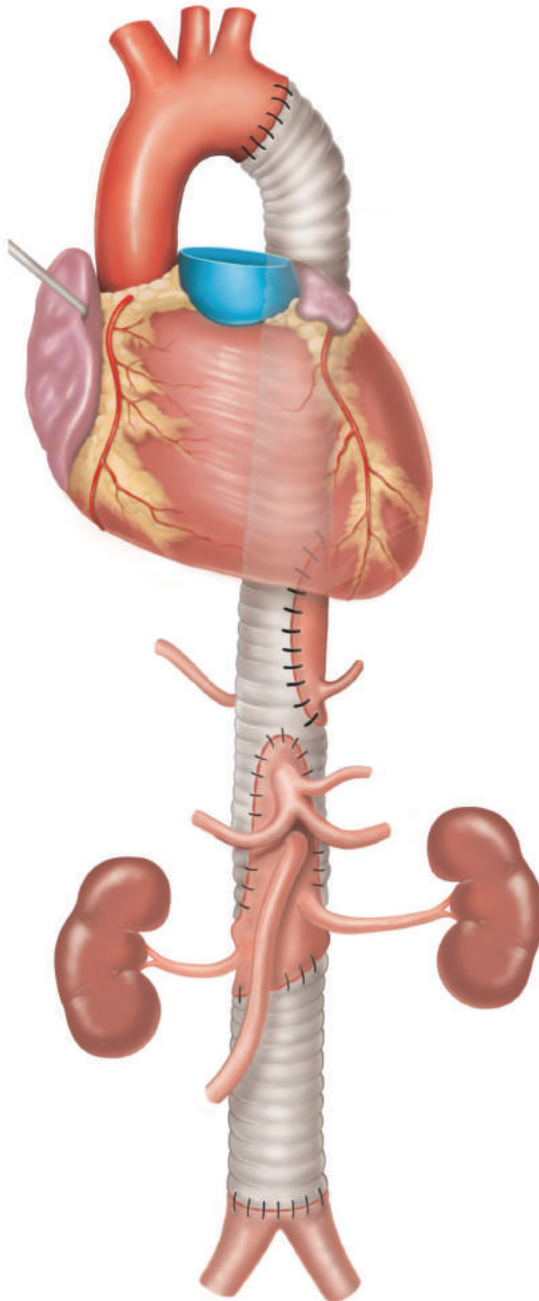
- Aortic root replacement



- Root and arch replacement



- Thoraco-abdominal aneurysm repair



Section 2

Pre-Admission Clinic

As part of your preparation for surgery you will be reviewed by a Clinical Nurse Practitioner who is specially trained.

This assessment will take up to 2 hours and nurse will:

- Take a full history and perform a clinical examination
- Assess whether you require any extra support or have any disabilities
- Explain about the procedure and your hospital stay
- Explain about the recovery period following surgery
- Discuss cardiac rehabilitation
- Repeat any investigations if necessary
- Give advice on your medication including which tablets you should stop prior to coming into hospital
- Discuss any concerns or answer any questions you may have
- Advise you to visit your dentist before valve surgery; this will reduce the risk of infection on your new valve.
- Discuss your expected length of stay and approximate discharge date
- Arrange any additional help you may need such as a social or dietician referral, or advise you who to contact for advice about stopping smoking.

The nurses are available to help and support you so please feel free to ask them any questions you may have. Whilst you are waiting to come in for your operation and have any concerns about your illness/condition, you can contact one of the Clinical Nurse Practitioners on their helpline by telephoning 0151 600 1298.

Smoking Advice

If you are currently smoking it would be best if you could give up smoking at least three months prior to your operation.

Giving up smoking may not be easy and you will need support and encouragement from family and friends. Your GP can offer you support regarding this.

What to bring when coming into hospital

Please bring the following items with you:

- All your tablets in their original bottles or packets, which you will be asked to hand in to the nurses on your ward
- Your admission letter and this booklet
- Nightwear, dressing gown, underwear
- Flat comfortable full shoes or full slippers
- Small mirror, towels
- Pen, tissues, small change for the phone, papers etc.
- A wash bag containing: toothbrush, toothpaste, denture box, brush, comb, glasses in their case (if you wear them) shaving equipment, soap, flannel or small sponge. It would be helpful if you could label your denture box and glasses case with your name and date of birth before you come into hospital.

