The importance of calcium in a cows’ milk free weaning diet

**References:**

**IMPORTANT NOTICE:** Aptamil Pepti 1 & 2 should only be used under medical supervision, after full consideration of the feeding options available including breastfeeding.

Aptamil Pepti 1 is suitable for use as the sole source of nutrition for infants from birth to 6 months of age. Aptamil Pepti 2 is suitable for babies over 6 months as part of a mixed diet, and as a principal source of nourishment with other foods.

For more information on the effective management of cows’ milk allergy visit: eln.nutricia.co.uk

### Examples of non-dairy calcium fortified products:
- Fortified cereals such as fortified porridge
- Bread
- Some juices and water have added calcium
- Calcium fortified dairy alternatives such as:
  - Shop bought milk alternatives e.g. oat, coconut, soya and nut milks, which are fortified with calcium at the same level of cows’ milk
  - Some of the milk free desserts, yoghurts, custard and cream alternatives available are also fortified with calcium
- Some nuts, seeds and dried fruits e.g. almonds, sesame seeds and dried fruits such as dried apricots and figs

### Additional information on non-dairy calcium sources:

<table>
<thead>
<tr>
<th>Food</th>
<th>Calcium content per 100g/ml</th>
<th>Portion size</th>
<th>Calcium content per portion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortified oat porridge</td>
<td>1340mg</td>
<td>15g (1 tablespoon)</td>
<td>201mg</td>
</tr>
<tr>
<td>Fortified baby porridge</td>
<td>240mg</td>
<td>25g</td>
<td>60mg</td>
</tr>
<tr>
<td>Calcium fortified cereals</td>
<td>460mg</td>
<td>15g (1 tablespoon)</td>
<td>69mg</td>
</tr>
<tr>
<td>Whole bread</td>
<td>137mg</td>
<td>36g (1 slice)</td>
<td>64mg</td>
</tr>
<tr>
<td>Brown bread</td>
<td>106mg</td>
<td>36g (1 slice)</td>
<td>29mg</td>
</tr>
<tr>
<td>Calcium fortified bread</td>
<td>452mg</td>
<td>36g (1 slice)</td>
<td>128mg</td>
</tr>
<tr>
<td>Calcium enriched milk alternatives e.g. oat, soya, coconut and nut milks**</td>
<td>120mg</td>
<td>100ml</td>
<td>12.0mg</td>
</tr>
<tr>
<td>Calcium enriched yoghurt/dessert e.g. soya yoghurt</td>
<td>120mg</td>
<td>50g</td>
<td>60mg</td>
</tr>
<tr>
<td>Dried apricots</td>
<td>75mg</td>
<td>25g (3 apricots)</td>
<td>18mg</td>
</tr>
<tr>
<td>Almonds</td>
<td>240mg</td>
<td>15g</td>
<td>36mg</td>
</tr>
<tr>
<td>Broccoli</td>
<td>44mg</td>
<td>30g (1 spear)</td>
<td>14mg</td>
</tr>
<tr>
<td>Calcium enriched orange juice</td>
<td>122mg</td>
<td>100ml</td>
<td>122mg</td>
</tr>
</tbody>
</table>

*It is a mandatory requirement that white and brown wheat flours contain specified amounts of calcium, which is achieved through fortification. In addition, some breads have additional calcium added.

**These drinks are suitable to use in cooking or used in cereals. Some is not suitable for infants.

Food Calcium content per 100g/ml

- Portion size
- Calcium content per portion

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Healthcare professional helpline
0800 996 1234  eln.nutricia.co.uk
Researchers have discovered that the major sources of calcium for infants are breastmilk and infant formula milk, however these do not generally provide adequate calcium intake is one of the factors which is important for attaining PBM and hence reducing the risk of osteoporosis.

Calcium and bone

Bone contains calcium and mass during periods of growth in childhood and adolescence, reaching peak bone mass (PBM) at around 20 years of age. Calcium continues to grow each day as required for the mineralisation of bone. This is why an adequate intake of calcium is one of the major factors.

Bioavailability of calcium

When assessing calcium intake it is important to consider the bioavailability of calcium. This refers to the fraction of the calcium present in the food that is actually absorbed. This is very little compared to the 32% (101mg) of milk’s calcium absorbed. For example, cooked spinach contains 115mg calcium as spinach and watercress in considerable amounts. They appear to have a positive effect on calcium absorption. Other factors inhibit calcium absorption such as oxalic acid and phytic acid. Phytic acid is found in many plant foods, such as spinach and watercress in considerable amounts. They appear to have a positive effect on calcium absorption; others inhibit calcium absorption such as oxalic acid and phytic acid.

Calcium requirements in infancy

Periods of particularly fast growth result in increased bone mass, which is why calcium requirements are at their highest in infancy and adolescence. The Department of Health in the UK defines the recommended dietary reference value (RNI) for calcium in infants, children, and adolescents (0-18 years) as follows: 525mg. This is the amount of calcium that the average adult needs. However, it is recommended that all formula fed infants (under 1 year) drink at least 600ml formula milk daily, because as they become more competent eaters. This is an example of a 10 month old’s diet drinking 500ml formula milk daily.

Why is calcium intake a consideration for infants with cow’s milk allergy?

Dietary assessment and recommendations

In addition to milk, cow’s milk is a major food source of calcium. This is why it is important to assess the calcium source within a cow’s milk allergic infant’s diet, so that appropriate calcium supplements can be recommended. It is important to remember that older infants often need more calcium as they are growing faster and hence need to help increase the calcium content of the infant’s diet. The foods in bold are those which have been added in to increase the infant’s calcium intake.

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