



## Healthy Gums, Healthy Heart?

**Research: Brushing, flossing might reduce risk of heart attack, stroke**

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Keeping your pearly whites and your gums healthy may be key to keeping your heart in good health, too.

Researchers have found a link between gum disease and increased risk for atherosclerosis, the build-up of plaque in the walls of the arteries that can lead to heart attack and stroke.

In a study published in February in the journal *Circulation*, researchers at Columbia University Medical Center measured specific bacteria that are known to cause periodontitis, a more severe form of gum disease, as well as other bacteria, in the mouths of more than 600 people ages 55 and older with no history of stroke or heart attack. The scientists also looked at the thickness of the carotid arteries, the two major arteries on each side of the neck that supply blood to the brain. Thickening of the carotid arteries can lead to stroke and heart attacks.

The results showed a clear link between the bacteria that cause serious gum disease and thicker carotid arteries, even when other factors such as smoking, high blood pressure and diabetes were accounted for, says lead researcher Dr. Moise Desvarieux, an assistant professor of epidemiology at Columbia University's Mailman School of Public Health.

So how does what's in your mouth affect your heart? Theories vary. "Studies have shown that in people who have gum disease, the bacteria migrate to the bloodstream. So, down the line, that may lead to adverse events" like heart attack and stroke, Desvarieux speculates. The bacteria may attach to fatty plaque in the arteries of the heart, contributing to clot formation, according to the American Academy of Periodontology (AAP).

Another theory, adds Desvarieux, involves a hyperinflammatory response to the abundance of bacteria in the mouth. "People don't realize that there are no other places in the body where so many bacteria are in contact for a long period of time, which constantly stimulates the immune system." The immune system, in turn, may over-respond, creating hyperinflammation, which stresses the heart and blood vessels. Then there's C-reactive protein (CRP), a protein released by the body in response to injury or inflammation. Higher levels of CRP are a marker for increased heart-disease risk. Desvarieux says CRP levels are higher in people with periodontitis.

The research is just the latest in a slew of studies pointing to a link between bad oral health and a bad heart. But it's the first to show a direct connection to these bacteria, Desvarieux says. "In our population it was *only* those bacteria that cause periodontal disease — and not the seven control bacteria" that were associated with a thicker carotid artery. "That's pretty good evidence."

But it's still not a given that that trouble with your gums means a heart attack will strike. That's because researchers don't know yet which came first — the bacteria or the thicker carotid artery. Desvarieux is following up with the study's participants to

determine whether, over time, those with the highest level of bacteria also have the highest level of stroke and heart attack — and if low bacteria levels are heart-protective. "The research is not at the stage of recommending changing practice," adds Desvarieux. "Having said that, though, it is hard to be against people taking good care of their teeth and gums."

### **Brushing up**

Finding the precise connection is important because gum disease is so common. At least half of Americans over age 55 have periodontitis, according to the AAP.

Because the main cause of periodontal disease is bacterial plaque — a sticky film that constantly forms on your teeth — it's essential to keep plaque at bay, especially the subgingival kind that's below the gums. Root planing and scaling — a nonsurgical therapy using fine instruments to clean the roots and break up subgingival plaque — will significantly reduce the level of oral bacteria for most people, explains Gordon L. Douglass, a past president of the AAP and a periodontist in Sacramento, Calif.

Just as important is regular brushing (twice a day), regular cleanings at the dentist (twice a year) and a practice many of us neglect: flossing. "Flossing gets into the spaces between the teeth and the gums. That will break up the bacteria and never let them get established," says Douglass. Even toothpicks can be used to clean between teeth. "Most periodontitis starts between the teeth," Douglass adds.

Medications, including painkillers, antihistamines, diuretics, antidepressants and high-blood-pressure medications, can cause side effects that increase your chances for periodontitis. If you notice changes in the soft tissue in your mouth or if food and drinks taste differently, talk to your dentist or see a periodontist — especially if side effects include a dry mouth. Explains Douglass, "Saliva buffers the effects of acid on teeth and adds lubrication to protect against gum disease. The drier the mouth, the more inflamed it gets, and it's harder to clear plaque from your mouth."

To find a periodontist near you, visit the American Academy of Periodontology at [www.perio.org](http://www.perio.org).