BONE

# Exposure to sunlight during pregnancy affects children's bone health

A pregnant woman's exposure to sunlight could be essential to the bone health of her child. Writing in the *Journal of Clinical Endocrinology and Metabolism*, Sayers and Tobias show that maternal exposure to sunlight influences subsequent bone growth in children, which affects both bone length and width.

Previous studies have shown that vitamin D exposure during pregnancy—which is largely determined by sunlight—affects height (or longitudinal growth) of children. "We wanted to examine whether sunlight exposure during pregnancy affects the amount of bone in the child over and above alterations in height," says author Jon Tobias, a Professor of Rheumatology at the University of Bristol, UK. The researchers studied the bone parameters of ~7,000 children of around 10 years of age whose mothers' sunlight exposure had been estimated on the basis of regional meteorological records during their third trimesters.

Increased sunlight exposure of mothers during pregnancy increased the size of their children's bones, independently of height. In fact, as exposure to sunlight increased, so did bone width for a given height, which could have important consequences for children's long-term bone health. "The results might have implications for the risk of having broken bones due to osteoporosis in later life, as wider bones are thought to be stronger and less prone to break," explains Tobias.

Sayers and Tobias attribute these effects to levels of vitamin D in the pregnant mothers. To test this hypothesis, they are now directly measuring maternal vitamin D levels to further assess *in utero* effects on bone development. The current findings provide additional evidence of the importance of maternal vitamin D status, and Tobias suggests that "it might be worth considering taking vitamin D supplements in pregnancy to help boost bone development of the offspring."

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**Original article** Sayers, A. & Tobias, J. H. Estimated maternal ultraviolet B exposure levels in pregnancy influence skeletal development of the child. *J. Clin. Endocrinol. Metab.* doi:10.1210/jc.2008-2146 (2008).