Interventional Radiology

Uterine Fibroid Embolization
What Is Uterine Fibroid Embolization?

Uterine fibroid embolization (UFE) is a new way of treating fibroid tumors of the uterus. Fibroid tumors, also known as myomas, are masses of fibrous and muscle tissue in the uterine wall which are benign. These may cause heavy menstrual bleeding, pain in the pelvic region, or pressure on the bladder or bowel. With angiographic methods similar to those used in heart catheterization, a catheter is placed in each of the two uterine arteries and small particles are injected to block the arterial branches that supply blood to the fibroids. The fibroid tissue dies, the masses shrink, and in most cases symptoms are relieved. Uterine fibroid embolization, done under local anesthesia, is much less invasive than open surgery done to remove uterine fibroids. The procedure is performed by an experienced Interventional Radiologist.

Uterine fibroid embolization was first used to limit blood loss during surgical removal of fibroid tumors. It was found that after embolization many patients no longer had symptoms. Today uterine fibroid embolization is used as a stand-alone treatment for women who have symptoms producing uterine fibroids.

What Are Some Common Uses Of The Procedure?

By far the most common reason for embolizing the uterine arteries is to treat symptoms caused by fibroid tumors. This is accomplished by stopping the growth of fibroid tumors and attempting to shrink them. Because the effects of uterine fibroid embolization (UFE) on fertility are not yet known, the ideal candidate is a premenopausal woman with symptoms from fibroid tumors who no longer wishes to become pregnant, but wants to avoid having a hysterectomy (surgical removal of the uterus). Uterine fibroid embolization may be an excellent alternative for women who, for reasons of health or religion, do not want to receive blood transfusions—as may be necessary for open surgery. The procedure also benefits women who for any reason cannot receive general anesthesia. Embolization of the uterine arteries also may be used to halt severe bleeding following childbirth or caused by malignant gynecological tumors.

How Should I Prepare For The Procedure?

A woman considering uterine fibroid embolization needs a gynecological work-up to make sure that fibroid tumors are the actual cause of her symptoms. Imaging of the uterus by magnetic resonance imaging (MRI) or ultrasonography is performed to fully assess the size, number and location
of the fibroids. Your gynecologist may want to take a direct look by performing laparoscopy. If bleeding is a major symptom, a biopsy of the endometrium (the inner lining of the uterus) may be done to rule out cancer.

**What Does The Equipment Look Like?**

Several different types of particles are available for uterine fibroid embolization. These include polyvinyl alcohol (a material resembling coarse sand), gelatin sponge (Gelfoam), and microspheres. All of these types of embolization agents have been shown to be safe and effective for uterine fibroid embolization. Regardless of the type of particles used, they wedge in the uterine vessels, avoiding the risk that they will travel to distant parts of the body.

**How Does The Procedure Work?**

By blocking blood flow to the fibroids, uterine fibroid embolization in effect "starves" them of the blood they need to grow. When deprived of blood, the tumor masses die, and then develop into scar tissue and shrink in size. Multiple fibroids may be treated at the same session by uterine fibroid embolization.

**How Is The Procedure Performed?**

Uterine fibroid embolization is performed in Interventional Radiology. Your heart rate, blood pressure, electrocardiogram, breathing and blood oxygen level will be monitored constantly during the procedure. The procedure takes between 60 and 90 minutes.

After injecting a sedative/analgesic to make you sleepy and a local anesthetic to numb the skin at the groin, the Interventional Radiologist will make a small incision in the skin less than a quarter inch long and thread a thin tube (catheter) into the femoral artery. Using x-ray guidance, and periodic injections of radiographic contrast material to map the blood vessels, the catheter is threaded into the uterine arteries. Under x-ray observation, the particles are injected until blood flow in the uterine arteries is blocked. In most cases, both uterine arteries can be treated through a single catheter insertion. After completing uterine fibroid embolization, the site of skin puncture is cleaned and bandaged.
What Will I Experience During The Procedure?

Most patients having uterine fibroid embolization remain overnight in the hospital for pain control and observation. Patients typically experience pelvic cramps for several days after uterine fibroid embolization, and possibly mild nausea and low-grade fever as well. The cramps are most severe during the first 24 hours after the procedure, and improve rapidly over the next several days. While in the hospital, the discomfort usually is well controlled with a narcotic pump (PCA), which dispenses intravenous pain medication. Oral pain medication will be provided when you are discharged the following day. Most patients will recover from the effects of the procedure within one to two weeks after uterine fibroid embolization, and will be able to return to their normal activities.

It usually takes two to three months for the fibroids to shrink. It is common for heavy bleeding to improve during the first menstrual cycle following the procedure. Talk to your physician about pain control.

Most women are able to return to work one to two weeks after uterine fibroid embolization. Occasionally patients take longer to fully recover.

Who Interprets The Results And How Do I Get Them?

The Interventional Radiologist who performs your procedure will interpret the results and will work with your gynecologist or primary care physician to ensure proper follow-up care.

What Are The Benefits vs. Risks?

Benefits

- **Minimally invasive:** Uterine fibroid embolization (UFE) is less invasive than either open surgery to remove fibroid tumors, or surgically removing the uterus. Patients can resume their usual activities weeks earlier than if they had a hysterectomy. Blood loss during uterine fibroid embolization is minimal, the recovery time is much shorter than for hysterectomy, and general anesthesia is not required.

