



Cardiac intervention

Information for patients from the East Kent Cardiac Catheter Suite, William Harvey Hospital, Ashford

This booklet is designed to give you the information you need before, during, and after your angioplasty and stent procedures (PCI). It also gives you information about cardiac rehabilitation services and the support available to you and your family.

Further information can be gained from your local heart support group and the British Heart Foundation booklets, which are available from your cardiac rehabilitation nurse, or in the cardiac catheter suite. If you have internet access, some helpful information is available at www.angioplasty.org

Why is angioplasty needed?

The heart muscle is supplied with oxygen by blood being pumped into the coronary arteries. If these arteries are narrowed, the heart becomes starved of oxygen which causes pain in the chest, called angina.

Angina usually occurs when the heart muscles' need for oxygen increases, such as when exercising or stressful situations. However, for some people, angina occurs even when they are at rest. This suggests that the arteries may be more severely affected.

Many people who have angina are effectively treated by taking tablets and/or the occasional spray of GTN. However, some people continue to have symptoms despite taking several different types of drugs and may be unable to carry out normal daily activities because of their chest pain. Angioplasty is one option for treating this condition. The procedure works by opening up the narrowed arteries so that blood can flow more easily to the heart muscle.



How is the procedure performed?

Percutaneous coronary intervention (PCI) is a procedure performed within a specially equipped room called the cardiac catheter lab, using x-ray screening. The procedure involves passing a fine plastic tube (referred to as a sheath) into the artery via a small puncture hole in the groin or a small cut in the wrist, under local anaesthetic. The wrist is the most common site used for this procedure.

Through this sheath another fine tube called a guiding catheter is passed. This is passed along to the heart and is positioned at the opening of the coronary artery. A fine guide wire is then passed down the artery through the area of narrowing. A small balloon is then inflated, which will compress the fatty plaques up against the wall of the coronary artery, widening the artery.

Several inflations of the balloon may be necessary and also several catheters and balloons may be needed to widen the narrowed artery. A stent may be used during the angioplasty to support the artery wall – this is described in the next section. Once the cardiologist is happy with the result, the catheter and balloons will be removed. The sheath in the wrist or groin will be left in until the doctor is satisfied that it can be removed.

What is a coronary stent?

This is a small metal mesh tube which is inserted into an artery, at the site of a narrowing, to form an internal scaffolding, or support, to the artery. The stent is mounted on a balloon and is positioned by inflating the balloon, which expands the stent and pushes it up the artery wall. When the balloon is deflated the stent remains in place.

In the four weeks following insertion of the stent, a thin film of cells will grow over the framework, lining the wall of the artery like a skin. Until this has occurred, there is a risk of blood sticking to the stent, forming a clot. The chances of this happening (two in 10 patients) are reduced by taking aspirin and clopidogrel.

Some stents also contain a drug to reduce the number of times clot formation happens.

What should I do before I arrive for my procedure?

- Take all of your usual medicines and bring them with you. There may be some that your doctor will not want you to take, but you will be told of these on your appointment letter.
- If you are diabetic, you will also need to contact the Cardiac Catheter Suite before your appointment.
- Remove any nail varnish.
- Arrange for someone to drop you off and pick you up, and bring an overnight bag and toiletries with you. If there is no one available to drop you off and collect you, please let us know as soon as you can.
- Wear comfortable underwear without tight elastic.
- Leave any valuables at home.
- Eat and drink as normal.

What will happen when I arrive on the ward?

Soon after you arrive, a nurse will get some details from you and take a blood sample. A small intravenous tube called a cannula will be placed in your arm or hand. This is in case you need any medication during your procedure.

What happens during my procedure?

During your procedure the x-ray equipment will, at times, be brought very close to you. Sometimes it may be necessary to rest your arms above your head and turn your head to the left and right. You will be advised of this at the time.

Whilst the balloon is being inflated you are quite likely to experience chest discomfort (angina) and you should tell the doctor and nurses straight away. This is due to the balloon causing a temporary blockage to the blood flow through the artery and this pain is to be expected.

