Osteoporosis patients with **spinal fractures** can have medical-grade bone cement injected into their vertebra to reduce pain and reinforce the spine through *vertebroplasty*.



Blocked arteries in the neck that may lead to a **stroke** can be opened and reinforced using *carotid stenting*.



Nonsurgical **infertility** treatments are available for both men and women. *Varicoceles*, varicose veins in the scrotum that can cause infertility, are "closed" using embolization. Women can get blocked fallopian tubes opened with a catheter using *selective salpingography*. ou or a member of your family has been referred to an interventional radiologist for treatment. This brochure will answer some of the questions about the medical specialty and how an interventional radiologist can help you.

For more information on interventional radiology, contact the Society of Interventional Radiology at 703-691-1805 or visit www.SIRweb.org.



Enhanced care through advanced technology®

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# INTERVENTIONAL RADIOLOGY What is Interventional Radiology?





Enhanced care through advanced technology®

#### Questions and Answers about Interventional Radiology

#### **Q.** What is interventional radiology?

**A.** Interventional radiology is the medical specialty devoted to advancing patient care through the innovative integration of clinical and imaging-based diagnosis and minimally invasive therapy.

#### **Q.** Who are interventional radiologists?

**A.** Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments performed using imaging for guidance. They use their expertise in reading X-rays, ultrasound, MRI and other diagnostic imaging 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 minimally invasive interventions using imaging guidance. Their specialized training is certified by the American Board of Medical Specialties. Your interventional radiologist will work closely with your primary care or other physician to be sure you receive the best possible care.

## Q. How do interventional radiology procedures work?

**A.** Interventional radiologists use imaging, like X-rays or MRIs, to see inside a patient's body, pinpoint where the problem is and map out how to get there without surgery. Interventional radiologists then guide catheters through the vascular system, other pathways in the body, or through the skin, to treat disease or tumors directly at the source, via a small nick in the skin and X-ray guidance.

### **Q.** Is interventional radiology a new specialty?

**A.** No. Advances in diagnostic imaging gave rise to interventional radiology in the mid 1970s by combining specialized training in nonsurgical techniques with imaging. Interventional radiologists pioneered modern medicine with the invention of angioplasty and the first catheter delivered stent, which were initially used to treat blocked arteries in the legs, saving patients from surgery or amputation.

### Q. What are the advantages of interventional radiology procedures?

- **A.** While no treatment is risk free, the risks of interventional radiology procedures are far lower than the risks of open surgery, and are a major advance in medicine for patients.
  - Most procedures can be performed on an outpatient basis or require only a short hospital stay
  - General anesthesia is usually not required
  - Risk, pain and recovery time are often significantly reduced
  - Procedures can be less expensive than surgery or other alternatives

#### Q. How safe is the radiation during the treatment?

**A.** The highest standards of patient safety have been incorporated into the development of these procedures, because interventional radiology and diagnostic radiology training programs include radiation safety, radiation physics, the biological effects of radiation and injury prevention. The FDA, hospitals, state regulatory groups and other medical specialists that are involved in the practice of interventional procedures use our published standards, which include training, experience, technique and patient care.

## Q. What do interventional radiologists treat?

**A.** By combining their expertise in diagnostic radiology with their advanced training in nonsurgical techniques using imaging guidance, interventional radiologists can treat a variety of ailments throughout the body by delivering treatment directly to the source of the problem.

**Cancer** can be treated with *chemoembolization*, a process that delivers a high dose of chemotherapy directly to the tumor while simultaneously blocking its blood supply, or with *radiofrequency ablation* that heats and kills the tumor.

**"Hardening of the arteries"** in the legs, or *peripheral arterial disease*, which blocks circulation and often causes predictable pain when walking, can be treated with balloon angioplasty to open the pathway for blood.

Painful and faulty **varicose veins** are treated by heating and sealing shut the great saphenous vein in the leg, which will improve circulation and shrink the bulging veins below, using a technique known as *vein ablation*.



A **blood clot in your leg**, known as *deep vein thrombosis*, can be removed by placing "clot busting drugs" on the clot to prevent permanent vein damage.



*Uterine fibroid embolization* delivers tiny beads to the artery feeding the tumor, which then block the blood supply causing **uterine fibroids** to shrink and symptoms to resolve.

