**Osteoarthritis, Arthroplasty (Total Joint) and Falls**

**Falls and fear of falling in older adults with total joint arthroplasty: a scoping review**

The definition of falls varied among the studies. Six studies used a traditionally accepted definition of falls [[25](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6909481/#CR25), [26](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6909481/#CR26), [30](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6909481/#CR30)–[33](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6909481/#CR33)], which was “an unexpected event in which the participant comes to rest on the ground, floor, or lower level, not as a result of a major intrinsic event such as a faint or stroke, seizure, or an overwhelming external hazard”.

Patients waiting or recovering from total joint arthroplasty (TJA) are at risk for falls which can lead to restriction of activity and negatively impact recovery. (*- no socialization, exercise-BDNF).* The objective of this scoping review is to critically appraise and synthesize the evidence in the reported number of falls, fear of falling, and risk factors associated with falls in older patients waiting for or recovering from TJA.

An increased risk of falls in patients with TJA was reported both for patients waiting for and recovering from surgery. A number of modifiable risk factors were identified including fear of falling that could be targeted in fall prevention programs for TJA.

Prevalence of falls in pre-operative TJA patients and post-operative TJA patients ranged from 23 to 63%, and 13 to 42%, respectively. Of those five studies that examined fear of falling, pre-operative TJA patients reported greater fear of falling than post-operative patients. Modifiable risk factors for falls included fear of falling, joint range of motion, and depression.

SOURCE: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6909481/>

**Osteoarthritis and Falls: How to Reduce Your Risk**

* *So, what is Osteoarthritis? And how does it impact our balance?*

Osteoarthritis (OA) does more than make your joints sore and stiff. Damage to your knees and hips can also interfere with your balance and mobility, increasing your risk for a fall and making you more likely to fracture a bone in the process. About half of people with OA report having fallen in the past year.

Here are the main reasons why people with OA fall, and a few things you can do to prevent a spill.

*Pain*

Research has linked joint pain to an increased risk for falls. The more joints arthritis affects, the greater the odds you’ll take a tumble. In a 2015 Arthritis Care & Research study, people with pain in one lower joint – their knee or hip – were 53 percent more likely to fall. Those with two affected joints had a 74 percent higher chance, and people with three to four painful joints were 85 percent more likely to fall.

One reason for the connection is that pain is a sign of more severe OA and greater joint damage. Yet even when X-rays don’t show signs of severe joint damage, people who are in pain are more likely to fall. Researchers say pain makes people avoid using the affected limb, which leads to muscle weakness, poor function, and greater unsteadiness.

*Decreased Function*

Another explanation for the OA-fall connection is decreased function. Stiffness and poor mobility in the joints makes some people change the way they move. Each time you take a step, you bear about 80 percent of your body weight on a single limb. People with OA in their knee or hip tend to compensate for joint damage by shortening their stride or widening their step, practices that impair their balance.

*Pain Medications*

Pain relievers can be a necessity when your joints are sore, but they can also make you less steady on your feet. The type of painkiller you choose is important. Narcotic pain relievers such as opioids are linked to a much higher risk of falling than are NSAIDs. *– NSAIDS like Advil (ibuprofen, naproxen and Asprin*

Taking opioids or antidepressants to relieve OA pain increases fall risk by about 22 percent, according to a 2017 study in Osteoarthritis and Cartilage. Opioids likely contribute to falls due to side effects like dizziness and drowsiness. The cause with antidepressants is less clear, but these drugs may make you unsteady by causing sleepiness and confusion.

*How to Prevent Falls*

Falls aren’t inevitable if you have osteoarthritis. Here are a few ways to reduce your risk:

Get a fall assessment. Ask your primary care doctor or rheumatologist to assess your fall risk based on your health and medical conditions. Once you know which factors put you at risk, you can take steps to manage them.

Revisit your medications. Go over all of the drugs you take with your doctor and pharmacist. Review their side effects and make sure they’re not throwing off your balance. See if you can wean yourself off any of them, or switch to a drug that doesn’t make you unsteady.

Fall-proof your home. Clean up tripping hazards such as wires, loose rugs, and piles of books or clothes. Place nonslip mats and grab bars on the floor of your shower and tub. Install handrails on both sides of stairways inside and outside of your home. Make sure all hallways and stairs are well lit.

