The Leeds Teaching Hospitals
NHS Trust

Calcium In Your Child's Diet

A practical guide to increasing calcium in your child's diet

Information for patients, parents and carers

leeds children's hospital
caring about children

Why is calcium important?

Calcium is essential for growing strong bones and teeth during childhood and adolescence. Having strong bones helps to protect against fractures when you are older. Calcium is also needed for our heartbeat, blood pressure control and muscle function.

How can I get the most from calcium?

To absorb the calcium from our diets we need **vitamin D.** Vitamin D is known as the 'sunshine vitamin'. Our bodies make vitamin D when bright sunshine shines directly onto uncovered skin. In the UK, the sun is strong enough for vitamin D to be made between April and September, but not between October and March. When we spend enough time in the sun between April and Septmeber, it is possible to build up stores of vitamin D to last throughout the winter.

Skin pigment (melanin) and suncream protect the skin from burning as quickly in the sun by blocking UV rays, but they will also reduce the amount of vitamin D made. Clothing will also block the action of the sunlight on the skin. Therefore, many children and adults do not make enough vitamin D from sunshine and will need to take vitamin D supplements to make sure they get enough of this important vitamin.

The Government guidelines advise that all babies and children under five years should be given vitamin D supplements even if they do get out in the sun. Babies up to the age of one year need 8.5 to 10 micrograms of vitamin D per day. Children over the age of one and adults need 10 micrograms of vitamin D per day.

For more information about vitamin D, please visit: www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/.

Where do we find calcium?

Our bodies cannot make calcium and we need to get calcium from our diet. **Milk and dairy foods** are the best sources of calcium. If your child has a milk allergy, calcium-fortified milk alternatives can be just as good at providing calcium. Calcium from these foods are easy for the body to absorb.

Calcium in many plant-based foods (such as beans, nuts, seeds, wholegrains and spinach) are not as easily absorbed by the body. This is why milk and dairy foods or their calcium-fortified alternatives are important to help your child meet their calcium needs.

All white flour in the UK is fortified with small amounts of calcium by law, whilst wholegrain flour contains some natural calcium and do not need to be fortified. It is important to choose wholegrain food options when suitable to contribute to fibre intake and gut health. Certain breads have additional calcium added (see page nine).

If your child struggles to consume milk and dairy foods or calcium-fortified alternatives they may need a calcium supplement to make sure that they are getting the calcium they need.

How much calcium do we need?

As a general rule of thumb, children and adults need three portions of dairy (or calcium-fortified alternatives) per day to meet calcium needs. Portion sizes get bigger with age.

Below is a table showing portion sizes per age. Choose three to five age appropriate portions per day to meet calcium requirements. (More than five portions of dairy products daily might result in poor appetite for other foods, such as those high in iron).

Age	Daily Calcium Requirement	Portion sizes (choose 3 per day)		
		Milk	Yogurt	Cheese
Children 1-3 Years	350mg	100ml	80g	15g
Children 4-6 Years	450mg	125ml	100g	20g
Children 7-10 Years	550mg	150ml	120g	25g
Teenagers Boys 11-18 Years	1000mg	275ml	220g	50g
Teenagers Girls 11-18 Years	800mg	220ml	175g	40g
Adults 19 Years +	700mg	200ml	150g	30g

Which milk?

Between the ages of one and two years, it is recommended that you give your toddler **full fat milk** to drink rather than skimmed or semi-skimmed milk. Full fat milk, compared with lower fat milks, provides extra energy, fat and vitamin A, all of which are important nutrients for a growing child.

From two years onwards, you can introduce **semi-skimmed milk** if your child is eating a good variety of foods and growing well. Otherwise, continue to use full fat milk.

Skimmed milk can be used from five years of age if your child does not have any problems with their growth or weight.

If your child does not like to drink milk, offer a selection of other dairy foods such as cheese and yogurt. You can also incorporate milk into dishes such as porridge, custard, milky puddings (e.g. rice pudding/tapioca/semolina), milkshakes, sauces and soups.

If your child has a milk allergy or you prefer to use a plant-based milk, choose calcium-fortified milk alternatives, for example soya milk or oat milk with added calcium. Rice milk should not be given to children under the age of five. Soya milk should not be given to babies under six months of age.

