

Prostate artery embolisation (PAE) – image guided

Information for patients

This leaflet explains prostate artery embolisation. It covers what to expect, including the benefits, the potential risks and the alternatives.

Before the embolisation, a doctor will explain the procedure to you in detail. This leaflet is not meant to replace that discussion. If you have any questions or concerns, please do not hesitate to speak to the doctors or nurses caring for you. It is important that you feel well informed before agreeing to the procedure and signing the consent form.

Confirming your identity

Before you have a treatment or procedure, our staff will ask you to confirm your name and date of birth and check your ID band. If you do not have an ID band, we will ask you to confirm your address. If we do not ask these questions, then please ask us to check. Ensuring your safety is our primary concern.

What is prostate artery embolisation (PAE)?

It is way of treating an enlarged and troublesome prostate without surgery. We inject a special embolisation solution to block off the arteries that supply the gland. This causes your prostate to shrink.

PAE is a less invasive procedure than other treatments for an enlarged prostate, such as transurethral resection of the prostate (TURP). You can have it as a day case patient and there is a lower risk of certain complications, including retrograde ejaculation, incontinence and impotence.

You usually have this procedure under local anaesthetic only, so you will be awake. If necessary, you can have sedation or general anaesthetic, as long as you are suitable for it.

You will also have a dye injected which shows up on an x-ray machine. This is to ensure the embolisation solution is injected into the correct place.

Why do I need PAE?

You have had tests that show you have an enlarged prostate. Your symptoms may include peeing very frequently (especially at night), finding it hard to pee, passing a weak flow of pee, stopping and starting, and feeling like you have not fully emptied your bladder.

PAE is a good option if you have a very big prostate gland where treatment with medication or operations such as laser surgery may not be successful or could have increased risks.

What are the risks?

PAE is a relatively new procedure for an enlarged prostate. Current evidence, reviewed by the National Institute for Health and Care Excellence (NICE), clearly shows that it is a safe and an effective treatment. You may have some discomfort in the lower abdomen or when urinating. This normally eases after 10 days. Take paracetamol regularly to help ease any discomfort.

Uncommon risks

- You have a low risk of developing retrograde ejaculation (less than 15% in UK centres). This is much lower than the risk with TURP.
- There is a 1% risk of developing urinary incontinence.
- There is a 10% risk that the arteries that supply your prostate are too small or diseased for us to access your prostate, meaning we would be unable to do PAE. If this is the case, your surgeon may offer you TURP instead.
- Your prostate can become swollen immediately after the procedure, making peeing difficult. You may need to have a urinary catheter until the swelling settles down.
- You may see blood in your pee after the procedure. This usually settles by itself.
- Blocking the arterial flow to your prostate makes it more prone to infection, so we will prescribe you antibiotics after the procedure.
- There is a less than 1% risk of blocking blood vessels supplying other pelvic organs, including your bladder, bowel and genitals. This is a serious complication, so we may do a CT scan of your blood vessels during the procedure to reduce this risk to a minimum.
- Up to 25% of patients have flu-like symptoms after the procedure. This is known as post-embolisation syndrome and should ease off over one to two weeks.

Radiation risk

We use x-rays to guide us while we are doing this procedure. X-rays are a type of ionising radiation that form images of your body so we can treat you. People who have been exposed to high doses of ionising radiation have an increased chance of developing cancer many years or decades later.

If yours is a more complex or challenging case, you may need a slightly higher radiation dose for your PAE which is comparable to two – three abdominopelvic CT scans.

The benefits of PAE often outweigh the risks. Your healthcare team will take all necessary precautions to minimise your radiation exposure during the procedure.

If you have any concerns about your risk of exposure to radiation during PAE, please discuss it during the consent process with the radiologist who will be doing your procedure.

What are the benefits?

After PAE, your prostate gland usually begins to shrink within a few weeks. More than 70% of men have improved symptoms.

Recent research has shown that some patients who need a long-term catheter can have it taken out within a few weeks.

Are there any alternatives?

You can take medications for mild to moderate symptoms. When these no longer work, you may be offered surgery including:

- TURP, in which part of your prostate is removed
- green light laser photo-selective vaporisation of the prostate (PVP), in which a laser is used to vaporise excess tissue in the central part of your prostate
- prostatectomy, in which your prostate is taken out.

Both your urologist and interventional radiologist have decided that PAE is the best treatment option for you at this time.

Consent

We must by law obtain your written consent to any operation and some other procedures beforehand. Staff will explain the risks, benefits and alternatives before they ask you to sign the consent form. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to speak with a senior member of staff again. We will inform your GP that you have had this procedure unless you specifically instruct us not to.

Where will I have the procedure?

You will have it in the Interventional Radiology Department, 1st floor, Denmark Wing, King's College Hospital, Denmark Hill).

How can I prepare for my procedure?

