

Your Walking Speed Predicts Your Recovery After Hip Surgery

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › Osteoarthritis (OA), the leading cause of hip pain, affects an estimated 240 million people worldwide. It occurs when the protective cartilage that cushions the ends of your bones gradually breaks down, causing pain and stiffness
- › A study published in *The Journal of Bone and Joint Surgery* found that patients with a gait speed of at least 1 meter per second (m/s) before hip replacement recovered significantly better than those with slower gait
- › In another study published in *BMC Geriatrics*, researchers found that older adults who walked regularly before a hip fracture, at least 30 minutes or most days weekly, regained better walking speed one year after surgery
- › Hip osteoarthritis mainly affects adults in their 50s and older and is more common in women
- › Many people can manage hip osteoarthritis with safe, drug-free strategies like walking, strength training, and reducing inflammation through lifestyle changes – often delaying or avoiding injections and surgery

Hip pain is quietly becoming a global health crisis,¹ and osteoarthritis (OA), its leading cause, now affects an estimated 240 million people worldwide.² This condition occurs when the protective cartilage that cushions the ends of your bones gradually breaks down. In addition, experts warn that [hip fractures from osteoporosis are predicted to double by 2050](#), adding another layer of risk for aging adults.

As a result, the number of people seeking to ease their pain and restore function in their hips is also increasing. Over the past decade, hip replacement surgeries in the U.S. have more than doubled, rising from 138,700 to 310,800 annually among adults aged 45 and older.³

Hip replacement often comes with a lineup of meds – for pain, swelling, and clot prevention. But what if your best recovery tools go beyond the prescription pad?

Walking Speed Before Hip Replacement Predicts Recovery Success

A recent study from Kyushu University, published in *The Journal of Bone and Joint Surgery*, explored whether a patient's walking speed before hip replacement surgery could predict long-term recovery outcomes.^{4,5} Researchers sought to move beyond traditional measures such as X-rays and pain scores to identify a simple, reliable indicator of post-surgical success.⁶

- **The study analyzed 274 patients scheduled for total hip arthroplasty (THA)** – Each participant completed a 10-meter (m) walk test before surgery. Researchers then tracked outcomes for five to 10 years using two patient-reported measures: the Oxford Hip Score (OHS), which gauges pain and function, and the Forgotten Joint Score-12 (FJS-12), which measures how natural the artificial joint feels.^{7,8}
- **Gait speed emerged as the strongest predictor of recovery** – Using machine learning and regression analysis, the team found that walking speed outperformed age, body mass index (BMI), pain levels, and X-ray severity. Patients with a gait speed of at least 1 meter per second (m/s) before surgery were far more likely to report excellent outcomes years later.

"Gait speed is more than just how fast you walk – it reflects your overall health, from muscle strength to cardiovascular fitness," the authors explained.

- **Why gait speed works as a predictor** – Walking speed integrates multiple systems: heart, brain, and muscles. It's indicative of overall resilience, making it a practical tool for surgical planning and risk assessment. According to Dr. Yuki Nakao, an MD and Ph.D. student at the Department of Orthopaedic Surgery, Kyushu University and the study's first author:⁹

*"Among all the factors we examined, gait speed stood out as the most consistent and reliable predictor of better recovery ... Its simplicity also makes it a practical measure that clinicians can easily incorporate into their routine preoperative assessment."*¹⁰

- **Implications for patients and clinicians** – The authors recommend adding a simple 10-m walk test to pre-op evaluations. For patients below the 1 m/s threshold, prehabilitation focused on hip strength and range of motion could improve surgical readiness and long-term results.

