



Pregnancy and Nutrition: Folic Acid and Neural Tube Defects

Folate and Folic Acid

Folate is one of the B vitamins found naturally in foods. Folic acid is the form of folate in vitamin supplements and added to fortified foods.

Folate and folic acid are important for your health and for healthy growth of an unborn baby. They are important for the normal development of a baby's spine and brain.

What are neural tube defects?

Neural tube defects or NTDs are a group of serious birth defects, and spina bifida is the most common defect.

Neural tube defects occur when tissues and bone around the brain and spine of the embryo do not develop properly. These occur in the third and fourth week after conception (the first or second week after the first missed period). This could be before you know that you are pregnant.

People with spina bifida have varying degrees of paralysis, which can affect the legs, the bladder, and/or bowel function. They need lifelong medical care. The most seriously affected babies are stillborn or do not survive long after birth.

Why is folic acid important?

Women who eat foods high in folate and take a multivitamin supplement containing folic acid before and during the early stages of pregnancy have a lower chance of having a baby born with a neural tube defect.

To help prevent these defects, it is best to take a multivitamin supplement with folic acid at least 3 months before becoming pregnant and during the first 3 months of your pregnancy. You should continue to eat foods high in folate and to take a multivitamin supplement with folic acid throughout your pregnancy.

Folic acid and folate are needed during pregnancy to help your body make additional blood cells and to support the growth of your baby.

How much folic acid is recommended?

If you are between the ages of 14 and 50 and if you could become pregnant, you should take a daily multivitamin supplement containing 400 micrograms (mcg) or 0.4 milligrams of folic acid to help prevent neural tube defects. Pregnant and breastfeeding women should continue to take a daily multivitamin supplement containing 400 micrograms or 0.4 milligrams of folic acid to meet increased needs. Do not take a multivitamin or folic acid supplement with more than 1000 micrograms or 1 milligram of folic acid unless advised by your doctor or midwife.

You should also take a daily multivitamin supplement that includes vitamin B12.

Talk to your doctor, midwife or pharmacist about the multivitamin supplement best for you. Do not take more than one multivitamin supplement a day.

Which foods are good sources of folate?

Good dietary sources of folate include:

- Cooked dried beans, peas, lentils and edamame (green soybeans)
- Asparagus, spinach, broccoli, avocado, romaine lettuce, beets, Brussels sprouts, green peas, gai-lan, and bok choy
- Orange juice and oranges
- Enriched grain products like pasta, bread, and cold breakfast cereals
- Wheat germ, sunflower seeds, and peanuts

Although liver is high in folate, pregnant women should eat liver only once every two weeks due to its high vitamin A content, which can increase the risk of birth defects.

How can I get more folate and folic acid from my diet?

Eating Well with Canada's Food Guide includes foods naturally high in folate. Choosing foods fortified or enriched with folic acid will also help you get more folic acid from your diet.

In Canada, folic acid must be added to white flour, enriched pasta and enriched cornmeal. Other foods that may contain added folic acid include breads, buns, cookies, crackers, pasta, and ready-to-eat cereals.

What increases the risk of having a baby with a neural tube defect?

It is believed that about 95 per cent of all NTD pregnancies happen to women with no previous affected pregnancy or family history of NTD.

There is a higher risk of women having a baby with a neural tube defect if a family member has had a baby with a neural tube defect. Women who have had a previous baby with a neural tube defect are 15 times more likely to have another baby with this defect than the general population. If you or your

partner has a neural tube defect, this also increases your risk of having a baby with a neural tube defect.

Others at higher risk include women with diabetes and women taking certain seizure medications.

If any of these apply to you, you should see your family doctor or midwife when you are planning a pregnancy. You may be advised to take a higher amount of folic acid.

How common are neural tube defects?

The Public Health Agency of Canada estimates that 260 babies are born each year with a neural tube defect.

Some of these could be prevented by taking a multivitamin mineral supplement with folic acid and eating foods rich in folate before and during pregnancy.

For More Information

For more information on neural tube defects, contact the Spina Bifida and Hydrocephalus Association of BC at 604-878-7000, or visit www.sbhabc.ca.

For more HealthLink BC File topics, visit www.HealthLinkBC.ca/healthfiles/index.stm or your local public health unit.

Click on www.HealthLinkBC.ca or call 8-1-1 for non-emergency health information and services in B.C.

For deaf and hearing-impaired assistance, call 7-1-1 in B.C.

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