When you go onto the Post-Operative Critical Care Unit

(POCCU) your personal belongings will remain on the ward or your relatives can take them home for safe keeping. Your toiletry bag will be labelled with your details and this will be sent up to you in POCCU. It is therefore important to put them in a small bag separate to your other belongings; this can be a toiletry bag or plastic bag.

There is very little space on the wards to store suitcases or clothes and your property may be packed away whilst you are in POCCU. In order to minimise the risk of loss or damage, it is in your best interests to only bring in what you will require for your stay.

Jewellery and Money

A small amount of money can be brought into hospital. However, we would advise that valuable jewellery or large amounts of money be kept at home. Any jewellery, including wedding rings, will need to be removed before your operation so please leave these at home. If it is necessary for money or valuables to be brought into hospital with you, we would advise you to discuss the safe storage of your valuables with the nursing staff.

Please note the hospital cannot be liable for any loss of personal belongings during your stay with us.

Admission to Hospital

We believe that relatives or carers should be involved in your care and treatment whenever possible, if you are in agreement with this. It is particularly important to let us know if you have a specific requirement or a disability in order for us to provide you with extra support.

If you have any special needs we may need to complete a document called a 'Hospital Passport' which will detail all your requirements and this document will accompany you during your stay. We will hopefully have been informed of your needs before your admission so that any arrangements for extra support can be put in place. If we have not been informed please let us know as soon as possible.

Also, if English is not your first language or if you have any religious requirements please let us know and we will do all we can to help.

Single Sex Accommodation

Sharing an area or ward with members of the opposite sex will only happen by exception, based on clinical need (for example where patients need specialist equipment, such as in our critical care areas or when patients choose to share).

Arrival on the ward

Some of the tests you had in the pre-op clinic may need to be repeated. Do not be alarmed at this as some are done as a matter of routine, like your urine test, and your weight. Some may have to be repeated to check any abnormalities have been corrected. The reasons will be explained to you, but if you are still concerned, just ask.

On admission you will be met by a member of staff and orientated to the ward. You will be seen by an anaesthetist (doctor responsible for your anaesthetic). You may also be seen by the Consultant or a member of their team to discuss and complete your consent form, if this has not already been completed at your pre-admission clinic.

Staff involved in your care

There are members of staff you will meet during your stay, however, all will be wearing identification badges – and will introduce themselves to you.

Teaching and further training

Medical students and other healthcare professionals cannot learn all they need to know from textbooks and lectures. During the period of your treatment, you may well be asked to consent to having students present or taking part in your examination or treatment, under the guidance of a qualified person. You have the right to refuse without affecting our standard of care to you in any way. Your co-operation in helping students may benefit other patients in the future.

Before Your Operation

Hair Removal

Before the operation it will be necessary to remove hair from around the operation sites. The nurses on the ward will tell you how to do this and assist you if necessary. Please do not

do this by yourself at home as shaving increases the risk of infection. If you shave too early you may cut yourself, which can be another source of infection.

Showering

It will be necessary for you to have a shower the night before and immediately prior to your operation. The nursing staff will advise you when the best time is for you to do this. They will also provide you with the use of an antiseptic skin wash. This will help to prevent any infection occurring in your wounds. If you need assistance when showering please inform the nursing staff.

Pre-medication

Before your operation your pre-medication will be given to you. This is given to help reduce or relieve anxiety and is usually in the form of tablets. The pre-medication can make you very drowsy. Therefore, once you have taken it you must stay in bed, and call for a nurse if you need anything.

Anaesthesia

This section is to give you a brief overview of what to expect from anaesthesia and the anaesthetist. Each individual operation and anaesthetic is tailored to the individual patient.

Before your surgery your anaesthetist will visit you on the ward. He or she will ask various questions concerning past anaesthetics, your general health and specifically questions concerning the symptoms of your heart disease. This is also the opportunity to discuss your care after the operation in the Post-Operative Critical Care Unit and methods of pain relief following your surgery.

