

Visiting Researcher Links Vitamin D Levels | CPD Blog

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After reviewing and performing multiple clinical studies, Dr. Bruce Hollis argues vitamin D does much more than strengthen bones--and that a failure to understand its role in human health can have serious implications for pregnant and nursing mothers. The Immunology and Genetic Laboratory at the Center for Persons with Disabilities recently hosted a seminar by Dr. Hollis, Director of Pediatric Nutritional Sciences at the Medical University of South Carolina. He spoke to USU students and CPD employees about his research on vitamin D and serum 25-hydroxyvitamin D, the chemical the vitamin becomes after it is converted in the body. Blood tests can measure the level of this chemical to determine whether a person is deficient in vitamin D. Eventually it is converted into an active hormone. "What is a normal level of vitamin D? That is still being fought today," Dr. Hollis said. The medical profession has not reached a consensus, and a fear of toxicity has led doctors to be conservative--too conservative, in his opinion--in how much they supplement vitamin D. Most prenatal vitamin supplements contain 400 international units (IU) of vitamin D, while the Endocrine Society suggests pregnant and lactating women may need 1500-2000 IU. The Vitamin D Council recommends 4000, and at the Medical University of South Carolina hospital, all pregnant women are given 4000 units. After all the research done and reviewed there, Dr. Hollis said, "Our physicians have seen enough." The nutrient's level in the blood varies according to a number of factors, including an individual's exposure to sunlight, which gives it a natural boost. A 1971 study showed that lifeguards, who spent lots of time in the sun, had 250 percent higher serum 25-hydroxyvitamin D than the average, indoor-dwelling person who did not have symptoms of skeletal weakness. In his presentation, Dr. Hollis argued that for thousands of years, vitamin D levels among most humans--hunters, gatherers, farmers--were closer to those exhibited by the lifeguards in 1971. What's more, the nutrient plays a role in preventing a number of diseases, including asthma in newborns (Wang, 2016). Researchers have also found links between vitamin D deficiency and hypertension, metabolic syndrome, diabetes mellitus, renal disease, autoimmune diseases and coronary heart disease (Wang, 2017 and Kriegel, 2011.) Other researchers have reported a link between vitamin D deficiency and autism, in 15 separate studies (Cannell, 2017). Dr. Hollis said studies show that a number of complications for pregnant women, including preterm births and pre-eclampsia, were significantly reduced when the women were given vitamin D supplements far above those found in prenatal vitamins.

A number of complications for pregnant women were significantly reduced when they were given vitamin D supplements far above those found in most prenatal vitamins. Other studies show that nursing mothers with low vitamin D levels do not pass enough of the nutrient on to their babies. "It is well known that human milk is low in vitamin D," Dr. Hollis said. "Of course human milk is deficient in vitamin D, because the mother doesn't have it." He was the lead author in a [2015 study](#) that found nursing mothers could pass sufficient vitamin D to their babies if they received 6400 units of vitamin D a day. When the mother's own levels were high enough, she also passed the nutrient on to her child via breast milk. While nursing mothers are encouraged to give their babies vitamin D supplements, many don't do it, he said—and in extreme cases their children can suffer fractures caused by weak bones brought on through the deficiency. "Dr. Hollis and his colleagues have conducted some ground breaking studies regarding the nutritional needs of Vitamin D during pregnancy and lactation," said Dr. Thayne Sweeten, director of the Immunology and Genetic Research Laboratory at the Center for Persons with Disabilities. "Deficiency of this hormone occurs in over 60% of individuals in Utah. People need to know about these findings so that they can make informed choices to hopefully improve their vitamin D levels." Hollis visited USU on September 20.