



Prostate Artery Embolisation, for lower urinary tract symptoms related to benign prostatic enlargement

This leaflet explains what is involved in having a prostate artery embolisation (PAE) and outlines the possible risks. Before agreeing to the procedure, you will have a consultation with your doctor, when you will have the opportunity to ask further questions.

Please note that this leaflet is not meant to replace discussion between you and your doctor. You should raise any questions you may have with the doctor who has referred you for, or is performing, the procedure.

What is prostate artery embolisation (PAE)?

PAE is a procedure used to treat the enlarged prostate (a gland located in the pelvis between the penis and bladder). It works by blocking off the arteries that supply the gland, which makes it shrink. It is an alternative to having surgery to remove prostate tissue. PAE is minimally invasive (performed through a tiny cut in the skin under local anaesthetic) and usually done as a day case procedure, with a quick recovery and return to normal daily activities. The clinical success rate is good (up to 76% of patients show improvement in symptoms 5 years after treatment).

Why do I need a PAE?

You may need to have this procedure if you have significant problems passing urine, which are affecting your quality of life and are due to an enlarged prostate. Prostate enlargement is very common, affecting up to 80% of men by the age of 70. Symptoms can include poor urine flow, dribbling at the end of urination, urinating little and often, having to get up multiple times in the night to urinate, and difficulty emptying your bladder in one go. By shrinking the size of the prostate, PAE can help improve these symptoms. PAE can also be used to help with removal of a long term bladder catheter that has been placed for urinary retention (success rate >80%), and in treating patients suffering from bleeding related to the prostate (success rate >85%).

How do I prepare for a PAE?

You will have a pre-assessment meeting (or phone call) with a specialist nurse before your admission. They will ask about your medical history, and tell you if any medicines need to be stopped before coming into hospital. You should stop eating six hours before the procedure, but can drink clear fluids (water or squash) up to two hours before.

How is PAE performed?

An intravenous cannula will be placed in your arm/hand, and heart and breathing monitors will be put in place. A bladder catheter may be inserted via the penis before the operation (to avoid the need to urinate during the operation), and is removed at the end of the procedure.

The procedure can be done via the artery in the groin or the wrist. The skin is cleaned, numbed with local anaesthetic, and ultrasound is used to guide a needle and a plastic sheath into the artery. The rest of the procedure is performed through this sheath. Contrast fluid is injected that can be seen on X-ray, and this provides a map of the arteries feeding the prostate. Wires and plastic catheter tubes are used to navigate to the prostate arteries, and tiny particles are then injected into the prostate, which block the blood vessels and starve the prostate of its blood supply. The procedure is repeated on both sides of the prostate. The entire procedure lasts between one and three hours. At the end of the procedure, the hole in the artery is closed using a dissolvable plug or by pressing on the vessel.



Who performs the procedure and where?

PAE is performed by an Interventional Radiologist. This is a specialist doctor that performs image-guided, minimally invasive surgery. The procedure will usually take place in the Interventional Radiology (IR) department of the hospital, in specialised operating theatres with X-ray equipment, (also known as IR suites or labs).

What are the potential risks/complications of PAE?

PAE is a safe and effective procedure, but like all procedures there are some risks and potential complications:

- **Bruising** – there may be a small bruise or haematoma around where the needle was inserted.
- **Pain, Infection** - there may be some pelvic discomfort afterwards, and a burning / stinging sensation when urinating with increased urinary frequency. This can be managed with pain medication and should resolve within a few days. There is a small risk of infection or abscess within the prostate, for which preventative antibiotics are given.
- **Urinary retention** - rarely patients may need a bladder catheter for a short period after the treatment due swelling of the prostate that blocks urine flow. This is temporary and the swelling usually subsides by 1 to 2 weeks, allowing the catheter to be removed.
- **Non-target injury** - the risk of blocking blood flow to nearby structures (including bladder, rectum and penis) is very rare and usually self-limiting. Detailed imaging techniques are used during the procedure that precisely show the target tissue and minimise these risks.
- **X-rays** - the procedure uses x-ray radiation to see inside the body. Patients are exposed to the lowest dose of radiation practicable and the risk of causing harm is very small (the average radiation dose from the procedure is equivalent to two to three CT scans of the abdomen).

What happens afterwards?

After the procedure, you will be transferred to a recovery room, where nurses can monitor you for a few hours. The procedure is usually done as a day case (no overnight stay). You will need someone to pick you up from hospital at the end of the day and stay with you overnight.

Antibiotics and pain medications are usually prescribed to take at home for a few days. You may feel tired and should rest for two to three days, and avoid strenuous activity for one week. You can then return to normal activities. If the PAE has been performed to enable removal of a bladder catheter, this will be arranged about two weeks after the procedure. Follow-up will then be with the urology team or with interventional radiology.

Notes