Prior to your surgery, the anaesthetist is likely to alter some of the drugs that you normally take, removing some and

adding others. The anaesthetist is also likely to offer a sleeping tablet the night before surgery. Although this is not compulsory most patients prefer to have a good night's sleep before their operation.

On the day of surgery, normally patients are not allowed to eat or drink from midnight although in individual circumstances this may be altered by your anaesthetist. If in doubt, ask. This is to prevent the contents of your stomach going into your lungs after you are anaesthetised.

Theatre

You will be transferred from the ward to the operating theatre in your bed. After arriving in the operating theatre you will be asked once again to check your name and date of birth and what operation you are expecting to have. This is an important final check to ensure we have the right patient for the right operation.

Before going to sleep you will have a drip (small plastic tube) inserted into a vein and an artery, but your anaesthetist will use local anaesthetic to reduce any discomfort you may feel. After attachment of ECG stickers, the anaesthetist will ask you to breathe some oxygen from a face mask, anaesthetic drugs will then be injected into the drip and you will slowly drift off to sleep.

Your anaesthetist will stay with you throughout the operation and accompany you during your safe transfer to the Post-Operative Critical Care Unit (POCCU). The anaesthetist is responsible not only for keeping you asleep but also for controlling your blood pressure, heart rate, lung function, kidney function, temperature control and blood volume during the operation.

Following Your Operation

The length of time it takes to perform each operation is different. This depends on your condition and the type of operation you require. Each patient's recovery rate is different and again, this depends on our general health and any pre-existing conditions you may have.

Post-Operative Critical Care (POCCU)

Following your operation you will remain in the recovery area within theatre for a while and then you will be transferred to POCCU. When you wake up there will be a tube in your mouth to help you to breathe. As this goes through your voice box you will not be able to talk, but the nursing staff will support you during this time, to enable you to communicate. This breathing tube will not make you gag, retch or vomit as during the operation your throat has become accustomed to the idea of a tube being in place. You will receive ventilator (breathing machine) support for a number of hours following your operation. The time you receive this support will depend on your condition following surgery. If you remain on this machine for a significant length of time you will receive drugs to keep you sedated and comfortable.

Once you are awake and able to breathe deeply on your own the tube will be removed and replaced with an oxygen mask over your mouth and nose. It is important to take deep breaths and cough at regular intervals as this will help expand your lungs and prevent infection. You will also have additional drips in your neck or groin. Whilst this may sound unpleasant, our aim is to ensure that you remain as comfortable as possible. You will also have a urinary catheter in place. This will drain urine from your bladder and be attached to a drainage bag. The fluid taken in by your body and excreted (drained) will be continually monitored.

The main type of pain relief for the first 24 hours after your operation is Morphine. This will be administered either by the nursing staff or by a device known as a PCA or Patient Controlled Anaesthesia, which you are able to control yourself. This choice can be discussed with the anaesthetist before the operation. As soon as you are able, we will give you painkillers by mouth in tablet form.

Irregular Heart Rate (cardiac arrhythmia)

On occasion some patients may experience heart rhythm disturbance/palpitations following surgery. This may happen in the first few days after your surgery. If you do experience these symptoms it is most important that you inform a member of the nursing or medical team.

Infusions and Catheters

Whilst you are asleep you will have drips put into your neck, arms and possibly into your groin. These will allow you to have any drugs or fluids required and also help the staff to closely monitor your heart. You will also have a small tube inserted into your bladder (catheter) which will allow urine to drain freely and staff can measure exactly how much urine you are passing. This will be removed in the Intensive Care Unit or when you are back on the ward.

Chest Drains

Following surgery you will have two or three chest drains. These are tubes leading from your chest to a bottle, which will drain fluid or air from around your heart and lungs. These drains will be removed as soon as the fluid has stopped draining and they are no longer required. Prior to the removal of your drains you can be given some pain control. Once removed you may have a stitch at each drain site, which will be removed after 7-10 days. If you have been discharged home before stitch removal the ward staff will arrange for the district nurse to do this.

