

[IMAGE]

## **A Common Cause of Childhood Knee Pain – and What Your Doctor Can Do About It**

By Mark Charrette, DC

One of the most common causes of knee pain in active adolescents is the condition known as Osgood-Schlatter. The most common symptom is pain located at the front of the knee that is made worse with running, jumping, and climbing or descending stairs. There is usually no specific injury or event that is identified as the initiating cause. One or both knees may be affected.

Although the incidence of Osgood Schlatter is currently higher in boys, the frequency in girls has risen along with their increasing participation in sports. The usual age range of the two genders varies, based on their respective timing of skeletal maturation. In boys, it is most frequently seen between the ages of 10 and 15 years, while girls between the ages of 8 and 13 years are more often affected. The good news is that although the condition is common, it will usually respond rapidly to appropriate conservative care provided by your doctor of chiropractic.

The course is chronic and tends to recur over a period of months to several years, but usually clears by the age of 18. In some cases, the symptoms may persist into adulthood, or will recur when the adult begins a new recreational or athletic endeavor.

childhood knee pain - Copyright © Stock Photo / Register Mark A major contributing factor in this scenario is the element of growth. During a growth spurt, significant muscle-tendon imbalance commonly develops when the bones lengthen more rapidly than the muscles and connective tissues. This imbalance often results in tight and inflexible muscle groups. The relative inflexibility increases the traction forces on this site, and any repetitive athletic activity adds to the imposed stresses.

Children with a high kneecap appear to be at higher risk for developing the Osgood-Schlatter condition, since the higher position of the patella increases the tension in the patellar tendon and at the tibial tuberosity, especially when forcing the knee into full extension (such as during kicking or jumping maneuvers).

## Conservative Care for Children

- *Restricted activity:* Jumping, sprinting, kicking, deep squats, and other activities that stress the tibial tendon are eliminated, while easy jogging is still encouraged. Immobilization is not recommended.
- *Cryotherapy:* Frequent (hourly) ice massage and/or cold packs help reduce inflammation.
- *Vitamin C with bioflavonoids.* A natural anti-inflammatory that can speed tendon healing.
- *Lower extremity stretching.* Gentle, repeated, progressive stretches to improve the length and flexibility of the quadriceps, in particular; but also the hamstring and gastrocnemius muscles.
- *Lower extremity strengthening.* Hamstring curls and straight-leg raises with resistance are appropriate, while squat and jump exercises should be eliminated.
- *Bracing and orthotic support.* A strap or brace that provides support for the patellar tendon may be useful during athletic activities. Individually designed stabilizing orthotics that help to reduce shock and excessive tibial motion may allow a quicker return to sports, especially for patients with excessive pronation or supination.

## Conservative Care for Adults

Some adolescents receive insufficient treatment in an early stage; as a result, they may present later in life as adults with higher levels of disability. Aspects of care for adults include:

- *Lower extremity stretching.* Repeated and progressive stretches to improve the flexibility of the quadriceps, hamstrings and gastrocnemius (the largest muscle in the calf).
- *Lower extremity strengthening.* Hamstring curls and straight-leg raises are progressed to graduated eccentric strengthening of the tibial tendon (such as plyometric box jumps).
- *Orthotics for pronation.* Individually designed stabilizing orthotics help to reduce the stresses on the patellar tendon and improve patellar tracking during tibial rotation.
- *Orthotics for shock absorption.* Orthotics with viscoelastic padding will decrease the amount of shock at heel strike.

## Early Treatment Is Best

When Osgood Schlatter is not treated correctly, or when the child (or parents) determine that success in adolescent sports is more important than the growing body, adult problems may arise. In these cases, a close examination of lower extremity biomechanics will usually find that several problems have developed.

Adjustments for chronic foot and ankle subluxations are often needed. Individually designed stabilizing orthotics are almost always necessary. When treated early, correctly and managed conservatively, this condition should have no long-lasting effects on sports participation. Talk to your doctor of chiropractic for more information.

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