

Heart TALK

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

September 2021



*Thoughts from
Dr. Amy*

A Surprising Cause of High Blood Pressure Many Doctors Overlook



More than 108 million Americans have high blood pressure, but only one in four of them have their disorder under control, according to the CDC. That's alarming because if untreated, high blood pressure can wreak silent mayhem on the blood vessels and vital organs, including the heart, brain and kidneys. Another frightening fact: Deaths linked to this dangerous condition have soared by 66 percent since 2003 in the U.S.

The good news, however, is that hypertension (blood pressure of 130/80 or higher) is both preventable and highly treatable. Yet it remains the most common uncontrolled chronic condition in the U.S., in part because many healthcare providers don't look for its root cause. Here's a look at a surprising culprit in hypertension that's been implicated in several new and recent studies, plus key takeaways from the BaleDoneen Method of heart attack, stroke and chronic disease prevention.

THE HIDDEN HEALTH THREAT IN YOUR MOUTH

Otherwise healthy people with periodontal disease (PD) are more than twice as likely to have high blood pressure as those with healthy gums, according to a [March 2021 study](#) published in the journal *Hypertension*. The study included 250 people with severe gum disease and 250 people without this chronic oral infection, all of whom underwent blood pressure testing and comprehensive periodontal exams. The median age of the study participants was 35.

The researchers also measured the study participants' blood levels of inflammatory biomarkers, such as C-reactive protein, and evaluated them for a wide range of cardiovascular risk factors, including family history, body mass index, smoking, age,

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gender and physical activity levels. The study found that having PD, which is also known as gum disease, was independently linked to increased risk for having high blood pressure.

Among those with gum disease, 15 percent had blood pressure of 140/90 or higher, as compared to 7 percent of those without PD. The study also found that nearly 50 percent of the PD group and 42 percent of the control group met diagnostic criteria for hypertension (a reading of 130/80 or higher), as defined in [recently updated U.S. blood pressure guidelines](#). Under these guidelines, a reading below 120/80 is deemed normal. Having systolic blood pressure (the top number) between 120 and 129 and diastolic pressure (the bottom number) below 80 is considered “elevated.”

Study participants with PD also had higher levels of blood sugar, LDL “bad” cholesterol and white blood cells — and lower levels of heart-protective HDL “good” cholesterol — than the group with healthy gums. Many people in both groups were previously unaware that they had high blood pressure: a condition that is often called “a silent killer” because it gives few clues to its presence until serious complications set in. These can include heart attacks, strokes, kidney failure, vision loss, dementia and many other devastating conditions.

WHAT'S THE LINK BETWEEN GUM DISEASE AND HIGH BLOOD PRESSURE?

Also known as gum disease or periodontitis, PD is one of the world’s most common chronic conditions, affecting nearly 65 million Americans, including 50 percent of those ages 30 and older and 70 percent of those ages 65 and up. Many of them don’t know they have this chronic bacterial infection of the gum tissue and bone supporting the teeth because in the early stages, PD may not cause any obvious symptoms. Later symptoms include bleeding and/or receding gums, bad breath, red or swollen gums, loose teeth and a change in your bite.

Many studies have linked PD to increased risk for a wide range of



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life-threatening conditions, including heart attacks, strokes, Alzheimer’s disease and other types of dementia, diabetes and several forms of cancer. A [landmark BaleDoneen study](#) was the first to show that oral bacteria from PD can actually cause cardiovascular disease, the leading killer of American men and women.

In the 2021 study discussed above, “[our] evidence indicates that periodontal bacteria cause damage to the gums and also trigger inflammatory responses that can impact the development of systemic diseases including hypertension,” study author Professor Francesco D’Aiuto, of UCL Eastman Dental Institute, stated in a news release. “This would mean that the link between gum disease and elevated blood pressure occurs well before a patient develops high blood pressure,” added D’Aiuto.

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, erectile dysfunction and even pregnancy complications.

