

Prostatic Artery Embolization (PAE)

This handout explains a prostatic artery embolization and what to expect during this procedure.

What is benign prostatic hyperplasia?

Benign prostatic hyperplasia (BPH) is enlargement of the prostate. Benign means that it is **not** cancer.

Enlargement of the prostate is a common condition as men get older. As the prostate enlarges it can cause symptoms such as incomplete bladder emptying, frequency, urgency, intermittent flow, weak stream, straining, and in some cases may require a catheter to be placed in the bladder. These symptoms can negatively impact quality of life.

What is prostatic artery embolization?

In *embolization*, a doctor injects a material into a blood vessel to block blood flow. Prostatic artery embolization (PAE) is a way to treat BPH and improve symptoms without surgery.

PAE uses X-rays to guide a *catheter* (tiny tube) into the arteries that feed blood to the prostate. Small particles are then injected to block blood flow.

PAE is done by an *interventional radiologist*, a doctor with special training to do this procedure.

How does PAE work?

With its blood supply cut off, the prostate no longer receives oxygen and nutrients. The prostate stops growing and begins to shrink. Most times, this eases symptoms and improves quality of life.

How is PAE used?

PAE is most often used to treat symptoms caused by BPH. It may be used instead of a transurethral resection of the prostate (TURP), open prostatectomy, and other urologic procedures.

The methods used in PAE can also be used to treat *hematuria* (blood in the urine). This bleeding may occur from an enlarged prostate. It is important to note that there are many other causes of hematuria and these should be ruled out before starting PAE.

How do I prepare?

If you want to have PAE, talk with your urologist. If your healthcare provider believes your symptoms may be caused by BPH, they may refer you for a clinic visit with an interventional radiologist trained in PAE. During your visit, this specialist will tell you how to prepare for the procedure.

What can I expect after PAE?

Most patients will go home the same day of the procedure.

At the time of the procedure, you will have a Foley catheter placed. This is removed after the procedure. If you already have a catheter placed in your bladder, removal will be attempted 1 to 2 weeks after the procedure under the guidance of a urologist.

You may experience an increase in symptoms for 3-7 days after the procedure. To help with these symptoms, you will be given several medicines to be used at home upon discharge.

- You will be given anti-inflammatory medicines to be taken by mouth for at least 5 days following the procedure.
- You will be given antibiotic medicines to be taken by mouth.
- You will be given a medicine called Phenazopyridine to be taken by mouth. This medication helps reduce pain with urination and may change the color of your urine. Your urine may appear orange.

In rare cases you may experience an inability to urinate due to inflammation. If this occurs, you may need to go to the emergency department and have a Foley catheter placed. This can be removed 1-2 weeks following the procedure.

You may experience symptoms such as fever, nausea, small amounts of blood in the urine or stool for 3-7 days following the procedure.

Before Your Procedure

A nurse will call you within 5 days of your procedure. They will give you important instructions and answer any questions you have.

- If you do not understand English well enough to understand the instructions from the nurse or the details of the procedure, tell us right away. We will arrange for a hospital interpreter to help you. A family member or friend cannot interpret for you.

- Most patients need blood tests done before this procedure. We may be able to do your blood tests when you arrive for your procedure. We will tell you if we need a blood sample before that day.
- If you take any blood-thinning medicines (such as Coumadin, Lovenox, Fragmin, or Plavix), you may need to stop taking the medicine for 3 to 9 days before your procedure. Do NOT stop these medicines unless your doctor or nurse has told you to do so. We will give you instructions as needed.
- You must arrange for a responsible adult to drive you home after your procedure and stay with you the rest of the day. You cannot drive yourself home or take a bus, taxi, or shuttle.

Sedation

Before your procedure, you will be given a *sedative* (medicine to make you relax) through an *intravenous line* (IV) in one of your arm veins. You will stay awake but feel sleepy. This is called *moderate sedation*. You will still feel sleepy for a while after the procedure.

For some people, using moderate sedation is not safe. If this is true for you, a member of the anesthesia team will evaluate your health and decide the appropriate level of sedation for your procedure.

Let us know **right away** if you:

- Have needed anesthesia for basic procedures in the past
- Have sleep apnea or chronic breathing problems (you might use a CPAP or BiPAP device while sleeping)
- Use high doses of an opioid pain medicine
- Have severe heart, lung, or kidney disease
- Cannot lie flat for about 1 hour because of back or breathing problems
- Have a hard time lying still during medical procedures
- Weigh more than 300 pounds (136 kilograms)

The Day of Your Procedure

To prepare for sedation, follow these instructions exactly:

Starting at midnight, the night before your procedure

- Do not eat or drink anything.
- Do not take any of the medicines that you were told to stop before this procedure.

- If you must take medicines, take them with only a sip of water. Do not skip them unless your healthcare provider tells you to.
- Do not take vitamins or other supplements. They can upset an empty stomach.

Bring with you to the hospital a list of all the medicines you take.

Please plan to spend most of the day in the hospital. If there is a delay in getting your procedure started, it is usually because we need to treat other people who have unexpected and urgent health issues. Thank you for your patience if this occurs.

