What happens to the prostate after embolization?
Embolization results in a gradual reduction of prostate size, ranging between 10 and 50%. However, around 20% of patients experience improvement without the occurrence of any change in prostate size. Embolization is performed to improve the symptoms of BPH and not to reduce prostate volume, although this may occur in the majority of patients.

Can my BPH be treated by PAE?
Yes it may, under the following guidelines:
(1) the patient is symptomatic,
(2) the patient qualifies for surgery,
(3) the prostate volume is > 40 cc,
(4) urinary flow is less than 12 mL/sec and
(5) there are no other contraindications.

What are the contraindications for PAE?
Before embolization, patients must be examined to rule out the presence of a malignant tumor, which contraindicates a PAE. Other contraindications include atherosclerosis and a tortuous (twisted) pelvic and/or prostatic vessel anatomy, as demonstrated by CT (computed tomography) angiography. Regardless of prostate enlargement, the patients must be symptomatic to qualify for PAE surgery.

How to go about receiving PAE treatment?
After scheduling an appointment with your physician/Urologist, several tests (Prostate Ultrasound with rectal probe, Prostate-Specific Antigen (PSA) and Uroflowmetry) will be ordered. Surgical candidates will also be asked to fill out Symptomatology, Quality-of-Life and Sexual Function surveys. During a follow up consultation your physician will conduct an evaluation, and if necessary, order additional tests. These could include Cystoscopy and a pressure study known as Urodynamic. After evaluating the results of these tests a decision can be made on the possibility of moving forward with a PAE.

If embolization is indicated, you will need a CT angiography to evaluate the pelvic vessels and determine whether or not you are a candidate for PAE treatment. After undergoing this examination you will be contacted by the hospital medical team and informed about your expected degree of treatment success.

What are the benefits of prostatic artery embolization (PAE)?
- A non-surgical procedure performed under local anesthesia
- Safe and effective treatment, clinically proven
- Short term hospital stay and convalescence
- Quick return to normal activity
What is the prostate?
The prostate is an accessory organ of the male reproductive system. Located below the bladder and shaped like a walnut, it produces a slightly thick fluid that helps preserve sperm after ejaculation, helping it to remain viable in the vagina.

Because the prostate surrounds the urethra, urination can be affected when prostate disease is present.

What is benign prostatic hyperplasia?
Benign Prostate Hyperplasia (BPH) is the most common disease of the prostate and is very common in middle-aged and elderly men, causing very debilitating symptoms that have an impact on the quality of life. It can affect 50% of men at age 50, 70% of men over 80 years, 90% of men aged over 90 years, and almost all those over 90 years of age. BPH is a benign non-cancerous increase of prostate volume, and commonly causes obstruction of the bladder outflow. Despite having significant prostatic enlargement some men may remain asymptomatic and require no active treatment.

How is BPH diagnosed?
The diagnosis is made based on the patient’s medical history and a detailed physical examination, including a digital rectal examination (a relatively simple procedure by palpating the size of the prostate through the anus with the finger). The prostate volume and structure can be evaluated by rectal ultrasound. Testing prostate specific antigen (PSA) levels is vital for the early diagnosis of prostate cancer.

Prostatic Artery Embolization (PAE)
Prostatic artery embolization (PAE) is a treatment for BPH and a relatively new application of a longstanding technology. Embolization has been performed successfully for several decades. The materials—catheters, guide wires, and particles—have been used successfully in Internal Medicine for many years. This is a minimally invasive technique that relieves symptoms and has been performed in many hospitals with good preliminary results.

The objective of PAE is to partially stem the blood flow supplying the prostate. PAE resolves the problem rapidly, is long lasting, and preserves the prostate. Without blood flow the abnormally enlarged prostatic tissue atrophies and symptoms improve or disappear.

Possible treatments
There are several suggested treatments, according to the severity of the symptoms. For patients with mild symptoms, physicians may choose to follow the “watchful-waiting” approach.

Other medical therapies such as alpha-1 adrenergic blockers (alfuzosin and tamsulosin) or 5-alpha reductase inhibitors (finasteride and dutasteride) are also available to patients with mild BPH symptoms.

Patients with more severe symptoms or those unable to benefit from pharmacotherapy may be candidates for surgery. Although open prostatectomy is rarely performed these days, other less invasive approaches such as a transurethral resection of the prostate (TURP) may be performed if the prostate volume is between 60 to 80 cc.

Other available surgical methods may include laser surgery (HoLEP and Green Light laser), thermotherapy and electrovaporization.

If left untreated, BPH causes urinary retention and can lead to severe complications such as urinary tract infections, bladder stones or diverticula, and renal failure.

What are the most common symptoms of BPH?
The most common symptoms include:

- Increased frequency of urination with voiding small amounts of urine, particularly at night
- Weak and/or interrupted urinary stream
- Sensation of incomplete bladder emptying after urination and/or difficulty in starting urination
- Urinary urgency with difficulty in controlling urination
- Inability to urinate, resulting in urinary retention and leading to catheterization
- Blood in the urine
- Erectile dysfunction, generally caused by the medication

Patients may experience symptoms for some time. These symptoms can occur in isolation or together and can be mild, moderate, or severe.

Procedural Details
Embolization is performed under local anesthesia and involves no blood loss. A small opening measuring 1.5 mm in diameter is made in the groin, through which a thin plastic tube called a catheter is introduced. The catheter is guided towards the prostatic arteries by using a sophisticated digital x-ray device. Once the catheter engages the origin of the target prostatic artery, a smaller microcatheter is inserted to perform the embolization. Small embolizing particles are then injected into one of the prostatic arteries, blocking part of the branches supplying the blood to the prostate. However, the internal pudendal artery and arteries of the penis are spared so that the patient can maintain erectile function. The embolization is then repeated for the prostatic artery on the opposite side, through the same opening and using the same catheter and microcatheter combination.

The partial interruption of prostate blood flow causes the abnormal tissue to atrophy, or to be reduced in size.

Generally, the technique takes between 1 and 2 hours. The patient remains conscious and can even see the treatment on the television monitor. Once the embolization is completed the catheter is removed, manual compression is then performed for about 10 minutes, and a small compression dressing is applied.

In general, six hours after the PAE, the patient can get out of bed and is encouraged to urinate. Medical personnel are constantly checking the patient’s recovery. Usually the patient may be discharged in 1 to 3 days based on the physician’s recommendation.