

Understanding Cartilage, Joints, and the Aging Process



Medically reviewed by [William Morrison, M.D.](#) — Written by [Kimberly Holland](#)
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[Joint structure](#) [Aging body](#) [Risk factors](#) [Treatment](#)
[Lifestyle and at-home treatments](#) [Outlook](#)

What is osteoarthritis?

A lifetime of walking, exercising, and moving can take a toll on your cartilage — the smooth, rubbery connective tissue covering the ends of bones. The degeneration of cartilage can cause chronic inflammation in the joints, which may lead to arthritis.

Osteoarthritis (OA) is the most common form of arthritis. OA is also known as degenerative joint disease. According to the [Centers for Disease Control and Prevention \(CDC\)](#), about 30 million adults in the United States have OA. That makes OA one of the leading causes of disability in adults.

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The structure of a joint

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cartilage healthy. The synovium can become inflamed and thickened as wear and tear on the cartilage occurs. This may lead to inflammation, which produces extra fluid within the joint, resulting in swelling—and possibly the development of OA.

The joints most commonly affected by OA are:

- hands
- feet
- spine
- hips
- knees

As cartilage further deteriorates, adjacent bones may not have sufficient lubrication from the synovial fluid and cushioning from the cartilage. Once bone surfaces come in direct contact with each other, it results in additional pain and inflammation to the surrounding tissues.

As bones continually scrape together, they can become thicker and begin growing **osteophytes**, or bone spurs.

The aging body

The older your get, the more common it is to experience mild soreness or aching when you stand, climb stairs, or exercise. The body doesn't recover as quickly as it did in younger years.

Also, cartilage naturally deteriorates, which can cause soreness. The smooth tissue that cushions joints and helps them move more easily disappears with age. The body's natural shock absorbers are wearing out. So you begin feeling more of the physical toll your body.

You also lose muscle tone and bone strength the older you get. That can make physically demanding tasks more difficult and taxing on the body.

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Risk factors of OA

A common risk factor for developing OA is age. Most people with OA are over the age of 55. Other factors increase a person's chances for developing the disease. These include:

Weight

Being overweight puts additional stress on joints, cartilage, and bones, especially in the knees and hips. It also means you're less likely to be physically active. Regular physical activity, like a daily walk, can greatly reduce the likelihood of developing OA.

Family history

Genetics may make a person more likely to develop OA. If you have family members with the disease, you may be at an increased risk of developing OA.

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Before age 45, men are more likely to develop OA. After 50, women are more likely to develop OA than men. The likelihood of developing OA in both sexes becomes almost even around age 80.

Occupation

Certain occupations increase a person's risk for developing OA, such as:

- construction
- farming
- cleaning
- retail

People in these occupations use their bodies more vigorously as part of their job. This means more wear and tear on their joints, causing more inflammation.

Younger, more active people can also develop OA. However, it's often the result of a trauma, like a sports injury or accident. A history of physical injuries or accidents can increase a person's chance of later developing OA.

Treatment

OA doesn't have a cure. Instead, the goal of treatment is to manage pain, and then reduce contributing causes that make symptoms of OA worse. The first step in treating OA is to decrease pain. This is often done with a combination of medications, exercise, and physical therapy.

Treatment for OA is often tailored to a person's lifestyle and what triggers pain and soreness. A range of treatment options is available. These include:

Medication

Over-the-counter (OTC) pain relievers are usually all people with OA need to treat pain. Examples include nonsteroidal anti-inflammatory drugs

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However, if pain becomes worse or OTC medications aren't effective, stronger pain medication may be needed.

Injections

Hyaluronic acid and **corticosteroid** injections can help reduce pain in affected joints. However, steroid injections typically aren't used repetitively because they can cause additional joint damage over time.

Hyaluronic acid injections and the corticosteroid triamcinolone acetonide (Zilretta) are only approved for the knee. Other injections such as PRP (plasma rich protein) and stem cell injections are being used on an experimental basis.

Surgery

Surgery is typically reserved for people who have severe and debilitating OA.

Osteotomy is a removal procedure that can reduce the size of bone spurs if they're interfering with joint movement. Osteotomy is also a less invasive option for people who want to avoid joint replacement surgery.

If osteotomy isn't an option or doesn't work, your doctor may recommend bone fusion (arthrodesis) to treat severely deteriorated joints. Arthrodesis of the hip or knee is rarely done anymore, but it may be performed on other joints such as fingers or wrists.

For the hip and knee joints, the last resort is a total joint replacement (arthroplasty).

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Lifestyle and at-home treatments

To help manage your pain and reduce your symptoms, you might want to try some lifestyle adjustments to make things easier on your joints and bones. These adjustments can improve function as well as your quality of life. Options include:



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Low-impact exercise can help strengthen muscles and keep bones strong. Exercise also improves joint mobility.

Forgo heavy-impact exercises, such as tennis and baseball, and begin doing more low-impact exercises. Golfing, swimming, yoga, and cycling are all easier on the joints.

Heat/cold therapy

Apply [warm compresses](#) or [cold packs](#) to joints when they are sore or painful. This can help relieve pain and reduce inflammation.

Assistive devices

Using devices such as braces, splints, and canes can help your body support weak joints.

Rest

Giving painful, sore joints adequate rest can relieve pain and reduce swelling.

Weight loss

Losing as little as 5 pounds can help decrease the symptoms of OA, especially in large joints like the hips and knees.

Outlook

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possible that over time, degeneration of cartilage can lead to inflammation and OA.

However, there are both medical treatments and lifestyle changes you can make to reduce pain and manage other symptoms. If you have OA, talk with a doctor and explore your treatment options.

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