

# Calcium & vitamin D

- Calcium is important for building strong bones
- Calcium can be found in lots of foods – including dairy food, sardines and salmon, almonds, tofu, baked beans, green leafy vegetables
- Vitamin D is essential for strong bones, muscles and overall health
- The sun is the best natural source of vitamin D

Call our National Help Line on 1800 263 265

## Our bones

Our bones are living tissue. They are constantly growing, rebuilding, replacing and repairing.

From birth to about 25 years of age, we build more bone than we lose. Our bones are not only getting bigger as we grow during this time, but they are developing their density. This determines how strong they are .

From about 25 to 50 years of age our bones break down and rebuild at about the same rate. They are in a state of balance. This is when we have achieved our 'peak bone mass'. Our bones are at their strongest.

After about 50 years of age, we start to break down more bone than we rebuild. While this means that we will all experience some bone loss – it doesn't mean that everyone will develop osteoporosis.

Women commonly experience a period of rapid bone loss after the onset of menopause. After this time there is a steady but less rapid loss of bone. It's important during all of these stages that you do everything you can to improve your bone health.

One of the most important is to ensure you are getting adequate amounts of both calcium and vitamin D each day. This will minimise your risk of developing osteoporosis later in life.

## Calcium and bones

Our bones act as a calcium bank. Most of the body's calcium is stored here. The rest is in our blood and body



fluids and is vital for many of our bodily processes, such as the functioning of nerves and muscle tissue.

If you don't have enough calcium in your diet to maintain adequate levels in the blood, then your body takes calcium from your bones. If calcium is constantly taken from our bones, your bones will become weaker over time.

For adults the amount of calcium required each day is between 1000 – 1300mg – the exact amount depends on your age and gender.

## How much calcium do we need every day?

### Children and teenagers

- 1-3 years 500mg
- 4-8 years 700mg
- 7-11 years 1000mg
- 12-18 years 1300mg

### Adults

- Women over 50 years 1300mg
- Men over 70 years 1300mg



Calcium can be found in lots of foods – including dairy food, oranges, sardines and salmon, almonds, tofu, baked beans, green leafy vegetables.

Check the nutritional panel to see how much calcium is contained in your food.

Some people are not able to get enough calcium through their diet alone. Talk with your health professional about whether a calcium supplement may be necessary for you.

### Calcium calculator

The International Osteoporosis Foundation (IOF) has developed a calcium calculator to help you work out if you are getting enough calcium each day. You can access the calculator on their website or download a mobile app. To find out more visit the IOF website: [www.iofbonehealth.org/calcium-calculator](http://www.iofbonehealth.org/calcium-calculator).

### Vitamin D and bones

Vitamin D is essential for strong bones for a number of reasons. It helps increase the absorption of calcium and phosphorous from the small intestine, helps regulate the amount of calcium in our blood and helps strengthen our skeleton. It can also assist with muscle function and reduce the risk of falls.

Vitamin D deficiency in older adults can increase the risk of osteoporosis, falls and fractures.

There are 2 types of vitamin D:

- D<sub>3</sub> (cholecalciferol) which is formed in the skin by the action of ultraviolet (UV) light
- D<sub>2</sub> (ergocalciferol) which is produced by UV light on plants and is obtained through our diet.

### How much sun exposure do we need?

In Australia the main source of vitamin D is sunlight. It's important to expose your hands, face and arms to the sun every day. The amount of time you need to do this depends on where you live, the time of the year and the complexion of your skin. Osteoporosis Australia has developed a chart to help you work this out. You can access it here: [www.osteoporosis.org.au/vitamin-d](http://www.osteoporosis.org.au/vitamin-d)

It's also important to be aware of exposing your skin to

the sun safely. You need to be aware of the danger of sun damage. SunSmart has developed an app which will help you determine the safe times to expose your skin to the sun. You can download it here:

[www.sunsmart.com.au/tools/interactive-tools/free-sunsmart-app](http://www.sunsmart.com.au/tools/interactive-tools/free-sunsmart-app)

Vitamin D can also be found in small quantities in foods such as: fatty fish (salmon, herring, mackerel), liver, eggs and fortified foods such as low fat milks and margarine. For most people it is unlikely that adequate quantities of vitamin D will be obtained through diet alone.

If you don't get enough exposure to sunlight, you may be deficient in vitamin D. It is important to discuss this with your doctor. Vitamin D supplements may be required.

Some calcium supplements and multivitamin preparations contain vitamin D, but their levels may be too low to treat vitamin D deficiency.

### Who is most at risk of vitamin D deficiency?

- elderly people - especially those who are housebound or in residential care
- people who wear concealing clothing for religious or cultural reasons
- people with certain health or medical conditions who need to avoid the sun
- people with dark skin
- people in occupations where they have limited incidental UV exposure throughout the day – such as taxi drivers, factory workers, office workers and night-shift workers
- people with diseases which make it difficult to absorb enough vitamin D.

