Interventional Oncology
MINIMALLY INVASIVE TREATMENT OPTIONS
OUTPATIENT VASCULAR ACCESS

Durable Venous Access Placement
We offer convenient placement of long term venous access in our office including:
• Tunneled Hickman, Groshong, and Dialysis (Pheresis) catheters
• Infusion Port Placement and Removal
• Difficult vascular access patients.

Benefits of Office-Based Vascular Access
• Decreased risk of infection with outpatient port placement.*
•Performed without the need for general anesthesia.
• Limited side effects and down-time post procedure.
• More convenient and pleasant for patients than hospital procedures.
• Convenient scheduling with procedures performed 5 days per week.

DVT EVALUATION AND TREATMENT

Vascular Lab
Our office runs a comprehensive vascular lab 5 days a week with sonographers certified in performing vascular studies. Our physicians are Fellowship Trained Interventional Radiologists with years of experience interpreting diagnostic studies.

DVT Lysis, IVC Filter Placement and Retrieval
Deep vein thrombosis (DVT) and pulmonary embolism (PE) are common causes of morbidity and mortality in the cancer patient population. Rapid identification and treatment of acute DVT with or without PE is imperative. In severe cases, rapid treatment of acute DVT with the use of catheter directed thrombolysis may be warranted. Particularly in cases in which a limb is threatened or the symptoms are disabling, our experienced Interventional Radiologists can evaluate and treat DVT quickly either in our office or at a local Hospital as necessary. In cases in which anticoagulation is contraindicated or insufficient to prevent life-threatening PE, IVC filtration can be performed in our office. In addition, in cases in which the risk of PE has diminished, we follow our patients in our clinic and remove the IVC filter at the appropriate time.

LIVER CANCER: METASTATIC OR PRIMARY

Metastatic Disease to the Liver
The liver is one of the most common sites of spread of many types of cancer, including colorectal, breast, pancreatic, lung and biliary adenocarcinomas. The treatment of cancers which have spread to the liver include medical, surgical and minimally invasive therapies which aim to improve the survival and quality of the life of patients. Recently, multiple new advanced therapies to treat cancer that has spread to the liver have been developed and are minimally invasive. Studies have shown that these treatments are safe, well-tolerated and can improve both the quality of life and survival of the patients treated.

Primary Liver Cancer
Cancer that originates in the liver is known as hepatocellular carcinoma (HCC) if it arises from the liver tissue or cholangiocarcinoma if it arises from the bile ducts. The most commonly performed procedure to cure primary liver cancer is surgery to remove the cancerous tissue. Unfortunately, most of the HCC and cholangiocarcinoma is too advanced or in too difficult a location for curative surgery when it is diagnosed. The mainstay of treatment for HCC around the world are minimally invasive therapies to ablate or otherwise treat patients who are not surgical candidates.

Treatment Options
Many treatments are available for primary and metastatic disease to the liver which may include:
- Medical treatments such as chemotherapy
- Surgery or liver transplantation
- Minimally invasive treatments by an Interventional Radiologist

The treatment best for each patient is decided by a discussion between a medical oncologist, surgical oncologist and Interventional Radiologist.

Risk factors for HCC
Cirrhosis of the liver from:
- Hepatitis Virus (HBV or HCV)
- Alcohol Abuse
- Fatty liver disease
- Liver injury from medications
- Hereditary diseases such as hemachromatosis
- Primary sclerosing cholangitis
- Primary biliary cirrhosis
MINIMALLY INVASIVE LIVER TREATMENTS

Benefits of Minimally-Invasive Treatments
- Majority are outpatient procedures that can be done in the office.
- Performed without the need for general anesthesia.
- Limited side effects and down-time post procedure.
- Performed with X-ray or US guidance. No large incisions.
- Procedures can be repeated as needed to control progression of disease.