Pain Relief

Effective pain relief is important following your surgery for your comfort and recovery. One of the main priorities of your nurse and anaesthetist is to reduce your pain as much as possible. In the first 24 hours following your surgery you will usually be given pain relief through the drips you have in place or through a device in your arm. As soon as possible we will give you your pain relief in the form of tablets.

It is our aim to keep you as comfortable and pain free as possible. It is very important that you inform the medical or nursing staff if you are experiencing pain or are uncomfortable.

Pacing Wires

Depending upon the type of surgery you have had, you may have two small wires coming out of the skin on your chest. These are a precautionary measure; they are there in case your heart beats too slowly. These wires can be attached to a pacing box, which will give you the extra beats your heart needs. These wires will be removed before you leave hospital. If after the operation you feel that your heart is racing or misses a beat then please inform your ward nurse or doctor as this can sometimes occur after heart surgery.

Support Stockings

You may be given support stockings to wear following your operation to help your circulation and blood flow. In addition to this a small injection of anti-coagulant may also be given to help the blood flow freely and prevent clots (blood thinning drug) from forming. It is not unusual for you to feel aches and pains across your shoulders, neck and in your chest. You will need to wear your support stockings for 6 weeks following your operation. Prior to your discharge the nursing staff will advise you of the date you can remove your stockings and document this in your discharge information.

Breathing Exercises

Physiotherapy staff will visit you on Post-Operative Critical Care Unit and continue to visit you daily on the ward to teach you some breathing exercises. They are designed to increase your breathing function and also to make it easier to clear any secretions from your lungs.

It is a good idea to start practising the following exercises before you are admitted to hospital. After your operation you will be asked to do the exercises 1-2 times per hour.

1. Sit in a comfortable upright position and take a deep breath in through your nose.
2. Sigh the air out through your mouth. This is the Deep Breath.
3. To huff, imagine you are steaming up a glass; a short, sharp out breath

3-4 Deep breaths
|
2-3 normal breaths
|
3-4 Deep breaths
|
2-3 normal breaths
|
2-3 Huffs
|
Cough

If your cough is clear then stop there. If your cough 'rattles' then repeat the whole cycle again.

It is very important to drink plenty of water throughout the day, which will help loosen any secretions.

Mobilising Following Your Operation

Following your operation you will need to get up and about as soon as possible. The earlier you begin to get moving mobilising the better. It is important to get moving early as this helps the heart and lungs to recover and prevent constipation, stiffness and pressure ulcers (bedsores). You will be assessed and advised how to reduce your risk of a slip, trip or fall.

Each day as you recover following your operation you should aim to be more active. At first nurses on the ward will help you and teach you how to move without putting too much pressure on your arms. It is important that you do not put pressure on your arms, until your breastbone, which has been opened for your surgery, has completely healed. However, you may have an incision to your left side instead, so you can put pressure through your arms in this case.

It usually takes about three months for it to heal completely. It is important that you do not push through your hands when you stand up. You will need to shuffle your bottom towards the edge of the chair, take your feet back towards the chair, and keep your feet hip distance apart. Put your hands together and stand up.

The following information can be used as a guide to the first few days when you are back on the ward. It is important to remember however that everyone is assessed individually. You will be given individual advice by nursing and therapies staff.

- On the first or second day the nursing staff may ask you to sit out of bed and walk a short distance around the bed.
- On subsequent days you will be given a target to which you should walk.

Once you have started walking on your own you should aim to take a short walk every hour or two. By the time you go home you should be walking freely around the ward and the nurse or physiotherapy staff will ensure you can comfortably climb one flight of stairs.

If you have any problems with mobility the physiotherapy staff will assess your needs and offer guidance and support. Rest and sleep are also an important part of your recovery and are just as important as exercise. Nurses will advise you on achieving a healthy balance between getting enough exercise and enough rest following your operation.

Personal Hygiene

Initially the nurses will help you with washing and changing at the bedside until you are able to go to the bathroom where you will be advised to either to have a strip wash at the sink or if you are able to manage, a shower. If you managed to shower yourself before your operation then, by the time you leave us, you should be able to do so again.

