

FACT SHEET

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Minimally Invasive Treatments for Children *Interventional Radiologists Can Help Children Avoid Surgery*

Interventional radiologists sometimes eliminate the need for children to undergo surgery and anesthesia. Interventional procedures are generally less risky and less painful for children compared to open surgery. These procedures also tend to have less postprocedural discomfort, require a shorter hospital stay and need less nursing care. The recovery time is likely to be shorter, meaning that children can usually be out of bed sooner. And because most interventional procedures require only a very small incision, no stitches are needed, so there is generally less scarring compared to surgery. Finally, these minimally invasive procedures usually cost less than equivalent surgical procedures.

Common Interventional Procedures Used in Infants and Children

There are several procedures that interventional radiologists can perform on infants and children, with a referral from the child's pediatrician, family practitioner or specialist. Some of the more common procedures are listed below. In general, all the techniques applied to adults can be performed in children, although the indications in children generally differ from those in adults.

Central Venous Access

With this technique, the interventional radiologist safely and effectively inserts a thin catheter into a vein so that fluid, nutrition or medication can enter the bloodstream. Central venous access catheters reduce the need for repeated needle sticks. The types of catheters that may be placed include peripheral catheters in the arms, called PICC lines, and catheters in the neck, leg or under the collarbone, called central lines. The insertion procedure will require some type of sedation or anesthesia in most children.

Gastrostomy

An interventional radiologist can safely insert a catheter directly into stomach (gastrostomy) or small intestine (gastrojejunostomy) of children under intravenous sedation or general anesthesia. This helps children who are unable to take nutrition or medication by mouth.

Diagnostic Angiography

In this procedure, the interventional radiologist places a small catheter into an artery and injects contrast (X-ray dye) while X-rays are taken of the area. This procedure helps diagnose vascular problems in the brain, blood vessel malformations, high blood pressure, liver disease and other conditions. In selected circumstances, minimally invasive vascular intervention techniques can also be used to treat children with blood vessel malformation and other conditions.

Needle Biopsy

Using imaging for guidance, the interventional radiologist inserts a small needle through the skin into an abnormal lump or mass and removes a sample of tissue for a pathologist to test for the cause of the abnormality. A recent study found that needle biopsies in the lung were successful 91 percent of the time in providing enough tissue for diagnosis. Interventional radiologists can perform image-guided biopsies in any part of the body in infants and children.

Other Interventional Procedures

Other procedures include diagnosis and drainage of infections, unclogging blocked blood vessels, and treatment of blockages to the kidneys and other kidney problems.

About Interventional Radiologists

Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments that have less risk, less pain and less recovery time compared to open surgery. They use their expertise in interpreting X-rays, ultrasound, MRI and other diagnostic imaging studies to understand, visualize and diagnose the full scope of the disease's pathology and to map out the procedure tailored to the individual patient. Then during the procedure, they image as they go to guide tiny instruments, such as catheters, through blood vessels or skin, to treat diseases at the site of the illness nonsurgically.

Interventional radiology is a recognized medical specialty by the American Board of Medical Specialties. Interventional radiologists complete preliminary training in Diagnostic Radiology and advanced training in Vascular and Interventional Radiology. The American Board of Radiology certifies their specialized training.

For Further Information

For more information on interventional radiology or to find a local interventional radiologist, visit the SIR Web site at www.SIRweb.org.