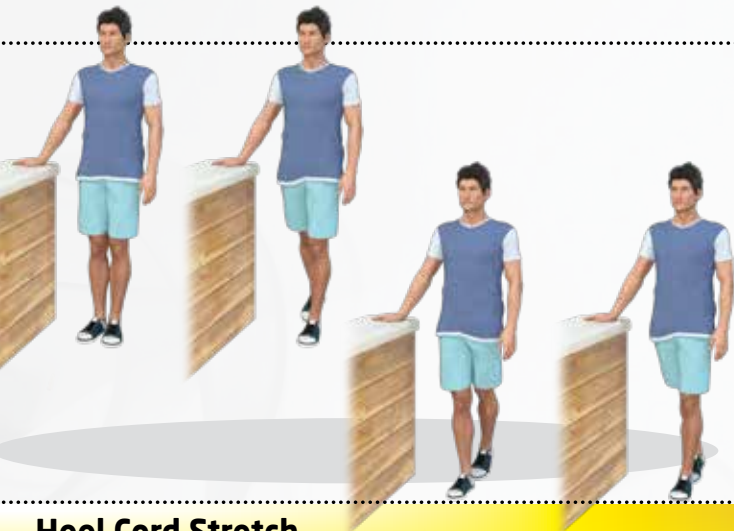


## Single Leg Standing Balance

1. Stand on one leg.
2. Try and remain steady for 10-15 seconds.
3. Repeat with your other leg. Continue alternating sides.
4. Repeat exercises 2-3 times per day.



## Tandem Walking

1. Stand at the end of a hallway or long counter. Only touch the walls or the counter if you need to regain your balance.
2. Walk forward by placing one foot directly in front of the other as if you are walking a tightrope.
3. Walk as straight as you can, not veering to either side.
4. Repeat exercises 2-3 times per day.

## Heel Cord Stretch

1. Stand facing a wall with unaffected leg forward with a slight bend at the knee. Your affected leg is straight and behind you, with the heel flat and the toes pointed in slightly.
2. Keep both heels flat on the floor and press your hips forward toward the wall.
3. Hold this stretch for 30 seconds and then relax for 30 seconds. Repeat.

**Tip:** Do not arch your back.



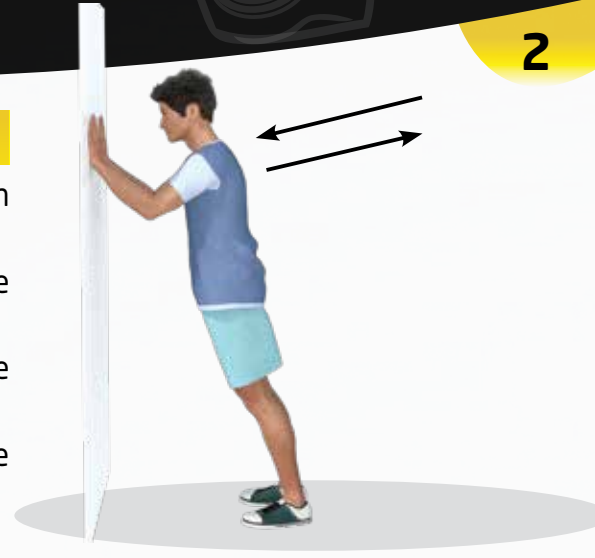
## Calf Raises

1. Stand with your weight evenly distributed over both feet. Hold onto the back of a chair or a wall for balance.
2. Lift your unaffected foot off the floor so that all of your weight is placed on your affected foot.
3. Raise the heel of your affected foot as high as you can, then lower.
4. Repeat 10 times.

**Tip:** Keep your weight centred on the ball of your working foot.

## Wall Push-ups

1. Find a wall that is clear of any objects. Stand a little farther than arm's length from the wall.
2. Facing the wall, lean your body forward and place your palms flat against the wall at about shoulder-height and shoulder-width apart.
3. To a count of four, bend your elbows as you lower your upper body toward the wall in a slow, controlled motion, keeping your feet planted.
4. Pause. Then, to a count of two, slowly push yourself back until your arms are straight—but do not lock your elbows.
5. Repeat 10 times for each set.



## Sitting Knee Extension

1. Sit back in a chair with your feet flat on the floor and toes pointed forward.
2. Straighten your back and sit tall. Tighten your stomach muscles and look ahead, chin parallel with the floor.
3. Flex your left foot. Slowly straighten one knee as you lift your heel a few inches from the floor as you count to 2. Do not slouch or round your back.
4. Hold this position for a few seconds while breathing normally. Relax and return to the starting position as you count to 4. Switch to the other leg.
5. Repeat 10 times with the left leg and 10 times with the right leg. Rest for 1 to 2 minutes. Do a second set of 10 repetitions with each leg.

