



- **FACT SHEET No. 20**

## Joint Pain in Childhood

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Joint pain is common in childhood. Both inflammatory and non-inflammatory conditions can be associated with joint pain. The most prevalent musculoskeletal pain complaints in children seen in primary care clinics include arthralgias of the knee (33 percent) and other joints (ankles, wrists, and elbows, 28 percent).

Most complaints are benign in nature and attributable to trauma, overuse, or developmental variants, including hypermobility and benign nocturnal limb pains of childhood (formerly known as “growing pains”). Prolonged periods of joint pain may result from infections such as Group A streptococcus, including rheumatic fever, influenza, chlamydia, salmonella, shigella, campylobacter, Lyme disease, Epstein Barr virus, osteomyelitis, septic arthritis, and tuberculosis.

Joint pain can be associated with chronic health conditions such as Juvenile Idiopathic Arthritis (JIA) and other rheumatic diseases and with diseases such as cancer. Joint pain is also reported in chronic widespread pain syndromes such as juvenile fibromyalgia, Ehlers-Danlos Syndrome (EDS), and Complex Regional Pain Syndrome.

### Impact

Children who suffer from pain in the joints may experience impaired physical, emotional, social, and role functioning as well as sleep disturbances and fatigue. Increased stress and low mood in children and



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caregivers appear to be the most significant risk factors for development of chronic musculoskeletal pain syndromes in childhood.

Young children may adapt to joint pain by reducing use of the joint and then not complaining of pain. Therefore, observation and a complete examination are necessary for a full assessment. This is particularly important because of children's developing skeletons, and joint pain can lead to an abnormal gait, muscular spasms, and pains in other joints due to altered load and positioning.

## Diagnosis

Joint pain in childhood can only be adequately understood in the context of the child and family; thus multidisciplinary assessment is desirable. Patient self-report is a key source of pain information and should be considered alongside knowledge of clinical context and behavioral observation.

Red flags: Nocturnal bone or joint pain with or without systemic signs should alert clinicians to exclude malignancy. Other diagnoses such as infection or post-infection, mucopolysaccharidosis, hypothyroidism and non-accidental injury should also be considered in the differential diagnosis, informed by a thorough clinical history and exam.

## Treatment

Benign joint pains are best managed by primary care providers, who may provide information to family, simple analgesics if needed, an exercise regimen and improved sleep hygiene. It is important for children and adolescents to maintain usual activities, including school attendance.

In addition to aggressively treating the biological basis of an underlying condition (if present), clinicians should undertake an interdisciplinary approach to address the impact of pain on the child and family. The biopsychosocial model of pain provides a useful framework in which to manage persistent joint pain irrespective of etiology.

Persistent joint pain should be treated using a "3 P's" approach—pharmacological, psychological, and physical therapies—to optimize function and prevent pain-related disability.

Several randomized controlled trials have shown benefit from different modalities of psychological therapy in children with chronic pain generally, though there is less evidence available regarding treatment efficacy for children with persistent joint pain.

When treating children with juvenile fibromyalgia, cognitive behavioral therapy significantly reduces functional disability compared with disease education interventions. In children with JIA, cognitive behavioral therapy has shown inconsistent results with regard to improving pain and functional disability. However, a recent randomized controlled pilot study in adolescents with arthritis showed lower average weekly pain scores in adolescents participating in an Internet and telephone-based self-management program.

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