

Fact Sheets for Families

Folic Acid

Folic Acid and Neural Tube Defects

One of the most important steps to help your baby develop and prevent serious birth defects is good nutrition. Proper nutrition includes daily folic acid before conception and during early pregnancy to build healthy cells and healthy organs, thereby reducing the risk of birth defects.

According to the Centers for Disease Control (CDC), each year more than 3,000 babies are born with neural tube defects (NTDs) or central nervous system defects. These are serious birth defects. Up to 70% of NTDs can be prevented by taking folic acid (also known as vitamin B9 and folate), before and during pregnancy.

What is a Neural Tube Defect?

The spinal cord of the embryo begins as a flat region, which rolls into a tube called the neural tube and develops central nervous system. This occurs very early in pregnancy, before many women even know they are pregnant. When the central nervous system does not develop completely, it develops a NTD, which can cause a range of physical, mental, and social problems. There are two main types of neural tube defects:

- **Spina Bifida**, when the neural tube fails to close along the spine.
- **Anencephaly**, when the neural tube fails to close in the cranial region.

Infants born with anencephaly usually die within a few days of birth, and those with spina bifida have life-long disabilities with varying degrees of paralysis.

The risk of both of these birth defects can be greatly reduced by taking an appropriate amount of folic acid at least one month before pregnancy and during the first trimester.

What is Folic Acid?

Folic acid is a vitamin that is necessary for the production and maintenance of new cells. It not only protects babies from birth defects, but may also protect a mother's health by lowering the risks of heart disease, stroke, and some types of cancer.

Doctors and scientists are not completely sure why folic acid has such a profound effect on the prevention of neural tube defects, but they do know that folic acid is crucial in the development of healthy cells and tissues.

How Much Folic Acid Do Women Need?

The Spina Bifida Association recommends that women take 400 mcg (0.4 mg) of folic acid each day during their childbearing years to help prevent NTD. Women who could become pregnant should take folic acid one month before conception and for 3 months after conception (first trimester). If you have a child or sibling with spina bifida, it is recommended to take a higher dosage of folic acid. See your health care provider when you are planning to get pregnant.

Where Can You Get Folic Acid?

Many cereals, breads, pastas, rice, and other grain products are fortified with folic acid. Some cereals contain the full 100% of folic acid you need each day. Other natural foods such as liver, broccoli, spinach, deep green leafy vegetables, dried beans and legumes, bananas, nuts, lean beef, veal, and oranges have folic acid. Eating a diet rich in folic acid is a good idea, but to be safe make sure to also eat enriched cereals or take a vitamin supplement daily. Pregnant women should talk to their health care provider about nutrition and vitamin supplements.

References & Resources

Daly LE, Kirke PN, Molloy A, et al. Folate levels and neural tube defects. *JAMA* 1995; 274:1698-702.

Truswell AS. ABC of nutrition, Nutrition for pregnancy, *Br Med J* 1985; 29: 63-6.

MRC Vitamin Study Research Group. Prevention of neural tube defects: results of the Medical Research Council Vitamin Study. *Lancet* 199; 338(8760):131-7.

Web MD www.webmd.com/baby/folic-acid-and-pregnancy

CDC Grand Rounds (2010), Additional Opportunities to Prevent Neural Tube Defects with Folic Acid Fortification. Online at www.cdc.gov/mmwr/preview/mmwrhtml/mm5931a2.htm?s_cid=mm5931a2_w

by Tahereh Garakani, MA Ed



Provided by California Childcare Health Program
For more information, please contact:
Healthline 1-800-333-3212

Distributed by: