



<b>Folic Acid</b>	
<b>Description</b>	Folic Acid is a synthetic water-soluble vitamin and is part of the B-group vitamins. Folic acid is generally consumed in the form of food supplements or in fortified foods.
<b>Function</b>	Essential for efficient neural tube development during pregnancy which forms the brain and spinal cord. 'Neural tube defects', such as spina bifida, in babies appear to be linked to a 'metabolic defect' in folate metabolism in the mother. This means that, even though the mother may have an adequate dietary intake of folic acid, her body cannot use it efficiently. Taking extra folic acid at the time when the neural tube is forming can reduce the chance of the baby having a neural tube defect. However, the neural tube is formed very early during pregnancy - about a month after conception. Women are advised to take folic acid prior to conception and to continue taking folic acid supplements until the 12 <sup>th</sup> week of pregnancy. In addition, folic acid is essential for the formation of red blood cells and has been shown to reduce the levels of an amino acid (homocysteine). This reduction may have a protective effect against heart disease.
<b>Human Requirements</b>	EU RDA: 200mcg Women of childbearing age (14-49 years) who are planning or who may become pregnant are advised to take a supplement containing 400mcg folic acid every day.
<b>Dietary Intake</b>	In the UK, the average adult diet provides: for men, 322µg daily; for women, 224µg daily <sup>1</sup> .
<b>Food Sources</b>	'Folate' can be found naturally in yeast extract, wholegrain cereals, liver, brussels sprouts, broccoli, leafy green vegetables, beans, oranges, beer. Levels of folate are unstable unless the foods are refrigerated and can also be destroyed by cooking; 'Folic acid' can be sourced from fortified foods, such as breakfast cereals, marmite, bovril and fat spreads.
<b>Deficiency Symptoms</b>	May lead to an increased risk of neural tube defect (spina bifida) in babies.
<b>Precautions / Contra-Indications</b>	Safe Upper Level: 1000mcg <sup>2</sup>
<b>Pregnancy &amp; Breastfeeding</b>	No problems have been reported. Supplements are required during pregnancy and when planning a pregnancy.
<b>Adverse Effects<sup>1</sup></b>	Folic acid is generally considered to be safe even in high doses, but it may lead to convulsions in patients taking anticonvulsants and may lead to neuropathy in pernicious anaemia. Some gastrointestinal disturbance has been reported at doses of 15 mg daily. Allergic reactions (shortness of breath, wheezing, fever, erythema, skin rash, itching) have been reported rarely.
<b>Interactions<sup>1</sup></b>	Those taking anti-epileptic drugs should seek doctor's advice. Adequate amounts of all B vitamins are required for optimal functioning; deficiency or excess of one B vitamin may lead to abnormalities in the metabolism of another. Folic acid may reduce the absorption of zinc.



**References**

1. Mason, P. Dietary Supplements. Pharmaceutical Press, London, 2001.
2. Expert Group on Vitamins and Minerals, 2003.