

Sonography complements physical exam in identifying juvenile inflammatory arthritis in children

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Juvenile Inflammatory Arthritis (JIA) is a potentially debilitating childhood disease. Early detection and treatment of active arthritis may avert long term joint damage and disability. Research has shown that sonography with power Doppler can facilitate making assessments in joint activity and sub-clinical disease, according to research being presented at the 2011 American Roentgen Ray Society's annual meeting.

The study, performed at Albert Einstein College of Medicine's Montefiore Medical Center, in Bronx, NY, compares sonography with power Doppler to physical examination in evaluating disease activity in the knees and ankles of children with JIA.

Eighty-four joints in 19 patients were evaluated; of these, 65 joints were concordant on both sonography and physical examination. Of the remaining 19 joints, 14 were active on sonography and inactive on physical examination. Five of the 14 joints were found to have subclinical disease at the time of the initial physical examination, while 8 of the 14 joints demonstrated mild hyperemia as the only indicator of disease activity on sonography, which was a false positive. Of the 5 joints active on physical examination and inactive on sonography, 4 had subtalar disease.

"In patients with at least one active joint on [physical examination](#), ultrasound augments the physical exam by identifying subclinical disease

(in other [joints](#)). Our study confirmed that patients with evidence of subclinical disease do, in many cases, go on to have clinically evident disease," said Vikash Panghaal, MD, lead author of the study.

"Certain combinations of physical exam findings are highly sensitive, and in these instances, ultrasound does not contribute to [clinical management](#). Subtalar disease is poorly assessed using ultrasound," he said.

"Unlike previous studies, our study included a 2-5 month follow-up physical exam after the initial physical exam and ultrasound, which allowed confirmation of subclinical disease," said Dr. Panghaal. "We also determined the sensitivity and specificity of various aspects of the physical exam for identifying synovitis and correlated this with [ultrasound](#) findings," said Dr. Panghaal.

Provided by American Roentgen Ray Society

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