

### **Folic Acid Supplementation**

In the general population, folic acid has been shown to reduce the risk of major congenital malformations (MCM), with the strongest evidence for neural tube defects and cardiac defects. To prevent these MCMs, folate must be taken before and during the first few weeks of pregnancy. Prenatal vitamins typically contain 400-800 mcg of folic acid.

The 2009 AAN practice guidelines recommend folic acid supplementation of 0.4–5 mg per day for women of childbearing age on AEDs. The authors acknowledge that there is no definite clinical evidence that folic acid reduces the risk of MCMs in women with epilepsy taking antiseizure medications. It is not known what the ideal dosage is in WWE and a couple of studies in healthy women suggested that higher doses of folic acid intake (Valera-Gran D et al. *JAMA Pediatr.* 2014; Valera-Gran D et al. *Am J Clin Nutr.* 2017) may be associated with delayed psychomotor development in the offspring. However, a rigorous study – the Neurodevelopmental Effects of Antiepileptic Drugs (NEAD) Study – found improved developmental outcomes in the children of women with epilepsy taking periconceptional folic acid supplementation compared with the group in which folic acid was not started until later in pregnancy (Meador K et al. *Lancet Neurol.* 2013).

There is growing evidence for neurodevelopmental benefits associated with maternal folic supplementation: the risk of autistic traits in children exposed to antiseizure medications in utero may be reduced (Bjørk M et al. *JAMA Neurol.* 2018), as well as the for ADHD (Virk J, *Nutr Neurosci*, 2017).

Most epileptologists recommend that women taking antiseizure medications take 1-2 mg of folate per day but may recommend a higher dose in some circumstances.