

# Heart TALK

Heart-healthy and Stroke-free Living with Dr. Amy L. Doneen, DNP, ARNP

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*Thoughts from Dr. Amy*

## Landmark Bale Doneen Discovery: Oral Bacteria Can Cause Heart Disease

Your oral health can have a powerful effect on your risk for heart attacks or strokes, according to a peer-reviewed Bale Doneen study published in [Postgraduate Medical Journal](#). Using level A scientific evidence, the research is the first to reveal that periodontal disease (PD) due to certain high-risk bacteria can be a contributing cause of cardiovascular disease (CVD), the leading killer of men and women.



Also known as gum disease, PD is a chronic oral infection that affects the majority of Americans over age 30, many of whom are undiagnosed and unaware of their cardiovascular danger. Here is a closer look at the research and heart-smart steps the Bale Doneen Method recommends to keep your teeth and your ticker healthy.

### Why is this study considered landmark?

Earlier research, including a scientific statement by the American Heart Association, has shown a strong, independent association between PD and CVD (which is also called heart disease). Indeed, [a 2016 analysis of studies](#) involving more than 7,000 people found that those with periodontitis were 2.5 times more likely to suffer heart attacks than those with healthy gums!

However, there is a key difference between one condition being associated with another disease versus being *causal*. Even optimal care for an associated condition may not have any impact on the end disease, while such management of a causal condition for CVD could be potentially lifesaving, by helping people avoid heart attacks and strokes.

### What are the symptoms of gum disease?

In the early stages, PD often has no obvious symptoms. As a result, millions of people don't realize they have a serious oral infection that can result in tooth loss, if untreated, and has now been shown to cause CVD.

Warning signs of PD include red, swollen or tender gums, bleeding when you brush or floss, loose or sensitive teeth and persistent bad breath. To find out if you have PD, as your dental provider to do a painless exam, using a mirror and periodontal probe to check for signs of oral infection.

### How can I find out if I have high-risk oral bacteria?

There are companies that measure Oral Pathogens through DNA analysis. Some include: OralDNA, OraVital, and Hain Diagnostics.

### What's the best treatment for PD?

While the results of the DNA pathogen tests can help guide personalized treatment for gum disease, there is no therapy proven to be 100% effective for getting rid of high-risk oral bacteria. Available treatments include more frequent cleaning, laser therapy, improved home care, prescriptions mouthwashes, dental trays with antibacterial gel (PerioProtect) and sometimes short courses of oral antibiotics.

No matter which treatment is prescribed, the Bale Doneen Method recommends repeating the DNA pathogen test afterwards to see if it worked.

### What are the best ways to avoid PD—and lower heart attack risk?

If you smoke, here's even more motivation to snuff out the habit: It's a leading risk for developing gum disease. We also advise these measures to optimize your oral health:

- **Brush and floss twice a day.** Although you may have seen headlines claiming there's not much science to support flossing, [in a nine-year study of 5,611 older adults](#), people who never flossed had a 30% higher death rate than those who flossed daily!
- **Go to bed with a clean mouth.** The study found that never brushing at night raised mortality risk by 25%, versus nightly brushing. Since your mouth produces less saliva to wash your teeth and gums when you're sleeping, it's particularly crucial to floss and brush thoroughly before bed. We recommend brushing with a sonic toothbrush for best results.
- **Get a dental cleaning every 3 months, or as advised by your dental provider.** The study also found that people who hadn't gone to a dentist in the previous year had a 50% higher mortality rate than those who went 2 or more times annually, leading the researchers to conclude that good oral health promotes longevity by helping people avoid lethal systemic diseases sparked by infections and chronic inflammation, such as CVD.
- **Share the *PMJ* study with your dentist and hygienist.** Because this science is so new, your dental provider may not be aware of it yet. Download or read the study online at <http://pmj.bmj.com/content/93/1098/215?etoc>. Use it to encourage him or her to join your heart attack and stroke prevention team!

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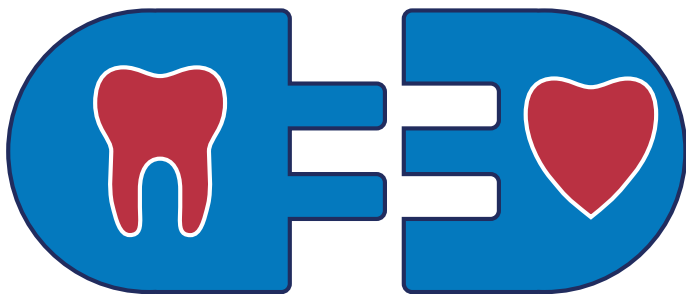
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## The Oral-Systemic Connection: How Bacteria in Your Mouth Can Harm Your Heart

A new peer-reviewed Bale Doneen study is the first to reveal a new, treatable cause of cardiovascular disease (CVD): periodontal (gum) disease due to certain high-risk oral bacteria. The research was published in the April issue of [Postgraduate Medical Journal](#) (PMJ).

