

Supporting Female Fertility

Everything you need and nothing you don't

The great folate debate

The best form of folate for preconception care always sparks much debate, but the consensus is that **a blend of folates has you covered. Combining the highly researched folic acid form and the biologically active L-5-MTHF is a clinically validated choice during preconception, pregnancy and lactation even with the presence of MTHFR mutations.**

Not all forms of folate have been equally examined and with over 5000 scientific publications, folic acid is by far the most heavily researched. It is specifically this form that has been demonstrated to increase red blood cell folate levels and **provide a protective role for the prevention of neural tube defects (NTD).**¹

It is too simplified to omit folic acid because of reported issues with polymorphisms linked to NTD and unmetabolised folic acid (UMFA) and, instead, **it is crucial to identify the minimum effective intake of folic acid required to help prevent NTDs while also minimising the risk of potential negative outcomes** in certain populations.²

The research indicates that UMFA can appear with doses lower than 400mcg per day in certain population groups, but one of the most cited studies into UMFA demonstrates ≤ 200 mcg per day of folic acid, even in addition to folic acid fortified foods, results in no UMFA in serum.³ Evidence suggests that **consuming folic acid as part of a B vitamin complex enhances folic acid metabolism, reducing the prevalence of detectable UMFA.**⁴

What about folinic acid? Even though folinic acid is an activated form, it is **not always 100% active. Folinic acid is actually made up of an active and an inactive isomer** and if clinicians are prescribing only folinic acid in the form of calcium folinate, then **potentially half of that may be inactive. If it's the only form we are using, we would not reach the 400mcg of total daily folate recommended for preconception and pregnancy care advised by the (NHMRC).**

Theoretically, **all forms of folate**, including methylfolate **may indeed increase blood folate levels** providing a NTD protective role, however the **research is still inconclusive** which is why **folic acid** is a good choice during preconception and conception.⁵

Copper. Not an automatic prescription

Recent Australian research suggests that pregnant women or those preparing for pregnancy should **not need copper supplementation.** The results clearly demonstrate that **we already get enough, or more than enough, naturally through our drinking water. Supplementing copper without assessing serum levels could have negative implications for these patients.**⁶

Additionally, **direct associations between excess serum copper and postpartum depression (PPD)** are evident. Copper levels appear to be significantly higher in women with a history of PPD compared to both women who are not depressed and to depressed women without a history of PPD.⁷

Although copper requirements are increased during pregnancy and lactation⁸, the **analysis of over 200 first draw drinking water samples from different parts of NSW found that almost 100% and 56% of samples contained detectable concentrations of copper and lead, respectively.** Of these detectable concentrations, copper exceeded Australian Drinking Water Guidelines (ADWG) in 5% of samples and lead in 8%.⁶

The same study concluded, **"Given that copper is known to cause significant health detriments, products for use in contact with drinking water should be tested and manufactured free from copper."** This demonstrates that we are **getting plenty of copper exposure**, that **deficiency is highly unlikely** and that the **only real reason to supplement copper would be in a confirmed state of deficiency.**

References:

1. Chitayat, D. et al. Folic acid supplementation for pregnant women and those planning pregnancy: 2015 update. *J. Clin. Pharmacol.* 56, 170–5 (2016).
2. Hekmatdoost, A. et al. Methyltetrahydrofolate vs Folic Acid Supplementation in Idiopathic Recurrent Miscarriage with Respect to Methylenetetrahydrofolate Reductase C677T and A1298C Polymorphisms: A Randomized Controlled Trial. *PLoS One* 10, e0143569 (2015).
3. Kelly, P., McPartlin, J., Groggins, M., Weir, D. G. & Scott, J. M. Unmetabolized folic acid in serum: Acute studies in subjects consuming fortified food and supplements. *Am. J. Clin. Nutr.* 65, 1790–1795 (1997).
4. Obeid, R. et al. Folic acid causes higher prevalence of detectable unmetabolized folic acid in serum than B-complex: a randomized trial. *Eur. J. Nutr.* 55, 1021–1028 (2016).
5. Saldanha, L. G., Dwyer, J. T., Haggans, C. J., Mills, J. L. & Potischman, N. Perspective: Time to resolve confusion on folate amounts, units, and forms in prenatal supplements. *Adv. Nutr.* 11, 753–759 (2020).
6. Harvey, P. J., Handley, H. K. & Taylor, M. P. Widespread copper and lead contamination of household drinking water, New South Wales, Australia. *Environ. Res.* 151, 275–285 (2016).
7. Crayton, J. W. & Walsh, W. J. Elevated serum copper levels in women with a history of post-partum depression. *J. Trace Elem. Med. Biol.* 21, 17–21 (2007).
8. Uriu-Adams, J. Y., Scherr, R. E., Lanoue, L. & Keen, C. L. Influence of copper on early development: Prenatal and postnatal considerations. *BioFactors* 36, 136–152 (2010).