

# Prediabetes treatment may reduce heart and kidney risks in childhood cancer survivors

December 13 2023

---



First and corresponding author Stephanie Dixon, M.D., MPH, St. Jude Department of Oncology. Credit: St. Jude Children's Research Hospital

A study from St. Jude Children's Research Hospital sheds light on the incidence of prediabetes and diabetes in childhood cancer survivors for better prevention and treatment. At a younger age, childhood cancer

survivors can experience chronic conditions such as diabetes, typically associated with older individuals.

Researchers found survivors have twice the risk of developing prediabetes than the [general public](#), which increases their risk of other life-threatening diseases. In the [general population](#), prediabetes can be modified with lifestyle and other interventions, suggesting the potential to improve survivors' life- and health-spans. The results were published today in the *Journal of Clinical Oncology*.

"One of the striking features was the very high prediabetes prevalence at such a young age in survivors," said first and corresponding author Stephanie Dixon, M.D., MPH, St. Jude Department of Oncology. "The problem is over time, more and more people continue to progress to diabetes, so if you develop prediabetes at 20 years old, your lifetime risk of diabetes and associated comorbidities, including [atherosclerotic cardiovascular disease](#) or kidney disease, is going to be much higher than if you develop prediabetes at age 40 or 50 years, commonly seen in the general population."

Prediabetes occurs when a person has higher than normal blood sugar levels but not high enough to be considered diabetic. A large percentage of people with prediabetes will later develop diabetes, which is associated with an increased risk of heart and kidney disease. In the general public, prediabetes can be managed through [lifestyle changes](#), such as a [healthy diet](#) and exercise, as well as medication to prevent progression to diabetes and downstream conditions. The study suggests this approach may benefit survivors; however, optimal strategies to reduce the progression toward diabetes among prediabetic survivors remain unknown.

## **Preventing diabetic disease to protect cancer**

## survivors

Blood sugar levels are well-known to vary naturally. Therefore, physicians may not discuss small elevations with survivors. The findings suggest that even small increases in blood sugar levels should be taken as a sign to start lifestyle interventions in survivors to protect their hearts and kidneys. The key to preventing disease will be identifying survivors with prediabetes as early as possible.

"We need to help survivors understand that prediabetes is really an early warning sign that says you need to do something, whether that's changing lifestyle, starting medication or following up with primary care," Dixon said. "But that has to start with physicians identifying when a survivor has developed prediabetes and then counseling the survivor on the importance of diabetes prevention and follow-up."

## **Prediabetes associated with heart and kidney problems in survivors**

Cardiovascular disease commonly occurs in people with diabetes, but it was unclear if that risk was the same in younger survivors. The findings showed survivors with diabetes are at twice the risk of a heart attack event compared to those with normal blood sugar levels. This impact remained even when accounting for potential organ damage during cancer treatment.

"For [cardiovascular disease](#) overall, diabetes alone was associated with a statistically significant increase in risk," Dixon said. "But when we broke it down, we found a significant increase in risk for heart attack in people with prediabetes, and then for cardiomyopathy (or heart failure) and stroke in people with diabetes."

In addition to cardiovascular risk, [chronic kidney disease](#) was particularly concerning. The researchers observed a three times greater risk of chronic [kidney disease](#) in survivors with prediabetes or [diabetes](#).

The study is a first step in identifying the consequences of prediabetes in survivors, which will galvanize future research into adapting approaches to protect these patients.

"We should be considering interventions to mitigate risk in this population of prediabetic and diabetic survivors so they can live longer, healthier lives," Dixon said.

**More information:** *Journal of Clinical Oncology* (2023).

Provided by St. Jude Children's Research Hospital

Citation: Prediabetes treatment may reduce heart and kidney risks in childhood cancer survivors (2023, December 13) retrieved 27 April 2024 from <https://medicalxpress.com/news/2023-12-prediabetes-treatment-heart-kidney-childhood.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--