Wounds

Most people have a wound down the centre of their chest (sternotomy) or a wound on the left side of the chest (thoracotomy). These may cause you discomfort or muscular aches in other areas such as your arm and your shoulder.

Eating and Drinking

Initially your appetite may be poor and your sense of taste may be altered but the nurses will encourage you to try to eat and drink after your surgery. Prior to your operation you may have been advised about losing weight, but following surgery, in order for your body to recover properly and your wounds to heal after your surgery, you should not restrict your diet.

Your body needs a balanced nutritional intake, low in cholesterol and salt. Wait until you have been seen at your follow up appointment before starting a restrictive diet if this is necessary. If you need support with your diet whilst in hospital the dietician will be able to offer specialist advice and help.

Constipation and Nausea

Indigestion and constipation are also common, as your normal functions may slow down during the surgery. Some patients do suffer from nausea or an altered sense of taste as a result of the anaesthetic and the drugs. Do inform the staff if you are constipated or nauseated, as it can be treated.

Discharge

This section of the booklet contains discharge advice in order to prepare you for returning home. Before your admission please give some thought to how you will manage after discharge as during the first few days at home you may feel quite vulnerable, so it is advisable to have someone at home with you during this time.

Patients who have underlying conditions prior to cardiac surgery, such as mobility problems or other health conditions, may require a period of further recuperation in the form of specialised In-patient rehabilitation before returning home.

If you do require a period of In-patient rehabilitation arrangements will be made to transfer you to your local district general hospital or a provider of this specialist service nearer your home. This will be discussed in full with you by the discharge co-ordinator.

Please discuss any concerns you have regarding your discharge home with the clinical nurse practitioner at your

pre-admission appointment or the nurses on the ward in order for the relevant plans to be put in place. This is particularly important if you live alone and need support from the social workers or need to recover in a different care setting. If your circumstances change whilst you are with us please let us know.

Transport Home

Please ensure that you have arranged your transport home and arranged for someone to accompany you if possible. Ambulance transport can only be arranged if your doctor considers it is medically necessary. It can take up to 48 hours to arrange ambulance transport. Please speak to the nursing staff if you have any problems. Please ensure a relative or friend brings in some suitable outdoor clothing for you to wear for going home. It is advisable to have them brought in at least the day before your planned discharge and please remember to ensure your valuables are returned to you if you have given them in for safe keeping.

If your plans change during the course of your admission it is important that you let the nursing staff know. This will allow them to arrange for you to have a safe journey from hospital.

Cardiac Rehabilitation

During your pre-admission appointment or following your surgery, a nurse will talk to you about cardiac rehabilitation.

Cardiac rehabilitation is a recognised national programme aimed at helping people with heart disease. It is important that you understand your condition and its treatment and how you can return to a healthy active lifestyle and lower your risk of future heart problems.

You will be contacted approximately after your discharge and referred to your local hospital or a local community setting

for cardiac rehabilitation meetings. Many patients do find it helpful to meet others who have had surgery and to get advice and support from their local rehabilitation team.

Follow Up Appointments

You will also be given a follow-up appointment to see your consultant approximately 6-8 weeks after your discharge.

A Guide for the first few weeks at home

Week One

Exercise is an important part of your recovery, but you should take things easy for your first few days at home. Aim to be as active as you were on your last day in hospital. Remember to carry on with the breathing exercises the physiotherapist taught you. Plan your day to include at least three trips upstairs. Walk around the house and garden for five minutes. Repeat during the day if you feel well enough. Have a sleep or a rest in the afternoon. Accept your limitations and don't over tire yourself.

Week Two Onwards

Do more activities around the house. Walk for about ten to fifteen minutes once or twice a day. Do not get overtired. Do light gardening but do not do any digging. You should not lift, push or pull anything too heavy, as this will put pressure on your breastbone. Shop for light items (within a ten to fifteen minutes' walking distance); take short rides in the car as a passenger.

Weeks Four to Seven

At this stage you should be attending a cardiac rehabilitation class. Many of your activities may be guided by what you are doing at the class. You will probably be able to manage most of the household tasks, but still avoid things such as cleaning windows and heavy gardening.