Percutaneous Ablation
Using ultrasound or X-ray guidance, your Interventional Radiology Physician places a small probe through the skin into the liver where the tumor is. At this time, a biopsy may or may not be also taken through the same site. The probe then heats up and kills the tumor and surrounding tissue. This method is very safe and can be done as an outpatient in the office with moderate conscious sedation. Studies have shown that this procedure is as effective as surgery for small tumors and can be a curative treatment when only one or a few lesions are present.*
This procedure can be repeated as often as necessary to control the disease. Sometimes, this treatment can be a bridge to surgery as well.

MINIMALLY INVASIVE LIVER TREATMENTS

Chemoembolization
This treatment involves the navigation of a catheter from an artery in the groin or arm into
the artery supplying the liver. A tiny microcatheter is then advanced to the branch supplying
the tumors and high doses of targeted chemotherapy is delivered suspended either in a
special oily medium or bound to beads. This treatment delivers the drugs directly to the
tumors and surrounding tissue without most of the negative side effects of traditional
intravenous chemotherapy. Tailored chemoembolization regimens are available for
metastatic disease to the liver as well as HCC and cholangiocarcinoma in patients that are
not candidates for surgery. This treatment is an outpatient procedure we usually perform in
the office under conscious sedation.

Radioembolization (Y 90)
This treatment is most commonly used in patients with more advanced staged liver cancer
(primary or metastatic) in whom chemoembolization or percutaneous ablation procedures
are not suitable. This procedure treatment involves the navigation of a catheter from an
artery in the groin or arm into the artery supplying the liver and the administration of
radioactive beads into the lobe of the liver with the tumor(s). The beads contain yttrium 90
(Y90) which is highly radioactive but only delivers high energy radiation less than \( \frac{1}{2} \) inch (1
cm) from where the beads are deposited. Therefore, tumors and surround liver tissue
receive high doses of therapeutic radiation while the surrounding organs are spared. This
procedure is used effectively in the treatment of metastatic colorectal cancer and
hepatocellular carcinoma and has been applied to cholangiocarcinoma and other cancers
as well. This procedure is well tolerated and is performed on an outpatient basis.
Metastatic Disease to Bone
The skeletal system is one of the most common targets of metastatic cancer in the body. The presence of cancer in the bone can cause significant pain, primarily due to fractures caused by weakened bone structure. Aggressive tumors in bone can cause significant morbidity and lead to immobility and significant reduction in the quality of life of cancer patients. Minimally invasive treatment options are available to treat the tumor in bone as well as stabilize the bone to prevent pain and future progression of fractures. Percutaneous ablation, vertebroplasty, kyphoplasty and sacroplasty are performed in the office as an outpatient with conscious sedation.

Painful Compression Fractures
Insufficiency fractures of the spine and pelvis are a major cause of pain and suffering in the elderly patient population. Prompt evaluation and treatment by an Interventional Radiologist can immediately improve the pain and suffering caused by spinal compression fractures.

Risk factors for Compression Fractures
Metastatic disease to the bone from:
- Breast, lung, prostate, kidney cancer
- Multiple myeloma
Benign Causes such as:
- Osteoporosis
- Side effects of medications
- Minor trauma

Treatment Options
Few treatments are available for metastatic disease to the liver which may include:
- Medical treatments such as chemotherapy
- Focused External Radiation
- Minimally invasive treatments by an Interventional Radiologist
The treatment best for each patient is decided by a discussion between a medical oncologist, radiation oncologist and Interventional Radiologist.
**Percutaneous Kyphoplasty and Vertebroplasty**

Kyphoplasty and vertebroplasty are minimally invasive procedures which stabilize and repair fractured or diseased bones. Most often, these procedures are performed in the bones of the spine, but they can also be used to treat bones of the pelvis, arms and legs. A small metal rod is passed through a tiny opening in the skin and into the affected bone using X-ray guidance. Next, a small balloon is then inserted through the tube and into the bone where it is inflated to create a cavity. The balloon is removed and a special cement is injected into the bone to stabilize and strengthen it. This procedure is called kyphoplasty. Vertebroplasty involves the same steps without the use of a balloon. Pain relief often occurs immediately.