How long does the procedure take?

The procedure can take from between 30 minutes to one hour depending on the complexity and number of narrowings in the coronary arteries.

What happens when I return to the ward?

When you return to the ward area you will be placed on an ECG monitor, which will remain on for several hours. Nursing observations, foot pulses, and the puncture site will be checked by the nurse at regular intervals.

After your procedure, the sheath is usually removed from your wrist and a pressure band is left in place for several hours. If we go via your groin the sheath may remain in place in case you experience any further chest pain and the doctors wish to take you back into the lab to have another look at your heart. Whilst the sheath is in place, you will need to lay flat to prevent any damage to the artery in your leg. When appropriate, the nurse will sit you up and later that evening or the following day, you will be allowed out of bed.

Various methods can be used to prevent bleeding on removal of the sheath.

- The doctor or nurse may press on the puncture site for 10 minutes or until the bleeding has stopped. You may then need to lay flat for a few hours, unless you had your procedure performed in your wrist.
- Another method is called a femostop. This puts firm pressure on the puncture site for a period of time. Some patients may find this uncomfortable.
- The third method uses a product called an angioseal, which is a collagen plug that blocks the puncture hole in the artery.

Your doctor will decide which method would be best for you. You may discuss this along with any other questions when you sign your consent form before your procedure. Remember you can withdraw your consent for treatment at any time.

You will be able to drink as soon as you are back in the ward area. If you are lying flat, food will only be provided once you are sitting up.

How do I look after my wound?

The puncture site wound should be left exposed, to help it to heal. Some bruising or discolouration may occur at the site; this is not serious and may get worse before it gets better. If the sheath was put into your groin, bruising may extend down your leg. However, it will fade over the next few weeks as you start to walk around. Paracetamol can be taken for any minor discomfort.

If you notice any signs of infection at the puncture site – such as heat, oozing, redness, swelling, or increased soreness, please see your GP.

You can shower when you get home but should avoid rubbing the wound site for a week. You should not put creams or soap directly onto the wound during this time.

When can I return home?

These procedures are usually done as day cases. If there were any complications or your discharge is delayed, you may need to stay overnight .

You must not drive yourself home, as you will not be allowed to drive for a week after your stent has been deployed.

Remember that everyone is different and you will recover at your own rate.

Will I need a follow-up appointment?

You will have an appointment to see your local cardiologist after discharge from hospital; this will be sent to your home address. It is helpful to write down any questions which you may have before this appointment. A specialist nurse called a cardiac rehabilitation nurse may also follow you up in the weeks following your discharge home, again they will contact you at home.

Will I be sent home with medication?

If needed, you will be given a supply of your medicines to take home. Your nurse will explain them to you.

If you have a stent inserted you may be given a tablet called clopidogrel (Plavix), which you will need to take for a period of time. This medication will help prevent blockages building up within your new stent. Please check with the nurse to find out how long you need to take your medication for. If you were on clopidogrel tablets before you came into hospital you may need to continue taking them in the long term.

When can I resume my normal activities?

- You may resume light **household chores** the day after you are discharged from hospital. However, you should avoid more strenuous activities such as vacuuming or moving furniture, for at least a week. Continue to avoid sudden exertion.
- The DVLA recommend that you should not **drive** for one week after an angioplasty. You do not need to tell the DVLA that you have had the procedure unless you hold a PSV or HGV licence. However, it may be necessary to tell your vehicle insurance company.
- In the long-term it is safe to **fly** and you will be able to pass through airport security gates with no problem. Many airlines prefer you to wait two to three weeks after your procedure. It is best to check with your airline.

If your work is light, for example a desk job, you may **return to work** as early as two days after discharge from hospital, if you feel you have recovered sufficiently. However, if you do manual work you should not return for one week. If you have had your procedure following a heart attack, speak to your doctor or cardiac rehabilitation nurse about when to return.

