

Coronary angiogram or coronary angiogram proceeding to coronary angioplasty

A patient's guide and
consent form

Introduction

The main purpose of the test is to show whether you have narrowing or blockages of the coronary arteries (blood vessels that supply the heart muscle) but it can also give information about how the heart is pumping and help with the assessment of heart valves.

The results of the test will help the doctor make a decision about the best form of treatment for you.

The outcome will likely be one of the following four options (or occasionally a combination of these).

1. **Normal result:** no treatment required
2. **Medications only:** the use of tablets to treat symptoms.
3. **Coronary angioplasty:** opening up a narrowing or blockage with a small balloon and often insertion of a 'stent'; this is often done at the same time as the angiogram.
4. **Referral to open heart surgery:** this could be a coronary artery bypass graft (CABG) or other cardiac surgery, such as for heart valves, at later date.

How is the coronary angiogram performed?

During the procedure, a catheter (a thin tube) is inserted into a blood vessel, usually in your arm or occasionally in the groin, and guided to your heart. A special dye is then injected through the catheter, which highlights the blood vessels on the X-ray images.

If a narrowing or blockage in the coronary artery is found, the doctor might go ahead to perform the coronary angioplasty straight away using the tube already inserted in the arm or leg.

Occasionally the coronary angioplasty cannot be performed on the same day (as a more complex angioplasty might need to be planned in advance with a longer time slot)

What is a stent?

Usually the artery requires support to remain open so a small, metal mesh tube is inserted into the artery using the balloon. The stent stays in place permanently, holding the blood vessel open and improving blood flow. Sometimes this is not necessary and we may coat the inside of the artery with medication to keep it open - this is called drug eluting balloon (DEB) therapy.

What preparation is necessary?

Please bring a list of all your prescribed medications and all of your medications with you in their containers. If you take an anticoagulant like warfarin it will need to be stopped prior to the procedure, the timeframe will be addressed on preadmission, or via contacting the cardiac support nurses. If you are a diabetic on oral medication and/or insulin please phone staff on 01223 638100 for advice. If you take metformin, please omit on day of admission.

Coronary angioplasty is normally performed as a day case. However, it may be necessary in some cases to stay overnight. You will be advised by the medical staff. Most patients will be asked to attend a pre-admission clinic.

Prior to admission, please follow the instructions in your letter regarding breakfast or as advised at the pre-admission clinic. Do not have anything else to eat or drink after this time except water.

On admission a doctor or a nurse will see you to explain the procedure, answer your questions and gain your consent.

Blood will be taken and an ECG will be recorded; this may be done at pre-admission clinic or on day of admission.

An intravenous cannula will be inserted into a vein on your hand or arm to allow necessary medications and fluid to be administered easily. You may need to have your wrist and/ or groin shaved. If you are anxious, medication may be given to help you relax during your procedure.

Valuables

Please do not bring excess jewellery, credit cards or large sums of cash to the hospital

The procedure (angioplasty)

Local anaesthetic will be injected into your wrist or groin to numb the area. A small plastic tube will then be inserted into the blood vessel in your groin or wrist through which the catheter and balloon are passed into the narrowed artery. The balloon is then inflated to open the narrowing. This will often be followed by the insertion of a stent, which is pre-mounted on an angioplasty balloon and deployed at the level of the narrowing by inflating the balloon.

The stent is covered by microparticles slowly releasing a drug. This is called a drug eluting stent (DES) which reduces the risk of stent re-narrowing. Sometimes, instead of stents, we coat the vessel with medication only which is DEB therapy.

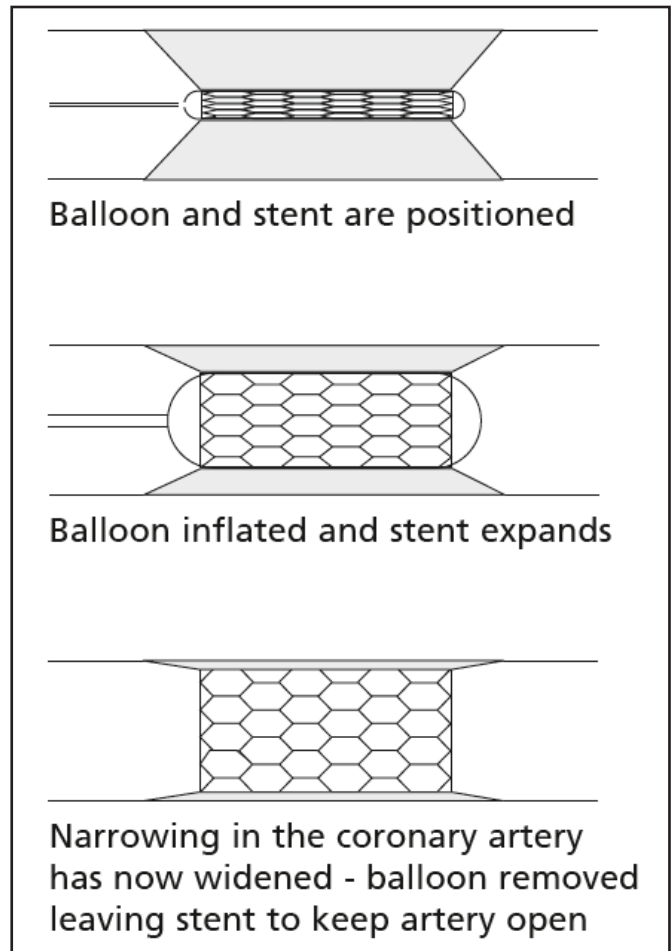
If a balloon is inflated or the stent deployed, you may experience chest pain or discomfort. Do not worry, but do inform the doctor if this occurs. The procedure may take up to one hour, or longer in more complex cases.

