Calcium
What is it and why is it important?
Introduction

Calcium is an essential mineral. Most of us know that calcium is needed for bone health, but it has other functions in the body too!

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Roles of Calcium

Along with bone health, calcium has many other roles in the body, it:

- Supports normal function of digestive enzymes
- Supports normal muscle function
- Has a role in the process of cell division & specialisation
- Supports normal energy-yielding metabolism (the release of energy from foods)
- Contributes to normal blood clotting
- Contributes to normal neurotransmission (the delivery of messages between nerve cells)
- Supports normal function of digestive enzymes
Importance of Calcium for bone health throughout life

**TEENAGERS**
Around 90% of the adult skeleton is formed by the age of 18.
Teenage girls need 800mg calcium a day and teenage boys 1000mg a day.

**MENOPAUSE**
An extra 500mg calcium* is recommended to help reduce loss of bone mineral in post-menopausal women.

**PREGNANCY & BREASTFEEDING**
There is no increase in calcium requirements during pregnancy. Breastfeeding women need an extra 550mg calcium a day.

**CHILDREN**
Calcium is needed for growth and development of bone in children. Physical activity is important too!

**ADULTS**
Bones continue to strengthen until our mid-thirties.

90%

1200mg a day

*Calcium helps to reduce loss of bone mineral in post-menopausal women. Low bone mineral density is a risk factor for osteoporosis.
Like muscles, our bones need regular exercise to keep them strong.

Weight-bearing activities, where our feet and legs support our weight, are particularly good for bones. These include running, skipping and dancing, even brisk walking. Adults should aim for at least 2½ hours per week, with muscle strengthening activities 2 days a week.

Not smoking and limiting alcohol intake is also good for bone health.

Including milk, cheese and yogurt in the diet is a great way to help meet our calcium needs.

The table on page 11 shows the recommended calcium intakes for different ages, as well as the portion sizes that can help meet these needs.

Calcium isn’t the only bone-friendly nutrient that milk, cheese and yogurt provide! They also contain protein and phosphorus, both of which support the maintenance of normal bones.

### Calcium + Protein + Phosphorus = Bone Health
Vitamin D helps the body absorb calcium from foods.

The body makes vitamin D from the action of direct sunlight on skin. In the UK this is possible between April and September.

However, between October and March, our bodies can’t make enough vitamin D from sunlight so we need to rely on vitamin D from the diet.

As there are only a few natural food sources of vitamin D, all adults and children over the age of one are advised to consider taking a daily supplement of 10μg (micrograms) vitamin D, especially during autumn and winter.

A daily supplement of 10μg vitamin D is recommended all year round for:

- all pregnant and breastfeeding women
- babies and young children
- those aged 65 years and over
- people with darker skin
- people who spend lots of time indoors.

For more information on vitamin D, visit The British Dietetic Association’s Food Fact Sheet on Vitamin D (link on back page).
# Calcium recommendations by age group

<table>
<thead>
<tr>
<th>Age</th>
<th>Calcium needs (RNI*, mg/day)</th>
<th>Portion sizes</th>
<th>Calcium content (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>350</td>
<td>100ml whole/semi-skimmed milk 60g whole plain yogurt 15g Cheddar cheese</td>
<td>120 120 111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These portion sizes provide approximately 351mg calcium</td>
<td></td>
</tr>
<tr>
<td>4-6 years</td>
<td>450</td>
<td>189ml school carton semi-skimmed milk 80g whole plain yogurt 20g Cheddar cheese</td>
<td>227 160 148</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These portion sizes provide approximately 535mg calcium</td>
<td></td>
</tr>
<tr>
<td>7-10 years</td>
<td>550</td>
<td>189ml school carton semi-skimmed milk 125g low-fat plain yogurt 20g Cheddar cheese</td>
<td>227 203 148</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These portion sizes provide approximately 578mg calcium</td>
<td></td>
</tr>
<tr>
<td>11-18 years</td>
<td>1000</td>
<td>284ml semi-skimmed milk 200g low-fat plain yogurt 45g Cheddar cheese</td>
<td>341 324 333</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>These portion sizes provide approximately 998mg calcium</td>
<td></td>
</tr>
<tr>
<td>11-18 years</td>
<td>800 (extra 550mg during breastfeeding)</td>
<td>250ml semi-skimmed milk 200g low-fat plain yogurt 30g Cheddar cheese</td>
<td>300 280 222</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>These portion sizes provide approximately 832mg calcium</td>
<td></td>
</tr>
<tr>
<td>19 years</td>
<td>700 (extra 550mg during breastfeeding)</td>
<td>200ml semi-skimmed milk 150g low-fat plain yogurt 30g Cheddar cheese</td>
<td>240 243 222</td>
</tr>
<tr>
<td>and over</td>
<td></td>
<td>These portion sizes provide approximately 705mg calcium</td>
<td></td>
</tr>
</tbody>
</table>

* RNI, Reference Nutrient Intake, is a figure set by the Department of Health for the amount of a nutrient that is enough to meet the dietary needs of most people (97.5%).
Other food sources of calcium

per adult portion:

- **Sardines** (with edible bones)
  (500mg calcium / 100g canned)
- **Calcium-fortified bran cereal**
  (99mg calcium / 30g)
- **Almonds**
  (60mg / 25g)
- **Sesame seeds**
  (67mg / 10g)
- **Okra**
  (96mg / 80g)
- **Red kidney beans**
  (canned) (25mg / tbsp)
- **Fortified white bread**
  (64mg / 35g)
- **Kale**
  (120mg / 80g boiled)

A balanced and varied diet should provide enough calcium to meet our requirements. If you take a calcium supplement, make sure your total intake doesn’t exceed 1500mg/day as this may cause stomach pain and diarrhoea.

Children under five years old shouldn’t be given whole nuts because of the risk of choking. Those with a medically diagnosed allergy to any of the pictured foods should avoid them.
Information sources


For details on additional information sources please contact Dairy UK

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