- **Activity and exercise** are good for your heart. If you are used to taking regular exercise you should build up to your normal level gradually in the first two weeks following your angioplasty. If you are not normally active then now may be a good time to start! Your cardiac rehabilitation programme will include exercise.
- You and your partner may be worried about **resuming sexual activity**. The physical effort used in sexual intercourse from beginning to end is no more than is used in regular physical activity. It is normally safe to resume sexual activity as soon as you feel ready. It is not uncommon for cardiac patients to experience sexual problems. If you are concerned you should speak to your doctor or nurse.

Will I experience chest pain after discharge from hospital?

- Most people never get chest pain again.
- Some people can experience artery spasm for up to two weeks after stent insertion. This can be like previous angina pain. Tablets for this may be given when you leave hospital.
- Some people may get further angina, which may be harder to control. If this is the case, an early appointment should be made with your GP.
- If you experience sudden, severe chest pain lasting longer than 15 minutes, unrelieved by GTN spray, tablets, or rest, you should telephone 999 immediately for an ambulance. **Do not drive.** You can use up to three doses of GTN five minutes apart to relieve angina. **Do not exceed this dose.** The ambulance crew should be told that you have had a stent inserted at the William Harvey Hospital and immediate transport to hospital is needed.

What are the benefits of the procedure?

Unlike coronary artery bypass surgery (CABG), which involves opening up the chest wall, this procedure is simpler and recovery a lot shorter. The aim is to improve quality of life by removing or reducing the number of angina attacks.

Are there risks to the procedure?

The vast majority of patients have no problems with this procedure, but we need to draw your attention to certain possibilities. Before you sign your consent form you will be made aware of the risks involved with this procedure.

- A small clot in your artery may be dislodged and could cause a stroke.
- An allergic reaction to the dye injection (contrast), giving you a rash, itching, or inflammation.
- Damage to the heart artery, needing emergency bypass grafting, which would mean you transferring to St Thomas' or King's College Hospital, London (see the next page for more information).
- The heart artery may block and not be able to be opened which could bring on a heart attack.
- It is important for you and your relatives to also know that death is a possible, though rare, complication.
- Damage to the artery in the groin causing a swelling, known as a false aneurysm.

The risks of needing emergency cardiac surgery as a result of cardiac angioplasty (PCI) are approximately one in 500. Whilst the East Kent Cardiac Catheter Suite (EKCCS) provides an out of hours on call service, we are not able to provide cardiac surgery within this Trust. In the unlikely event of you needing emergency cardiac surgery you will be transferred to St Thomas' or King's College Hospital in London who are providing us with a fully comprehensive surgical back up service.

We have been assessed and approved by the British Cardiac Interventional Society (BCIS) to perform cardiac angioplasty locally. If you feel, for any reason, that you do not wish to have your PCI at EKCCS, this would in no way compromise your treatment or medical care, the choice remains entirely with you.

Please remember however that the majority of procedures are performed without any major complications, but it is important that you realise that this is not a risk free procedure.

Further information

If, after reading this leaflet, you have any further questions, feel free to contact any of our cardiac nurse specialists and/or talk to the doctor when you sign your consent form. Alternatively you can contact the **Cardiac Catheter Suite, William Harvey Hospital Ashford on 01233 61 68 30.**

This leaflet has been produced with and for patients

If you would like this information in **another language, audio, Braille, Easy Read, or large print** please ask a member of staff. You can ask someone to contact us on your behalf.

Any complaints, comments, concerns, or compliments please speak to your doctor or nurse, or contact the Patient Advice and Liaison Service (PALS) on 01227 78 31 45, or email ekh-tr.pals@nhs.net

Patients should not bring in large sums of money or valuables into hospital. Please note that East Kent Hospitals accepts no responsibility for the loss or damage to personal property, unless the property had been handed in to Trust staff for safe-keeping.

Further patient leaflets are available via the East Kent Hospitals web site www.ekhuft.nhs.uk/patientinformation