

High adolescent BMI increases the risk of early chronic kidney disease, large cohort study finds

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Adolescent obesity significantly increases the risk of developing early chronic kidney disease (CKD) in young adulthood, according to a large

cohort study led by Hebrew University of Jerusalem (HU) and Sheba Tel HaShomer Medical Center researchers.

The new study, published in the journal [JAMA Pediatrics](#), highlights the importance of lowering adolescent [obesity](#) rates to better manage the risk of kidney disease for adolescents with high body mass index (BMI). While those with severe obesity appear more at risk, researchers also found cause for concern for seemingly healthy individuals with high-normal BMI under 30.

Despite increasing obesity rates in adolescents, data indicating a link to the onset of early [chronic kidney disease](#) had been lacking, reports the research team led by Avishai M. Tsur, M.D., of the Hebrew University Department of Military Medicine, Faculty of Medicine, and a resident at Sheba Tel HaShomer Medical Center.

"These findings are a harbinger of the potentially preventable, increasing likelihood of developing chronic kidney disease and subsequent cardiovascular disease," the researchers say.

The study, conducted by colleagues from major health institutions in Israel and the United States, including Johns Hopkins and Harvard University, included data on 593,660 Israeli adolescents ages 16-20, born after January 1, 1975, who had medical assessments for mandatory military service.

With a mean follow-up of 13.4 years, 1,963 adolescents (0.3%) overall developed early chronic kidney disease:

- For males, the risk of developing CKD increased the most with severe obesity (hazard ratio [HR], 9.4). It was also detected in mild obesity (HR, 6.7) and in those who were overweight (HR, 4.0) or had a high-normal BMI in adolescence (HR, 1.8).

- Among females, the increased risk was greatest with severe obesity (HR, 4.3). It was also linked to those who had mild obesity (HR, 2.7), were overweight (HR, 2.3), or had high-normal BMI (HR, 1.4).

The findings of this cohort study underscore the importance of mitigating [adolescent obesity](#) rates and managing the risk factors associated with developing CKD.

More information: Avishai M. Tsur et al, Adolescent Body Mass Index and Early Chronic Kidney Disease in Young Adulthood, *JAMA Pediatrics* (2023). [DOI: 10.1001/jamapediatrics.2023.5420](https://doi.org/10.1001/jamapediatrics.2023.5420)

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