Often, light sedation is administered during the procedure, however you will be awake for the procedure.

In some circumstances the doctor may wish to assess the coronary arteries or stents in more detail using imaging inside the coronary artery in the form of infrared light (optical coherence tomography), sound waves (intravascular ultrasound) or a pressure wire study. A pressure wire study measures pressure differences before and after narrowing to establish the level of obstruction to the flow of blood.

Occasionally (in around 1 in 10 to 20 patients), the narrowing of the coronary artery is particularly stiff, made of calcified or hardened plaque. In this scenario, advanced tools might be required such as rotational atherectomy, orbital atherectomy, intravascular lithotripsy, or laser, to break the calcium or hard tissue of the plaque. Occasionally, other special tools are required

to get through a blockage which has hardened up over a long time - a chronic total occlusion or (CTO).



What are the risks?

Coronary angiography alone (no angioplasty treatment) carries a risk of major complication of 1:1,000 cases, such as those stated in the section below.

Generally, coronary angioplasty is a safe treatment, but there can be some complications such as:

- Any treatments involving the coronary arteries may rarely be associated with complications such as a stroke or heart attack or death.

Risk: 1 in 200 in stable patients to 1:100 in more acutely unwell patients.

- Rarely the catheter can damage the artery, in which case you may have to stay in hospital to have it repaired either with more stents or with emergency heart surgery.

Risk: 1 in 500.

- A severe bleed requiring surgery or blood transfusion is rare especially if going through the wrist (1 in 700).

However, occasionally, it will be not possible to perform the procedure through the wrist. Hence, the procedure will be carried out through the groin.

In that case the risk of severe bleed at the access site will be slightly higher (1 in 200).

- In certain circumstances, kidneys can be affected by the dye in the form of worsening of the renal blood test.

Risk: 1 in 50.

However, severe kidney damage requiring dialysis is rare and this would tend to happen in patients with previous kidney problems (1 in 300).

- When the narrowing or blockage of the coronary artery is particularly complex with calcified or hardened plaques, including long standing blockages (CTO), the combined risk of emergency heart surgery, drainage of blood around the heart (pericardial drain), stroke, urgent pacemaker and death is about 3% (1 in 33).
- Allergic reaction to the dye is rare and usually very mild and temporary, such as a skin rash.
- For some patients the risks may be different, please speak to your specialist doctor before the procedure if you have any worries.

For infection control protocols, please let us know if you have been told in the past by Public Health that you are at increased risk of CJD (Creutzfeldt-Jakob disease) or vCJD (variant Creutzfeldt-Jakob disease).

On return to the ward

The nurse will make you comfortable on return. An ECG may be taken and the nurse will observe your blood pressure, heart rate,

groin or wrist site, and pulses regularly and, if on the ward, you may be attached to a heart monitor. You will be encouraged to drink water following the procedure and it is important that you drink as much as you are able, to flush the contrast dye from your body.

If you have the procedure through your wrist you may sit up straight away or in a recliner chair if staying on the day ward. A pressure device called a trans-radial (TR) band will be applied to stop any bleeding.

If you have the procedure through your groin, you will need to lie flat or with one pillow until the tube in your groin is removed. The nurse or doctor will remove this manually or with a pressure device up to four hours after the procedure. You will then be assisted to get up, approximately two hours later, as long as the nurse is confident that any bleeding at the groin site has stopped.

If the doctors use an Angioseal® (a device to close the artery) in your groin you may sit up straight away, but will still need to stay in bed for two hours.

Delay

Sometimes your procedure may be unavoidably delayed due to emergency cases and, on rare occasions, this may lead to your procedure being cancelled.

Results

The results of the angioplasty will be discussed with you before discharge.

Going home

The nurses will inform you of any medication changes before discharge.