Important

- **Ideally, you need to live within 30 minutes' travelling time of your nearest hospital and have access to a phone in case you need urgent treatment after you have gone home.**

- **(Day Case Patient) You also need to arrange for a responsible adult to take you home after your PAE and stay with you for next 24 hours.**

Pre-assessment appointment: We will arrange for you to have a pre-assessment appointment, either in person or by phone. You will be asked questions about you, your health and the medications you take. A blood sample will also be taken to check that you are in good general health and how well your blood clots. You usually have the blood test in our department at King's College Hospital but sometimes you may have it taken at your local GP. If you need a translator, please let the Interventional Radiology staff know.

After your pre-assessment, we will arrange a date and time for your PAE. We aim to let you know the appointment details on the same day as your pre-assessment.

Drugs and alcohol: Do not use any recreational drugs or drink alcohol for at least 24 hours before the procedure.

Medications: Please make sure the doctor or nurse knows if you are taking any of the following blood-thinning medications (anticoagulants): aspirin, clopidogrel, warfarin, apixaban, rivaroxaban, edoxaban, ticagrelor, prasugrel, phenprocoumon, acenocoumarol, dagibatran, argatroban, heparins, fondaparinux, enoxaparin

Usually, you will need to stop taking these medications a few days to a week before the procedure. But do not stop them on your own without talking to your urologist first. They will tell you when to stop and when it is safe to start taking them again.

If in doubt, please bring with you all the medications you are taking, whether they have been prescribed for you or if you have bought them over the counter at your local chemist store.

Will I be admitted to hospital for the PAE?

You will have your procedure as a day case patient or a TCI patient. We explain what this means below. We will let you know which one applies to you.

Day case patient: You will have the procedure in the morning and, if everything is normal and you are stable, you will be discharged home later in the day, provided you have a responsible adult to take you home. Please arrive at Interventional Radiology at 8am so you can be admitted to the unit

To come in (TCI) patient: You will be admitted to the hospital the day before your procedure and stay overnight before your procedure. Rarely, you may be admitted on the morning of your procedure. The bed manager will call you to let you know when to arrive and which ward to go to.

What happens on the day of the procedure?

Eating and drinking: Have a light breakfast at about 5am but **do not** eat anything after this time. You can drink clear fluids up to **two hours** before your procedure.

Medications: Keep taking your regular medications, except for any blood-thinning ones. Remember to take your blood pressure medication on the morning of the procedure (if applicable). If your blood pressure is too high on the day of the PAE, you might need to have the procedure on another day.

What to bring with you: Please bring a small overnight bag, all your medications and something to read, as a number of patients (fewer than 20%) need to stay overnight after the procedure.

What not to bring with you: Do not bring valuables, jewellery or large sums of money with you. If this is unavoidable, please ask a relative or friend to take them home for you. The hospital cannot accept liability for the loss of items that are not handed in for safekeeping.

What happens before my procedure?

One of our nurses will ask you to change into a gown. They will check your blood pressure, heart rate and temperature, and ask you some questions. They will put a small, thin tube called a cannula into a vein in your hand or arm so we can give you medications such as pain relief if you need them during or after the procedure.

Either the nurse or ward staff will take you to the room in Interventional Radiology where you will have the procedure.

What happens during the procedure?

An Interventional Radiologist – a specialist doctor trained in image-guided procedures – will carry out your PAE. They will explain the procedure to you, ask for your consent and then start your prostate artery embolisation.

They will ask you to lie on your back on an x-ray table and ensure you are in a comfortable position before they start. A nurse will attach a monitoring device to check your heart rate, blood oxygen level and blood pressure during the procedure. They will also give you oxygen if you are having sedation.

The doctor will clean the skin in your groin or your wrist with antiseptic solution and cover this area with drapes. Using an ultrasound machine to guide them, they will inject local anaesthetic into the skin and deeper tissue over the artery. This may sting at first before the area becomes numb. From then on, you should only feel a pushing sensation.

They will make a small cut and put a small tube (catheter) into the artery and inject a dye (contrast medium) that shows up on x-ray images. They use these images to navigate the catheter through your blood vessels to find the arteries that supply blood to your prostate gland. When the dye goes in you may feel a warm sensation.

You may be asked to hold your breath and keep still at times to ensure the Interventional Radiologist has a good view.

They can usually access both left and right prostate arteries from the one artery, but sometimes they may use the artery in the groin of your other leg as well.

Once they have found the blood supply to your prostate, they will inject an embolising fluid through the catheter into the arteries supplying your prostate. This blocks the targeted blood vessels and cuts the blood flow to your gland. This fluid is injected into both the left and right arteries of your prostate. The doctor will then take out the catheter.