Weeks Eight to Ten

Try to be as active as you were before your operation. Take regular exercise and increase the intensity. You should be able to do all the household tasks, but rest in between. You can take longer car trips and travel by plane. You may take up bowling, swimming, or other activities now. If you are unsure, you should check with your cardiac rehab team. Continue to avoid heavy lifting and digging.

At the end of three months

You should be able to do everything you were doing before your surgery. If you wish to do contact sports, you should consult your GP first. It is important that you continue with the exercises you were taught in hospital, and do remember, it is usual to get aches and pains. The ligaments around your neck, back, chest and shoulders will still be stiff. By continuing with the exercises you will be limiting the discomfort.

Driving

Do not drive following discharge from hospital until you have been reviewed at your Out-patient appointment and advised by your surgeon that it is safe. It is your responsibility to inform your insurance company of your heart surgery.

Holders of a LGV and PSV license or patients who have had valve surgery must inform the DVLA. The telephone number is 0300 7906806 or visit their website at www.dft.gov.uk/dvla/medical.aspx

Bathing and Showering

Take a shower or a bath daily; do not be afraid to get your wounds wet, showering or bathing will keep your wounds clean and encourage them to heal. Do not get in or out of the bath on your own for the first 2-3 weeks following

surgery. Apart from the danger of slipping, you will put too much pressure on your arms and therefore through to your breastbone. This will not help with the healing process and may cause damage.

If possible use a shower rather than a bath for the first five weeks, but if you do take a bath, remember to:

- Empty the water before you get out
- Use a non-slip mat or a towel before attempting to stand up
- Get assistance to get out of the bath

Rest, Sleep and Relaxation

During the first few weeks at home you will find that you tire easily so adequate rest and sleep are just as important for your recovery as exercising. Tell your friends and relatives when you are planning to rest; this will help cut down the amount of disturbance you get during this time. Try to get eight to ten hours sleep each night. You may find it difficult for the first week after leaving hospital, as your usual sleep pattern will have been disturbed. You may also find it uncomfortable. If you do, make sure you are taking your pain relief. You may also be more aware of your heartbeat at night, especially if you have had a mechanical valve replaced. You may hear it as a ticking sound. You will get used to this over time and eventually not notice it.

Moods and Emotions

Immediately after your operation you may have days when you feel down or depressed, this is known as the post-op blues. You may feel irritable or overly emotional and tearful. This can happen at any time, and without warning. It usually settles down within the first two months. Both you and your family will be affected by these feelings, so it is important that you discuss with them how you are feeling. If you are

still feeling this way after a couple of months, or you feel unusually depressed, lacking concentration or experiencing memory loss, then you should contact your General Practitioner.

Anticoagulants (blood thinning drugs)

Warfarin is a type of anticoagulant. This is used to thin the blood to prevent the possibility of blood clots. The dose may vary depending on how thick or thin your blood may be. A blood test known as INR (Internationalised Ratio) will determine how thick or thin your blood is and your dose will be amended accordingly. It is very important to monitor your blood regularly and this is why you need to keep your appointment at your local hospital or GP to have your blood checked regularly.

Arrangements will be made for you to have an appointment at your local Warfarin Clinic before you are discharged

Stress

When you are stressed your body reacts in certain ways: Your muscles become tense, your blood pressure rises, you breathe more rapidly, you sweat and you become anxious. You can produce more sugar, fatty acids, cholesterol and adrenaline. This in turn slows down your digestive system and your immune system.

It is in your best interest to try to avoid something that you know is going to put in a stressful situation.

Sexual Relations

Many patients that have undergone cardiac surgery experience anxiety about resuming sexual relationships. It is quite safe to have sex and/or sexual stimulation after the operation. However, we generally advise that you wait between 2 and 4 weeks, to give your wounds a chance to

heal. You may resume whenever you feel ready. Some of the tablets you take may make you feel disinterested in sex. These are known as beta-blockers. If the problem persists, you should make an appointment with your GP.

