

# Stress Fractures May Be Preventable

Charles Bankhead

Lower-extremity stress fractures often occurred in association with potentially modifiable muscular and biomechanical factors, according to a study of 1,800 military cadets.

A detailed motion analysis of jump landing showed that landing with greater than 5 degrees of knee valgus or greater than 5 degrees of internal knee rotation significantly increased the likelihood of stress fracture.

Women were almost three times as likely as men to have lower-extremity stress fractures, Kenneth L. Cameron, PhD, of Keller Army Hospital in West Point, N.Y., reported at the American Orthopaedic Society for Sports Medicine meeting in Chicago.

"Several potentially modifiable muscular and biomechanical factors may be playing a part in the increased rates of stress fractures in athletes and military personnel," Cameron said in a statement. "It's possible that injury prevention programs targeted to address these movement patterns can help reduce stress fracture risk."

Reduced knee and hip flexion angles and increased vertical and medial ground reaction forces also were associated with an increased risk of stress fractures involving the lower extremities.

Athletes and military personnel account for a disproportionate share of lower-extremity stress fractures, and the frequency appears to be increasing. Whether stress fracture is associated with potentially modifiable factors had not been studied extensively.

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