Exercise. Exercise strengthens the muscles that support your joints and improves balance. Certain programs are particularly good at reducing fall risk in people with OA. Strength training, tai chi and aerobic exercise programs strengthen muscles, improve coordination and balance, and increase flexibility – all of which are necessary to stay upright. Participating in one of these programs can also increase your confidence and reduce your fear of falling. To learn the proper form, take a class geared to people with arthritis – such as one offered by the Arthritis Foundation. Or see a physical therapist.

Be careful about pain relievers. Avoid taking opioids whenever possible. If you have to take them, use the lowest possible dose for the shortest period of time necessary to relieve your pain.

Consider vitamin D. There is evidence that vitamin D supplements increase muscle strength and reduce fall risk among older adults who are deficient. Ask your doctor if you need a supplement, and if so, how much to take. *– 700-1000 IU per day and taken with good adherence to cover the needs for both fall and fracture prevention.*

Wear the right shoes. Stick to sturdy low-heeled, rubber-soled shoes. Avoid wearing high heels, slippers and leather soled shoes that can make you unsteady or cause you to slip. Get fitted properly whenever you buy new shoes.

Get an assistive device. If you’re unsteady on your feet, ask your doctor whether you need to use a cane or walker.

SOURCE: <https://www.arthritis.org/health-wellness/healthy-living/managing-pain/joint-protection/osteoarthritis-and-falls>

**Osteoarthritis and falls in the older person**

* *It is worth noting that not all research has been conclusive when it comes to OA and falls as one study finds…*

Osteoarthritis and falls are common conditions affecting older individuals which are associated with disability and escalating health expenditure. It has been widely assumed that osteoarthritis is an established risk factor for falls in older people. The relationship between osteoarthritis and falls has, quite surprisingly, not been adequately elucidated, and published reports have been conflicting. Our review of the existing literature has found limited evidence supporting the current assumption that the presence of osteoarthritis is associated with increased risk of falls with suggestions that osteoarthritis may actually be protective against falls related fractures. In addition, joint arthroplasty appears to increase the risk of falls in individuals with osteoarthritis.

SOURCE: <https://pubmed.ncbi.nlm.nih.gov/23864423/>

**Analysis of the Associations between Arthritis and Fall Histories in Korean Adults**

1. **Background:** the purpose of the present study was to analyze the associations between arthritis and fall histories in Korean adults.
2. **Methods:** data from the 2015 and 2017 Korean Community Health Survey were analyzed. In total, 322,962 participants aged ≥40 years were included. The participants were divided into two different groups. First, the participants were divided into the 'arthritis (osteoarthritis or rheumatoid arthritis) for entire life' and 'nonarthritis for entire life (comparison I)' groups. Subsequently, the participants were divided into the 'current arthritis' and 'noncurrent arthritis (comparison II)' groups. Afterwards, we analyzed the prevalence odds ratios (pORs) of the fall histories of the participants using a logistic regression analysis with the 95% confidence interval (CI). The variables of income, education level, region of residence, smoking status, alcohol consumption, obesity, subjective health status, stress level, physical activity, and sleep hours were adjusted for as covariates.
3. **Results:** both the arthritis for entire life and current arthritis groups had higher prevalence rates of falls than the comparison I and comparison II groups, respectively (each *p* < 0.001). The pORs of falling ≥1 time and ≥2 times per year in the arthritis for the entire life group were 1.42 (95% CI = 1.38-1.46) and 1.69 (95% CI = 1.62-1.76), respectively. The adjusted pORs for falling ≥1 time and ≥2 times per year in the current arthritis group were 1.35 (95% CI = 1.31-1.39) and 1.56 (95% CI = 1.50-1.63), respectively.
4. **Conclusions:** previous arthritis has a significant impact on the risk of falling.

SOURCE: <https://pubmed.ncbi.nlm.nih.gov/33916869/>

**Falls After Total Knee Arthroplasty: Frequency, Circumstances, and Associated Factors—A Prospective Cohort Study**

*Background*

Individuals with total knee arthroplasty (TKA) often experience pain and reduced balance control, which may predispose them to greater fall risk.

