Medical Xpress

How do combat-related injuries and their treatments affect bone health?

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Combat-related injuries to bone are common in military personnel and can lead to pain and disability. Results from a new study in the *Journal of Bone and Mineral Research* suggest that amputations for such injuries may negatively affect bone mass.

In the study of 575 male adult UK military personnel with combat-

related traumatic injuries and 562 without such injuries, veterans who sustained traumatic amputations often had low bone density in the hip region. Changes in bone health appeared to be mechanically driven rather than systemic and were only evident in those with lower limb amputations.

"We hope these results will drive further research into ways to reverse bone mineral density changes," said co-author Group Captain Alex Bennett, Defence Professor of Rehabilitation, Defence Medical Rehabilitation Centre. "We need to investigate the role of prosthetics and exercise in reversing bone mineral density loss to reduce the longer-term risk of hip fracture. Because systemic treatments like bisphosphonates are not indicated in this young population with bone mineral density loss, it is important to understand other ways to reduce their hip fracture risk."

More information: Association between combat-related traumatic injury and skeletal health: bone mineral density loss is localised and correlates with altered loading in amputees—The ADVANCE Study, *Journal of Bone and Mineral Research* (2023). DOI: 10.1002/jbmr.4794

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