

Brush your teeth to protect the heart

December 2 2019



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Brushing teeth frequently is linked with lower risks of atrial fibrillation and heart failure, according to a study published today in the *European Journal of Preventive Cardiology*, a journal of the European Society of Cardiology (ESC).

Previous research suggests that poor oral hygiene leads to bacteria in the

blood, causing inflammation in the body. Inflammation increases the risks of atrial fibrillation (irregular heartbeat) and heart failure (the heart's ability to pump blood or relax and fill with blood is impaired). This study examined the connection between oral hygiene and occurrence of these two conditions.

The [retrospective cohort study](#) enrolled 161,286 participants of the Korean National Health Insurance System aged 40 to 79 with no history of atrial fibrillation or heart failure. Participants underwent a routine medical examination between 2003 and 2004. Information was collected on height, weight, laboratory tests, illnesses, lifestyle, oral health, and [oral hygiene](#) behaviours.

During a median follow-up of 10.5 years, 4,911 (3.0%) participants developed atrial fibrillation and 7,971 (4.9%) developed heart failure.

Tooth brushing three or more times a day was associated with a 10% lower risk of atrial fibrillation and a 12% lower risk of heart failure during 10.5-year follow up. The findings were independent of a number of factors including age, sex, [socioeconomic status](#), regular exercise, [alcohol consumption](#), body mass index, and comorbidities such as hypertension.

While the study did not investigate mechanisms, one possibility is that frequent tooth brushing reduces bacteria in the subgingival biofilm (bacteria living in the pocket between the teeth and gums), thereby preventing translocation to the bloodstream.

Senior author Dr. Tae-Jin Song of Ewha Womans University, Seoul, Korea noted that the analysis was limited to one country and as an observational study does not prove causation. But he added: "We studied a large group over a long period, which adds strength to our findings."

An accompanying editorial states: "It is certainly too early to recommend tooth brushing for the prevention of atrial fibrillation and congestive [heart failure](#)". It adds: "While the role of inflammation in the occurrence of cardiovascular disease is becoming more and more evident, intervention studies are needed to define strategies of public health importance."

More information: Chang Y, Woo HG, Park J, et al. Improved oral hygiene care is associated with decreased risk of occurrence for atrial fibrillation and heart failure: A nationwide population-based cohort study. *Eur J Prev Cardiol.* 2019. [DOI: 10.1177/2047487319886018](#)

Meyre P, Conen D. Does tooth brushing protect from atrial fibrillation and heart failure? *Eur J Prev Cardiol.* 2019. [DOI: 10.1177/2047487319886413](#)

Provided by European Society of Cardiology

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