

# Calcium, D key to bone health

## Navy studies fractures in female recruits

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OMAHA, NEB. • Very active young women who took higher-than-recommended doses of calcium and vitamin D supplements for eight weeks had fewer stress fractures than women who were given dummy pills, a study of Naval recruits showed.

Researchers called the results encouraging and of interest to young female athletes as well as women in the military.

"What really surprised us is that calcium/vitamin D supplements made a significant difference in such a short period of time," said lead researcher Joan Lappe of Creighton University. "Frankly, we were not sure we would see any statistically significant results in only eight weeks."

The study, funded by the Department of Defense, was presented recently at the Orthopaedic Research Society's annual meeting in San Diego.

Stress fractures are the most common type of injury seen in military trainees, particularly women, and are also prevalent in some athletes.

The body uses calcium to build and repair bones. Vitamin D helps the body absorb calcium.

The Creighton University study found that women who took 2,000 milligrams of calcium and 800 international units, or IUs, of vitamin D daily had 27 percent fewer stress fractures than those who didn't.

The government recommends 1,000 milligrams of calcium and 200 IUs of vitamin D each day for women ages 19 to 50. But young women generally don't get enough of these important ingredients.

As many as one in five female military recruits is estimated to suffer from a stress fracture, which forms when the bone doesn't have time to heal from rigorous activity. Some can lead to chronic pain.

About 3,700 women, ages 17 to 35, training at the Great Lakes Naval Training Center in Great Lakes, Ill., participated in the full study. About half were given supplements with the higher amounts of calcium and vitamin D over their eight-week training periods. The other half took placebos. Fewer fractures were reported among the women who took the supplements.

Lappe said 14,441 women trained at the Great Lakes center during the two years the study was conducted. If all of them had been taking the supplements, there would have been about 260 fewer female recruits with stress fractures, she said.

Dr. Murray J. Favus, the director of the University of Chicago's bone program who often sees stress fractures among young women, said the findings were the first to show how such injuries can be reduced.

The study "clearly demonstrates that a simple intervention using calcium and vitamin D have significant benefits in reducing the rates of stress fractures. This is very encouraging," he said.

Favus and Lappe both suggested the study would have implications for people outside the military.