

# Stressful life events significantly raise the risk of falls in older men

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A study of around 5,000 older men has shown that stressful life events such as death of a loved one, or serious financial problems, significantly raised the risk of falls in the year following the incident. The research is published online today in the journal *Age and Ageing*.

Dr Howard A. Fink of the VA Medical Center in Minneapolis and colleagues conducted a study of 5,994 community-dwelling men over the age of 65 who were enrolled in the Osteoporotic Fractures in Men (MrOS) study in six locations across the United States. 5,125 participated in a second study visit and answered questions on [stressful life events](#) in the prior year. A further subset of 4,981 men reported complete data on [falls](#) for one year after the second visit.

During the second visit, participants were asked their [marital status](#), and if widowed, their spouse's date of death. They were also asked to report occurrence of any of the following stressful life events: serious illness or accident of wife/partner; death of other close relative or close friend; separation from child, close friend, or other relative on whom the participant depended on for help; loss of pet; given up important hobby or interest; serious financial trouble; move or change in residence. Following the second visit, the participants were contacted every four months for one year regarding falls or fractures. Any fractures were confirmed by central review of [radiography](#) reports. Overall response rates exceeded 99%.

Among the 4,981 men with complete stressful life event and falls data,

27.7% fell and 14.7% fell multiple times during the year after visit two. Among men who reported stressful life events, falls occurred in 29.9% of cases where one type of stressful event had been reported; 35.5% of cases with two types of [stressful events](#), and 39.9% of cases where three or more types of stressful life events were reported.

In age-adjusted analyses, any stressful life event was associated with a 41% increase in risk of fall, and a nearly two-fold increase in risk for multiple falls in the following year. However, there was no statistically significant increase of risk for fractures.

Dr Fink said: "To my knowledge, this is the first prospective study to examine the independent association between stressful life events and the risk of falls in community-dwelling older men. We believe it provides the strongest evidence to date supporting stressful life events as a risk factor for falls. However, the mechanism connecting stressful life events to falls is uncertain."

In the paper, the authors discussed possible reasons for this association. One potential explanation, based on previous studies, is that stressful events trigger a neurohormonal response, causing stress hormones to be released, leading to falls and other adverse health events. Some data suggest that inflammation – a potential indicator of physical stress – could lead to a loss of muscle mass and impaired physical function. Or it could be that sudden emotions, triggered by a stressful event, could impact balance or visual attention, leading to a fall.

The study does have some limitations: because the recall of stressful life events and fall were self-reported, they could be susceptible to error. Secondly, self-reported events may not be equally stressful to all participants, and no data were available to estimate participants' resiliency.

Dr Fink concluded: "Further studies are needed to confirm our findings and to investigate the mechanism underlying this association. Additional studies may explore whether clinical screening of [older men](#) with recent stressful life events for fall reduction interventions will reduce falls."

**More information:** 'Association of stressful life events with incident falls and fractures in older men: the Osteoporotic Fractures in Men (MrOS) Study' by Howard A. Fink, Michael A. Kuskowski, Lynn M. Marshall *Age and Ageing*, [DOI: 10.1093/ageing/aft117](https://doi.org/10.1093/ageing/aft117)

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