Schedule your appointment with the Vascular & Interventional Specialists of Charlotte Radiology.

Our Interventional Radiologists are experts in vascular care, able to treat cancers and a variety of other conditions using minimally invasive techniques.

To schedule a consultation with one of our Interventional Radiologists, please call 704.358.IRMD.

Visit CharlotteRadiology.com for more information on procedures, technology, our subspecialized physicians and more.
What is interventional oncology?

Interventional oncology is a subspecialty of interventional radiology, dealing specifically with the diagnosis and treatment of cancer. Using X-ray guidance, these physicians perform minimally invasive procedures to offer precise, targeted treatment of the cancer. Interventional oncology is often considered in cases where traditional surgery, chemotherapy or radiotherapy have failed or are not considered safe. Charlotte Radiology’s cancer treatment options include these cutting-edge procedures:

- Chemoembolization
- Radioembolization
- Microwave Ablation
- Cryoablation

► CHEMOEMBOLIZATION

Chemoembolization is a minimally invasive treatment option for liver cancer, both primary (tumors originating in the liver) and metastatic (tumors that originated elsewhere but spread to the liver, like colorectal, breast or carcinoid).

Under X-ray guidance, a small catheter is advanced into the blood vessels supplying the liver cancer. This method is used to deliver a highly concentrated dose of cancer-killing chemotherapy drugs directly into the blood supply that feeds the tumor. At the same time, the vessel is blocked (embolized) by tiny particles. Chemoembolization is able to accomplish several things:

1. The particles shut off blood supply to the tumor, depriving it of nutrients and oxygen.
2. The chemotherapy drugs are delivered directly to the cancer, making the effective dosage up to hundreds of times stronger than if it were administered through an IV or port.
3. Most of the chemotherapy drugs stay within the liver, decreasing circulation throughout the body and reducing systemic side effects.

► RADIOEMBOLIZATION

Like chemoembolization, Interventional Radiologists use radioembolization to deliver targeted treatments directly to liver tumors. The difference is that radioembolization treats tumors with radiation instead of chemotherapy drugs. Radioactive microspheres are injected in the blood supply of the tumor for high-dose targeted radiation treatment.

► MICROWAVE ABLATION

Under CT or ultrasound guidance, Interventional Radiologists advance a microwave antenna directly into a tumor. The microwave energy causes rapid rotation and agitation of water molecules to create friction and extreme heat, resulting in tumor cell death. Microwave Ablation (MWA) offers advantages over other thermoablatative devices, including the ability to treat larger tumors in a shorter period of time. MWA can be used to treat primary and metastatic liver cancers, kidney and adrenal tumors, and primary and secondary lung malignancies. It can be helpful in relieving symptoms and extending survival, and has proven to be an effective treatment when used in conjunction with other cancer therapies, such as chemotherapy, transarterial chemotherapy (TACE), radioembolization and surgical resection.

► CRYOABLATION

Cryoablation enables Interventional Radiologists to freeze and kill cancerous tissue. Under CT or ultrasound guidance, a needle, or cryoprobe, is used to inject argon gas directly into a tumor, rapidly freezing the tissue to temperatures of -100 degrees Celsius. The argon is then replaced with helium to thaw the tissue. Cryoablation requires two freezing and thawing cycles and is commonly used for lung, liver, kidney, prostate and breast cancers when surgery is not an option.