

How to prevent heart failure in type 2 diabetes

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Heart failure in people with coronary artery disease and simultaneous type 2 diabetes can be prevented with effective treatment. In a large registry study published in *The Journal of American College of Cardiology*, researchers from Karolinska Institutet show that patients with type 2 diabetes who had undergone coronary artery surgery prior to their heart failure diagnosis have better chances of survival in the long term.

For people with type 2 [diabetes](#), [heart failure](#) is a common condition that has proved more serious than it is for people without diabetes. Often, but not always, the heart failure is attributable to atherosclerotic [coronary artery disease](#) (CAD). To improve the blood supply to the heart muscle, people with CAD can be given either a bypass operation or catheter balloon dilation. According to the study, roughly every other person with type 2 diabetes and simultaneous CAD are treated using one of these interventions.

The long-term impact of these operations was previously uncertain, but by studying registry data from over 35,000 [heart failure patients](#), over a quarter of whom had type 2 diabetes, the team found that the risk of death within eight years of heart-failure onset was much higher if the patient also had type 2 diabetes, with those who also had CAD showing the worst prognosis. However, the study also shows that the prognosis for long-term survival was better for the patients who had undergone coronary artery surgery before developing heart failure, an observation that held even when controlling for factors such as old age or other diseases, which might have affected the decision to perform revascularising surgery.

"Our study indicates that revascularising coronary artery surgery can do much to improve the prognosis," says Isabelle Johansson, doctoral student at the Department of Medicine. "A decision must be taken as to whether this is possible should be made without delay for all patients with

combined type 2 diabetes and heart failure."

The study also shows that over 90 per cent of the patients with type 2 diabetes have one or more other precursors of heart failure, such as [high blood pressure](#), COPD or atrial fibrillation, diseases to which effective treatments are available that improve the chances of long-term survival.

"A greater focus should be put on preventing heart failure in patients with type 2 diabetes," says Ms Johansson.

The results are based on an observational study in which [coronary artery](#) surgery was not randomly distributed, giving some uncertainty over when surgery was performed in relation to disease onset. They should therefore be interpreted with a degree of caution and corroborated in future randomised studies.

More information: Isabelle Johansson et al. Prognostic Implications of Type 2 Diabetes Mellitus in Ischemic and Nonischemic Heart Failure, *Journal of the American College of Cardiology* (2016). [DOI: 10.1016/j.jacc.2016.06.061](#)

Provided by Karolinska Institutet

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