

Vitamin D deficiency high among trauma patients

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New research presented at the 2012 Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS) found that 77 percent of trauma patients had deficient or insufficient levels of vitamin D.

Researchers have linked a lack of vitamin D with [muscle weakness](#), [bone fractures](#), and the inability of bones to fully heal. In a new study, investigators sought to determine the prevalence of vitamin D deficiency among orthopaedic trauma [patients](#).

Investigators reviewed the medical records of 1,830 adult (ages 18 and older) patients at a university Level 1 trauma center from Jan. 1, 2009 to Sept. 30, 2010. Participants with vitamin D levels below 20 ng/mL were categorized as "deficient," and those with levels between 20 and 32 ng/mL, "insufficient" (levels between 40 and 70 ng/mL are considered "healthy.")

Thirty-nine percent of all patients were vitamin D deficient, and another 38.4 percent had insufficient levels of vitamin D. Patients ages 18 to 25 had the lowest levels of vitamin D deficiency and insufficiency of any age group, and yet 29 percent were deficient, and 54.7 percent, insufficient.

"Vitamin D deficiency affects patients of all ages and is more prevalent than we thought it was," said Brett D. Crist, MD, lead investigator and co-director of the Orthopaedic Trauma Service, Department of Orthopaedic Surgery, University of Missouri. The findings are important "as vitamin

D deficiency has been linked to increased incidences of fracture nonunions (bone breaks that fail to heal)."

With the new data showing that a significant number of patients have deficient or insufficient levels of vitamin D, physicians should consider treating fracture patients with a supplement to ensure optimal outcome, said Dr. Crist, who provides vitamin D and [calcium supplements](#) to all [trauma patients](#) in his care, except to those patients for whom higher levels of calcium are not recommended.

"Although we've gone to treating most patients with weekly high dose vitamin D, in addition to daily vitamin D and calcium, monitoring vitamin D levels can be done to diagnose and monitor levels," said Dr. Crist. [Vitamin D deficiency](#) is "easy to manage," and "can prevent future fractures and improve healing of current fractures."

It is extremely difficult to naturally obtain enough vitamin D. An adult needs at least 1,000 International Units (IU) of vitamin D (10 glasses of milk and one fish meal each day), and a child, 400 to 800 IUs for good health, depending on age, weight and growth.

To ensure appropriate levels of [vitamin D](#), a daily supplement is recommended for children and adults.

Provided by American Academy of Orthopaedic Surgeons

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