"We hope that bringing this knowledge into clinical practice will support better recovery and ultimately improve outcomes for patients undergoing hip replacement surgery," Dr. Nakao added.¹¹

Pre-Fracture Activity Predicts Walking Recovery After Hip Fracture

A similar study published in 2024 in BMC Geriatrics explored whether older adults' regular activities before a hip fracture could predict walking speed one year after surgery. The goal was to find a simple, low-stress way to assess frail patients early in recovery without relying on complex or exhausting tests.¹²

- **Researchers followed 207 adults with a mean age of 83** – Assessments were conducted starting three to five days after surgery and continued for a year, with 151 participants completing the follow-up. Patients recalled their pre-fracture

walking habits – specifically, how often and how long they walked using the UCLA Activity Scale and the New Mobility Scale. At the one-year mark, walking speed was assessed using the 4m walk test from the Short Physical Performance Battery.¹³

- **Regular movement predicted better recovery** – Patients who walked at least 30 minutes at a time or walked five to seven days per week before their fracture had faster walking speeds one year later. This suggests that even short walks can make a difference.¹⁴
- **Four factors explained most of the difference** – Age, number of health conditions, and two recalled activity scores were the strongest predictors of one-year walking speed. Together, these explained 54% of the variation in recovery outcomes.

These findings show that walking is a gentle and practical tool that even older, medically frail patients can take advantage of. The researchers concluded:¹⁵

"Duration and frequency of regular walks before the hip fracture play a role in walking speed recovery one year following the fracture. Subjective outcome measures of mobility and physical activity, recalled from pre-fracture, can predict walking speed at one year. They are gentle on older, medically frail patients and clinically less time-consuming."

Both of these featured studies highlight that walking is a good indicator of overall health, especially for people in their golden years. Remaining active, even as simple as doing gentle walking, significantly aids recovery after surgery or injury. For individuals dealing with hip pain from osteoarthritis (or those who are at high risk for osteoarthritis), walking is vital for maintaining mobility and independence.

What You Need to Know About Hip Osteoarthritis

Hip osteoarthritis is the most common type of hip arthritis and is a leading cause of pain and stiffness in older adults. It occurs when the smooth cartilage that cushions the ball-and-socket joint wears down, causing the bones to rub together.¹⁶ It also causes the formation of bone spurs, which are growths at the edge of the bone that alter its shape.

People in their 50s and older are prone to developing hip osteoarthritis, and according to Brigham and Women's Hospital, one in four people will develop it by age 85.¹⁷ Younger individuals can also be affected after a joint injury.¹⁸

1. Four stages of osteoarthritis – Doctors classify hip osteoarthritis into four stages based on how much the joint has deteriorated and how symptoms progress:¹⁹

- **Stage 1** – Damage and bone spurs are minor. Most people feel little or no pain at this point.
- **Stage 2** – The cartilage begins to wear down, and bone spurs may appear on X-rays. Pain and stiffness become noticeable, especially after activity.
- **Stage 3** – Cartilage loss is more significant, and the space between the bones narrows. Pain, stiffness, and swelling occur during everyday activities, such as walking.
- **Stage 4** – Cartilage is gone or nearly gone. Pain, swelling, and stiffness are constant, even at rest.

2. Who are at risk? Women are affected more often than men. The likelihood also increases for people who have a family history of hip osteoarthritis.²⁰ Obese individuals are also at a higher risk, as carrying extra pounds places pressure on your joints. In fact, every single pound adds roughly four pounds of force on your knees and hips. That means losing even five pounds can feel like taking 20 pounds off your joints.²¹

3. Hallmark symptoms – According to the American Academy of Orthopaedic Surgeons, "the most common symptom of hip osteoarthritis is pain." However, there are other indicators of this condition to watch out for, such as:²²

- Groin or thigh pain that may spread to the buttocks or knee
- Pain that flares with activity, especially vigorous movement

- Stiffness that makes walking or bending difficult
- Locking or sticking of the joint, sometimes with a grinding sound caused by loose cartilage fragments
- Reduced range of motion

Caveats on Conventional Hip Osteoarthritis Treatments

Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used in the treatment of osteoarthritis; in more severe cases, steroid shots are typically prescribed. However, you should know that these medications only help in the short term, working as Band-Aid solutions for the pain. They also come with their own sets of health risks.

- **Steroid shots may do more harm than good** — Steroid injections might sound like a quick fix for hip or knee osteoarthritis, but research shows they can cause real harm. For example, in a study published in the journal *Radiology* where 459 patients received between one and three intra-articular corticosteroid (IACS) injections^{23,24,25} 8% developed complications that made their joints worse.