## Step Ups

1. Stand alongside the handrail at the bottom of a staircase. With your feet flat and toes facing forward, put your entire right on the first step.
2. Holding the handrail for balance, straighten your right leg to lift up your left leg slowly until it reaches the first step. As you are lifting yourself up, make sure that your right knee stays straight and does not move forward past your ankle. Let your left foot tap the first step near your right foot.
3. Pause. Then, using your right leg to support your weight, to a count of four, slowly lower your left foot back to the floor.
4. Repeat 10 times with the right leg and 10 times with the left leg for each set.



# Nutrition

## Osteoarthritis



### Foods to avoid<sup>(1-4)</sup>



**Red meat** - It is a source of saturated fat, which increases the levels of total cholesterol in the blood, particularly LDL cholesterol which is harmful to health. This type of cholesterol has been associated with increased cartilage damage in people with osteoarthritis.



**Soda** - Cutting back on foods that are full with sugars, especially empty calories trigger overeating, can help peel off pounds. Obesity is directly related to osteoarthritis, especially of the knees. Each pound of extra weight puts four pounds of extra stress on knees.



**White flour products** - White flour products (breads, rolls, biscuits), white rice, instant mashed potatoes and many cereals are refined carbohydrates. These products stimulate inflammation and increase obesity.



**Fast food** - Pizza is the biggest source of saturated fats. Saturated fats trigger adipose (fat tissue) inflammation, which is not only an indicator for heart disease but also worsens arthritis inflammation.



**Sunflower oil** - Its consumption was associated with the development of bone marrow lesions, and excess consumption of omega-6s can trigger the body to produce proinflammatory chemicals.



**Full-fat dairy products** - Are sources of saturated fat so they should be avoided.



**Doughnuts** - Are rich in trans fats, so known to trigger systemic inflammation. Avoid foods with partially hydrogenated oils in the ingredient labels.



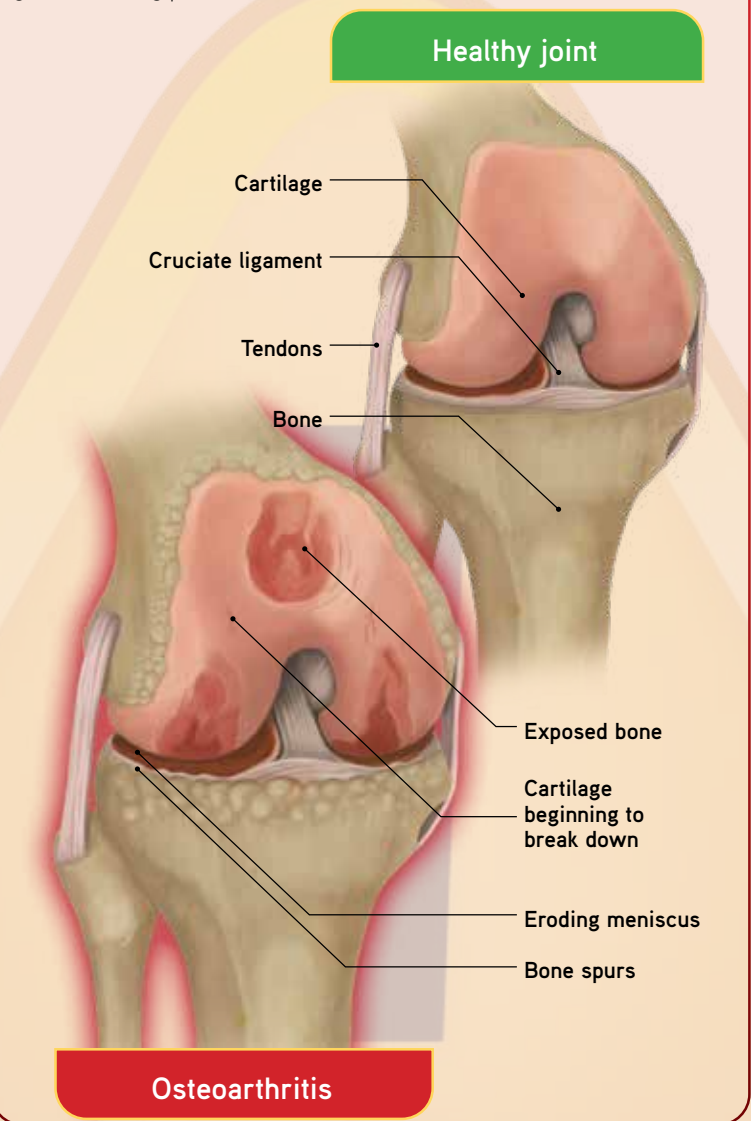
**Butter** - Contains high fat, but also saturated fat, which can increase swelling and pain in the body. Therefore, it is better that butter should be avoided by people with arthritis.