If you have undergone coronary angioplasty you must not drive for one week by DVLA ruling (Group 1 license holders). You will need someone to drive you home and someone should be with you for your first night at home and have access to a telephone.

Please affix patient label or complete details below.

Full name:

Hospital number:

NHS number:

DOB:

PIC 259: patient agreement to PI 259 - Coronary angiogram or coronary angiogram proceeding to coronary angioplasty

Intended procedure/surgery

Statement of health professional

(To be filled in by a health professional with appropriate knowledge of proposed procedure, as specified in consent policy).

I have explained the procedure to the patient.

The intended benefits: This procedure is carried out with the intention of improving angina. In certain situations, the procedure reduces the likelihood of future cardiac problems (eg heart attack or death).

Significant, unavoidable or frequently occurring risks:

This is a safe procedure. On rare occasions (1% to 2%) there can be complications such as:

- Heart attack
- Stroke
- Vascular damage
- Emergency heart surgery
- Acute kidney failure
- Severe bleeding and bruising at the access site
- Blood transfusion requirement
- Pericardial effusion (blood collection)
- Allergic reaction to dye
- Death

In case of a more complex procedure, requiring more advanced tools to improve the blood flow, the risk of the complications above might be higher than anticipated (up to 3-4%).

I have also discussed how the procedure is likely to be performed, the benefits and risks of any available alternative treatments (including no treatment) and any particular concerns of this patient.

This procedure will involve local anaesthesia and often some mild sedation. In very rare circumstances it will involve general anaesthesia.

Healthcare professional

Signed:

Date:

Name (PRINT):

Job title:

Contact details

.....
.....

Has a ReSPECT form been considered and, if relevant, appended to this form?

Yes No

Statement of patient

Please read the patient information and this form carefully. If the treatment has been planned in advance, you should already have your own copy of which describes the benefits and risks of the proposed treatment. If not, you will be offered a copy now. If you have any further questions, do ask - we are here to help you. You have the right to change your mind at any time, including after you have signed this form.

Yes No

I agree to the procedure or course of treatment described on this form and have read this information leaflet on Coronary angiogram or coronary angiogram proceeding to coronary angioplasty (PI 259) and had the opportunity to ask questions.

I agree to the use of photography for the purpose of diagnosis and treatment and I agree to photographs being used for medical teaching and education.



Please affix patient label or complete details below.
Full name:
Hospital number:
NHS number:
DOB:

- **I understand** what the procedure is and I know why it is being done, including the risks and benefits.
- **I understand** that any tissue removed as part of the procedure or treatment may be used for diagnosis, stored or disposed of as appropriate and in a manner regulated by appropriate, ethical, legal and professional standards.
- **I understand** that any procedure in addition to those described on this form will be carried out only if necessary to save my life or to prevent serious harm to my health.
- I have listed below any procedures **which I do not wish to be carried out** without further discussion:

.....
.....
.....
.....
.....

I have been told in the past by Public Health that I am at increased risk of CJD (Creutzfeldt Jakob disease) or vCJD (variant Creutzfeldt Jakob disease).

Yes No

(Where patient indicates 'yes' health professional to refer to Trust CJD procedure DN092)

Statement of interpreter

If an interpreter was present to support this consent, please state the name and number of the interpreter present.

Date:.....

Interpreter's number:.....

Name (PRINT):.....

Patient

Patient signature:

Date:

Name (PRINT):

Confirmation of consent

(To be completed by a health professional when the patient is admitted for the procedure, if the patient has signed the form in advance).

On behalf of the team treating the patient, I have confirmed with the patient that they have no further questions and wish the procedure to go ahead.

Signed:

Date:

Name (PRINT):

Job title:

Important notes (tick if applicable).

- Patient has advance decision to refuse treatment
- Patient has withdrawn consent (ask patient to sign/date here)

Patient signature:

Date:

Name (PRINT):

Please use and attach Consent form C for a young person who is not Gillick competent.

You will not be able to travel home via bus or train without someone with you.

You can resume normal activities the next day but you should refrain from strenuous activity for 48 hours.

Aftercare advice

In the unlikely event that you experience your typical angina pain in the first 24 hours, please call 999 for an ambulance. Please take the discharge letter to accident and emergency department (A&E) with you and hand it in on your arrival.

You may experience some chest discomfort for the first week after the procedure, which can be relieved by paracetamol. If you experience significant chest pain, like your angina, you should contact your GP immediately.

Radial

The dressing on your site is designed to stay in place for 48 hours. It is fine to bath and shower with the dressing in place. Once the dressing is removed, please do not put talcum powder, soap or body lotion onto the site until it has fully healed.

If you experience excess swelling, redness, oozing or a change of sensation in your fingers, please seek medical advice.

