

# Does heart disease begin in childhood?

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Are the first signs that someone is at risk of developing cardiovascular disease detectable in toddlers and preschoolers?

There's evidence that low vitamin D levels in adults are linked to [cardiovascular disease](#), as well as other health issues such as obesity, hypertension and diabetes. But that link hadn't been studied in children. Researchers in Toronto examined vitamin D levels in children ages one to five and the non HDL- cholesterol level in their blood, a marker of [cardiovascular health](#). (Non-HDL cholesterol is basically all of a person's cholesterol minus his or her HDL or [good cholesterol](#).)

In a study published today in the journal *PLOS ONE*, they found a "statistically significant association" between higher vitamin D levels and lower non-HDL cholesterol, even after taking into account such things as Body Mass Index, consumption of cow's milk and levels of physical activity.

"Maybe the factors that lead to cardiovascular disease start in [early childhood](#)," said Dr. Jonathan Maguire, an author on the paper and a pediatrician and researcher at St. Michael's Hospital. "If vitamin D is associated with cholesterol in early childhood, this may provide an opportunity for early life interventions to reduce [cardiovascular risk](#)."

For this study, researchers took blood samples from 1,961 children ages one to five years attending well-child visits. All were enrolled in the Applied Research Group for Kids (TARGet Kids!), collaboration between children's doctors and researchers from St. Michael's Hospital

and The Hospital for Sick Children. The program follows children from birth with the aim of preventing common problems in the early years and understanding their impact on health and disease later in life.

Children in the study had a mean daily cow's milk intake of 452 millilitres, or just under 2 cups, - the main dietary source of vitamin D - and 56 per cent of them regularly consumed a vitamin D supplement.

Provided by St. Michael's Hospital

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