

School-based exercise program improves bone mass, size

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"A general, moderately intense school-based exercise intervention program for four years in children who were prepubertal at study start improves [bone mass](#) and bone size without increasing the [fracture risk](#)," the authors write.

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A long-term, school-based exercise program for children is associated with increased bone mass and size, with no increase in the fracture risk, according to a study published online May 28 in *Pediatrics*.

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Bjarne Löfgren, M.D., from Lund University in Sweden, and associates conducted a four-year prospective controlled exercise intervention study among 7- to 9-year olds. The intervention group included 446 boys and 362 girls who participated in 40 minutes of school physical education per day for four years. The control group, which comprised 807 boys and 780 girls, did 60 minutes of physical education per week. Bone mineral content and width were assessed using dual energy radiograph absorptiometry in a subsample of children (73 boys and 48 girls from the intervention group; 52 boys and 48 girls from the control group).

The researchers found that the fracture rate ratio was 1.11. Compared with the control group, for girls and boys in the [intervention group](#), the mean annual gain in lumbar spine bone mineral content was 7.0 and 3.3 percent higher, respectively. The corresponding numbers for femoral neck width were 1.7 and 0.6 percent higher.

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