



Pearl W. Yee, M.D. Inc.

*Obstetrics • Gynecology • Medical Aesthetics • Menopause • Prevention of Hereditary Cancer
Minimally Invasive and Robotic Gynecological Surgery*

Folic Acid – Folate or Vitamin B9

One of the “B complex vitamins”

Vitamin B9 known as folate in the natural form and folic acid in the synthetic form is known to reduce the risk for neural tube defects by as much as 70%. Folate (aka vitamin B9) is a water-soluble vitamin naturally in foods like: liver, legumes, leafy green vegetables and oranges. Folic acid this the synthetic form of folate used to fortify foods and in vitamin supplements. Foliates are stored in the liver and red blood cells. The 1st 25 days of gestation are most important in neural tube development and closure. For this reason **folic acid intake is important the month prior to conception**. Folic acid is water-soluble and toxicity has never been reported.

Neural tube defects (NTD):

NTD occur in 1/1000 deliveries in the US. Folic acid reduces NTD, cleft palate and genital urinary abnormalities. Folic acid is also important physiologically, to reduce cardiovascular disease.

For patients who have a history of NTD, without intervention the risk of recurrence is 1-2 percent. With folic acid, the recurrence risk can be reduced back to the baseline of 1/1000. For women with no history of NTD, the occurrence risk can be reduced from 1/1000 by 3 to 4 fold.

Folate acid supplementation:

Patients are advised to take folic acid at and optimally one month before conception for the maximum benefit. The FDA recommends an upper limit of 1 mg per day. The US preventative services task force recommends that women capable of pregnancy or planning a pregnancy should take a daily supplement of 400-800 mcg of folic acid. We advise patients to take a separate tablet of folic acid 800mcg or 1mg daily at least one-month before attempting pregnancy. Alternatively, if a patient prefers to take a regular multivitamin, be sure it has at least 400 mcgs of folic acid and consume 5 servings of fruits and vegetables including greens every day.

Certain Patients Need Higher Dosages of Folic Acid:

- ❖ Women who have had a **previous NTD pregnancy or or high risk are advised to take 4 mg a day according to the CDC.**
- ❖ Patients with **MTHFR genetic mutations** also need higher dosages of folic acid preconception. MTHFR is an enzyme involved in folic acid metabolism. Ten percent of the US population is homozygous for MTHFR.
- ❖ Suboptimum folic acid levels have been found in women who rely totally on dietary folate.
- ❖ Medications which reduced the absorption of folic acid include: Beta blockers, calcium channel blockers, sulfa antibiotics, and multiple anti-seizure medications.

Various forms of folate and folic acid:

Folic acid is favored over dietary folate due to superior bioavailability. A synthetic form of folate, L-MTHF delivers higher levels of serum folate faster than folic acid in a nutrition clinical trial and may have some advantages over folic acid.

Patient education handout: Folic acid 2012/Pearl W. Yee M.D. Inc.