

Osteoarthritis and diet

Arthritis is a condition that causes joint pain. This Food Fact Sheet is about the role diet has in managing symptoms of the most common arthritic condition, osteoarthritis (OA).

What is osteoarthritis?

Osteoarthritis commonly affects the large joints such as the knees and hips but frequently occurs in the hands, the base of the big toe and the spine. It is a condition that affects the whole joint. Cartilage breakdown and inflammation can lead to pain, discomfort and a reduced quality of life. In the UK, it is the fastest growing cause of disability. More people are getting osteoarthritis alongside a rise in obesity, which is a major risk factor. Osteoarthritis may run in families or can develop as a result of injury and often affects people later in life.

There is currently no cure for osteoarthritis, so treatment options are generally limited to the management of pain and symptoms. Though there is no evidence that food exclusion is effective in osteoarthritis, there are dietary strategies that may help you to ease its symptoms.

Maintaining a healthy weight

The most important relationship between diet and osteoarthritis is weight. If you have obesity or overweight this increases the strain on joints. Excess fat also causes inflammation which can exacerbate symptoms. There is strong evidence that losing weight can reduce pain and improve physical function and mobility.

If you have overweight or obesity, losing at least ten per cent of your body weight will give most benefit, not only for symptoms but for overall health. Try to eat a healthy diet with plenty of fruits and vegetables.

Incorporating exercise alongside dietary changes helps to maintain muscle while losing weight. This has been shown to increase physical function. Osteoarthritis has been linked to cardiovascular disease. Losing excess weight will also help to prevent or manage this.

Find out more in our Healthy Eating and Weight Loss fact sheets.

What fats should I be consuming?

The long-chain omega-3 polyunsaturated fatty acids found in oily fish have anti-inflammatory properties that may well be of benefit in osteoarthritis.

Aim to consume two portions of fish per week, one of which should be oily, e.g., sardines, mackerel or salmon. If this is not possible you could consider a trial of fish-oil capsules at a dose that would provide a similar amount (450 mg EPA and DHA per daily adult dose). While more evidence is needed to show clear benefits of taking fish oil for osteoarthritis symptoms, this dose improved pain and function in a trial on knee osteoarthritis patients and is the dose recommended for reducing cardiac death.

Omega-6 polyunsaturated fats (found in sunflower, safflower, corn and grapeseed oils) are somewhat pro-inflammatory so may make symptoms worse, as may saturated fats (mainly found in animal products). Replace them with oils and spreads rich in mono-unsaturated fats like rapeseed oil and olive oil.

Find out more in our Fats fact sheet.

Cholesterol reduction

Osteoarthritis patients are more likely to have raised blood cholesterol. There is some suggestion that cholesterol metabolism is linked to osteoarthritis development and that lowering blood cholesterol will improve osteoarthritis. In any case, if blood cholesterol is raised, it is important to make dietary changes to lower it – this will also benefit cardiovascular health.



Collective dietary measures include:

- replacing foods high in saturated fat with foods high in unsaturated fat
- increasing the intake of dietary fibre
- eating nuts (30g /day)
- 1.5-3g /day of plant stanols/sterols - these can be found in fortified drinks, spreads, and yogurts
- consuming soy protein (25g /day) e.g. tofu, soy milk, soy beans /edamame beans

Find out more in our Cholesterol and Stanols and Sterols fact sheets.

Antioxidants

Antioxidants are found in certain animal and plant products. They protect the body from damaging oxidation or 'oxidative stress' which may be involved in the development and progression of osteoarthritis. Though evidence for the effect of these vitamins in osteoarthritis is limited, you should aim for an adequate daily intake as part of a healthy balanced diet.

The importance of vitamin D

Vitamin D is essential for bone and cartilage health. Studies have shown that it may have a positive effect on muscular strength and balance, particularly quadricep strength. Between April to October in the UK, sunlight is the primary source of vitamin D. It can also be obtained from dietary sources.

Find out more in our Vitamin D fact sheet.

Vitamin K

Vitamin K may influence osteoarthritis through its role in making bone and cartilage. Sources include kale, spinach, broccoli, Brussels sprouts, eggs, chicken, bacon, ham, Norwegian Jarlsberg and Swiss Emmental cheeses. Certain fats and oils (e.g. olive oil, margarine) contain small amounts of vitamin K and may also help its absorption from foods.

Gut health and dietary fibre

Fibre has a role in improving gut health because of its anti-inflammatory properties in the intestine. Currently, most people in the UK do not meet fibre recommendations. Aim to increase dietary fibre by consuming a range of fruits, vegetables, beans, pulses, nuts, seeds and wholegrains. This will provide a good level and diversity of gut bacteria, as well as helping with weight loss.

Read our Fibre fact sheet for more info.

Food avoidance

Several popular diet books on arthritis advocate avoiding foods such as dairy products or nightshade vegetables (tomatoes, potatoes, bell peppers and aubergines). Though there is some evidence that food avoidance may help people with rheumatoid arthritis, there is no evidence of benefit for people with osteoarthritis.

Dietary supplements

There is no good trial evidence to show that glucosamine, chondroitin, rosehip or turmeric help osteoarthritis symptoms. If your diet is restricted or your appetite is poor, consider taking a multivitamin/mineral supplement containing recommended intake amounts.

Find out more in our Supplements fact sheet.

Top tips

- If you have overweight or obesity, aim to reduce your body weight by at least ten per cent. Combining regular exercise with healthy eating to achieve weight loss is the most effective strategy to reduce joint pain.
- Aim for a healthy BMI, i.e. between 18.5 and 25 kg/m².
- Regular exercise is likely to help symptoms by preserving muscle strength.
- Consume one to two portions of oily fish a week. If you cannot do that, consider taking a fish-oil supplement.
- Use oils rich in mono-unsaturates (e.g. rapeseed oil and olive oil).
- Take dietary action to reduce your blood cholesterol, if elevated.
- Take a vitamin D supplement of 10-25 µg/day when you are not being exposed to the sun, including in the winter months. During the summer months, aim for daily sunlight exposure (10 - 15 minutes without sunscreen) to increase vitamin D.
- Consume rich sources of vitamin K and antioxidants as part of a healthy balanced diet.
- Maintain a good intake of dietary fibre from a range of sources.
- Discuss any change in diet or nutritional supplements with your rheumatologist, GP or dietitian.

This Food Fact Sheet is a public service of The British Dietetic Association (BDA) intended for information only. It is not a substitute for proper medical diagnosis or dietary advice given by a dietitian.

If you need to see a dietitian, visit your GP for a referral or bda.uk.com/find-a-dietitian for a private dietitian. You can check your dietitian is registered at hcpc-uk.org.

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The information sources used to develop this fact sheet are available at bda.uk.com/foodfacts

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