Holidays and Flying

You can holiday in this country whenever you feel well enough to travel. If you are thinking of going abroad we advise you to wait until after follow up appointment. If you are thinking of a long haul flight, then you should leave it longer, but should discuss and agree the best time with your consultant.

If you are taking Warfarin, you need to let your anti-coagulant clinic know, as they may need to adjust your dose. It is important that you cover your scars with complete sun block when sunbathing for at least the first six months to avoid sunburn. You must also inform your holiday insurance company of the details of your surgery.

Medication

The nurse discharging you will give you a supply of tablets, which should last at least two weeks. This will give you time to get your prescription to your GP ready for your repeat prescription. The medication you will now be taking will almost certainly be different to what you took before your operation. Therefore it is safer if you dispose of any previous drugs that you still have at home. They should be returned to your pharmacist for safe disposal.

Your GP will be sent a letter explaining what operation you have had, the medication you are now taking and that you have returned home. You will also be given a copy of this letter. You should keep an up to date list of your tablets with you at all times, and if you are taking Warfarin, then keep your dosage booklet with you.

Wounds

Depending on how long you are in hospital, you may have your stitches removed before you leave or you will be given a number to contact your nearest walk-in centre to make an appointment to have them removed. For patients who have restricted mobility or are unwell the district nurse will make arrangements to visit you at home.

If you have any concerns about your wound then you can contact the Tissue Viability Service 0151 600 1324 for advice, during normal working hours Monday – Friday between the hours of 8 am – 5 pm.

IMPORTANT - If your wound becomes red, suddenly becomes sore painful or starts to discharge fluid, you should consult your GP or district nurse immediately for advice.

Dentists

If you have had valve surgery it is most important that you inform your dentist. If you require any kind of dental treatment, you should expect to receive antibiotic cover. You should also inform them if you are taking Warfarin, as this may mean that you need to stop it prior to your treatment.

Who to contact if I have any problems after going home?

Following Discharge

When you are discharged, a letter will be sent to your General Practitioner advising of your treatment and a list of medication that you have been given to go home with.

After returning home, if you have any problems, questions or concerns, please do not hesitate to contact the ward you were discharged from to speak to a member of the ward team for up to seven days after going home. After seven days, please contact your General Practitioner.

If you need the services of a community/district nurse whilst at home, your named nurse will arrange this for you.

If you have any queries regarding your appointment please contact your consultant's secretary who will be able to help you.

If you think that you need more urgent attention then you must seek advice from other medical services.

IMPORTANT - if you are in need of immediate help, for example if you are experiencing chest pain, breathlessness, palpitations or dizziness, please do not hesitate to contact your GP for assessment or attend your local A&E Department or if in doubt ring 999.

Useful Information

Visiting Times

Wards - All wards have open visiting between 8.00 a.m. to 8.00 p.m.

We recommend strictly a maximum of 2 visitors per bed as patients can tire easily. In consideration for other patients please keep the noise levels within the ward areas to a minimum. Visitors are asked not to eat or drink whilst on the ward and are not permitted to use the patients' toilets or sit on the beds.

Visitors are not permitted to bring in food which requires re-heating. If your visitors do bring in food they must inform a member of staff to ensure this is safely stored and labelled.

Post-Operative Critical Care Unit (POCCU).

Visiting hours are **8.00 - 9.00 am then open visiting from 12 noon - 8.00 p.m.**

- We recommend strictly a maximum of 2 visitors per bed at all times.
- We do not recommend that children under the age of 12 are allowed to visit the unit. Arrangements for children over the age of 12 to visit may be made at the discretion of the nurse in charge.
- Visiting hours can be tailored to meet the needs of individuals upon prior arrangements with the nurse in charge.

IMPORTANT – Visitors are requested not to visit the hospital if they have any signs of infection for example, colds, flu or diarrhoea and vomiting.

Health & Safety

It is important to prevent infections when patients are in hospital. By following a couple of requests, you can help matters greatly.

- Please can all visitors use the hand gels provided when entering and leaving the ward. This will help to prevent infections.
- Please encourage your doctors and nurses to clean their hands. They will not be offended if you ask them if they have cleaned their hands before attending to your needs.
- Visitors – please do not sit or lie on patients' beds. This is because you are adding to the risk of cross infection, as well as damaging the mattress.
- We do not recommend that you bring flowers into the hospital.

