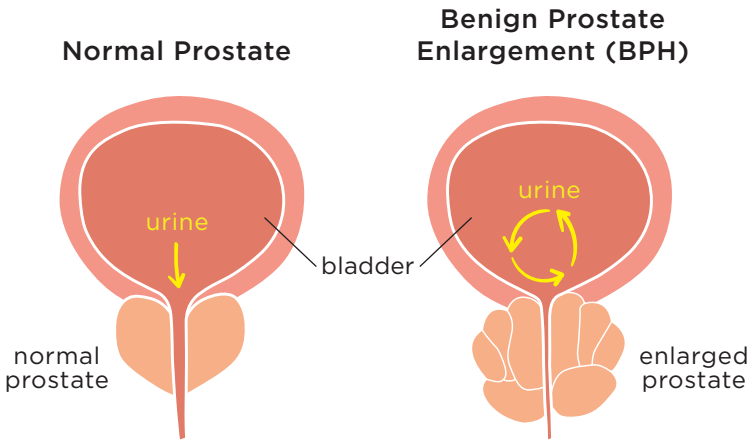
VASCULAR INSTITUTE

PROSTATE ARTERY EMBOLIZATION

WHAT IS BENIGN PROSTATIC HYPERPLASIA?

Benign prostatic hyperplasia (BPH) is enlargement of the prostate gland, which is a very common condition as men get older. Most men have continuous growth of the prostate throughout their life, but the prostate rarely cause symptoms in men younger than 40 years of age. However approximately 1/3 of men develop significant symptoms by age 60 and about 1/2 by the age of 80. It is not completely clear what causes this prostate growth, but changes in hormone balances as men age are likely a significant factor. The prostate is a gland that surrounds the urethra, the passage that carries urine from the bladder through the penis. As the prostate grows, it begins to squeeze the urethra leading to urinary symptoms including:

- Weak urine stream/straining to urinate
- Urinary Frequency
- Urgency to urinate or leakage of urine
- Frequent urination at night
- Blood in urine
- Incomplete emptying of the bladder, which may lead to frequent urinary tract infections



RISK FACTORS FOR PROSTATE ENLARGEMENT:

- Age
- Family History
- Diabetes
- Heart disease
- The use of beta-blocker medications
- Obesity
- Erectile dysfunction

COMMON TREATMENT OPTIONS FOR BENIGN PROSTATE ARTERY EMBOLIZATION

MEDICATIONS:
are the common treatment for benign prostate hyperplasia and typically the first line treatment.

- **Alpha blockers** are medications that relax the bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax) and silodosin (Rapaflo) usually work in men with somewhat small prostates.
- **5-alpha reductase inhibitors** are medications that shrink your prostate by preventing hormonal changes that cause prostate growth. Examples of these medications which include finasteride (Proscar) and dutasteride (Avodart). These medication can typically take up to six months to be effective.
- **Tadalafil (Cialis)**. Studies suggest this medication, which are often used to treat erectile dysfunction, can also treat prostate enlargement. They act by relaxing the smooth muscles of the prostate, bladder and surrounding tissues.

UROLIFT:
is a minimally invasive procedure that opens the narrowing or even blocked urethra. This is done by accessing the prostate tissue through the urethra. The placement of permanent implants (sutures) are placed around the prostate to lift and hold the enlarged tissue out of the way to increase the opening of the urethra. This is considered best for prostates approximately 25-60 grams, so men with smaller prostates will benefit more. The benefits may be limited due to the fact that the prostate will continue to grow.

REZUM:
is a treatment that uses thermal energy in water vapor (steam) to treat the extra prostate tissue that is causing symptoms urinary symptoms. A device the produces radiofrequency energy is applied to a few drops of water to create steam. The water vapor is injected into the prostate tissue that is blocking the flow of urine from the bladder, where it immediately turns back to water, releasing the energy. This causes immediate damage to the prostate cells ultimately causing cell death and shrinkage to improve symptoms.

TRANSURETHAL RESECTION OF THE PROSTATE (TURP):
is a surgery used to treat an enlarged prostate. This would be considered with individuals with moderate to severe urinary problems. An instrument called a resectoscope is inserted through the tip of the penis and into the urethra. Then excess prostate tissue is trimmed away. The surgery is done under general anesthesia and is not intended for patients that are at high risk and/or have multiple comorbidities. Post procedure requirements include Foley catheterization and the recovery time is between 3-6 weeks.

