

# Older adults who experience osteoporotic fracture have increased risk of death for 5-10 years

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Women and men age 60 years or older who have a low-trauma osteoporotic fracture have an increased risk of death for the following 5 to 10 years, compared to the general population, and those who experience another fracture increase their risk of death further for an additional 5 years, according to a study in the February 4 issue of *JAMA*.

Osteoporotic fractures represent a growing public health problem in both developed and developing countries, with a projected increasing incidence as the population ages. There are limited data on the long-term risk of death following osteoporotic fracture or a subsequent fracture, according to background information in the article.

Dana Bliuc, M.Med., of the Garvan Institute of Medical Research, St. Vincent's Hospital, Sydney, Australia, and colleagues examined the long-term risk of death (up to 18 years) following all types of osteoporotic fractures in women and men in different age groups and the association of subsequent fracture with mortality risk. The study included women and men age 60 years and older from Dubbo, Australia (in 1989, this consisted of 2,245 women and 1,760 men) who sustained a fracture between April 1989 and May 2007. In women, there were 952 low-trauma fractures followed by 461 deaths, and in men, 343 fractures were followed by 197 deaths.

In comparison to the general population, increased mortality risk was

observed across all age groups following hip, vertebral, and major fractures for 5 years post-fracture except for minor fractures, where an increased risk of death was only apparent in those age 75 years or older. After five years, the mortality risk decreased, with hip fracture-associated mortality remaining elevated for up to 10 years. After 10 years, mortality rates were not different from that of an appropriately age-matched population.

"Nonhip, nonvertebral fractures, generally not considered in these types of studies, not only constituted almost 50 percent of the fractures studied, but also were associated with 29 percent of the premature mortality. Mortality risk decreased with time; however, the occurrence of a subsequent fracture was associated with a 3- to 4-fold increased mortality risk for a further 5 years," the authors write. "Given these findings, more attention should be given to nonhip, nonvertebral fractures ..."

Predictors of death after any fragility fracture for both men and women included age, quadriceps weakness and subsequent fracture but not co-existing illnesses. Low bone mineral density and having smoked were also predictors for women and less physical activity for men.

"These data suggest fracture is a signal event that heralds an increased mortality risk: whether it is related to an underlying increased risk for both fracture and mortality, which may be the case for women, or whether it is related to some aspect of the fracture event itself, as appears to be the case for men, needs further exploration. Overall, this study highlights the premature mortality associated with all types of fractures, particularly that which occurs after subsequent fracture across the whole age spectrum of older men and women," the researchers conclude.

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