### Where to get help

- Your doctor
- Dietitian
- *MOVE muscle, bone & joint health*  
National Help Line: 1800 263 265



### Things to remember

- Calcium is important for building strong bones
- Calcium can be found in lots of foods – including dairy food, sardines and salmon, almonds, tofu, baked beans, green leafy vegetables
- Vitamin D is essential for strong bones, muscles and overall health
- The sun is the best natural source of vitamin D.

### Calcium rich recipes

Try these recipes from Dairy Australia for some new ways to increase the calcium in your diet.

#### *Vanilla Bean Yoghurt with Poached Rhubarb*

Serves 4

##### Ingredients

- 600g reduced fat Australian yoghurt
- 300g rhubarb, approx. 6 stems, cut into 5cm lengths
- 1 strip orange rind
- 2 tablespoons water
- 1 1/2 tablespoons caster sugar
- 1 teaspoon vanilla essence or scraped beans from a vanilla pod

##### Method

1. Place yoghurt into a paper towel lined sieve, over a large bowl. Cover and refrigerate for 1-2 hours or overnight.
2. Place rhubarb, orange rind, water and sugar in a frying pan. Simmer gently for 6-8 minutes until rhubarb is just tender. Allow to cool.
3. Stir vanilla into yogurt and spoon between serving glasses. Top with rhubarb mixture and serve.

### Additional Information

Rhubarb can be substituted with plums, apples or nectarines. Although cooking time will be extended slightly.

#### *Indian Caramelised Onion and Split Pea Soup*

Serves 6

##### Ingredients

- 2 teaspoons vegetable oil
- 4 onions, finely sliced
- 2 cloves garlic, crushed
- 2 teaspoons finely grated ginger
- 2 teaspoons garam masala
- 1 teaspoon ground turmeric
- 1/2 teaspoon freshly ground black pepper
- 1 1/2 cups dried yellow split peas, rinsed
- 1 potato, finely chopped
- 1 carrot, finely chopped
- 1 litre reduced salt vegetable stock 1 cup water
- 2 cups Australian whole milk
- 200g Australian reduced fat Greek-style yoghurt
- 1 tablespoon finely chopped mint leaves
- 6 slices wholegrain bread, for serving (alternatively use gluten free bread)
- wedges of lemon and mint leaves, for serving

##### Method

1. Heat the oil in a saucepan over a medium low heat. Add the onions and cook gently, for 15-20 minutes or until well browned. Stir in the garlic, ginger and spices and cook for 1 minute until fragrant.
2. Add the split peas, vegetables, stock and water to the saucepan. Bring to the boil, reduce heat and simmer covered, for 50 minutes stirring occasionally until the peas have broken down and the soup is thick. Remove from heat and stir in milk.
3. Combine yoghurt and mint in a small bowl. Ladle the soup into serving bowls and top each with a swirl of minted yogurt. Serve with wholegrain bread and wedges of lemon, if desired.



### Zucchini, Capsicum and Artichoke Rice Slice

Serves 6

#### Ingredients

- 300g reduced fat smooth ricotta cheese
- 1 cup reduced fat milk
- 2 tablespoons grated parmesan cheese
- 2 eggs, lightly beaten
- ½ cup raw medium grain rice
- 2 zucchini, grated
- 1/3 cup frozen peas, thawed
- 4 spring onions, finely chopped
- 1 tablespoon finely chopped mint
- 1 cup roasted red capsicums, cut into strips
- 100g fat-free marinated artichoke hearts, drained and halved
- ¼ cup sunflower seeds
- crisp green salad, for serving

#### Method

1. Mix ricotta, milk, half the parmesan, eggs, rice, zucchini, peas, spring onions and mint together in a large bowl.
2. Pour mixture into a baking paper lined 28cm x 18cm slice tin, scatter with capsicum, stud with artichoke hearts and sprinkle with remaining parmesan and sunflower seeds. Bake at 180°C for 55-60 minutes or until rice is tender and slice is set. Cool slightly before slicing and serve warm or cool with salad.

Recipes provided by The Dairy Kitchen

[www.legendairy.com.au/recipes](http://www.legendairy.com.au/recipes)

**LEGENDAIRY**

#### How we can help

Call our National Help Line and speak to our nurses

Phone 1800 263 265 or email [helpline@move.org.au](mailto:helpline@move.org.au)

Visit our website [move.org.au](http://move.org.au) for information on:

- muscle, bone and joint conditions
- ways to live well with a muscle, bone and joint condition
- our new resource *Managing your pain: An A-Z guide*
- programs and services
- peer support groups
- upcoming webinars, seminars and other events.

#### More to explore

- **Dietitians Association of Australia**  
<http://daa.asn.au>
- **International Osteoporosis Foundation**  
[www.iofbonehealth.org](http://www.iofbonehealth.org)
- **Osteoporosis Australia**  
[www.osteoporosis.org.au](http://www.osteoporosis.org.au)
- **SunSmart**  
[www.sunsmart.com.au/tools/interactive-tools/free-sunsmart-app](http://www.sunsmart.com.au/tools/interactive-tools/free-sunsmart-app)

May 2017