How do germs from periodontal disease (PD)--a chronic oral infection found in more than 50% of adults over age 30--injure the heart's major arteries? Here's the latest science about the oral-systemic connection and how it can affect your heart attack and stroke risk.

### What Is the Oral-systemic Connection?

The oral-systemic connection is the link between the health of your mouth and your overall health. A landmark 1954 study was the first to show that oral germs, such as those that cause gum disease, frequently enter the bloodstream and quickly spread throughout the body. Among the ways this can happen are through periodontal cleaning, tooth extractions, tooth brushing, and even chewing food.

The spread of these germs throughout the body can result in chronic inflammation, a fiery process linked to many disorders, including cardiovascular disease (CVD, also known as heart disease), diabetes and even some forms of cancer. Poor oral health has also been linked to dementia, rheumatoid arthritis and even pregnancy complications, according to the [American Academy for Oral Systemic Health](#).

Research suggests that the harmful cardiovascular effects of PD are due to a few high-risk oral bacteria discussed in the Bale Doneen study: *Aggregatibacter actinomycetemcomitans*, *Porphyromonas gingivalis*, *Tannerella forsythia*, *Treponema denticola* or *Fusobacterium nucleatum*.

### Three Ways Oral Bacteria Contribute to Arterial Disease

Studies show that CVD results from a triple whammy known as the atherosclerotic triad. (Atherosclerosis is plaque buildup in the arteries that can lead to a heart attack or stroke.) The Bale Doneen study is the first to show that these bacterial villains can intensify *each* component of the arterial disease-inducing triad, creating a perfect storm of harmful effects, as follows:

- People with gum disease have up to twice as much small, dense LDL cholesterol (the most dangerous kind) in their blood as those with healthy gums, according to a recent study. The size of cholesterol particles matters: Some are big and buoyant, so they tend to bounce off vessel walls, while others are small and dense, making it easier for them to penetrate the arterial lining. Think of the difference between beach balls and bullets.
- Chemicals produced by high-risk oral bacteria make the walls of the artery more permeable, so it's easier for bad cholesterol to invade. Since people with PD due to these pathogens also have higher blood concentrations of small, dense LDL cholesterol, and other disease-causing lipoproteins, this creates a one-two punch on the arteries, much like a gang assault on a house with broken windows or doors.

- Substances produced by high-risk bacteria can also make the inner layers of the arterial wall (where plaque forms) stickier, much like Velcro, so bad cholesterol is more likely to get trapped there and create plaque deposits, resulting in a triple threat to arterial health.

### What impact could this research have on dental care?

The *PMJ* study could change the way in which dental providers diagnose and manage periodontal disease, since the research shows that it's important to find out if people with PD have the high-risk bacteria that are now known to be a contributing cause of arterial disease.

Instead of only evaluating the severity of patients' symptoms--such as how deep the pockets of infection are, how much the gums bleed, or how loose the teeth are--the study suggests that using available tests from companies that measure Oral Pathogens through DNA analysis, including: OralDNA, OraVital, and Hain Diagnostics, to determine if PD is due to high-risk bacteria is important for providing optimal care and treatment to protect both oral and systemic health.

The Bale Doneen Method hopes that the study will lead to further research to determine the best treatments to get rid of high-risk oral bacteria--and optimize systemic wellness. Talk to your dental provider about what you can do to improve your oral health--and get regular checkups as advised as an essential part of your heart attack-and-stroke prevention plan!

## 10 Refreshing Fruit and Herb Infused Water Recipes

Did you know that drinking water is good for your heart *and* your teeth? Each sip cleans your mouth and helps wash away particles of food and other debris that could otherwise nourish oral bacteria, the [American Dental Association reports](#).

What's more, in a [six-year study](#) of more than 20,000 people, those who drank five or more glasses of H<sub>2</sub>O daily had half the risk of developing fatal heart disease than those who swigged two or fewer glasses a day, even when other risk factors were taken into account.

Infused water is an easy, delicious and calorie-free way to get the hydration you need for optimal heart and oral health. For maximum flavor, slice fruit thinly and tear or crush fresh herbs to release their zesty oils, then add cold or room temperature water. Refrigerate at least 2 hours (or preferably overnight), then enjoy. Here are 10 tasty combinations of fruit, herbs and spices to try.

1. Cucumber-strawberry-mint water.
2. Lemon-raspberry-rosemary water (use whole raspberries).
3. Lime-ginger root water.
4. Orange-blueberry-basil water.
5. Pineapple-kiwi-honeydew melon water
6. Green apple-plum-cinnamon water (use one cinnamon stick)
7. Pear-pomegranate seed-clove water (use a few whole cloves)
8. Strawberry-jalepeno pepper water (remove pepper seeds before infusing)
9. Grapefruit-rosemary water
10. Blueberry-orange water (use whole blueberries + sliced oranges)