**Percutaneous Ablation of Bone Metastasis**

A specialized probe is inserted through a small skin nick and into a bone tumor using X-ray guidance. The specialized needle tip then administers heat to the tumor in order to kill it. This is often followed by kyphoplasty or vertebroplasty to strengthen the bone and prevent fracture.
Renal Cell Carcinoma (RCC)

Cancer that arises in the kidneys comes from either the functional tissue of the kidney or from the lining of the collecting system. Renal cell carcinoma arises from the functional tissue of the kidney and is far more common than other types of kidney cancer. Frequently, RCC is found incidentally on imaging for other reasons. Treatments for RCC range from watchful waiting or minimally invasive therapies to open surgery with or without chemotherapy. Some treatments such as surgical resection of all or part of the resected kidney has the potential side effect of causing worsening kidney function or the initiation of dialysis. Stage I RCC (measuring less than 7 cm in diameter) is potentially cured with minimally invasive treatments such as percutaneous ablation with or without transcatheter embolization. This treatment largely avoids the added risk of open surgical procedures and is the treatment most likely to preserve the most kidney function.
Percutaneous Ablation
Using ultrasound or X-ray guidance, your Interventional Radiology Physician places a small probe through the skin into the kidney where the tumor is. At this time, a biopsy may or may not be also taken through the same site. The probe then heats up and kills the tumor and surrounding tissue. This method is very safe and can be done as an outpatient in the office with moderate conscious sedation. Studies have shown that this procedure is as effective as surgery for small tumors and can be a curative treatment when only one or a few lesions are present. This procedure can be repeated as often as necessary to control the disease.

Transcatheter Embolization
This treatment involves the navigation of a catheter from an artery in the groin or arm into the artery supplying the affected kidney. A tiny microcatheter is then advanced to the branch supplying the tumor and the blood supply to the tumor is shut down with small particles. Larger tumors or those with a large blood supply are often pretreated in this manner to improve the uniformity and safety of the ablation procedure. This procedure is very safe and can be done as an outpatient in the office under conscious sedation.

Benefits of Minimally-Invasive Treatments
- Majority are outpatient procedures that can be done in the office.
- Performed without the need for general anesthesia.
- Limited side effects and down-time post procedure.
- Performed with X-ray or US guidance. No large incisions.
- Procedures can be repeated as needed to control progression of disease.
South Florida Vascular Associates specialize in image-guided, minimally invasive techniques that are often an alternative to traditional open surgery. Our highly specialized, board-certified physicians use state-of-the-art diagnostic technology that ensures high quality patient focused care. Patients are seen for their private consultation at our new 8,000 sq. ft. office. If a procedure is ultimately recommended it is performed in our sophisticated office endovascular suites, one of the first of their kind in the country.

The minimally invasive techniques used by our physicians are an advance in medicine that often replaces open surgical procedures. They are generally easier for the patient because they involve no large incisions, less risk, less pain and shorter recovery times.

Our dedicated and knowledgeable staff offers the best care to each and every patient. We provide our patients with detailed information of the plan of care and are always available to answer any questions. At South Florida Vascular Associates we strive for excellence in patient care as the Interventional Oncology experts in Palm Beach and Broward Counties.
Meet Our Physicians

South Florida Vascular Associates is a comprehensive medical practice specializing in minimally invasive endovascular solutions to diagnose and treat various medical issues. Our unique approach to patient care is recognized for its commitment to clinical excellence and outstanding patient satisfaction.

William Julien, M.D.    Curtis Anderson, M.D., Ph.D.
South Florida Vascular Associates accepts most commercial insurance plans as well as Medicare. Our experienced staff is available to assist all patients with their individual needs.