

Fewer children at risk for deficient vitamin D

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Under new guidelines from the Institute of Medicine, the estimated number of children who are at risk for having insufficient or deficient levels of vitamin D is drastically reduced from previous estimates, according to a Loyola University Chicago Stritch School of Medicine study.

The study, led by Holly Kramer, MD, MPH and Ramon Durazo-Arvizu, PhD, is published online ahead of print in the *Journal of Pediatric Endocrinology and Metabolism*.

New Institute of Medicine guidelines say most people get sufficient vitamin D when their blood levels are at or above 20 nanograms per millilitre (ng/mL). The Pediatric Endocrine Society has a similar guideline. However, other guidelines recommend vitamin D levels above 30 ng/mL.

Loyola researchers analysed vitamin D data from a nationally representative sample of 2,877 U.S. children and adolescents ages 6 to 18 who participated in the National Health and Nutrition Examination Survey.

The study found that under the Institute of Medicine guidelines, 10.3 percent of children ages 6 to 18 are at risk of inadequate or deficient vitamin D levels. (This translates to an estimated 5.5 million children.)

By comparison, a 2009 study in the journal *Pediatrics*, which defined sufficient vitamin D levels as greater than 30 ng/mL, found that an

estimated 70 percent of persons ages 1 to 21 had deficient or insufficient vitamin D levels.

Under previous guidelines, millions of children who had vitamin D levels between 20 and 30 ng/mL would have needed supplementation. Under the Institute of Medicine guidelines, children in this range no longer need to take vitamin D supplements.

The new study found that [children](#) at risk of vitamin D deficiency under the Institute of Medicine guidelines are more likely to be overweight, female, non-white and between the ages of 14 and 18.

The Institute of Medicine's new vitamin D [guidelines](#) are based on nearly 1,000 published studies and testimony from scientists and other experts. The IOM found that vitamin D is essential to avoid poor bone health, such as rickets. But there have been conflicting and mixed results in studies on whether vitamin D can also protect against cancer, heart disease, autoimmune diseases and diabetes. Moreover, excessive vitamin D can damage the kidneys and heart, the IOM found.

More information: The Loyola study is titled "Prevalence of risk of deficiency and inadequacy of 25-hydroxyvitamin D in US Children: NHANES 2003-2006."

Provided by Loyola University Health System

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