*Objective*

The objective of this study was to determine the frequency and circumstance of falls and fall-related risk factors within a 6-month follow-up period in individuals after TKA.

*Design*

This study was a prospective cohort study.

*Methods*

Knee proprioception, the Balance Systems Evaluation Test, knee pain, knee extension and flexion muscle strength, knee range of motion, and balance confidence were evaluated in 134 individuals (39 men, 95 women; mean age = 66.3 years [SD = 6.6 years]) 4 weeks after TKA. Monthly follow-up sessions, via face-to-face or telephone interviews, were implemented to obtain data on fall incidence over 6 months.

*Results*

Twenty-three individuals after TKA (17.2%) sustained at least 1 fall during the 6-month follow-up period. The median time of the first fall episode was 15 weeks after TKA. Of the 31 fall episodes, most occurred during walking (67.7%). Slipping (35.5%) and tripping (35.5%) were identified as the most frequent causes of falling. Most falls occurred at home (45.2%) or another indoor environment (29.0%). Multivariate binary logistic regression revealed that younger age (odds ratio: 0.91), reduced proprioception of the knee that had undergone surgery (“operated knee”) (odds ratio: 1.62), reduced sensory orientation (odds ratio: 0.92), and greater operated knee pain (odds ratio: 1.68) were significantly associated with more falls during the follow-up period. Limitations. The results of this study may be generalizable up to 6 months after TKA.

*Conclusions*

Intervention efforts should target deficits in knee proprioception and sensory orientation and operated knee pain to prevent future falls in individuals with TKA.

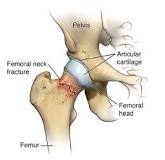
SOURCE: <https://academic.oup.com/ptj/article/98/9/767/5040252?login=false>

**Risk factors for falls in patients with total hip arthroplasty and total knee arthroplasty: a systematic review and meta-analysis**

The annual fall rate for patients with hip OA was approximately **50%**, and the fall rates for patients with knee OA and severe knee OA were up to 50% and 63%, respectively5, 6, 8. However, the 1-year incidence of falls in community-dwelling older people ranges from 10% to 33%9, 10 depending on age and ethnicity.

SOURCE: <https://www.sciencedirect.com/science/article/pii/S1063458419309288#:~:text=The%20annual%20fall%20rate%20for,depending%20on%20age%20and%20ethnicity>.

**Do people break their hip and fall or fall and break their hip?**

[[](https://www.google.com/search?sxsrf=APq-WBsS9qSIAWFA3q2AGYYJ5aMJVZ6bCQ:1648086362903&q=Do+people+break+their+hip+and+fall+or+fall+and+break+their+hip?&tbm=isch&source=iu&ictx=1&vet=1&fir=r8hgD8LoSOpExM%252CgJtzj5F1yNiruM%252C_&usg=AI4_-kTtT5dw5SYRDzPZ7MF7BSDy6n5wmg&sa=X&ved=2ahUKEwjI99aR0N32AhWgQzABHSZECN4Q9QF6BAgGEAE#imgrc=r8hgD8LoSOpExM)](https://www.google.com/search?sxsrf=APq-WBsS9qSIAWFA3q2AGYYJ5aMJVZ6bCQ:1648086362903&q=Do+people+break+their+hip+and+fall+or+fall+and+break+their+hip?&tbm=isch&source=iu&ictx=1&vet=1&fir=r8hgD8LoSOpExM%252CgJtzj5F1yNiruM%252C_&usg=AI4_-kTtT5dw5SYRDzPZ7MF7BSDy6n5wmg&sa=X&ved=2ahUKEwjI99aR0N32AhWgQzABHSZECN4Q9QF6BAgGEAE" \l "imgrc=r8hgD8LoSOpExM)

A fall is the most common reason for a hip fracture among the elderly. A few people may have a hip fracture happen spontaneously. If you are younger, a hip fracture is generally the result of a car accident, a fall from a great height, or severe trauma. Hip fracture is more common in older people.

SOURCE: <https://www.cedars-sinai.org/health-library/diseases-and-conditions/h/hip-fracture.html>