Hips were hit harder than knees — 10% of hip OA patients had adverse effects compared to 4% of knee OA patients.

"We are now seeing these injections can be very harmful to the joints with serious complications such as osteonecrosis, subchondral insufficiency fracture, and rapid progressive osteoarthritis ... Intra-articular corticosteroid injection should be seriously discussed for pros and cons. Critical considerations about the complications should be part of the patient consent which is currently not the case right now," the study authors reported.²⁶

About one in 12 developed serious complications, including faster joint damage, stress fractures, bone death, and, in some cases, rapid joint destruction. The researchers also cited data showing steroid injections led to more than double the

cartilage loss over two years compared to placebo, without improving pain long-term.

- **Steroids come with a long list of side effects** – Although they could reduce inflammation, steroids can disrupt the natural balance in your body. Here are known adverse effects one can experience with prolonged use. [27,28,29,30,31,32,33](#)
 - Stomach ulcers
 - Increased facial hair
 - Increased risk of heart disease
 - Genital yeast infections or oral thrush
 - Reduced bone density and osteoporosis
 - Gastrointestinal bleeding
 - Thinning skin and stretch marks
 - Increased appetite and weight gain
 - Metabolic syndrome
 - Higher risk of infection
 - Impaired memory
 - Cataract
 - Insomnia
 - Glaucoma
 - Puffy “moon face”
 - Hypomania, hyperactivity, depression, or psychosis

- Urinary tract infections
- Suppressed adrenal gland hormone secretion
- Slow-healing wounds
- High blood sugar and diabetes
- Fluid retention
- Acne
- Night sweats
- Increased blood pressure
- **NSAIDs are problematic, too** — Ibuprofen and other pain relievers are commonly used for flare-ups, but they should be used cautiously. They are known to irritate the stomach lining, increase the risk of heart attack, and decrease kidney function by reducing blood flow to the kidneys.³⁴

Don't Let the Pain Stop You from Walking

Considering the long-term risks of steroid shots and pain medications, it's clear that gentle walking is a safer way to tackle hip pain. It's low-impact, free, and doesn't require a gym membership or special gadgets. For people with hip osteoarthritis or have a high risk of developing this condition, it's safe and sustainable.

- **Walking sets the pace for mindful movement** — Despite strong evidence supporting exercise for hip osteoarthritis, most patients aren't walking enough. Data from the U.S. Centers for Disease Control and Prevention (CDC) shows that 53% of U.S. adults don't walk for exercise at all, and just 23% meet the recommended 150 minutes of movement per week.³⁵

A separate study published in *Osteoarthritis and Cartilage* found that gentle joint movement like walking helps protect cartilage by activating anti-inflammatory pathways at the cellular level.³⁶ It also stimulates proteins that support the joint's natural repair system.^{37,38}

"We have known for some time that healthy exercise is good for you – now we know the process through which exercise prevents cartilage degradation," Su Fu, Ph.D., a student at Queen Mary's School of Engineering and Materials Science and one of the study authors, noted.

- **It lowers your risk for other diseases** – Walking isn't just good for your joints – it's a full-body health upgrade. Moderate, consistent movement delivers a dose-dependent drop in chronic disease risk. As noted in a study published in the journal *GeroScience*.³⁹

"Walking decreases the risk or severity of various health outcomes such as cardiovascular and cerebrovascular diseases, Type 2 diabetes mellitus, cognitive impairment and dementia, while also improving mental well-being, sleep and longevity ..."

Walking's favorable effects on cardiovascular risk factors are attributed to its impact on circulatory, cardiopulmonary and immune function. Meeting current physical activity guidelines by walking briskly for 30 minutes per day for 5 days can reduce the risk of several age-associated diseases."

