

Knee and Hip Exercises for Osteoarthritis

WebMD Feature

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The old slogan, "Move it or lose it," goes double, or perhaps triple, for people with osteoarthritis.

"Just like for anyone else, physical activity is important for overall health," says Steffany Haaz, PhD, a health behaviorist at the Johns Hopkins Arthritis Center. "But it's even more important for people with arthritis because there's disability associated with the condition, both the disability associated with the disease and the disability that happens when a joint doesn't get exercised. First, you move less because it's painful, then you start to lose the ability to move. It can become a vicious cycle."

Years ago, arthritis was treated with rest and immobilization. Scientists have since learned that locking up the joints actually makes them worse.

"There's a huge body of literature demonstrating that keeping the hips and knees moving, and the muscles around the joints strong, contributes greatly to protecting the joints and staving off additional damage caused by arthritis," says Linda Arslanian, DPT, MS, director of rehabilitation services at the Brigham and Women's Hospital in Boston.

Of course, it's not as simple as hopping on the treadmill or hitting the weight room. A healthy 30-year-old might be able to exercise however he pleases, but people with knee and hip osteoarthritis have limitations. Which exercises can you do to make the most of your mobility without increasing pain or risking injury?

"That's the trick," says Arslanian. "Some exercises actually can make knee and hip arthritis worse. Those are the ones that create a huge amount of impact loading on the joints -- the ones we call 'high impact' activities," she says.

Exercises to Avoid With OA of the Knee or Hip:

- 1 Running and jogging. "The difference between how much force goes through your joints jogging or running, as opposed to with walking, is sometimes more than tenfold your whole body weight," says Arslanian.
- 2 Jumping rope.
- 3 High-impact aerobics.
- 4 Any activity where, at any time, you have both feet off the ground at once, however briefly.

Fortunately, that leaves a lot of activities that are OK for people with knee and hip osteoarthritis and that can help keep you mobile. There are three key areas you need to focus on: weight-bearing cardiovascular activity, to keep your bones strong and your

heart healthy; muscle strengthening activity, to relieve strain on the joints; and flexibility and range of motion, to help prevent falls and keep your joints mobile.

Cardiovascular Exercise

Good cardiovascular exercises for people with knee and hip osteoarthritis include walking, swimming, and cycling. “Really, it’s anything that you can tolerate that gets your heart rate going,” says Haaz.

If you can take a brisk walk, it can keep you mobile and help to reduce pain. If walking for exercise is too painful, try a recumbent bicycle. “These bikes extend the angle of the joint so that the knee and hip aren’t flexing so much with each rotation, so that it might cause less strain and pain,” Haaz says.

If even the recumbent bike is too much, the swimming pool is your friend. “It feels great on the joints!” Haaz says. “You must find a pool that is heated, because cold water is very painful for arthritic joints. The only downside to swimming is that it doesn’t give you the delay of bone loss that is a key benefit of weight-bearing exercise.”

Muscle Strengthening Activity

You might think that lifting weights would be bad for arthritis, but some studies show that the opposite is true. By strengthening the muscles around the joints, strength training helps to take some of the load off the arthritic joints and relieves pain.

“The job of connective tissue is to hold things together, so you’re losing stability in the joint, part of what’s causing the pain. When you strengthen the muscles surrounding and supporting the joint, you can relieve some of the symptoms,” says Haaz.

In a recent study, older men and women with moderate knee osteoarthritis who went through a 16-week program of strength training reported an average of 43% decrease in pain and gained increased muscle strength, decreased disability, and lessened the clinical signs and symptoms of their disease.

Strength training also lessens the risk of falls, which can be a major risk for people with knee and hip osteoarthritis. A study from New Zealand found that women 80 old and older showed a 40% reduction in falls with simple strength and balance training.

You can also help to prevent falls through the gentle, easy motions of exercises like tai chi and easier yoga classes designed for people with arthritis, which will further improve your balance.

Flexibility and Range of Motion

There are a number of specific exercises that you can do, designed to be easy for people with osteoarthritis, to increase your flexibility and range of motion around your knees and hips.

“We want to do activities without force that bring the hips and knees through the full range of motion in a general, unforced manner, allowing the joint to lubricate itself and help to heal the damage,” says Arslanian. You can do these stretching exercises in a pool, or on a mat near a wall for support.

Before starting an exercise or flexibility training program, check with your doctor. Depending on your ability and comfort level, try these exercises 2 to 3 times per week and gradually work up to doing the exercises daily. Aim to do 2 to 3 sets of 8 repetitions per side.

Hip Exercises

- 1 **Leg swings.** Simply hold onto the edge of the pool, or the wall if you're on land, and gently swing your leg out to the side, alternating sides. “The pool is particularly good for this, because the buoyancy assists you and you get a better range of motion, and you also have resistance from the water that makes your muscles do more work,” says Arslainian.
- 2 **Leg extensions.** In the same position, extend your leg gently backward, alternating legs. As with all range-of-motion exercises, Arslainian advises getting an expert consult before starting out. “If your hip is very tight, and you try to bring it behind you and it doesn't move backward very well, you can end up overarching your back and causing back problems by doing it incorrectly. You need to be shown how to do it right.”



Knee Exercises

- 1 **Knee rocks.** Get down on one knee as if you're proposing marriage (with a soft mat underneath to cushion your knees). Rock gently forward, keeping your shoulders straight. This stretches the front of the knee while protecting the lumbar spine. Make sure your knee does not extend past your toes as this can strain the knee.
- 2 **Straight leg raises.** Sit in a chair, straighten one leg, and raise it straight out in front of you. Alternate legs.

- 3 Leg curls.** If you are nimble enough, lie on the floor on your stomach, and gently bend your heel back toward your buttocks, making sure to keep your hips on the ground.

All of these exercises should be done without weights, Arslanian advises. "In general, it's not a good idea to put a weight on the ankle and bend and straighten the knee. That puts a lot of torque on the knee that can exacerbate arthritis. Instead, if you want to add weight, it's better to use something like the full leg press machine, which has you lie down and push a plate up. With those, your full body weight is somewhat unloaded from the joint."