Interventional Radiology Tower Health Medical Group offers the option to treat uterine fibroids with fibroid embolization (UFE), an alternative treatment to more invasive surgical options.
Uterine Fibroid Embolization

In the past, treatment of fibroids was limited to surgery, either hysterectomy or removal of the fibroid. Over the last several years, uterine fibroid embolization has emerged as a safe and highly effective treatment for uterine fibroids and an alternative to hysterectomy.

Uterine fibroid embolization uses the same non-surgical, minimally invasive techniques that interventional radiologists have been using to control pelvic bleeding. A tiny nick is made in the groin skin and a catheter is inserted into the femoral artery. Using real-time imaging, we guide the catheter through the artery and then release tiny particles the size of grains of sand, into the uterine arteries that supply blood to the fibroid tumor. This blocks the blood flow to the tumor and causes it to shrink and symptoms to subside.

Uterine fibroid embolization is performed while the patient is conscious, but sedated and feeling no pain. It does not require anesthesia. Uterine fibroid embolization usually requires a hospital stay of one night. Pain killing medications and drugs that control swelling are typically prescribed following the procedure to treat cramping.

Advantages of this well-established and effective treatment for uterine fibroids include avoidance of major surgery, general anesthesia, and their associated risks. Rapid recovery and very low complication rates are well documented. Published data report a 78 to 94 percent clinical success rate with no further therapy required in most patients.
Interventional radiologists use kyphoplasty and vertebroplasty to stop pain caused by a compression fracture and restore some or all of the vertebral body height lost due to the fracture.
Vertebroplasty and Kyphoplasty

These procedures are used to treat pain and deformity of compression fractures of the vertebrae of the spine resulting from injury, osteoporosis or tumors. Using fluoroscopy (live x-ray), a special needle is guided into the bone through the skin from the back. A special bone cement is then injected into the affected vertebral body. It is possible to treat more than one affected vertebra in one procedure. During kyphoplasty, special balloons are inflated within the bone to expand the bone closer to its original height and compact the remaining bone. In either procedure, the injected bone cement stabilizes the fracture and gives the vertebra additional strength. The cement hardens within 20 minutes and patients are allowed to walk about an hour after the procedure. The one- to two-hour procedure is performed with local anesthesia and sedation, or if necessary, under anesthesia. Most patients experience relief of the severe bone pain within 48 hours and are allowed to resume normal daily activities within a day or two after the procedure. Both vertebroplasty or kyphoplasty can be used to:

- Treat severe pain
- Restore height and mobility
- Reduce spinal deformity
- Stabilize fractures
Interventional Radiology Tower Health Medical Group uses state-of-the-art technology for treating varicose veins.
Varicose Veins

Painful and unsightly varicose veins can be treated on an outpatient basis with a minimally invasive procedure called ablation. The condition is often due to reflux in the superficial veins and is initially treated with compression stockings. If symptoms persist, then vein ablation using energy precisely delivered through a small catheter will close the affected vein redirecting the blood flow to the deep veins. Resuming the more normal blood flow through the deep veins typically improves the symptoms after the procedure and allows the patient to resume regular activities the following day. This outpatient treatment option is more than 90 percent effective, produces minimal to no scaring, and is a clinically proven alternative to the traditional treatment involving painful vein ligation and stripping through multiple incisions. The vein ablation treatment for symptomatic varicose veins is covered by Medicare and private insurers and is less costly, less time consuming, more successful and with fewer complications and scaring than other more invasive treatment options.
ACUTE ISCHEMIC STROKE INTERVENTION

Interventional radiologists use the latest mechanical devices to remove clots to restore blood flow through the blocked artery and minimize the effects of stroke.
**Stroke Treatment**

Patients with a stroke caused by a blood clot blocking flow in the brain can now be treated with mechanical thrombectomy. This procedure removes the clot and restores blood flow to the brain. Removal of the clot is performed by placing a catheter in the artery in the groin and advancing it to the brain. The clot is removed using a device that traps the clot or a catheter that sucks out the clot. Clots can be removed successfully in most patients, with 50 to 60 percent of patients able to return to functioning independently.

The procedure is usually performed within eight hours of stroke symptoms, but when patients are treated as early as possible there is a better chance of a good outcome. CT or MRI studies are used to select those patients who may benefit from clot removal. Patients are cared for by a multispecialty team from ambulance crews to the intensive care unit and rehabilitation. Interventional radiologists are among the physicians who perform this procedure.

Most patients can be treated locally at Reading Health System with this state of the art treatment and do not need to be transferred to another hospital for this care.
Interventional oncologists use imaging guidance such as CT, ultrasound or fluoroscopy to successfully treat a variety of cancers and complications that occur when cancer blocks organs such as the kidney, liver, lung, bone or prostate.
Interventional Oncology has developed into a specialty more integrated with the other classical ways of treating cancer such as surgical oncology, medical oncology and radiation oncology, and has over the years, developed techniques and technology that incorporates different treatment principles of the traditional treatment arms into minimally invasive ways to deliver the treatment in a more focused, targeted way. An interventional oncologist is involved early in cancer care with the diagnosis of cancer by obtaining a biopsy of the tumor in almost any location by using imaging guidance such as CT, Ultrasound or live x-ray called fluoroscopy. The interventional oncologist is also involved in treating some of the complications that can arise with cancer, such as blockages of various organs including the kidneys, liver or prostate. The most exciting developments recently; however, involve the actual treatment of various cancers.

Chemoembolization is a treatment during which a small catheter (1/16 inch in diameter or smaller) is introduced into an artery in the groin and advanced to a specific artery or arteries within an organ (typically the liver) which supply blood flow to the tumor. From there millions of microscopic particles are released to serve as carriers of highly concentrated chemotherapy directly into the tumor providing a focused treatment option with less body wide side effects when compared with chemotherapy. There also is the added benefit of severely restricting the blood supply to the tumor. Because of the potential need for pain medication, intravenous fluid and possibly antibiotics or treatment for nausea, patients should expect to spend one night in the hospital.

Radioembolization uses the same tiny catheter directed approach to tumor treatment as chemombolization, but substitutes microscopic radiation beads released into the artery supplying the tumor to deliver a high dose of radiation directly into the treatment target. There is only minor radiation exposure beyond the affected organ. Patients treated this way can receive the entire radiation dose in a single session for each tumor and are safe for discharge home after the therapy.

Cryoablation is a focal treatment option that utilizes a smaller than 1/8 inch in diameter needle placed into the skin and using image guidance such as CT, ultrasound or fluoroscopy, directly into the cancer. With one or more needles in place, the entire tumor is frozen far below 0 deg Fahrenheit. The procedure is usually performed with very deep sedation or general anesthesia. Most patients spend a night in the hospital afterwards.

Microwave or radiofrequency ablation uses one or a few small needles less than 1/8 inch in diameter. The treatment involves the overheating of the tumor by radiofrequency or microwave technology directed by imaging to ensure optimal distribution of the heat. The procedure is performed under general anesthesia. Most patients spend one night in the hospital after the procedure. As with cryoablation, solid organ tumors such as liver, kidney, bone and lung as well as soft tissue tumors can be targeted with such treatment techniques. Follow-up includes several CT scans or MRI scans over time to monitor treatment success.

As with any form of cancer therapy the section of interventional radiology/interventional oncology sees patients before, during and after treatments in the office as well.