Clinical Capsules

Childhood Arthritis Means More Breaks

Patients with childhood-onset arthritis are at an increased risk of suffering broken bones during adolescence and after age 45 years, according to a broad analysis of patient records in the United Kingdom.

Between the ages of 10 and 15 years, patients with juvenile idiopathic arthritis were more than three times as likely as control patients to suffer a fracture (Ann. Rheum. Dis. 2006 April 20 [doi:10.1136/ard.2005.048835]).

From ages 15 to 20 years, those patients were 75% more likely to suffer a fracture, and after age 45 years, patients with a history of childhood arthritis were nearly four times as likely as control patients to suffer a fracture, as bone mass begins declining.

The researchers, from the Children's Hospital of Philadelphia and the University of Pennsylvania, examined records from the United Kingdom General Practice Research Database, containing 8.9 million anonymous patient records with data covering 35 million patient-years.

They analyzed the records of 1,939 patients with juvenile idiopathic arthritis and 207,072 sex- and age-matched controls in the same physician practices.

Patients with arthritis were followed either from first diagnosis or from the first point their records met quality-control standards.

Control patients were followed from their registration with the practice or from the first point their records were compliant with quality-control standards.

The patients were then followed until their first fracture, their records were no longer compliant with quality-control standards, the patient left the practice, or death. The median follow-up period was 3.9 years for patients in the arthritis group and 3.95 years for those in the control group.

"Aggressive control of the underlying disease is undoubtedly necessary," said Dr. Jon M. Burnham, of the Children's Hospital of Philadelphia's division of rheumatology, and the lead author.

"The question is whether it will be sufficient to prevent low bone mass and fractures in children with arthritis."

Physicians need to be sure children are receiving the recommended amount of calcium and vitamin D, said Dr. Burnham. "There is accumulating evidence that vitamin D insufficiency is extremely common, and it would be reasonable to follow 25-hydroxyvitamin D levels in children with arthritis and prescribe supplements if vitamin D levels are suboptimal."

Reducing Tension Neck Begins Early

Good flexibility in boys and high endurance strength in girls are associated with a reduced risk of tension neck in adulthood, results of a 25-year study indicate.

High endurance strength in boys, however, nearly doubled the risk of future knee injuries, according to the study.

To evaluate the impact of physical fitness on incidence of musculoskeletal problems in adulthood, Lasse O. Mikkelsson of the Pajulahti Sports Centre in Nastola, Finland, and associates assessed flexibility, endurance strength, and physical activity in 1,687 Finnish adolescents in 1976.

Twenty-five years later, 522 male and 611 female participants completed follow-up questionnaires (Br. J. Sports Med. 2006;40:107-13). Tension neck—a pain syndrome related to tightened neck musculature—in adulthood was 50% less likely in men who ranked in the highest flexibility tertile as adolescents (measured by a sit-and-reach test), compared with men in the lowest tertile.

In women, flexibility during adolescence was not significantly predictive of tension neck across the tertiles.

However, high endurance strength during their adolescence, measured by a sit-up test, was significantly associated with a 34% reduced risk of future tension neck in women. The investigators also noted that in adults "the risk of tension neck increased with each unit increase in [body mass index] by 9% in men and 5% in women."

For men, regular physical activity during adolescence reduced the likelihood of future recurrent low back pain by 40%. Physical activity during adolescence was not, however, predictive of knee injury, tension neck, or recurrent low back pain in women.

Knee injuries were twice as common among men with high endurance strength as adolescents, compared with those with low endurance strength. A similar trend was noted in women, but the association was not statistically significant.

Regardless of fitness characteristics, the investigators observed gender differences in the incidence of tension neck, back pain, and knee injuries. Women were 2.5 times more likely than were men to experience tension neck (37% vs. 15%), whereas men were 1.5 times more likely than were women to have recurrent low back pain (23% vs. 15%) and twice as likely to have meniscal or ligamentous knee injury (14% vs. 7%).

—Jonathan Gardner and Melinda Tanzola