Relatives Accommodation

The Robert Owen House provides accommodation for the relatives of patients undergoing treatment at the hospital. The house is situated on site. The hotel style accommodation is built to a very high standard with 17 rooms, a mixture of family, twin and single rooms. A charge is made to guests for the accommodation with the cost of maintenance and

upkeep being funded through the help of volunteers and charitable fundraising.

Please telephone **0151 600 1688** for more details or to make a booking. If your relative has any special requirements please inform staff at the time of booking.

Patient & Family Support Team

Being a patient, relative or carer can be a worrying or confusing time. Sometimes you may need to turn to someone for help, and the team can:

- Provide help, advice and support
- Listen to your concerns and suggestions
- Help sort out concerns or complaints quickly on your behalf.

If you do have a concern or would like some extra support please ask a member of staff to put you in touch with the team or contact them directly on 0151 600 1517.

Religious Beliefs

Whatever your religion, if you wish to have a visit from a minister of your faith, let the nurses know, and it will be arranged for you.

Your Comments and Feedback

Feedback from patients, their families or carers is valuable to us as we use your views to help improve the services we provide. During your stay you will be given an in-patient satisfaction survey, your views and comments are considered an important measure of the quality of services we provide. You will also be given a "Listening & Learning – Compliment, Comments and Concerns" leaflet. You can use this to tell us if you had a good experience or if you feel there are any improvements we need to make.

USEFUL TELEPHONE NUMBERS

Hospital switchboard	0151 600 1616
First Appointment Enquiries	0151 600 1121
CT or MRI Scan Appointments	0151 600 1746
Echocardiogram Appointments	0151 600 1714
Sarah O’Leary Personal Assistant to Mr Field and Mr Nawaytou	0151 600 1254
Julie Norgate Personal Assistant to Mr Kuduvalli & Miss Harrington	0151 600 1660
Jamie Doolan Advanced Aortic Nurse Practitioner	0151 254 3110
Clinical Nurse Practitioners Helpline	0151 600 1298
Patient & Family Support Team	0151 600 1517/1257
Robert Owen House (Relatives Accommodation)	0151 600 1688
Post-Operative Critical Care Unit Reception (POCCU)	0151 600 1017
Marfan’s Society www.marfan-association.org.uk	01252 810472
British Heart Foundation Or visit www.bhf.org.uk	020 7554 0000

For further information visit:

www.lhch.nhs.uk

www.dipex.org

If you require a copy of this leaflet in any other format please contact the 0151 600 1517 or 0151 600 1257 quoting the leaflet and the format you require.

<p>إذا لديك الرغبة في الحصول على نسخة من هذه المعلومات بأي لغة أخرى أو بشكل آخر (على سبيل المثال بخطوط كبيرة) ، الرجاء الاتصال علينا على الرقم 0151 600 1257 موضحاً الشكل أو اللغة التي ترغب فيها.</p>
<p>如果您想索取一份以其他語文或形式（如大字體）編印成的資料傳單，請致電 0151 600 1257 向我們查詢，並說明您所需要的形式和語文。</p>
<p>ئەگەر ئەم زانیاریانەت بەھەر زامانیکی تر یاخود شیوازیکی تر دەوئیت (بۆ نموونە بە چاپی گەورە) ئەوا تکیایە بە ژمارە تەلەفونی 0151 600 1257 پەیوەندییمان پێوە بکە و نامارژە بدە بەی زامانی یاخود شیواییەکی کە دەتەوئیت</p>
<p>W celu uzyskania niniejszej informacji w innym języku lub formacie (np. dużym drukiem), prosimy o kontakt z nami pod numerem 0151 600 1257 podając wymagany format lub język.</p>
<p>Haddii aad u baahan tahay koobiga wargelintan oo luqad ama qaab kale (sida far waaweyn) fadlan nagala soo xiriir 0151 600 1257 adiga oo noo sheegaya luqadda ama qaabka aad wax ku rabtid.</p>

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