
Diabetes Care study by FinnDiane investigators shows the association between waist-to-height ratio is much more relevant than BMI vis a vis risk of coronary artery disease in T1D – April 15, 2026

WHtR strongly predicts long-term CAD risk in people with T1D, particularly before kidney disease develops.

Diabetes Care just published (April 14) “[Waist-to-Height Ratio Is Associated With the Risk of Coronary Artery Disease in Type 1 Diabetes: A 19-Year Cohort Study](#),” by researchers Dr. [Erika Bezerra Parente](#), Dr. [Fanny Jansson Sigfrids](#), Prof. Per-Henrik [Groop](#), Dr. [Lena M. Thorn](#), Dr. [Niina Sandholm](#), and Dr. [Valma Harjutsalo](#) from the University of Helsinki in Finland. With obesity rates rising globally, as well as rates of people who are overweight, including among people with T1D, central adiposity^[1] has emerged as a key driver of cardiometabolic complications. The [FinnDiane](#) investigators aimed to determine whether waist-to-height ratio (WHtR) predicts long-term coronary artery disease (CAD) risk and whether this association differs across albuminuria stages, given the strong interplay between kidney disease and cardiovascular outcomes. Ultimately, this study found that higher WHtR was strongly and independently associated with increased CAD risk, more than doubling 20-year CAD incidence, and was especially (actually) predictive among individuals *without* albuminuria.

Table of Contents

1. [Waist-to-height ratio a simple measure of visceral fat](#)
2. [Higher WHtR strongly predicted CAD, especially in those without albuminuria](#)
3. [WHtR as a practical tool to refine cardiovascular risk stratification](#)

Waist-to-height ratio a simple measure of visceral fat

Waist-to-height ratio is a simple, accessible measure of visceral fat and has previously been linked to fatty liver disease, severe retinopathy, heart failure, and kidney disease in this population. However, its relationship with coronary artery disease (CAD) has not been an area of focus for study groups to date and thus this has not been a marker that has gained major attention for most clinicians and/or patients and/or payers.

Higher WHtR strongly predicted CAD, especially in those without albuminuria

In this 19-year cohort^[2] study (n=4,349) of adults with T1D and no prior CAD called [FinnDiane](#), 15% of participants experienced a CAD event. Central obesity (WHtR ≥ 0.5) was common and strongly associated with outcomes, with the 20-year cumulative incidence of CAD being a whopping 25% in those with central obesity versus 9.9% in those without. Each 0.1-unit increase in WHtR raised CAD risk by 21%, independent of age, diabetes duration, A1c, blood pressure, LDL, HDL, and smoking. Wow!

Interestingly, the association was actually most pronounced in individuals with normal albumin excretion (A1), where each 0.1-unit increase in WHtR corresponded to a 26% higher CAD risk. Associations weakened in people with T1D and moderate albuminuria (A2) and actually disappeared in severe albuminuria (A3), suggesting that once diabetic kidney disease is established, its dominant cardiovascular impact may overshadow obesity-related pathways. Notably, BMI did not show comparable predictive value.

WHtR as a practical tool to refine cardiovascular risk stratification

These findings position WHtR as a clinically accessible measure that captures visceral adiposity and identifies cardiovascular risk not reflected by BMI or albuminuria alone. The strongest association in individuals with normal

albumin excretion highlights its value for detecting risk before kidney disease develops, precisely when preventive interventions may have the greatest impact. Given the rising burden of central obesity in T1D and its links to inflammation, insulin resistance, and multiorgan complications, using WHtR in routine assessments could help clinicians better stratify CAD risk and address residual cardiovascular risk earlier in the disease course.

-- by *Kayla Mathieu, Kat Moon, and Kelly Close*

[1] See [here](#) for background on central vs. visceral adiposity, in this treatise by the esteemed Dr. [Harold Bays](#) of University of Louisville's School of Medicine: "Central obesity as a clinical marker of adiposopathy; increased visceral adiposity as a surrogate marker for global fat dysfunction".

[2] According to UNC's Dr. Lorraine Alexander, et al, a cohort study is a kind of epidemiological study in which a group of people with a common characteristic are followed over time "to find how many reach a certain health outcome of interest" – this could be, they say, a condition or disease like diabetes, an event, and/or a change in health status (including death).