

## Wrist fractures linked to poor balance in elderly patients

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Elderly patients suffering a low energy wrist (distal radius) fracture are more likely to have difficulties with balance, placing them at risk for future injuries, according to a new study appearing in the July 20, 2016 issue of the *Journal of Bone and Joint Surgery*.

Wrist fractures constitute one-sixth of all broken bones presented in U.S. emergency departments, and occur in 15 percent of women age 50 and older. The majority of these fractures are the result of a fall from a standing position. In the new study, researchers evaluated 46 participants: 23 patients who had been treated for a wrist fracture within the past 6 to 24 months (age 65 or older at the time of injury), and 23 age and sex-matched control participants without a prior fracture. In the wrist fracture group, the injury was caused by a low energy fall without a major traumatic event. Participants were excluded from the study if they had a history of an event or illness that impairs [balance](#), such as a stroke, seizure or vertigo.

All study participants received a dynamic motion analysis (DMA) score after assessment on a moving, computerized platform. They also were interviewed about their bone-health history, including whether or not they had received a dual x-ray absorptiometry scan (DXA, a common evaluation for osteoporosis), vitamin D and calcium supplementation, and/or if they were taking medication for osteoporosis, a disease of progressive bone loss that increases [fracture risk](#). They also were asked about prior falls, musculoskeletal injuries and conditions, and received common general health, physical activity and health status surveys and

tests.

While there were no significant differences in age, sex, body mass index, physical activity score, or general health in both groups of participants, the fracture group demonstrated compromised balance with a higher DMA score - 933 points, on average, versus 790 points in the control group. Nineteen patients (83 percent) in the fracture group reported having DXA imaging tests during the previous five years; however, only two patients (9 percent) had ever been referred for balance training with physical therapy.

"Our study finds that older adults who sustain a wrist fracture are more likely to have poor balance compared to those who have not sustained this injury," said lead study author Craig R. Louer, MD, an orthopaedic surgery resident at Washington University School of Medicine in St. Louis. "These fractures should signal the need for an evaluation and possible treatment for balance deficits to decrease the risk of subsequent higher risk injuries, such as hip or spine [fractures](#)."

**More information:** C. R. Louer et al. Postural Stability in Older Adults with a Distal Radial Fracture, *The Journal of Bone & Joint Surgery* (2016). [DOI: 10.2106/JBJS.15.00963](https://doi.org/10.2106/JBJS.15.00963)

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