One of the ways that vascular inflammation can contribute to high blood pressure is by damaging the endothelium, the blood vessel lining. Sometimes called “the brain of the arteries,” the endothelium is only one cell thick but plays a key role in regulating blood pressure by releasing substances involved in the relaxation and constriction of the arteries. If the endothelium is damaged, its ability to maintain healthy blood pressure can be undermined.

THE LIFESAVING IMPORTANCE OF OPTIMAL DENTAL CARE

The 2021 study adds to several earlier studies with similar findings, including a large [2020 study](#) linking bleeding gums (a common symptom of PD) and systemic inflammation to high/uncontrolled blood pressure. The authors of that study suggest people with hard-to-control blood pressure should be checked for periodontal disease.

Two studies contribute to a growing recognition that in many cases, cardiovascular disease — including hypertension — can be a medical condition

• *September Recipe* •

Easy Baked Ratatouille

Elegant and delicious, this classic French vegetarian recipe is surprisingly easy to make, with just ten ingredients. It's gluten-free, low in calories and packed with heart-healthy nutrients and antioxidants. Many studies have linked a diet high in fruits and vegetables to lower risk for heart attacks, strokes and chronic diseases. For an even simpler version of this recipe, replace the homemade sauce with 28 ounces of store-bought marinara sauce. For a colorful variation, use two zucchinis and two yellow squashes instead of four zucchinis.

INGREDIENTS

Ratatouille sauce:

- 1 28-ounce can crushed tomatoes
- 2 tablespoons olive oil
- 2 tablespoons balsamic vinegar
- 2 teaspoons fresh thyme leaves or 1 teaspoon dried thyme
- 4 cloves of garlic, minced
- 2 tablespoons of chopped fresh basil

Ratatouille vegetables:

- 6 Roma tomatoes, sliced
- 4 medium zucchinis, sliced in circles
- 2 small eggplants, sliced and quartered
- 2 small onions, sliced
- 2 tablespoons olive oil
- 1/4 teaspoon freshly ground black pepper or more, to taste
- 2 tablespoons chopped fresh basil or parsley, for garnish



PREPARATION

Preheat oven to 375 degrees F. Combine all sauce ingredients in blender and puree until smooth. Pour sauce into 2-quart round or oval baking dish and smooth with a spatula to spread evenly. Arrange sliced vegetables in a spiral pattern, alternating tomatoes, zucchini, eggplant and onions. Drizzle with olive oil and season with pepper. Bake for 30-35 minutes, until vegetables are tender and sauce is bubbling. Garnish with basil or parsley and enjoy! Makes eight servings. Leftovers are delicious the next day and keep in the fridge for up to a week.

Adapted from wholesomeyum.com and tasty.co.

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with a dental solution. For example, prevention and treatment of PD is a cost-effective strategy to reduce systemic inflammation and improve endothelial function, and it may also help reduce patients' risk for getting CVD in the first place.

A TEAM APPROACH TO SAVE HEARTS, BRAINS — AND SMILES

"If dental professionals were able to screen for hypertension and refer to primary care, and medical professionals were able to screen for periodontal

diseases and refer to periodontists, this would improve detection and treatment of both conditions, improving oral health and reducing the burden of hypertension and its complications," said D'Aiuto.

"Oral health strategies such as brushing teeth twice daily are proven to be very effective in managing and preventing the most common oral conditions, and our study's results indicate they can also be a powerful and affordable tool to help prevent hypertension," he added.

And here's some powerful motiva-

tion to get a dental checkup: Taking optimal care of your teeth and gums could actually save your life. In [a study of nearly 6,000 older adults](#), those who hadn't seen a dentist in the previous year had a 50 percent higher death rate than those who went two or more times annually! For more news and ideas on how to safeguard your arterial health — and your smile — check out our blog posts, "[A Simple Four-Step Plan to Optimize Your Oral-Systemic Health](#)" and "[The Lifesaving Importance of Getting Dental Care at Least Twice a Year.](#)"