Angioseal® and Sheath

If your groin bleeds, please do not panic. Lie down flat and get someone to apply pressure to your groin until the bleeding stops. This can take up to 10 to 15 minutes.

It is common to have bruising on your groin and leg, which sometimes can spread to your abdomen.

Two to three days following the procedure, and for up to a fortnight, you may notice a small pea or marble sized lump at the incision site - this is normal healing. If the lump is any bigger than this or if you experience any pain or redness around the area, please contact your GP.

You will have a small plaster over the incision site, which should be removed the day after your procedure. Please do not have

a bath for four days following your procedure, although you may have a shower or strip wash until then. Avoid putting talcum powder on or around the wound for one week.

Research

Royal Papworth Hospital is a teaching hospital, and as such, you may be approached to participate in research.

Further information

For further information please contact the bookings team on 01223 638837, who will answer your queries directly or put you in contact with someone who can.

Alternatively please telephone the cardiac support nurse team on 01223 638100.

Medication

If you have received a stent you will have been prescribed blood thinning with dual antiplatelet therapy.

This includes one of the options below:

- Aspirin and clopidogrel
- Aspirin and ticagrelor
- Aspirin and prasugrel

Do not stop any of the two drugs before the timeframe prescribed by the cardiologist as there is a high risk of death associated to stopping any of these drugs for the first three months from stent implantation.

Only a cardiologist can advise to stop any of these drugs before the advised timeframe, which applies only to very exceptional circumstances like life-threatening bleeding or undeferrable life saving surgery.

Recommended summary plan for emergency care and treatment (ReSPECT)

What is ReSPECT?

ReSPECT stands for 'Recommended summary plan for emergency care and treatment'. It is a process that helps people to think about what treatment is suitable in an emergency, should they be unable to make decisions at the time.

Why is it important?

We know that, when people are very unwell, they are often unable to think clearly about what treatment they may or may not want because their brain and body are overwhelmed by the illness. It is also normal for people to feel anxious about what is happening when they are sick and in hospital, and this can also make it difficult to think clearly. This is why we think it is a good idea, where possible, for decisions about medical treatment to be made in advance – before there is an emergency situation or crisis.

How does it work?

The ReSPECT process is designed to help conversations between you and your healthcare professionals: they need to make sure you understand your health problems and which treatments may or may not benefit you. You need to make sure the healthcare professionals understand what matters most to you and whether there is anything you are particularly worried about or would want to avoid.

This conversation is used to complete a ReSPECT form that records a person's health problems, their preferences and which medical treatments may or may not be suggested. The original form should stay with the patient, though it is extremely helpful to have a record of the content of the form on their electronic patient record.

A ReSPECT form is NOT a legally binding document and can be changed or withdrawn at any point.

The ReSPECT form is often used to indicate treatments that someone may not want and/or treatments that their healthcare professionals consider would no longer be of benefit to them.

If people are getting worse from progressive conditions, it may be helpful to consider in advance about things such as whether they would wish to go back into hospital and, if in hospital, what sort of treatments might or might not be helpful for them.

This often includes a decision on whether or not they should have attempted cardiopulmonary resuscitation (CPR) if their heart was to stop.

Who is it for / is this relevant for me?

This process has increasing relevance for people who have complex health needs, people who may be nearing the end of their lives and those who are at risk of sudden deterioration or cardiac arrest.

However, many people come to Royal Papworth to have major procedures or surgery with the intention of curing a progressive disease or with the intention of substantially prolonging their life and, if that is you, you may wonder how a ReSPECT discussion applies to you and others like you.

One of the key things to understand about the ReSPECT process is that it can be used simply to document a person's wishes and priorities, without setting any limitations on what treatment they should have.

This is important because all the procedures and operations we do here come with the risk of complications. In the unlikely event that things do not go as planned, it is really helpful to have some idea about a person's preferences and about their fears, worries and hopes.

Once again, the document is not legally binding, but it can help those looking after you to know what you might want if you weren't able to say for yourself.

Royal Papworth Hospital NHS Foundation Trust

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Alternative versions of this leaflet

Large print copies and alternative language versions of this leaflet can be made available on request.

View a digital version of this leaflet by scanning the QR code.



Become a member

As a member of Royal Papworth Hospital Foundation Trust, you could have your say on how the organisation is run, now and in the future. You will receive regular information and news from Royal Papworth and get invited to exclusive events. Membership allows you to vote for your representatives on the Council of Governors, talk to your Council of Governor representatives and stand as a governor.

Scan the QR code or head to royalpapworth.nhs.uk/our-hospital/how-we-are-run/foundation-trust-members to find out more.



Author ID:	Consultant cardiologist (intervention)
Department:	Cardiology
Re-printed:	February 2025
Review date:	January 2027
Version:	2
Leaflet number:	PI 259