Practical ideas for increasing calcium

- Serve cereal or porridge with milk for breakfast or as a snack/supper
- Use calcium-fortified instant oats or mix half and half with porridge/jumbo oats for more texture. For children who don't like porridge, calcium-enriched instant oats can also be used for baking, e.g. Ready Brek breakfast bars, flapjacks, muffins and cookies.
- Serve fruit with yogurt or custard.
- Make milkshakes or smoothies with fruit or milkshake powder.
- Serve hot milk with honey, Nesquik powder, hot chocolate powder, Horlicks or Ovaltine.
- Add cheese to pasta, rice dishes, mashed potato, soups, vegetables, salads.
- Serve cheese, yogurt or fromage frais as a pudding or a snack.
- Use tinned fish (sardines/pilchards/salmon) with the bones (Please be aware fish bones may be a choking risk for small children so please ensure children are supervised). Use in sandwiches, jacket potatoes, pasta bakes/pasta sauces, fishcakes or as a pizza topping. Try heating with tomato sauce in a pan and serve with rice or pasta or as a topping on pizza.
- For lunch, serve cheese sandwiches, jacket potatoes with cheese or baked beans, macaroni cheese or cheese quiche.
- Eat fruits and vegetables high in calcium (see below).
- Choose bread with extra calcium added (see page nine).

Non-dairy sources of calcium

- Calcium-fortified alternatives to milk, yogurt and cheese (note: these foods only contain calcium when calcium has been added, so check the label).
- Broccoli, spring greens, cabbage, kale, okra, watercress, rocket (note: spinach is not a useful source of calcium because oxalates stops the calcium from being available).
- Oranges, kiwi, dried apricots, dried figs.
- Fish eaten with bones (whitebait, tinned sardines/salmon), prawns and scampi. (Please be aware fish bones may be a choking risk for small children so please ensure children are supervised).
- Calcium-fortified bread (Hovis Best of Both, Kingsmill 50:50 Vitamin Boost or Warburtons half and half).
- Calcium-fortified cereals and instant oats (e.g. Ready Brek, supermarket own brands).
- Tofu set with calcium chloride or calcium sulphate (not nigari).
- Soya beans, soya mince, baked beans and kidney beans.
- High calcium water (hard water or high calcium mineral water).

Quick calcium calculator

Dairy food	Serving size	Calcium (mg)
Milk, all types	100ml 200ml	120 240
Hard cheese	20g (ready-sold portion e.g. snack cheeses) 30g (matchbox-size)	150 220
Cottage cheese	50g	64
Yoghurt	120g	150-200
Greek Yoghurt	120g	150
Fromage frais with added calcium	45g - 90g	65 -125
Custard – ready to eat	120g	110
Custard powder made up with whole milk (as per packet)	120g	168
Rice pudding	200g	198
Ice cream	50g (2 scoops, approx. 120ml)	52
Milk chocolate	25g	56

Non-dairy food	Serving size	Calcium (mg)
Most calcium-enriched milk alternatives based on soya/oat/ coconut/pea. (Some contain more calcium.)	100ml 200ml	120 240
Most calcium-enriched yogurt/fromage frais alternatives based on soya/oat/coconut	125g	120

Bread & cereals	Serving size	Calcium (mg)
Calcium-enriched cereals	30g	130-150
Calcium-enriched instant oats/porridge e.g., Ready Brek and supermarket own brands	30g (2 tbsp dry cereal)	400
Bread (wholemeal)	1 medium slice (30-40g)	32-42
Bread (white)	1 medium slice (30-40g)	46-62
Hovis best of both bread	1 medium slice	179
Kingsmill 50/50 Vitamin Boost Loaf	1 medium slice	150
Warburtons Half and Half	1 medium slice	141
Crumpets	1 crumpet (55g)	70
English muffins (white)	1 muffin (72g)	89
Pitta bread (white)	1 pitta (58g)	80
Seeded bread	1 slice (45g)	68
Malt loaf	1 slice (52g)	54

Protein foods	Serving size	Calcium (mg)
Sardines with bones, tinned	100	500
Pink salmon with bones, tinned	100	109
Soya beans	40	33
Baked beans	200 (1/2 tin)	84
Red kidney beans	40	15

Fruit & Vegetables	Serving size	Calcium (mg)
Kale	30g	40
Spring greens, boiled	70g	50
Broccoli, boiled	80g	30
Sweet potato, baked	100g	30
Butternut squash, baked	100g	35
Orange	120g	30
Fig, dried	1 fig	50

Other Resources:

The BDA, Calcium: Food Fact Sheet: https://www.bda.uk.com/resource/calcium.html

If you are experiencing any problems with this diet, please contact:

Dietitian: .....

Contact Number: .....

Notes

What did you think of your care?

Scan the QR code or visit **bit.ly/nhsleedsfft**

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