Healthy balanced eating
Whatever your age or gender, it's vital to make sure what you eat today will help to keep your skeleton strong for the future. Although getting enough calcium is important, a healthy, balanced diet is essential to provide all the vitamins, minerals and other nutrients that your bones need. Aim to eat meals that incorporate a wide variety of foods from the four main groups, including fruit and vegetables, carbohydrates like bread, potatoes, pasta and cereals; dairy and other proteins. Aim for a healthy body weight to help protect your bones.

What is osteoporosis?
Osteoporosis occurs when the titans which make up the mesh-like structure within bones become thin, causing them to become fragile and break easily, often following a minor injury or fall. Three broken bones or fractures which can lead to the pain associated with osteoporosis.

Calcium
Calcium is vital for strong teeth and bones because it gives them strength and rigidity. Our bodies contain about 1kg of this important mineral, 99 per cent of which is stored in our bones. Most people should be able to get enough calcium through healthy eating, without the need for additional supplements.

How much calcium do I need?

<table>
<thead>
<tr>
<th>Age</th>
<th>Daily Requirement (Reference Nutrient Intake)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-12 months (non-breast fed only)</td>
<td>525mg</td>
</tr>
<tr>
<td>1-3 years</td>
<td>350mg</td>
</tr>
<tr>
<td>4-6 years</td>
<td>450mg</td>
</tr>
<tr>
<td>7-9 years</td>
<td>550mg</td>
</tr>
<tr>
<td>11-18 years boys/girls</td>
<td>1000/800mg</td>
</tr>
<tr>
<td>Adults (19+) years</td>
<td>700mg</td>
</tr>
<tr>
<td>Breast feeding women</td>
<td>700mg</td>
</tr>
<tr>
<td>Breast feeding women</td>
<td>500 mg + 550mg</td>
</tr>
</tbody>
</table>

Those people taking osteoporosis drug treatments might benefit from a daily calcium intake of around 1000mg a day.

Vitamin D
Vitamin D is important to your body and helps absorb calcium. Adequate vitamin D will also keep muscles strong and help prevent falls in older people. You can get vitamin D by the action of sunlight on your skin, from food and drink containing vitamin D naturally or added in (fortified) or from dietary supplements. You should try to get short periods (about 10 minutes) of sun exposure to your bare skin, once or twice a day, without sunscreen and taking care not to burn. Get outside between late March and the end of September when the sun's rays produce vitamin D.

To ensure you get enough, a UK government advisory committee have recommended that in addition to sensible sunlight exposure, everyone over the age of 1 year should get 10 micrograms (400IU) vitamin D daily (sometimes described as 10 µg) of vitamin D every day - 10 micrograms for all infants under 1 year. The government says most of us should get enough vitamin D from sunlight when we are outside in the summer, although foods that contain vitamin D but that in the winter months we rely on foods and supplements. 10 micrograms (0.4 µg) added in is equal to 400 international Units (IU).

A vitamin D supplement is recommended all year round: • From birth to one year unless you are receiving vitamin D as part of your formula milk which is fortified with vitamin D. • From aged 1 to 4 years. • If you are not exposed to much sunlight - for example, if you cover up your skin for cultural reasons, you are on a housebound or confined to indoor or windowed areas, or who use sunscreen for medical reasons. For everyone else, consider whether you need a 10 microgram (400IU) supplement to ensure you get the vitamin D you need especially during the winter months. This includes pregnant and breastfeeding women as well as people with darker skinned, as these have lower capacity to make vitamin D. For more information see our booklet All about osteoporosis; our Vitamin D supplements and tests fact sheet or on our website.

Other lifestyle factors
Stop smoking - it has a harmful effect on bone. It’s another good reason to try to give up. Reduce an excessive alcohol intake and avoid other socio-economic and osteoporosis and fractures. The current UK dietary reference value (DRV) is 14 units a week for men and 10 units a week (spread over at least 3 days). As a guide there is one small glass of wine (175ml), one large glass (250ml), half a pint (300ml) of beer or cider.

Exercise
Exercise and strong bones
Another way your skeleton can grow stronger is if you do regular weight bearing exercise. This is any kind of physical activity where you are supporting the weight of your own body, for example jogging, aerobics, tennis, dancing and brisk walking. If you have osteoporosis and are at risk of breaking bones, you may need to be cautious of high impact exercise and forward bending (bending your back). Remember, it’s important to stay active and find exercise you enjoy. Broken hips occur in older people when they fall and more likely to fall. Exercise like swimming, gardening, golf and Tai Chi can help to maintain muscle strength, balance and coordination and reduce your risk of falling. See our booklet Exercise and osteoporosis for specific exercise tips.

Exercise recommendations
Children - 60 minutes of moderate-intensity physical activity daily.
Adults - 30 minutes of moderate-intensity physical activity at least five days a week. Also physical activity to improve muscle strength on at least two days a week.

Older Adults (over the age of 60) - incorporate physical activity to improve balance and co-ordination on at least two days a week. Avoid setting for extended periods.
**CALCIUM RICH FOOD CHOOSER**
- choose calcium rich foods as part of well balanced healthy eating

### Foods providing around 300 micrograms of calcium per average portion

- **Cheese**
  - Cheddar cheese 1 small matchbox size
  - Edam / Gouda 1 small slice

- **Milk and dairy**
  - Soya milk 1 tumbler or mug
  - Baking fat/margarine 1 teaspoon

- **Foods providing around 200 micrograms of calcium per average portion**
  - Fortified fromage frais 1 portion
  - Rice pudding 1 portion

### Foods providing around 150 micrograms of calcium per average portion

- **Vegetables**
  - Grilled herring 1 portion
  - Grilled salmon 1 portion
  - Lamb’s liver, fried 1 portion

- **Foods providing around 120 micrograms of calcium per average portion**
  - Custard 1 portion
  - Cottage cheese 2 tablespoons

### Foods providing around 100 micrograms of calcium per average portion

- **Foods providing around 75 micrograms of calcium per average portion**
  - Grilled bacon rashers 2 middle rashers
  - Compared to the UK recommended daily intake of around 800 micrograms, for most people these calcium rich foods will provide an easy way to get the amount of calcium and vitamin D you need to keep your bones strong. Choose from the tables to help you find foods to add to your diet.

- **VITAMIN D RICH FOOD CHOOSER**
- choose vitamin D rich foods to add to vitamin D from sensible sunlight exposure

### Foods providing around 20 micrograms of vitamin D per average portion

- **Meat and fish**
  - Tinned sardines in tomato sauce 1 small can

- **Vegetables**
  - Grilled herring 1 portion

- **Foods providing around 8 micrograms of vitamin D per average portion**
  - Grilled salmon 1 portion

### Foods providing around 4 micrograms of vitamin D per average portion

- **Butter**
  - Grilled bacon rashers 2 middle rashers

- **Other**
  - Grilled chicken’s egg, without shell 1 egg

### Foods providing around 0.5 micrograms of vitamin D per average portion

- **Fortified foods**
  - Some foods are enriched with vitamin D, such as wild salmon after being farmed. Check food labels or consult your doctor if you have low vitamin D levels.

### Foods providing around 0.5 micrograms of vitamin D per average portion

- **Foods providing around 0.1 micrograms of vitamin D per average portion**
  - Grilled chicken’s egg, without shell 1 egg

### Foods providing around 0.1 micrograms of vitamin D per average portion

- **Foods providing around 0.05 micrograms of vitamin D per average portion**
  - Grilled chicken’s egg, without shell 1 egg