At the Hospital

A staff member will give you a hospital gown to put on and a bag to put your belongings in. You may use the restroom at that time.

A staff member will take you to a pre-procedure area. There, a nurse will do a pre-procedure assessment. A family member or friend can be with you in the pre-procedure area.

An IV line will be started. You will be given fluids and medicines through the IV.

An interventional radiology doctor will talk with you about the procedure, answer any questions you have, and ask you to sign a consent form, if you have not already done this.

What happens during the procedure?

- The nurse will take you to the radiology suite. This nurse will be with you for the entire procedure.
- If you need an interpreter, they will be in the room or will be able to talk with you and hear you through an intercom.
- You will lie flat on your back on an X-ray table.
- X-rays will be taken during the procedure to help your doctor see your prostate and surrounding structures.
- We will place wires on your body to help us monitor your heart rate.
- You will have a cuff around your arm. It will inflate from time to time to check your blood pressure.
- Prongs in your nose will give you oxygen. A probe on one of your fingers will show us how well you are breathing the oxygen.

- For your safety, the entire medical team will ask you to confirm your name, go over your allergies, and explain what we plan to do. We do this for every procedure and every patient.
- A radiology technologist will use a special soap to clean your skin around the puncture site. The technologist may need to shave some hair in the area where the doctor will be working.
- Tell the technologist if you have any allergies.
- Some wires and tubes (*catheters*) will be inserted into your artery. Your doctor will guide them to the prostatic arteries that supply blood to the prostate.
- Before the catheter is inserted into your artery, the doctor will inject a local *anesthetic* (numbing medicine). You will feel a sting for about 10 to 15 seconds. After that, the area should be numb, and you should feel only minor discomfort.
- We will inject contrast through the catheters during the procedure. Contrast helps images show more clearly on the X-rays.
- Your doctor will choose the blood vessels to be *embolized* (blocked off) and inject particles into them. This continues until all blood flow to the prostate is blocked.
- After the procedure is done, we will remove the catheter. Your artery will be closed, either with a special device or by hand.

After Your Procedure

You will be moved to a room on the short-stay unit at the hospital.

Once you are settled into your room:

- Your family member or friend will be able to be with you.
- You will need to rest flat on your back for 2-6 hours if the procedure was done in your groin. You will wear a wristband for 1-2 hours if the procedure was done in your wrist. You will be able to sit up during your recovery process.
- You will be able to eat and drink.

Before you get up to walk, we will assess you to make sure you can walk safely. A staff member will help you get out of bed.

You will be able to go home the same day when:

- You can eat, drink, and use the restroom
- Your nausea and pain are under control
- Your vital signs are stable

Self-care

To help your recovery:

- Do only light activities and get plenty of rest.
- Keep the puncture site covered with the dressing. Make sure it stays clean and dry.
- A responsible adult should stay with you overnight.
- Eat as usual.
- Drink lots of fluids.
- Resume taking your medicines as soon as you start to eat. Take **only** the medicines that your doctors prescribed or approved.

For 24 Hours

The medicine that you were given to make you sleepy will stay in your body for several hours. It could affect your judgment. You may also be lightheaded or feel dizzy. Because of this, for 24 hours:

- Do not drive a car.
- Do not use machines or power tools.
- Do not drink alcohol.
- Do not take medicines such as tranquilizers or sleeping pills unless your doctor prescribed them.
- Do not make important decisions or sign legal documents.
- Do not be responsible for children, pets, or an adult who needs care.

For 48 to 72 Hours

- Do not lift anything that weighs more than 5 to 10 pounds (a gallon of milk weighs almost 9 pounds).
- Do only moderate activities. This will allow your puncture site to heal.

Dressing Care

- After 24 hours, remove the dressing.
- You may shower after 24 hours. Do **not** scrub the puncture site. Allow warm soapy water to gently run over the site.
- After showering, gently pat the site dry with a clean towel.

When to Call

Call us right away if you have:

- Bleeding from the puncture site that does not stop after you apply pressure at the site for 15 minutes
- Swelling and pain at the puncture site
- A lot of bruising around the puncture site
- Signs of infection at the puncture site: redness, warmth, tenderness, or discharge that smells bad
- Fever higher than 101°F (38.3°C)
- Chills
- A new rash that does not go away
- Inability to urinate

Call 911 and go to the nearest emergency room if you have any of these symptoms:

- Chest pain
- Trouble breathing
- Your leg on the side with the puncture turns cold or blue
- Slurred speech
- Balance problems or trouble using your arms or legs

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

UWMC – Montlake:
206.598.6209, option 2

UWMC – Northwest:
206.598.6209, option 3

Harborview Medical Center:
206.744.2857

After hours and on weekends and holidays:
Call 206.598.6190 and ask to page the Interventional Radiology resident on call.

Who to Call

University of Washington Medical Center and Northwest Hospital

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department:

- Montlake: 206.598.6209, option 2
- Northwest: 206.598.6209, option 3

Harborview Medical Center

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department at 206.744.2857.