

# Gastroenterology Services

People with certain diseases or medical conditions sometimes require that tubes be placed into the body so that they can receive medications or nutrients directly into the blood stream or gastrointestinal system, or so blood can be drawn. Once, surgery was required to insert these tubes, but today these procedures can be done without surgery by an interventional radiologist.

## Central Venous Access Catheters (CVAC)

A CVAC is a tube that is inserted beneath your skin so there is a simple, pain-free way for doctors or nurses to draw your blood or give you medication or nutrients. When you have a CVAC, you are spared the irritation and discomfort of repeated needlesticks. More than 3.4 million CVACs are placed each year, and doctors increasingly recommend their use. There are several types of CVACs, including tunneled catheters (Hickman or Broviac), peripherally inserted central catheters (also called PICC lines or long lines), dialysis catheters, and implantable ports.

Doctors often recommend CVACs for patients who regularly have:

- Chemotherapy treatments
- Infusions of antibiotics or other medications
- Nutritional supplements
- Hemodialysis

Interventional radiologists also open up blocked hemodialysis grafts, using procedures such as angioplasty or thrombolytic therapy.

## Gastrostomy (Feeding) Tube

Doctors often recommend placing a gastrostomy tube in the stomach for a variety of conditions in which a patient is unable to take sufficient food by mouth. In the procedure, the feeding tube is inserted through

a small nick in the skin and into the stomach under X-ray guidance.

## **Transjugular Intrahepatic Portosystemic Shunts (TIPS)**

Transjugular intrahepatic portosystemic shunts (TIPS) are used for complications associated with portal hypertension. Seen most frequently in patients with liver disease such as cirrhosis or hepatitis, portal hypertension is a condition in which the normal flow of blood through the liver is slowed or blocked by scarring or other damage. Patients with this condition are at risk of internal bleeding, abdominal fluid (ascites) or other life-threatening complications.

### **Stent**

Interventional radiologists treat portal hypertension without surgery, using the TIPS procedure. The interventional radiologist uses fluoroscopy, "real-time" imaging, to connect two veins in the liver, with a metal stent. This allows blood to bypass the liver and reduces the high blood pressure in the intestines and spleen. A TIPS procedure is usually performed under general anesthesia, but may also be performed with intravenous sedation, if the patient is too ill. Since the TIPS procedure is so effective, the surgical alternative is rarely performed these days. For further questions, please call our Southern Vascular Institute office at (864)255-1834. For further details on the procedure, please visit The Society of Interventional Radiology at <http://www.sirweb.org/patients/liver-disease/> or Radiology Info at <http://www.radiologyinfo.org/en/info.cfm?PG=tips>.

## **Percutaneous Cholangiography (PTC) for Bile Duct Obstruction**

In some patients, such as those with tumors or individuals who have had an injury to the liver, the bile ducts may become blocked preventing normal drainage of bile from the liver. Percutaneous cholangiography is an X-ray test where X-ray contrast material is directly injected into the bile ducts to obtain a picture. This diagnostic tool can be used to evaluate the presence of suspected bile duct stones; determine the cause of cholangitis (inflammation of the bile duct); evaluate suspected bile duct inflammatory disorders; and to determine the site of a bile duct leak. PTC may determine the nature and location of an obstruction. If the bile ducts are in fact blocked, then a catheter or stent is put in place so the bile can drain normally again. The procedure, which is performed by an interventional radiologist,

involves advancement of a small needle into the bile duct and injecting contrast.

## **Percutaneous Cholecystostomy**

Percutaneous cholecystostomy is procedure performed for critically ill patients with acute cholecystitis who cannot undergo surgery or general anesthesia to remove the diseased gallbladder (cholecystectomy). The gallbladder bile may become overwhelmingly infected and require immediate drainage. The Interventional Radiologist places a small drainage catheter into the gallbladder using ultrasound guidance.

## **Biopsy**

Biopsies are performed in order to evaluate the pathology or changes in a tissue. This may be within the lungs, liver, kidney, bone, abdomen, pelvis, neck, etc. Years ago, nearly all biopsies were performed by open surgery, with all the inherent risks and complications including, anesthesia, infection, wound healing, recovery period and so on. Today, Interventional Radiologists can sample the organ or tissue with just a needle using ultrasound, CT (computed tomography) or fluoroscopy (X-rays). This image guidance enables the interventional radiologist to get an exact location of the abnormal tissue and spare the surrounding healthy area. Needle biopsy is typically an outpatient procedure with very infrequent complications.

## **Gastrointestinal Bleeding Treatment**

The esophagus, stomach, small intestines, large intestines or colon, rectum and anus make up the digestive or gastrointestinal (GI) tract. Bleeding can take place due multiple factors including: hemorrhoids; peptic ulcers; tears or inflammation in the esophagus; diverticulosis; ulcerative colitis, Crohn's disease; colonic polyps and cancer. The bleeding may occur anywhere along the digestive tract.

Arteriography is a diagnostic tool that can be used to pinpoint the bleed for treatment with either surgery or transcatheter embolization. A thin spaghetti like catheter is threaded into the arteries and X-ray contrast is injected to create a "roadmap." Then, embolization may be used to stop the bleeding, by "plugging up" bleeding artery. This procedure intentionally produces a vascular occlusion.

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