- **It may slow down aging** – Walking does more than work your muscles – it energizes your cells. Each step stimulates the creation of new mitochondria and improves the efficiency of the ones you already have. Better mitochondrial health means your body produces energy more effectively and becomes more resilient against age-related decline.⁴⁰
- **It promotes better sleep** – Struggling with restless nights? A simple walk could help. Walking outdoors exposes you to natural light that helps regulate your circadian rhythm and boosts melatonin, the hormone that signals your body it's time

to sleep. This combination sets the stage for deeper, more restorative rest.⁴¹

To learn more about why this simple activity is so rewarding, read "[Don't Underestimate the Power of a Good Walk.](#)"

Drug-Free Ways to Take Pressure off Your Hips

Walking is a great way to get started, but it's not the only way to ease the burden of hip osteoarthritis without popping pills or getting steroid shots. These simple strategies can also help you lessen pain and live healthier:

- **Tight hips? Try doing these moves** — Simple exercises like gentle hip circles, knee rotations, and bridge lifts can ease the pain of prolonged sitting. If you want to see more exercises for hip and groin pain, read "[Knee and Groin Pain Could Signal Hip Problems.](#)"
- **Manage your weight by consuming a bioenergetic diet** — Eating right is not about how much food you skip out on; it's about making healthy choices. Eliminate all ultraprocessed foods and focus on healthy carbohydrates and starches, fruits and vegetables, and grass fed meats and collagen to nourish your body to support your metabolism. I explore this approach in depth in my book, "[Your Guide to Cellular Health: Unlocking the Science of Longevity and Joy.](#)"
- **Remove inflammatory oils from your diet** — Vegetable oils like soybean, canola, corn, safflower, and sunflower are high in [linoleic acid \(LA\)](#), which drives chronic inflammation and joint damage. Replace them with healthy fats such as grass-fed butter, ghee, or tallow.
- **Boost vitamin K2 for joint protection** — Vitamin K2 supports bone health and protects your hips by preventing cartilage cell death and limiting inflammatory damage.⁴²

Load up on vitamin K-rich foods like grass fed egg yolks, aged cheeses, and fermented foods like natto or sauerkraut. If you need supplemental support, consider a daily dose of MK-7 (80 to 200 micrograms), a form of K2 that your body absorbs easily.

- **Add bone broth for cartilage repair** – Homemade **bone broth** is rich in collagen, glycine, glucosamine, and chondroitin, which are nutrients that help rebuild cartilage and soothe inflammation.⁴³
- **Support your mitochondria to calm inflammation** – **Healthy mitochondria** help regulate immune responses and reduce inflammatory flare-ups. Keep them strong by eating healthy carbs, moving daily, and getting safe sun exposure. Research also shows dimethyl sulfoxide (DMSO) can improve hip flexibility in rheumatoid arthritis.⁴⁴

Frequently Asked Questions (FAQs) About Hip Osteoarthritis Management

Q: Is hip pain really that common now?

A: Yes. It's becoming a global problem. Hip osteoarthritis affects an estimated 240 million people worldwide. Experts also warn that hip fractures are expected to double by 2050, especially as more adults live longer with weaker bones. While once seen as an issue for seniors, hip pain is now showing up earlier due to injuries, inactivity, and lifestyle habits.

Q: What did the Kyushu University study reveal about the relationship between walking speed before hip replacement and recovery?

A: The study, published in *The Journal of Bone and Joint Surgery*, followed 274 patients and found that those with a walking speed of at least 1 m/s before surgery had far better long-term recovery. Pre-surgery walking speed was a stronger predictor than age or pain levels.

Q: What did the 2024 BMC Geriatrics study show about hip fracture recovery?

A: This study followed 207 older adults and found that people who regularly walked before their fracture – either 30-minute sessions or most days weekly – walked significantly faster one year after surgery. Pre-fracture activity strongly shaped post-surgical mobility outcomes.

Q: What exactly is hip osteoarthritis?

A: Hip osteoarthritis is a degenerative condition where the cartilage protecting the ball-and-socket joint breaks down, causing grinding, pain, and stiffness. It progresses through four stages, from mild discomfort to severe "bone-on-bone" damage that limits movement.

Q: What are safer ways to manage hip osteoarthritis naturally?

A: Walking, strengthening the hip and leg muscles, maintaining a healthy weight, improving diet, reducing inflammatory oils, and supporting joint health with nutrients like vitamin K2 can ease symptoms. These habits often delay the need for medications, steroids, or surgery.

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