Calcium Supplements Don't Protect Kids From Fractures

BY JONATHAN GARDNER
London Bureau

Calcium supplementation has little effect on bone mineral density in children and is unlikely to prevent fractures in childhood or adulthood, reported Tania Wizenberg and her fellow investigators.

The metaanalysis of 19 randomized controlled trials (BMJ 2006 [Epub doi:10.1136/bmj.38950.561400.55]), which included 2,859 children, found that children who take calcium supplementation did not have significantly greater bone mineral density (BMD) at the femoral neck or at the lumbar spine at the end of trials or after supplementation. The studies had a treatment period of at least 3 months, and bone outcomes were measured after at least 6 months of follow-up, according to Ms. Wizenberg and of the Menzies Research Institue, Hobart, Australia, and her fellow researchers.

At the upper limb, the meta-analysis showed a difference of 6.38 mg/cm^2 at the end of trials and 6.3 mg/cm^2 after supplementation was stopped, a statistically significant increase of 1.7 percentage points over control populations.

A single study that evaluated total bone density showed no persistent effect, they reported.

"This small increase in upper limb bone mineral density is unlikely to result in a clinically important decrease in the risk of fracture," they wrote. "Importantly, we found no effects at other sites where fracture is common." Based on studies showing lower BMD among children who suffer upper limb fractures, the authors forecasted a 0.2% decrease a year in absolute risk of fractures among boys, and 0.1% in girls. "The public health impact of this is likely to be small," they said. ■

Eventual Goal of Runner's Knee Therapy Is to Be NSAID Free

BY MELINDA TANZOLA
Contributing Writer

MIAMI — The first goal of treatment in patellofemoral pain syndrome is to reduce and eventually discontinue NSAIDs, Dr. Joseph Congeni said at a meeting on pediatric sports medicine sponsored by the American Academy of Pediatrics.

Patellofemoral pain syndrome is the most common sports-related overuse injury in young athletes, occurring at least once in an estimated 30%-40% of female athletes. Also known as runner's knee, the syndrome is usually caused by improper tracking of the kneecap in the patellofemoral groove. Instead of riding smoothly in the groove, the malaligned patella is shifted, a condition that causes pain and inflammation. A few cases result from compression of the kneecap, which can develop if the hamstring muscle is significantly stronger than the quadriceps, a situation seen in younger children who have just gone through their growth spurt or teenage boys.

The incidence of tracking PFS is about five times greater in girls than in boys. Several anatomical factors contribute to PFS, including femoral anteversion, kneecaps pointing toward each other ("squinting patella"), genu varum (bowleg), and tibia varum. The feet compensate for the malalignment by pronating, and these factors together result in the pain associated with PFS.

In many cases of PFS, a lateral-view x-ray will show that the kneecap rides high (patella alta). "When the kneecap rides this high, it's not as deep a groove and the kneecap tends to slide in and out of that groove readily," said Dr. Congeni, medical director of the sports medicine center at the Children's Hospital Medical Center of Akron (Ohio). Children with tracking PFS present with pain around the knee that emerges without any specific injury. They may or may not have swelling around the kneecap. Clinicians may see that the patella tracks in a "J" pattern when the leg is extended, because the patella moves inward as it moves up along the knee. Increased ligament laxity or instability also is common.

Courtesy Dr. Joseph Congeni

X-ray shows a high-riding kneecap, or patella alta, in a patient with PFS.

The functional tests of a minisquat and a catcher's squat, which will likely be painful in PFS, can help in the diagnosis.

Aside from having a thorough patellar exam, athletes with suspected PFS should undergo a full structural exam—including a careful examination of the hip—to rule out a slipped capital femoral epiphysis (SCFE). Dr. Congeni recommended, at the very least, clinical evaluation of the internal and external rotation of the hip in these children, as vague knee pain is one of the signs of SCFE. PFS is usually a straightforward clinical diagnosis based on history and physical exam, and does not require additional tests. Dr. Congeni recommended x-rays for children who do not improve after a month to rule out other causes and to assess the state of the kneecap.

Dr. Congeni explained that the clinical course of PFS is likely to be a roller coaster of good and bad days, weeks, or months, as activity levels change. Sitting for long periods and walking on stairs or hills can aggravate symptoms.

Treating PFS is a slow process that involves rest and rehabilitation through strengthening (quadriceps and gluteals) and increasing flexibility (quadriceps, hamstrings, and iliotibial band).

Orthotics can be more helpful than bracing for correcting mechanical issues, he said. Chronic self-medication with over-the-counter NSAIDs is common. ■

Overuse Injuries Common In Little League Pitchers

BY MELINDA TANZOLA
Contributing Writer

MIAMI — For serious young baseball players, adherence to recommended pitching limitations and proper management of overuse injuries can help ensure continued healthy pitching, Dr. Andrew Gregory explained at a meeting on pediatric sports medicine sponsored by the American Academy of Pediatrics.

The highly repetitive action of pitching can result in overuse injuries of two joints, generally referred to as Little League elbow or Little League shoulder.

Young pitchers are often serious in their sport, sometimes playing on multiple teams at once in hopes of earning a college scholarship or playing professionally. Such intense participation at an early age, however, can have long-term consequences. About one-third of Little League pitchers never play in high school because of overuse in their younger years, according to Dr. Gregory of the departments of orthopedics and pediatrics at Vanderbilt University in Nashville, Tenn.

Courtesy Dr. Andrew Gregory

A fragmented medial epicondyle apophysis is common in pitchers.

'They're subjecting themselves to this maximal force over and over again,' by pitching as hard as they can.

DR. GREGORY

This number may seem high, but pain is a common occurrence in pitching. According to a review of 476 pitchers aged 9-14 years, 7% of youth pitching results in pain, and 28% of pitchers report elbow pain at least once in a season. As Dr. Gregory explained, "They're subjecting themselves to this maximal force over and over again, by trying to throw as hard as they can every time."

Most young pitchers with Little League elbow will present with medial elbow pain that occurs only with throwing; they also may not be able to fully straighten the arm. "It is a constellation of problems, the first being stress injury to the medial epicondyle apophysis," Dr. Gregory said in an interview. He explained that continuing to pitch through the pain can lead to a loss of blood supply to the joint and irritation of the ulnar nerve.

The main treatment should be rest from all throwing. Treatment also should include ice, NSAIDs for pain, scapular and core stabilization, and a gradual return to throwing after 6-12 weeks, when throwing no longer hurts. Pitching should be resumed only when the athlete can throw without any pain.

Dr. Gregory said that patients should be referred in the following cases: an acute injury with a "pop," significant widening of the apophysis visible on x-ray, opening with valgus stress, or persistent pain with throwing despite following treatment measures.

Little League elbow is seen in players aged 9-14 years. After the medial epicondylar apophysis closes at age 15-17 years in boys (age 14 in girls), these symptoms are likely caused by injury to the ligament instead.

Dr. Gregory reviewed pitching restrictions that were designed to minimize the likelihood of developing an overuse injury. (See box.) He recommended that physicians have handouts with safety tips to give to parents. ■

Preventing Pitching Injuries

- Observe the following pitch count limits:
  - 9- to 10-year-olds: 50 pitches/game, 75/week, 1,000/season, 2,000/year
  - 11- to 12-year-olds: 75 pitches/game, 100/week, 1,000/season, 3,000/year
  - 13- to 14-year-olds: 75 pitches/game, 125/week, 1,000/season, 3,000/year
- Do not throw curveballs before age 14 or sliders before age 16.
- Avoid pitching "showcases."
- Pitch for only one team at a time.
- Do not pitch and catch for the same team.