**Chocolate** - As it contains calories, but without fibre or nutrients, it can lead to weight gain.

### What is Osteoarthritis?<sup>(3-6)</sup>

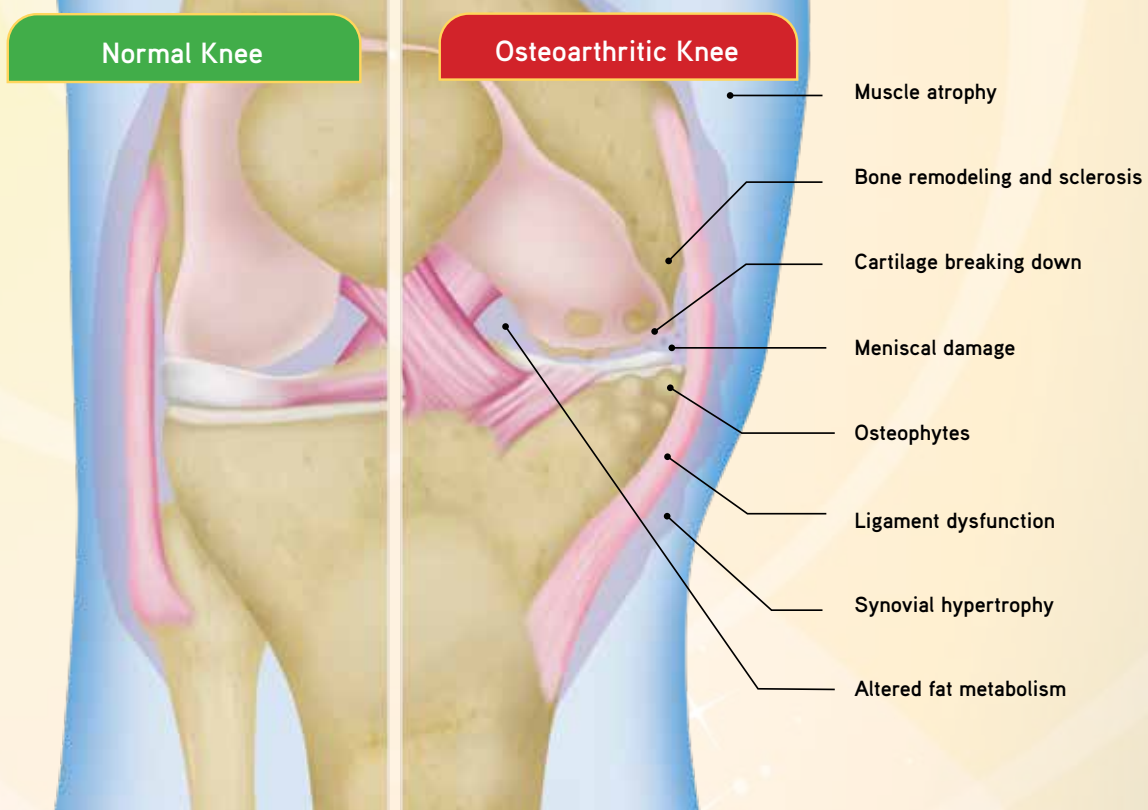
Osteoarthritis (OA) sometimes called degenerative joint disease or 'wear and tear' arthritis. It most frequently occurs in the hands, hips, and knees. With OA, the cartilage, or the slippery tissue that covers the ends of bones in a joint, begins to break down. With less cartilage, the bones rub together, causing pain and stiffness.



### Managing your Diet<sup>(3,4)</sup>

Exercise and routine daily physical activity is recommended as tolerated, as it often improves joint pain and mobility.  
Lose weight if overweight.  
Increase consumption of vitamin-D-rich foods, for example, oily fish, eggs (yolks), vitamin-D-fortified spreads, fortified milk.  
Control your cholesterol levels

# Synovial Joint Tissues Affected in Osteoarthritis<sup>(7,8)</sup>



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## 8 Types of Food that Might Help Prevent Osteoarthritis<sup>(2,3,5,9-11)</sup>

### Spinach

Source of vitamin K, so they decrease the risk of cartilage injuries and OA of the knee and hands.



### Citrus fruits

Citrus fruits are rich in vitamin C. Vitamin C is essential for the body to make collagen, an important part of the cartilage that protects the ends of bones in joints. It is also an antioxidant, which helps the body protect damage to tissues like cartilage.



### Salmon

Salmon is a heart-healthy, contains omega-3 fatty acids. Several studies in the past decade have shown the beneficial effects of omega-3 fatty acids and reducing knee cartilage loss and inflammation.



### Extra virgin olive oil

Extra virgin olive oil contains high levels of oleocanthal, that has similar properties to nonsteroidal anti-inflammatory drugs.



### Broccoli

Are sources of phytonutrient, they block inflammation and protect against the destruction of cartilage.



### Blueberries

Blueberries are high in polyphenols, therefore regular consumption of blueberries may help improve osteoarthritis.



### Sweet Potatoes

Are rich of beta-carotene which can help reduce inflammation.



### Fortified low-fat yogurt

Are sources of vitamin D and low vitamin D intake increases OA progression.



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