

# MORE RECENT DEVELOPMENTS IN NTD PREVENTION



Whilst we know that folic acid could help to prevent up to 72% of NTDs, research never stops, and scientists are still looking into other potential causes and ways in which we can further reduce the risks. A number of studies have indicated vitamin B12 as both an independent risk factor for NTD, and as a co risk factor (alongside folic acid). Initial research into another B vitamin, Inositol (vitamin B8), has been very encouraging.

## B12

Vitamin B12 is essential for folic acid metabolism, which means that if a woman does not have sufficient stores, her body won't be able to metabolise folic acid effectively. Studies suggest that women that have low levels of B12 may have a 2-3 fold risk increase for neural tube defects. The risks associated with pregnancy and low B12 have become an even greater concern, since studies conducted by Professor Anne Molloy and the late Professor John Scott, (founder of the Vitamin Research Unit at the Institute of Molecular Medicine, Trinity College Dublin), revealed that up to 60% of women may have low levels of B12. The only dietary sources of B12 are animal and dairy based produce, putting vegetarians and vegans at particular risk of having low B12 levels.

Although supplementation with B12 is yet to be adopted as an official recommendation, Professor Scott believed that a daily supplement of at least 2.5mcg of B12 (the EU RDA), in addition to the recommended daily 400mcg supplement of folic acid, could further reduce the risk of NTD. SHINE (Spina bifida.

Hydrocephalus.Information.Networking.Equality), Europe's largest organisation supporting those living with spina bifida and hydrocephalus became the first organisation to promote this recommendation in 2012.

## Inositol

The potential benefits of inositol were investigated in Professor Andy Copp and Professor Nick Greene's 2016 PONTI Study. The PONTI study was based on preventing recurrence of NTDs, and so participants were women that had experienced at least one previously affected pregnancy. No NTDs were encountered in the women that were supplemented with both folic acid and inositol, but three NTDs occurred in the group that was only supplemented with folic acid. Whilst the study was small (due to a lack of women that were prepared to be randomised), the study results were incredibly encouraging. The findings of the PONTI study don't yet provide enough evidence to make an official recommendation, but have provided strong evidence to suggest that inositol is protective against recurrence, in folate resistant NTD, providing the necessary impetus to support further evaluation of inositol in the prevention of NTDs. [Click here to see the full results of this study.](#)