

Contact information

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**Calcium and a Milk  
Free Diet**



**Rice milk is not a suitable option for children under 5 years.  
Please use a calcium enriched cow's milk alternative listed  
or discuss with you dietitian.**

Department of Nutrition and Dietetics  
Royal Hospital for Children and Young People  
NHS Lothian

## Calcium

Calcium is important for strong bones and teeth. During childhood and adolescence, bones grow at their fastest rate. Throughout this time, calcium is laid down in bones as they get bigger and stronger. Bones reach their maximum strength (peak bone mass) by mid to late twenties. This means that during childhood there is a once in a lifetime opportunity to build strong bones.

After peak bone mass is achieved, the body still requires daily calcium to prevent bone loss known as osteoporosis. A good daily calcium intake at every age will help achieve a good peak bone mass and help to prevent osteoporosis.

### How Much Calcium?

Examples of how to meet daily calcium requirements:

Age	Calcium Requirement	Provided By:
Under 6 months	525mg	Breast milk or 700ml (minimum) milk free formula
6 months - 1 year	525mg	Breast milk or 500ml (minimum) milk free formula + 125g pot soya yoghurt/dessert
1-3 years	350mg	200ml soya/oat milk + 125g pot soya yoghurt/dessert
4-6 years	450mg	300ml soya/oat milk + 125g pot soya yoghurt/dessert
7-10 years	550mg	250ml soya/oat milk + 2x125g pot soya yoghurt/dessert
<b>Boys</b> 11-18 years	1000mg	500-600ml soya/oat milk + 2-3x125g pot soya yoghurt/dessert
<b>Girls</b> 11-18 years	800mg	500-600ml soya/oat milk + 1-2x125g pot soya yoghurt/dessert
Breastfeeding Mothers	1250mg	800ml soya/oat milk + 2x125g pots soya yoghurt/dessert

**Please note:** Information included is correct as of October 2017. Differences will occur by brand. Always check the label. Many of the mentioned products are not labelled as cow's milk free. Please check the ingredients list to ensure that they are milk free.

### Additional Notes

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## Yoghurt and Dessert Alternatives

- Soya yoghurts 120mg/100g
- Soya dessert/custard 120mg/100g
- Oatly Creamy Oat Fraiche 120mg/100g
- Coconut yoghurt, e.g. KoKo 120mg/100g

## Fish

- 3 fish fingers 50mg
- Sardines, tinned with bones 550mg/100g
- Pilchards, tinned with bones 300mg/100g
- Tinned salmon 91mg/100g

## Fruit and Vegetables

- Orange 75mg
- 5 dried apricots \* 38mg
- 100g Cooked spinach/kale \* 150mg
- 100g Cooked broccoli 40mg
- 2 dried figs \* 100mg

## Nuts, seeds and pulses

- Sesame seeds (1 tablespoon) 80mg
- Baked beans 80mg/100g
- Hummus 41mg/100g
- Tofu 130-250mg/100g
- Brazil nuts \* 170mg/100g
- Almonds \* 240mg/100g

## Bread and cereals

- 2 slices white or brown bread 72mg
- 2 slices wholemeal bread 9mg
- 2 **thick** slices Hovis Best of Both bread 510mg

## Fortified cereals

- Asda Ready Oats/Ready Brek 400mg/30g
- Nestle Cheerios Multigrain 152mg/30g
- Alphabites Multigrain 218mg/30g

## Drinks

- Tropicana **Calcium** Orange Juice 122mg/100ml

\*Note: spinach, dried fruit and nuts, beans and seeds contain oxalates and/or phytates which reduce calcium absorption. They should not be relied upon as a main sources of calcium.

## Vitamin D

We need vitamin D to help the body absorb calcium from our diet. Vitamin D is found in a small number of foods such as oily fish, e.g. tuna, sardines, herring and salmon. It is also found in margarines, egg yolk and fortified breakfast cereals.

However, the best source of vitamin D is through the action of direct sunlight on our skin when we are outdoors.

During the Spring and Summer months (from late March/early April to the end of September), the majority of people should be able to get all the vitamin D they need from sunlight on their skin.

However, government advice for infants and young children during these months is that they should:

- Cover up, including wearing a hat
- Spend time in the shade (particularly from 11am-3pm)
- Wear at least SPF 15 sunscreen

Therefore, to ensure they get enough vitamin D:

- All babies from birth to 1 year of age, including breastfed babies and formula fed babies who have less than 500ml per day of infant formula, should have a daily supplement of 8.5-10 micrograms of vitamin D
- All children aged 1-4 years old need 10 micrograms of vitamin D per day

Government advice for adults and children over 5 years old:

Everyone, including pregnant and breastfeeding women, should consider taking a daily supplement containing 10 micrograms of vitamin D during the autumn and winter.

People with dark skin from African, African-Caribbean and South Asian backgrounds may also not get enough vitamin D from sunlight. They should consider taking a daily supplement containing 10 micrograms of vitamin D throughout the year.

## Vitamin A and Vitamin C

It is also recommended that all children aged 6 months - 5 years are given a supplement containing vitamin A and vitamin C, unless they are receiving more than 500ml of infant formula per day.

## Vitamin Supplements

Woman and children who qualify for the Healthy Start Scheme can get Healthy Start supplements containing the recommended amounts of vitamins A, C and D.

Otherwise, you can purchase age-appropriate multivitamin drops/chewy vitamins at most pharmacies and supermarkets.

Examples of vitamin supplements:

- Abidec
- Wellbaby Liquid
- Wellkid (chewable), 4-12 years
- Haliborage Baby and Toddler Liquid
- Haliborange Softies, 3-12 years

Supermarket branded supplements are also an option. Please check labels to ensure requirements are met.

## Exercise

As well as eating a diet containing plenty of calcium, and taking a supplement as discussed above, exercise is also needed for strong bones.

The best form of exercise to maintain bone health is weight bearing exercise such as walking, running, dancing and ball or racket sports.

Encourage your child to get active for at least 30 minutes everyday to help build strong bones and stay healthy.

## Calcium Counter

### Milk Substitutes:

All milk substitutes should contain 120mg calcium per 100ml. Please check that your milk substitute is adequate in calcium.

Examples of milk substitutes:

Product	Examples	Calcium Counter - per 100ml
Fortified Soya Milk/Drink	Alpro Soya, Alpro Growing Up Soya, Supermarket brands	120mg
Fortified Oat Milk/Drink	Alpro Oat, Oatly, Provitamil Oat Drink	120mg
Fortified Coconut Milk/Drink	Alpro Coconut Original, KoKo, Supermarket brands	120mg

- Almond, hazelnut and cashew milk alternatives are also available in supermarkets

### Please note:

- Organic milk substitutes **do not** usually contain calcium. Please check the label for calcium content
- Rice milk is **not** suitable for children under 5 years
- Lactofree milk substitutes/products are **not** suitable for use in a milk free diet

### Milk Free Formulas

- Nutramigen 1 with LGG (<6 months)
- Nutramigen 2 with LGG (>6 months-1 year)
- Nutramigen Puramino (0-12 months)
- Neocate LCP (0-12 months)
- Neocate Junior (1 year-10 years)
- Aptamil Pepti 1 (<6 months)
- Aptamil Pepti 2 (>6 months-1 year)
- Althera (0-3 years)
- Alfamino (0-3 years)