

Embargoed: Wednesday, 21 May 2025, 00:01 EEST

Oral health linked to lower stroke risk: New ARIC study findings presented at ESOC 2025

(Wednesday, 21 May 2025, Helsinki, Finland) New research from the Atherosclerosis Risk in Communities (ARIC) study, presented today at the European Stroke Organisation Conference (ESOC) 2025, reveals a strong association between preventive oral care practices and a reduced risk of ischaemic stroke. The findings suggest that simple habits like dental flossing and regular dental visits can play a significant role in lowering stroke risk by reducing inflammation and oral infections.¹

The ARIC study examined data from over 6,200 participants who provided information on their oral hygiene behaviours, including dental flossing, tooth brushing, and frequency of dental visits. Researchers assessed these habits alongside clinical evaluations of periodontal disease, dental caries, and biomarkers of inflammation such as C-reactive protein (CRP) and interleukin-6 (IL-6).

The results showed that individuals who flossed regularly had a significantly lower risk of developing ischaemic stroke, with dental flossing independently associated with a 20% relative reduction in stroke risk. While regular tooth brushing alone did not significantly reduce stroke risk, both brushing and flossing, particularly when combined with regular professional dental care, were associated with improved oral health outcomes, including reduced rates of periodontal disease and dental caries.

Participants who practiced all three oral care strategies—brushing, flossing, and visiting the dentist regularly—also exhibited lower levels of IL-6, an inflammatory marker linked to cardiovascular and cerebrovascular disease. Notably, only regular dental visits were associated with a significant reduction in CRP levels, another key indicator of systemic inflammation.

“These results underscore the broader health implications of oral hygiene,” said Dr. Souvik Sen, lead author of the study and professor at the University of South Carolina School of Medicine. “Dental flossing and routine dental visits do more than protect your teeth—they may significantly lower your risk of stroke by reducing chronic inflammation.”

The study adds to a growing body of evidence, including findings from the KOHH study in Finland² and the U.S. NHANES study³, suggesting that good oral hygiene is a modifiable risk factor for stroke and cardiovascular disease. The findings of the ARIC study may influence future public health strategies by highlighting the importance of incorporating oral care into broader stroke prevention efforts.

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References:

1. Sen, S., et al. *Oral preventive strategies, periodontal disease, caries, inflammation, and stroke prevention: The ARIC study*. Abstract O073, presented at the European Stroke Organisation Conference; 21 May 2025; Helsinki, Finland.

2. Janket, S. J., Lee, C., Surakka, M., et al. (2023). Oral hygiene, mouthwash usage and cardiovascular mortality during 18.8 years of follow-up. *British Dental Journal*, 1–6.
3. Alhadainy, H. A., Keefe, T., Abdel-Karim, A. H., Abdulrab, S., & Halboub, E. (2021). Association between dental diseases and history of stroke in the United States. *Clinical and Experimental Dental Research*, 7(5), 845–851.

About the ARIC study:

The Atherosclerosis Risk in Communities (ARIC) study is a long-term, population-based research initiative designed to explore the causes and outcomes of cardiovascular diseases in diverse populations across the United States.