In juvenile idiopathic arthritis (JIA), valid detection of involved joints is essential for correct classification, therapeutic decisions, and prognosis. Clinical assessment is a particular challenge, and reliable results depend on the ages of the children and their ability to cooperate. Ultrasonography (US) and magnetic resonance imaging (MRI) are used for imaging in JIA, but have practical limitations. Fluorescence optical imaging (FOI) enables visualization of inflammation in arthritis and related conditions. We report our first experiences with FOI in children with arthritis using the Xiralite-System (mivenion GmbH, Berlin, Germany) with indocyanine green as a fluorophor (0.1 mg/kg BW intravenously; Pulsion Medical Systems, Munich, Germany).

In 2 children, FOI corresponded well with the clinical and US findings. The third child complained of symptoms in numerous joints, but was diagnosed with oligoarthritis after clinical and US examination. FOI displayed polyarticular involvement and resulted in initiation of methotrexate treatment, according to national guidelines. FOI might be a new tool for assessment of active disease in JIA. FOI can offer the needed advancement in assessing polyarticular disease in JIA, with the goal of targeted therapy and improved treatment outcome.

REFERENCES