

Stroke doubles patients' risk of hip or thigh fracture

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Stroke survivors have about twice the risk of breaking a hip or femur compared to those without stroke — and the risk is even greater for younger patients, women and those with recent strokes, Dutch researchers report in *Stroke: Journal of the American Heart Association*.

"Our findings imply that it is important to conduct fracture risk assessment immediately after a patient is hospitalized for [stroke](#)," said Frank de Vries, Ph.D., senior author of the study and assistant professor of pharmacoepidemiology at the Utrecht University in Utrecht, the Netherlands.

de Vries and his associates studied 6,763 patients (cases) who had a hip/femur fracture and matched them by age, gender and location with 26,341 others (controls) in a large database of Dutch patient without fractures.

After adjusting for general factors for fracture risk, the researchers found:

- Overall, stroke was associated with about double the risk of fracture (adjusted odds ratio: 1.96).
- Among women, fracture risk was slightly higher than double (adjusted odds ratio: 2.12).

- Patients were most vulnerable for hip/femur fracture during the first three months after a stroke, when the risk was more than three times higher than controls (adjusted odds ratio: 3.35).
- The youngest stroke survivors (70 years or younger) were at the highest risk (adjusted odds ratio: 5.12).

"Hip or femur fracture after stroke declined with increasing age," said de Vries noting that patients age 70 or older are more likely to have other risk factors for [hip fracture](#). "It's likely, therefore, that the overall contribution of stroke to hip fracture risk declines with age."

The findings of highest risk of fracture in the first months after stroke confirm and reinforce other trials that showed "substantially higher" rates of bone mineral density loss within the first six months after stroke, the researchers said. Loss of bone mineral density was most obvious in paralyzed extremities as a result of decreased mobility.

"Fall prevention programs, bone mineral density measurements and medicines to strengthen bones may be necessary to minimize hip fractures in the elderly both during and after stroke rehabilitation," de Vries said. "Management strategies should include further evaluation of other risk factors for fracture.

"According to the National Osteoporosis Foundation, almost 300,000 persons sustain a hip fracture in the United States each year," he said. "Roughly 60,000 of these patients, or 20 percent, die within a year of their fracture."

Patients in the study who had a hemorrhagic (bleeding) stroke were at a slightly higher risk of hip/femur fracture than those who had an ischemic stroke (one caused by artery blockage), but researchers said the difference didn't reach statistical significance.

The majority of hip/femur fractures occurred in people age 50 or older and the average period between stroke and fracture was 2.2 years. The study was conducted from Jan. 1, 1991, to Dec. 31, 2002. The average age of study participants was 75 and 73 percent were female.

Strengths of the investigation include its "reasonable" size and duration of follow-up, de Vries said.

Among the study's limitations was the inclusion of patients regardless of whether their stroke resulted in hemiplegia (paralysis of only one side of the body). Earlier research found a "significant increase" in relative risk of fracture in hemiplegic stroke patients, the authors note.

Furthermore, researchers couldn't assess whether the risk of mortality after hip fracture was different between patients with and without stroke. And because the study was "observational," the team couldn't adjust for possible confounding factors such as body mass index and smoking.

Source: American Heart Association ([news](#) : [web](#))

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