Dairy Australia

# Dairy and bones

Bones are the building blocks of our body. Healthy bones help us to move well, protect our organs and support the rest of our body.

## So how do we build strong bones?

Genes and lifestyle impact how strong bones are[1]. While you can't change your genetics, you can adopt a 'bone-friendly' lifestyle.

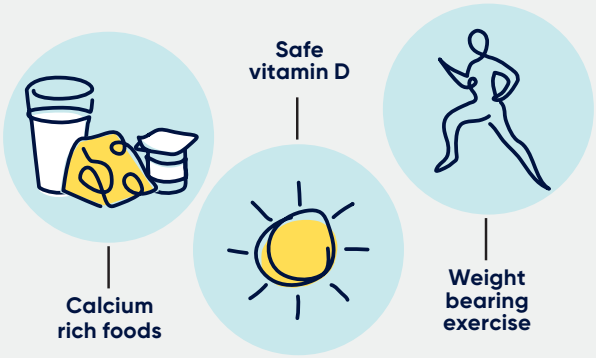
The three simple actions you can take to build and maintain healthy bones include:

1 Increase daily serves of calcium through enjoying milk, cheese or yoghurt.

2 Enjoy regular weight-bearing exercise like walking or running.

3 Spend time outdoors to get more vitamin D.

## Three simple actions to support bone health




THRIVE WITH AUSTRALIAN DAIRY

## Facts

**Consuming adequate dairy foods** is associated with greater bone mineral density and a reduced risk of osteopenia and osteoporosis across the lifespan[2,3].

**Consuming 3.5 serves of dairy foods** per day reduces risk of fractures, falls and malnutrition in older adults, while improving calcium and protein intake[4,5].

## Calcium for bone strength

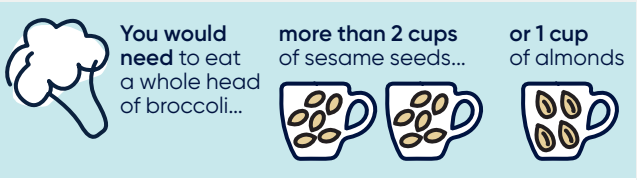
Calcium is essential for building strong bones as well as supporting muscle and nerve function[6]. Almost 99 per cent of the body's calcium is stored in our bones, where it gives strength and structure. We build the calcium 'bank' in our bones from childhood and we reach peak bone mineral density around our late twenties. If we don't get enough calcium in our diet, calcium is taken from our bones and used for other important functions in the body. This happens continually as we age, our bones lose density and can become brittle, sometimes resulting in osteopenia or osteoporosis.

## Dairy's package of nutrients for strong bones

Dairy foods such as milk, cheese and yoghurt are a good source of calcium. While many other foods such as leafy greens, sesame seeds and almonds contain calcium, you would need to eat a whole lot of them to deliver the same amount of calcium e.g. a head of broccoli, more than 2 cups of sesame seeds or 1 cup almonds to provide the same amount of calcium as 40g natural cheddar cheese, or a 200g tub of yoghurt or 250ml milk.

Dairy foods are also a good source of protein. Protein plays an important role in bone health as it helps build and repair bone tissue and muscles[7]. In fact, our bones are made up of about 50 per cent protein.

Not only this, dairy foods also naturally contain a package of other essential bone-building nutrients such as phosphorus and magnesium, which work together to assist in the absorption of calcium and build bone. This is why, it is difficult to replicate the benefits of dairy foods with supplements and alternatives.

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## Healthy bones for children

Childhood is a sensitive time for growth and development and requires careful consideration of diet to ensure adequate nutrients are consumed. Along, with the rest of their bodies, children undergo a period of intense bone growth and childhood is the greatest window of opportunity to build bone strength. It is critical to ensure children and adolescents consume enough milk, cheese and yoghurt to achieve their greatest bone mass potential.

## Healthy bones for teenagers

The teenage years are a major growth period. Between the ages of 12-14 years for girls and 13-15 years for boys, teenage bodies build one-quarter of their adult bone mass. With this in mind, it is vital that teenagers have enough calcium-rich foods such as dairy foods. Research has shown that consuming dairy foods is associated with greater bone mineral content and density in adolescents.

## Healthy bones for adults

Peak bone mass is reached when you are in your late twenties. After this, it is vital to continue to consume adequate protein and calcium to maintain the bones that have been built. Evidence shows that dairy foods are important in establishing and maintaining peak bone mass which is a determinant of osteoporosis risk. In a cohort study, for every increase of one serving per week in yoghurt intake, there was a 31 per cent decreased risk in developing osteopenia and a 39 per cent decreased risk of being diagnosed with osteoporosis in females, as well as a 52 per cent decreased risk of osteoporosis in males.

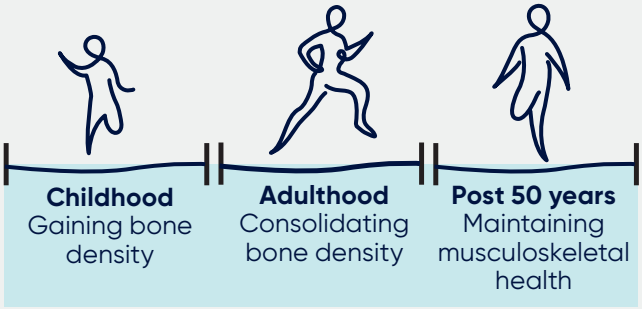
Dairy consumption is particularly important for menopausal women who experience hormone-related changes that accelerate bone loss.

## Healthy bones for older adults

As part of the ageing process, we start to lose more bone and muscle mass than we gain. Older adults need to pay particular attention to their diets to ensure they counteract age-related changes to rates of bone and muscle turnover. Dairy foods such as milk, cheese and yoghurt become even more important in older age, since they deliver important nutrients that can help optimise bone and muscle function.

Dairy food group requirements increase for men and women in older age. In Australia, women over 50 and men over 70 have increased requirements for dairy. Milk, cheese and yoghurt not only provide easy to absorb calcium for maintaining bone strength but also high quality protein for optimising muscle mass, both are essential for healthy ageing. As people become older, protein requirements increase to help maintain bone and muscle mass and reduce hip fractures.

In world first research, the University of Melbourne and Austin Health's Fractures Trial looked at how more dairy in the diet of elderly aged care residents improved their bone, heart and muscle health. This Australian research found that increasing serves of dairy – milk, cheese, yoghurt and skim milk powder - from an average of two to three and a half serves resulted in a 33 per cent reduction in all fractures, 46 per cent reduction in hip fractures, 11 per cent reduction in falls, reduced risk of malnutrition and improved calcium and protein intakes.





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