

Abnormal Pain Syndromes

Pain Amplification Syndromes

Pain is an unpleasant sensory and emotional experience associated with real or potential injury, or it is perceived in terms of such injury. The sensation of pain is a complex process that is dependent on multiple factors, including degree of injury, personal experience or knowledge of others' experience, and current emotional and physical health. Psychogenic pain can develop without obvious cause, as a consequence of an acute or chronic illness or following a severe or even mild injury, but persists or worsens long after any inciting factor has resolved. This type of pain can be localized or diffuse. It is frequently described as more intense than other types of pain and is often associated with changes in mood, sleep patterns, and schoolwork.

Chronic pain syndromes in children are a frequent diagnostic dilemma for pediatricians and pediatric subspecialists. Nearly all of these children present, with the parents and occasionally the child believing that the pain must be due to arthritis. However, laboratory tests are normal in pain amplification syndrome. The common presentation of this pain syndrome is the presence of noninflammatory pain (absence of swelling or restricted range of motion). The pain is out of proportion to physical examination findings and *la belle indifférence* (an appearance of unconcern) that most children display regarding the severe pain and disability that they are experiencing. Most patients are female (80%), with onset typically after 6 years of age, but the condition may be present in children as young as 3 years. Another very important aspect of these pain syndromes is the ability to move from one symptom complex to another, or to have

characteristics of multiple psychogenic syndromes simultaneously. A child may present with localized limb pain without autonomic signs, and then develop classic RSD, which resolves only to be followed by diffuse pain with multiple painful points or fibromyalgia. Treatment is directed to the use of physical therapy and NSAID's to reduce the heightened sense of discomfort and restore function. Narcotics are not indicated in the treatment protocol.

Reflex Sympathetic Dystrophy

Reflex sympathetic dystrophy is likely under recognized in children. The onset of RSD often occurs after minor trauma or after a fracture has healed and the cast has been removed. There is an initial pain that causes the child to stop using the affected limb. The disuse perpetuates the pain and the extremity involved becomes painful to even light touch (allodynia), swollen, cold, and discolored. Plain radiographs of the affected limb may show soft tissue swelling and, after 6 to 8 weeks, a generalized osteoporosis.

Technetium 99 m bone scans may show either a diffuse increase (early) or decrease (late) in uptake of isotope. The outcome for children with RSD is thought to be generally good when intensive physical and psychological therapy is instituted within the first year. It has also been shown that more than 50% of children with RSD who presented after 1 year had elapsed between onset and symptoms and diagnosis continued to have pain and prolonged dysfunction. The most effective treatment for RSD is vigorous physical therapy and careful attention to the underlying psychosocial stressors. The affected limb should never be immobilized, because this will uniformly cause a worsening of the pain during or after the period of immobilization. Rarely, gabapentin type drugs are used in a short course to alter the pain perception.

Childhood-onset Fibromyalgia

Fibromyalgia in children is an uncommon noninflammatory disorder characterized by chronic diffuse pain and localized tender points with a decreased pain threshold.

According to a US pediatric rheumatology disease registry, FMS accounts for 2.1% of new patients diagnoses by pediatric rheumatologists.

Childhood-onset FMS is similar to the adult disorder, which is characterized by diffuse pain, multiple (>5) tender/trigger points, irritable bowel syndrome, headaches, fatigue, and nonrestorative sleep. Morning stiffness and generalized pains may prompt the referral of a child with FMS to an orthopaedic surgeon. Therapy for FMS consists of physical therapy with stretching and aerobic exercise (including aqua therapy), stress reduction, and psychological counseling.