Pressure will be applied to your groin or wrist to prevent bleeding. After the procedure, pressure will be put on the area where the small hole was made in your artery, in order to close it. Alternatively, an absorbable plug may be used to seal your groin artery or a balloon wristband to seal your wrist artery.

Will the procedure hurt?

It is generally painless, apart from the brief sting you feel when you have the local anaesthetic injection. You might find the position the doctor asks you to lie in during the procedure uncomfortable for a short while. If you have any pain or discomfort, tell our nursing staff and they will give you some painkillers.

How long will it take?

It takes about two hours but this can vary.

What happens after the procedure?

You will be taken to Interventional Radiology Recovery and monitored closely to ensure there are no complications. You will be given painkillers if you have any pain.

You must stay in recovery for at least four hours. You may need to stay in the hospital for one night.

You may have a small bruise in your groin or wrist where the catheter was put in. This is normal. We will prescribe you a course of antibiotics to take for five – seven days after the procedure.

When can I go home?

If you are a day case patient: If there are no complications, you will be able to go home later in the afternoon on the day of the procedure.

If you have been admitted to hospital (TCI): If there are no complications, you may be discharged the day after the procedure.

Remember, you will not be able to drive yourself home after the procedure, so make sure a responsible adult can accompany you. Important: A relative or a friend must collect you from the hospital and take you home by car or taxi (not public transport). You must not drive any vehicle for 24 hours after the procedure and you must make sure you feel well enough to drive after that time.

How do I care for the cut?

You will have a small dressing over the puncture site which you can change if necessary. Keep the site dry for at least two days, then remove the dressing and gently wash the area with soap and water. Avoid using lotion or powder. Make sure the cut has healed before bathing or soaking it in water.

When can I exercise and go back to work?

After the procedure:

- you can go back to most normal daily activities within 24-48 hours
- you must avoid strenuous activities such as heavy lifting or intense exercise for seven days
- you should take one week off work.

When can I start taking blood thinners again?

If you are taking anticoagulants, your clinical team will let you know when it is ok to start taking them again. This will depend on how well the procedure went and the medication you are taking.

What should I look out for after the procedure?

If there are problems after your PAE, they usually happen while you are still in hospital. When you go home it is important to follow the advice we will give you about who to contact if you:

- are having fevers (cold or hot sweats)
- feel light headed or dizzy
- have increasing discomfort or pain in your pelvis, abdomen or penile area instead of gradual improvement.

Urology contact numbers

8am – 5pm, Monday to Friday

- Urology Registrar, Tel: **020 3299 7425**
- Urology Consultant on call, call the switchboard, Tel: **020 3299 9000**

Out of hours, seven days a week

- Call the switchboard on **020 3299 9000** and ask for the Urology Registrar
- Urology Consultant on call, call the switchboard on **020 3299 9000**

If you feel very unwell, call 999 or go to the nearest Emergency Department (ED/A&E) immediately.

Will I have a follow-up appointment?

A urology doctor will call you the day after the PAE to check on your recovery. You will have a follow-up appointment with the urologist in three months' time.

What should I do if I cannot come for my procedure?

Please let us know as soon as possible by contacting the Interventional Radiology Department, so we can arrange another date and time. This also enables us to offer your appointment time to someone else.

King's College Hospital, Denmark Hill, Tel: **020 3299 3490, 020 3299 6730**
or **020 3299 3280**

Who can I contact with queries and concerns?

If you have any questions about your procedure, please contact:

Urology Team

Tel: **020 3299 2303**, 9am – 5pm, Monday to Friday

Interventional Radiology Nurses

Tel: **020 3299 3490** or **020 3299 2060**, 9am – 5pm, Monday to Friday

Where can I get more information?

You can ask the Urology Team or the Interventional Radiology Team for more information at your clinic appointment

More information and support

- King's College Hospital: www.kch.nhs.uk
- NHS: www.nhs.uk, Tel: **111**
- British Society of Interventional Radiology – www.bsir.org (click on Patients, click on patient information leaflets, select leaflet)
- <https://prostatematters.co.uk>
- www.ask4pae.com

MyChart

Our MyChart app and website lets you securely access parts of your health record with us, giving you more control over your care. Visit www.kch.nhs.uk/mychart to find out more.

Care provided by students

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

PALS

The Patient Advice and Liaison Service (PALS) offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. They can also pass on praise or thanks to our teams. The PALS office is located on the ground floor of the Hambleton Wing, near the main entrance on Bessemer Road - staff will be happy to direct you.

PALS at King's College Hospital, Denmark Hill, London SE5 9RS

Tel: **020 3299 4618**

Email: **kings.pals@nhs.net**

If you would like the information in this leaflet in a different language or format, please contact our Interpreting and Accessible Communication Support on 020 3299 4618 or email kings.access@nhs.net

www.kch.nhs.uk

PL419.1 July 2025
Review Date July 2028

Networked Care
Comms: 4519