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**Image-Guided Steroid Injection Effectively Treats  
Juvenile Arthritis in the Ankle**  
*Interventional Radiology Technique Reduces Pain in Children Non-Surgically  
and May Help Prevent Adulthood Disability*

Toronto, Ontario (April 3, 2006) – Research on a non-surgical treatment for children with juvenile idiopathic arthritis in their subtalar ankle joint was presented today at the Society of Interventional Radiology’s 31<sup>st</sup> Annual Scientific Meeting. The study shows a 91 percent clinical improvement that lasted a mean of 1.3 years after corticosteroid was injected directly into the inflamed joint using fluoroscopy for precise needle placement. The treatment was technically successful in 100 percent of the cases. The subtalar joint is a triple faceted joint that is extremely complex and difficult to treat with traditional methods. “With this image-guided technique we now have an accurate way to treat this disease in its earliest stage. We hope to be able to alleviate pain and to prevent irreversible deformity before the bones fuse together,” explained study author and interventional radiologist Kevin Baskin, M.D., of Children’s Hospital of Philadelphia.

“Imaging allows us to deliver the medicine precisely into the affected, inflamed joint. The use of image guidance provides a more accurate treatment, ensuring the patient receives the maximum benefit – pain reduction and joint mobility,” added Baskin.

Juvenile idiopathic arthritis (JIA) is a new comprehensive term that replaces the American term “juvenile rheumatoid arthritis” and England’s term, “juvenile chronic arthritis.” JIA is an inflammatory disorder of the connective tissues, characterized by joint swelling and pain or tenderness. Depending on the type, this disease can occur as early as six weeks of age, but typically after the age of six months. JIA’s peak onsets are between ages one and three years and again between eight and twelve years. Although the cause is unclear, there appears to be links to genetic factors, abnormal immune responses, viral or bacterial infections, trauma, and emotional stress. There are several forms of arthritis, all of which involve pain, stiffness and joint swelling. Three of the main types are pauciarticular JIA, polyarticular JIA and systemic JIA. Typically, most children with juvenile idiopathic arthritis are female and most have it in several joints.

JIA falls into two treatment categories, acute and chronic. Children with acute JIA may have high fevers, inflammation in affected joints, and fluid in the joint making it painful to move. Pain and lack of mobility in the acute stage can be treated through interventional radiology’s image-guided steroid injections. Chronic JIA leads to a thickening of the joint capsule, and changes in the cartilage and bone around the joint. If

left untreated, this degenerative process may eventually result in permanent deformity of the joint and severely limited mobility, and may lead to fusion of the bones around the joint. Once JIA reaches the chronic stage, the effects may be irreversible—so that even if the child outgrows the disease, they must live with the deformity.

“In our opinion, early treatment of this disease is essential. If you can prevent chronic pain, improve mobility, and reduce inflammation with treatment while they are in the acute phase, you may preserve the integrity of the joint until their disease ‘burns out,’ giving them normal use of the joint through adulthood. By calming down the smaller flair-ups, the chronic and irreversible changes appear to be less likely,” Baskin added. “It’s important for interventional radiologists and rheumatologists to pool their expertise to fight this disease together, to improve the quality of life for affected children and the long-term chances that those who outgrow this disease may live as active, mobile, pain-free adults.”

### **About The Study**

Fifty-five subtalar injections were performed on 38 children. Clinical improvement was observed after 50 of 55 injections (91%). The mean duration of improvement was 1.3 years. The study found that fluoroscopically guided subtalar joint injections is an effective method for treating juvenile arthritis in that joint, and that earlier treatment after diagnosis was more likely to have a successful outcome.

Abstract 150 is available online at [www.SIRmeeting.org](http://www.SIRmeeting.org).

### **About the Society of Interventional Radiology**

Interventional radiologists are board-certified physicians who specialize in minimally invasive, targeted treatments. They use X-rays, MRI and other imaging to advance a catheter in the body, usually in an artery, to treat at the source of the disease non-surgically. They are certified in both Diagnostic Radiology and Vascular & Interventional Radiology. As the inventors of angioplasty and the catheter-delivered stent, interventional radiologists pioneered minimally invasive modern medicine, and provide treatments that offer less risk, less pain and less recovery time compared to open surgery. More information can be found at [www.SIRweb.org](http://www.SIRweb.org).

***Local interviews are available by contacting SIR’s Communications Department at  
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