



Preventing Birth Defects: Folic Acid

- Folic acid is a B vitamin. Our bodies use it to make new cells. Everyone needs folic acid.
- Folic acid helps prevent neural tube defects, which are serious birth defects of the brain (anencephaly) and spine (spina bifida).
- By 1998 in the U.S., all cereal grain products labeled as enriched were fortified with folic acid. This has resulted in 1,000 more babies being born without a neural tube defect each year.
- Most neural tube defects, but not all, can be prevented with folic acid.



Understanding Neural Tube Defects

- Neural tube defects are a major cause of infant death and lifelong disability worldwide.
- The two most common neural tube defects are spina bifida and anencephaly. Infants born with anencephaly die shortly after birth. Those born with spina bifida have varying degrees of lifelong disability.
- In the U.S., there are approximately 3,000 pregnancies affected by neural tube defects every year.
- Hispanic women are more likely than non-Hispanic women to have a baby with a neural tube defect.
- There are more than 300,000 babies born with neural tube defects worldwide every year.
- In the U.S., the lifetime direct cost of care for a child born with spina bifida is estimated to be \$706,000. There are also great social and emotional costs for children with spina bifida and their families.
- All women who can become pregnant should take 400 micrograms (mcg) of folic acid every day, starting at least one month before pregnancy to help prevent neural tube defects.

National Center on Birth Defects and Developmental Disabilities
Division of Birth Defects & Developmental Disabilities



Identifying Prevention Strategies

The Centers for Disease Control and Prevention (CDC) played a major role in research showing that

- Taking 400 mcg of folic acid daily before and during early pregnancy can help prevent neural tube defects.
- Enriching cereal grain products increases folic acid intake among women and helps to reduce neural tube defects.

CDC works with state-based birth defects tracking programs to find trends and monitor the number of babies born with spina bifida and other birth defects in the U.S. This information can

- Help find other causes of birth defects.
- Guide future prevention opportunities.

Folic acid research activities in CDC's National Birth Defects Prevention Study look at

- Why certain groups, like Hispanics, get less folic acid daily and have higher rates of neural tube defects.
- Women's behaviors related to preventing birth defects, including folic acid use and alcohol use.

CDC also uses the National Health and Nutrition Examination Survey to look at how much folic acid people are getting from the foods they eat and from supplements or vitamins they may take.



Reducing Disparities in Neural Tube Defects in the U.S.

In the U.S., Hispanic women have higher rates of neural tube defects than non-Hispanic white women. CDC is working to reduce neural tube defects in Hispanics.

- Staple foods made with corn masa flour, such as tortillas, are not included in the current folic acid fortification rules.
- Research has shown that fortifying corn masa flour with folic acid would reach mostly Mexican Americans.
- CDC is tracking folic acid intake among Hispanic women of childbearing age to determine how many take 400 mcg daily.
- CDC funded projects in Texas, Florida, Illinois and North Carolina that looked at the effect promotoras (lay health outreach workers) had in increasing awareness, knowledge and consumption of folic acid among Hispanic women.
- CDC is conducting research with Hispanic women to learn more about their beliefs and what they think of folic acid fortified foods.

Advancing Neural Tube Defects Prevention Worldwide

Folic acid fortification has helped reduce neural tube defects in the U.S. CDC is now working with partners worldwide to help reduce death and lifelong disability resulting from neural tube defects. Increasing folic acid intake among women of reproductive age through fortification and other means can help prevent 150,000-210,000 neural tube defects each year in low- and middle-resource countries.

The key approaches for neural tube defects prevention are to

- Educate about the benefits of folic acid fortification.
- Establish a worldwide network of partners who are experts in tracking birth defects and conducting folic acid and birth defects prevention programs.
- Develop and strengthen regional and country birth defects tracking and laboratory capacity to monitor blood folate levels.

To learn more, please visit www.cdc.gov/folicacid.