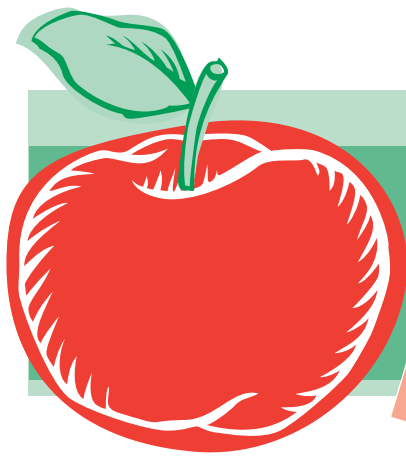


CENTRAL COAST LOCAL HEALTH DISTRICT



GOOD Bite

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You may have heard that folate, or folic acid, is good for you, but why? And why the two names? Let's find out why it's vital for children and women especially of child bearing age.

Folate is a B vitamin and is essential for life. It encourages healthy cell and tissue growth and is needed to help the body make DNA.

Folate and folic acid are slightly different in chemical structure. Folic acid is the man-made version and is added to vitamin supplements and fortified foods such as breads and cereals and flour. These are foods that don't have natural folate. Folate is the form found naturally in foods. Folic acid is converted into folate in the body.

Why is folate important and what does it do?

For our DNA: Folate helps make DNA, which guides the formation and function of our cells. A child's body makes lots of cells. For example, the body replaces all the cells in the small intestine about every five days which is roughly equivalent to 17 billion new cells, six times a month! A folate deficiency can lead to a defective gut lining, which adversely affects the absorption of many nutrients.

Required to make red blood cells properly: We replace all red blood cells in our body about every three months. Red blood cells carry the oxygen needed for the body to function, to run, play sports and do all the things active kids like to do.

A lack of folate leads to megaloblastic anaemia. In megaloblastic anaemia, the bone marrow, where the cells are formed, makes fewer cells and those that are formed don't live as long as normal.

These red blood cells are:

- Too large
- Not fully developed
- Abnormally shaped

The number of blood platelets that are involved in blood clotting can also be low with folate deficiency. This can lead to prolonged bleeding.

It's head-and-heart food: Folate is necessary for brain development and function. Evidence also suggests folate can reduce the risk of heart disease.

Signs of folate deficiency include feeling tired, shortness of breath, heart palpitations, mouth sores and swollen tongue. In children, folate deficiency can develop within a month of poor dietary intake.

It makes healthy babies: High-folate foods play a major role in the healthy development of babies in early pregnancy. A baby's growth is most rapid in the first weeks of life, often before a woman is aware she is pregnant. The neural tube that forms the spinal canal, closes and fuses very early in pregnancy. If it doesn't close, the result is a neural tube defect (NTD) such as spina bifida. So it is vital that all women of child bearing age consume foods rich in folate.

The word folate comes from the Latin word 'folium' which means leaf, because it's found in green leafy vegetables.



Folate Rich Foods



Folate, like all other B vitamins is water soluble and easily lost if a large amount of water is used to cook vegetables. It is also sensitive to heat, to air or oxygen and to alkaline conditions. (Just another reason not to overcook the vegetables in a large amount of water).

Common causes of folate deficiency besides dietary insufficiency, include malabsorption e.g. coeliac disease, pregnancy and breastfeeding, where daily requirements are increased. See table below.

Food	Micrograms of folate content in an average serve
Liver	310
Broccoli	110
Vegemite™, Marmite™, Promite™	100
Avocado	100
Spinach, cabbage and other green leafy vegetables	85
Cauliflower	50
Green peas	47
Orange, orange juice	44
Fortified breads and cereals	40
Fortified breakfast cereals	34
Tomatoes	34
Wheat bran	20

Children and adolescents	Recommended daily folate intake (micrograms per day)
1 - 3 years	150
4 - 8 years	200
9 - 13 years	300
14 - 18 years	400
Adult 19+ years	
Men	400
Women	400
Pregnancy	
14 - 18 years	600
19 - 50 years	600
Lactation	
14 - 18 years	500
19 - 50 years	500

Some foods are fortified with folic acid

In Australia many foods are fortified with folate. This has helped dramatically reduce the incidence of spina bifida since the fortification program came in.

Australian flour manufacturers are required to add folic acid to wheat flour for bread-making purposes. All plain, fancy and sweet breads, rolls and buns, bagels, focaccia, English muffins; flat breads made with yeast, and flour mixes or flour for domestic bread making must contain folic acid.

FAST FACT

Two thirds of the world's population now has access to folic acid-fortified flour.

Other types of packaged flour that aren't used in bread making, don't have to be fortified. Organic bread also is not required to contain folic acid. Bread made from other cereal flours or meals such as rice, corn or rye (provided they do not contain any wheat flour) do not have to contain folic acid, though manufacturers may add it if they wish.

Some manufacturers voluntarily choose to fortify foods with folic acid such as breakfast cereal. Manufacturers must include folic acid in the ingredient list of foods fortified with folic acid. Folic acid is sometimes listed as folate. (see picture below)

Unpackaged bread, including bread made at the point of sale, such as bread shops, don't have to have ingredient information, though this information should be made available on request.

NUTRITION INFORMATION: (AVERAGE)			
	Serving Size: 30g (2 Biscuits)		30g with 1/2 cup (125ml) Reduced Fat Milk
	Per Serve	Per 100g	
Energy (kJ)	441	1470	690
(Cal)	105	352	165
Protein (g)	3.6	12.0	8.1
Fat, Total (g)	0.4	1.4	2.3
- saturated fat (g)	0.1	0.3	1.4
Carbohydrate, Total (g)	20.1	67.0	26.1
- Sugars (g)	0.8	2.8	6.8
Dietary Fibre (g)	3.2	10.5	3.2
Sodium (mg)	85	285	140
Potassium (mg)	105	350	300
Thiamin (mg)	0.55 (50%)*	1.83	0.58
Riboflavin (mg)	0.42 (25%)*	1.4	0.75
Niacin (mg)	2.5 (25%)*	8.3	2.5
Folate (µg)**	100 (50%)*	333	113
Iron (mg)	3.0 (25%)*	10.0	3.0

* Percentage of Recommended Dietary Intake (RDI)
 ** 1 serve provides 25% of the folate RDI for women of childbearing age.
 INGREDIENTS: Whole Grain Wheat (97%), Sugar, Salt, Barley Malt Extract, Vitamins (Niacin, Thiamin, Riboflavin, Folate), Mineral Iron. Contains cereals containing gluten.



Contact Us!

This fact sheet is produced by the Central Coast Public Health/Community Nutrition Team. If you have any suggestions or nutrition topics you would like covered please contact us by telephone on 4320 3691 or fax on 4320 2828.