

## Background information for course leader

Bones are made of collagen fibres filled in with calcium and other minerals to create a hard structure. During childhood and early adulthood they develop their strength and from our mid-30s onwards start to lose calcium slowly, causing bone thinning. Therefore, it is very important to strengthen bones in the first 30 years of life to 'stockpile' calcium and other minerals, helping to offset the effect of ageing on bone loss, and reducing the risk of osteoporosis.

To keep bones healthy people should be encouraged to keep active, spend time outside in the sunshine safely and have adequate vitamin D and calcium intakes.

### Vitamin D

Vitamin D makes sure you absorb enough calcium from your diet for strong bones and teeth. Your body needs vitamin D to help it absorb calcium. Sunshine, not food, is where most of your vitamin D comes from. Even a healthy and well-balanced diet, which provides all the other vitamins and nutrients, is unlikely to provide enough vitamin D. To get enough vitamin D you need to spend some time outside. Most people in the UK get enough vitamin D by spending 15 minutes in the sun 2 to 3 times a week. Generally, normal levels that are built up in the summer will be enough to last through the winter.

How it affects our body:

- Vitamin D helps maintain a healthy immune system.
- Reduces the risk of some forms of cancer.
- Lack of vitamin D may increase the risk of chronic health conditions such as multiple sclerosis, osteoporosis (brittle bone disease) or osteomalacia which causes pain in adult bones
- Lack of vitamin D may mean adults are also more likely to get breast cancer or prostate cancer

Sources:

- Oily fish such as tuna, salmon, sardines, pilchards, trout and kippers are the only foods which naturally contain reasonable amounts of vitamin D.
- Egg yolks, meat and liver pate contain small amounts.
- Margarine and some breakfast cereals have added vitamin D

## Should adults with learning disabilities take a Vitamin D supplement?

The current advice from SACN (Scottish Advisory Committee on Nutrition) is that 'everyone aged 5 years and above should consider taking a daily supplement of Vitamin D particularly during the winter months'. Consideration should be made to those who are:

- underweight
- wheelchair bound/have impaired mobility
- those living with support
- have a history of epilepsy
- have a history of bone fractures.

## Calcium

Calcium is needed for building bones and keeping them strong throughout life. Calcium works with vitamin D to strengthen your bones. It also helps to keep nerves and muscles in the body healthy.

## Reference intakes (RIs)

An ideal calcium intake for adults is between 700mg to 1000mg a day.

Sources:

- yoghurt
- milk
- cheese
- canned salmon and sardines – eaten with the bones
- peas, beans and lentils
- spinach and kale
- nuts and seeds
- tofu
- dried fruit

**Smoking:** Smoking leads to an increase in bone loss, and increased risk of osteoporosis.

**Activity levels:** weight-bearing activity puts pressure on the bones and helps them to strengthen. Try to include some weight-bearing activity every day, such as walking, running, gardening or other household chores, to help your body strengthen bones. Sedentary or bed-bound people will find it difficult to strengthen bones.

**Low oestrogen levels:** Oestrogens help your body to absorb calcium. Low levels of oestrogen can increase the risk of osteoporosis. You are at risk if you have had your ovaries removed or are post-menopausal, particularly if you had an early menopause.