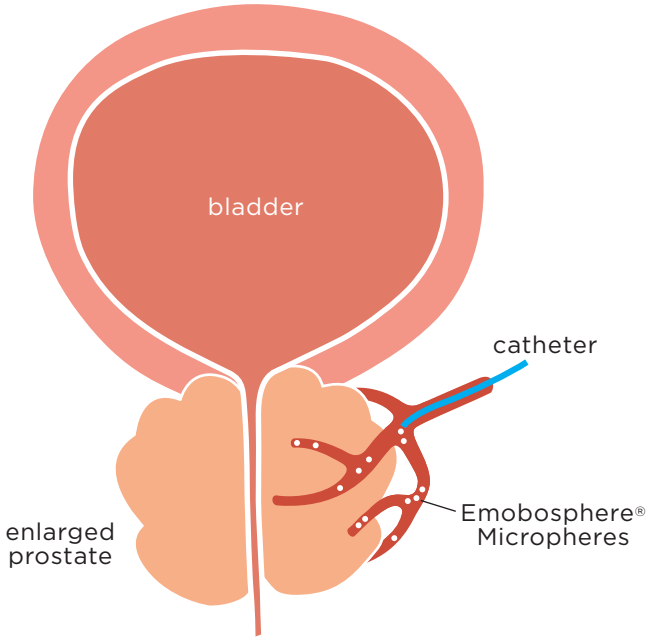
WHAT IS PROSTATE ARTERY EMBOLIZATION?

Prostate artery embolization is a minimally invasive alternative to treat prostate enlargement by blocking off the arteries that feed the gland to make it shrink. The entire procedure is performed through a needle tip in the wrist or groin while under twilight (conscious) sedation.

Prostate artery embolization is performed by an interventional radiologist. Interventional radiologists are board-certified physicians who specialize in minimally invasive, image guided treatments. They use X-rays, ultrasound, CT and other imaging techniques to direct their treatments.

The interventional radiologist will use a small needle to access the groin or left wrist artery and insert a tube the size of a pen tip. The tube is then guided into the prostate artery using live x-ray where tiny plastic particles are injected to block the blood flow to the prostate. This decreases the oxygen and nutrient supply to the gland, which then shrinks over the coming weeks and months.

The advantage of prostate artery embolization is decreased recovery time (typically 3 days) and an outpatient procedure. There are minimal restrictions after the procedure (no heavy lifting for 72 hours).



WHAT HAPPENS **AFTER** PROSTATE ARTERY EMBOLIZATION?

Some men can develop lower abdominal discomfort for several days after the procedure.

Rarely you may also experience:

- Nausea
- Low grade fever
- Feel tired or achy

You will be given medications for pain relief, nausea, and constipation to treat these symptoms. These are all normal side effects of the procedure as your body reacts to the death of prostate tissue. Rarely (<1%) acute urinary retention can occur and may require a temporary Foley catheter. You will progressively feel better over the following days and most men are back to their normal activity after one week.

HOW EFFECTIVE IS PROSTATE ARTERY EMBOLIZATION?

Prostate Artery Embolization can decrease lower urinary tract symptoms related to benign prostatic hyperplasia. In several studies, 90% of patients who underwent prostate artery embolization experienced clinical success and improved quality of life. Additionally, the side effects that are normally associated with prostate surgery or TURP, such as sexual dysfunction and urinary incontinence, are rare with PAE.

FOLLOW-UP CARE:

Before you are discharged home, you will be scheduled for a one-month post procedure appointment for evaluation. You will be advised to continue your normal follow-up with your urologist as previously directed.

PREPARATION

Once you have a scheduled date for the embolization procedure, you will need to prepare for the procedure.

1. You will be given a prescription for blood work to be obtained approximately one week prior to the intervention. You may also be scheduled for pre-procedure imaging at the discretion of the physician. This decreases the length of the procedure and allows you to return home earlier.

2. You may have been given a prescription for an NSAID (typically Naproxen) which should be started the day prior to the procedure. Please follow the directions of the ordering physician, but some general guidelines are listed below.

- **Day prior to the procedure:** Naproxen 500mg in the morning and in the evening. Make sure to take this with food.
- **Morning of procedure:** Naproxen 500mg in the morning. This dose you cannot take with food as you will need to be fasting for the anesthesia.
- This medication is a powerful NSAID that will help with pain after the procedure.

3. You may have been given a prescription for an Acid Inhibitor (typically Omeprazole) which should be started the day prior to the procedure. Please follow the directions of the ordering physician, but some general guidelines are listed below.

- **Day prior to the procedure:** Omeprazole 20mg in the morning.
- **Morning of procedure:** Omeprazole 20mg in the morning.
- This medication is an acid blocker that will help protect the stomach from the irritation effects of the NSAIDs. You will continue to take this medication after the procedure.

4. You will need to be fasting for sedation and anesthesia that will be administered during the procedure. This is very important because if you eat we will need to significantly delay or more likely re-schedule the procedure.

- **DO NOT EAT OR DRINK ANYTHING AFTER MIDNIGHT.**
- The medications described above are an exception to this.
- Please take your other medications (ie. blood pressure medications) as well.
- Medications can be taken with a small sip of water.
- If you are a diabetic and take insulin, please let us know so we can adjust your dose accordingly.
- If you take Glucophage (Metformin), you will likely be asked to hold this after the procedure until your kidney function is checked. Typically this is done 48 hrs after the procedure.

Your doctor's office will be able to address any additional questions and concerns regarding the procedure. Feel free to call us (609) 652-6094 • (732) 206-8455 • (856) 362-6056 or visit the website at vi-ami.com for more information and to use the scheduling portal.