- **Relief of symptoms:** Follow-up studies have shown that approximately 85 percent of women who have their fibroids treated by uterine fibroid embolization experience either significant reduction or complete resolution of their fibroid-related symptoms. This is true both for women with heavy bleeding, and for those with bulk-related symptoms such as pelvic pain or pressure. Overall, fibroids will shrink to half their original size six months after uterine fibroid embolization.
Durable effect: Follow-up studies lasting several years have shown that it is rare for treated fibroids to regrow or for new fibroids to develop after uterine fibroid embolization. This is because all fibroids present in the uterus, even small early-stage masses that may be too small to see on imaging studies, are treated during the procedure. UFE is a more permanent solution than another option, hormone therapy, because when hormonal treatment is stopped the fibroid tumors usually grow back. Regrowth also has been a problem with laser treatment of uterine fibroids.

Risks

Catheter-related risks: Any procedure that involves placement of a catheter inside a blood vessel, including uterine fibroid embolization, carries certain risks. These risks include damage to the blood vessel, bruising or bleeding at the puncture site, and infection.

Allergy to x-ray contrast material: An occasional patient may have an allergic reaction to the x-ray contrast material used during uterine fibroid embolization. These episodes range from mild itching to severe reactions that can affect a woman's breathing or blood pressure. Women undergoing uterine fibroid embolization are carefully monitored by a physician and a nurse during the procedure, so that any allergic reactions can be detected immediately and reversed.

Passage of fibroid tissue: From two percent to three percent of women may pass small pieces of fibroid tissue after uterine fibroid embolization. This occurs when fibroid tissue located near the lining of the uterus die and partially detaches. Women with this problem may require a procedure called D & C (dilatation and curettage) to be certain that all the material is removed so that bleeding and infection will not develop.

Early onset menopause: In the majority of women undergoing uterine fibroid embolization, normal menstrual cycles resume after the procedure. However, in approximately one percent to five percent of women, menopause occurs shortly after uterine fibroid embolization. This appears to occur more commonly in women who are older than 45 years when they have the procedure.

Need for hysterectomy: Although the goal of uterine fibroid embolization is to cure fibroid-related symptoms without surgery, some women may eventually need to have a hysterectomy because of infection or persistent symptoms. The likelihood of requiring hysterectomy after uterine fibroid embolization is low.
**X-ray exposure:** Women are exposed to x-rays during uterine fibroid embolization, but exposure levels usually are well below those where adverse effects on the patient or future children would be a concern.

**Future fertility:** The question of whether uterine fibroid embolization reduces fertility has not yet been answered, though a number of healthy pregnancies have been documented in women having the procedure. Because of this uncertainty, physicians may recommend that a woman with symptom-producing fibroids who wishes to have more children consider surgical removal of the individual tumors rather than uterine fibroid embolization. In some women fibroid tumors are the cause of infertility and the best treatment may be to embolize them. For each individual it is difficult to predict whether the uterine wall will be weakened enough by uterine fibroid embolization to pose a problem during delivery of an infant.

**What Are The Limitations Of Uterine Fibroid Embolization?**

Uterine fibroid embolization (UFE) should not be done in women who have no symptoms from their fibroid tumors; when cancer is a possibility; or when there is inflammation or infection in the pelvis. Uterine fibroid embolization also should be avoided in pregnant women and when the kidneys are not working properly—a condition known as renal insufficiency. A woman who is very allergic to contrast material containing iodine should receive another treatment option.

**What Is An Interventional Radiologist?**

Interventional Radiologists are physicians who specialize in minimally invasive, targeted treatments performed using imaging guidance. They use their expertise in reading X-rays, ultrasound, MRI and other diagnostic imaging equipment to guide tiny instruments such as catheters, through blood vessels or through the skin to treat diseases without surgery. Interventional Radiologists are board-certified and fellowship trained in nonsurgical invasive interventions using imaging guidance. The American Board of Medical Specialties certifies their specialized training. Your Interventional Radiologist will work closely with your primary caregiver or other physicians to be sure you receive the best possible care.
Your (test/procedure)________________________________________________

is scheduled on (date)________________________________________________

at (time) ______________________ , (location) __________________________

Helpful tips:

■ Wear comfortable clothes.

■ Bring someone with you to drive you home after the procedure if you are not going to be admitted to the hospital.

■ Leave all items such as cash, jewelry, credit cards and other valuables at home.

■ Bring all your medications.

■ Bring all necessary insurance information.

Notes: __________________________________________________________

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If unable to keep this appointment, kindly give 24 hours notice by calling 701-780-1722

Post Procedure

Pain management

Expect abdominal/pelvic cramping. This is from the fibroids not getting blood flow. Think of it as a "heart attack" of your fibroids. Take Percocet as prescribed. You may take Ibuprofen 600 mg (three tablets) every six hours. A good plan is to take the Ibuprofen every six hours and then three hours after the Ibuprofen you can take one or two Percocet. Continue to alternate every three hours. Cramping may last from one day to a few weeks.
Nausea
May occur for 3-5 days. Take the anti-nausea medication as needed.

Temperature
Low grade temperatures are expected. If you develop fever and chills and vaginal drainage, please call 701-780-1722 immediately for evaluation.

Energy/Appetite
Decreased energy levels and appetite are expected. This can last 4-10 days. Resume your normal activity as tolerated.

Vaginal Flow
You can expect the same flow or even increased flow the first 1-8 weeks as you might slough some of the fibroid tissue. By the third month your flow should be "normalized". Pain and pressure should improve by four to six weeks.