

# Good oral hygiene may help recovery after a heart attack

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Good oral hygiene may help recovery after acute cardiovascular events such as heart attacks and aortic dissection, according to research presented today at Frontiers in CardioVascular Biology (FCVB) 2018, a European Society of Cardiology congress. The study in mice found that the bacteria that cause gum disease (periodontitis) also impair the healing of blood vessels.

Research on the prevention of cardiovascular [disease](#), which remains the top killer worldwide despite improved treatments, has focused on conventional risk factors including hypertension, diabetes, and high cholesterol. The importance of oral health, which is often poor in people with other [cardiovascular risk factors](#), has been neglected.

There is increasing evidence that gum disease increases the risk of cardiovascular disease and leads to worse outcomes in patients with atherosclerosis (clogged arteries).

Dr. Sandrine Delbosc, author of the current study and associate investigator, Inserm Laboratory for Vascular Translational Science, Paris, France, said: "Our previous research in rats found periodontal bacteria in severely atherosclerotic arteries, suggesting that these bacteria may be the link between gum disease and cardiovascular disease."

The researchers hypothesised that periodontal bacteria enter the bloodstream through bleeding gums, a common symptom of gum disease. The bacteria then adhere to atherosclerotic lesions, which

contain bacterial "food" such as protein, and impede healing of the lesions.

This hypothesis was tested in the current study using a mouse model of atherosclerosis complicated by aortic aneurysm. To mimic the repeated entry of periodontal bacteria into the blood that occurs in gum disease, the researchers injected *Porphyromonas gingivalis*, the main periodontal bacterium, into the bloodstream once a week for four weeks. A control group of mice was injected with saline solution.

The researchers found that a significantly higher proportion of the mice injected with bacteria died (23 out of 34; 68 percent) compared to the control [mice](#) (eight out of 23; 35 percent) (p

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