

## Falls in months before surgery are common in adults of all ages

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Falling up to six months before an elective surgery was common and caused injuries among all adults, according to research from Washington University School of Medicine in St. Louis. The study suggests that falling may be an important indicator of baseline health. Credit: Washington University in St. Louis

In a large study of 15,000 adults undergoing elective surgery, researchers at Washington University School of Medicine in St. Louis found that falling up to six months before an operation is common and often causes serious injuries—not only in elderly patients but across all age groups. Surprisingly, the frequency of falls among middle-aged patients was slightly higher than those who were age 65 or older.

Additionally, the researchers linked preoperative falls to a lower quality of life and the inability to carry out daily tasks, such as using the bathroom independently. This suggests a patient's history of [falling](#) may be a powerful pre-surgical tool in assessing overall health.

The observational study found that 26 percent of the participants fell down in the six months preceding surgery, and more than half of these falls caused injuries. These findings particularly concerned the researchers because prior studies have linked pre-surgical falls to surgical complications and worse overall outcomes.

The study is published online June 30 in *Anesthesiology*, the journal of the American Society of Anesthesiologists.

"A history of falls is likely to be a marker of patient vulnerability and poor health," said the study's senior author, Michael S. Avidan, MBCh, the Dr. Seymour and Rose T. Brown Professor of Anesthesiology at the School of Medicine. "Our study suggests that a history of falls may help to detect aspects of poor health that are not usually found in the process of obtaining a patient's medical history and conducting a physical examination.

"This is probably because a history of falls provides insight into a patient's health that is not related to specific conditions such as diabetes and heart disease," added Avidan, who also is a professor of surgery and the chief of the Division of Cardiothoracic Anesthesiology.

Avidan is an anesthesiologist and intensive care physician at Barnes-Jewish Hospital, where patients in the study underwent a variety of operations—such as cataract surgery and knee replacement—during an 18-month period that ended in August 2015.

Preoperative falls may indicate baseline health better than some other currently used measures, said first author Vanessa L. Kronzer, a Washington University medical student. "Falls before surgery have not been rigorously studied, but our results point to the need for further exploration."

Most surprising was the frequency of falls among middle-aged patients, ages 45 to 64. This group saw the highest proportion of patients who fell—28 percent. Of these, 13 percent fell more than once. By comparison, among patients ages 65 and older, 26 percent of patients fell, with 11 percent falling more than once. For patients 44 and younger, results indicated that 24 percent fell and 12 percent fell recurrently.

"As you can see, those numbers are not very different, and that's exactly the point," Kronzer said. "We were expecting to see a large increase in the percentage of falls from young adulthood to middle age to older age, but that didn't happen. Instead, the percentage of people who fell was similar across all ages. This finding suggests we may need to reconsider which patients are most at risk of falling."

Middle-aged patients also experienced the highest proportion of severe fall-related injuries.

"This is the time of life when physical decline starts to occur; however, the individual may not be aware of it yet," Kronzer said. "Falling may indicate that physical decline is beginning, giving physicians valuable insight that ultimately may lead to positive post-surgical outcomes."

Due to the commonality of patients falling across all [age groups](#), researchers also examined contributing factors and found that falling was most common among patients with conditions such as osteoarthritis, rheumatoid arthritis, incontinence, impaired mobility, dizziness and poor perceived health.

Depression was associated with an increased likelihood of falling in patients aged 50 and older. Among [patients](#) aged 44 and younger, osteoarthritis was associated with higher odds of falling. Middle-aged women who suffered from incontinence also had a higher risk of falling.

"One of the next steps will be to study whether a history of falls can predict post-operative outcomes," Kronzer said.

**More information:** Kronzer VL, Tang RD, Schelble AP, Abdallah AB, Wildes TS, McKinnon SL, Sadiq F, Lin N, Helsten DL, Sharma A, Stark SL, Avidan MS. Preoperative Falls and their Association with Functional Dependence and Quality of Life. *Anesthesiology*. Published online June 30, 2016.

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