

# Oral Health = Heart Health

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## Oral Health = Heart Health

- There's no question that regular brushing, flossing and dental checkups can keep your mouth healthy.
- But if you fall short on your hygiene routine, can gum disease actually set you up for [heart disease](#)?



## Oral Health = Heart Health

- More than 80% of Americans are living with **periodontal or gum disease**, which often goes undiagnosed.
- This may be because the patient's teeth feel fine, so he/she avoids going to the dentist, and visits to the physician rarely focus on oral health.

## Oral Health = Heart Health

- According to Delta Dental, however, there is now evidence of two specific **links between oral health and heart disease**.
- First, recent studies show that if you have gum disease in a moderate or advanced stage, you're at **greater risk for heart disease** than someone with healthy gums.
- And second, your oral health can provide doctors with **warning signs** for a range of diseases and conditions, including those in the heart.

## Oral Health = Heart Health

- Having gum disease **increases the risk of a first heart attack by 28%**, according to a 2016 study by the Karolinska University Hospital in Sweden.

• Rydén L, Buhlin K, Ekstrand E, et al. *Periodontitis increases the risk of a first myocardial infarction: A report from the PAROKRANK study.* 2016.

## Oral Health = Heart Health

- Although the findings indicate a **strong link between gum disease and heart disease**, it's still unclear whether one actually causes the other, says the American Heart Association.
- The two conditions have some of the **same risk factors**, including smoking, poor nutrition and diabetes.
- Researchers believe that **inflammation** caused by periodontal disease may be responsible for the connection.

## Oral Health = Heart Health

- Experts in periodontology and cardiology recently reviewed more than **120 published medical studies, position papers, and other data on the heart and dental health link.**
- They developed a consensus report, published simultaneously in the *Journal of Periodontology* and the *American Journal of Cardiology*.

## Oral Health = Heart Health

- The aim of the paper was to give cardiologists, periodontists, and other health professionals a better understanding of the **links between gum disease and heart disease.**
- The report makes these points:
- A review of several published studies finds that **gum disease** is, by itself, a **risk factor for coronary artery disease.**

## Oral Health = Heart Health

- Analysis of the large National Health and Nutrition Examination Survey (NHANES) found that gum disease is an important risk factor for **diseases of the blood vessels and the arteries that supply the brain, especially strokes involving insufficient blood or oxygen to the brain.**
- Data from another study of more than 50,000 people found that those with fewer teeth and more gum disease had a higher risk of stroke.

## Oral Health = Heart Health

- Some studies have uncovered no association between gum disease and stroke.
- Other research found a **direct link between clogged arteries in the legs and gum disease.**
- **Bacteria** found in both health problems are similar.
- The bacteria we find in **gum disease** we also find in **blood vessels** that are going through atherosclerosis - deposition of plaques of fatty material on their inner walls.

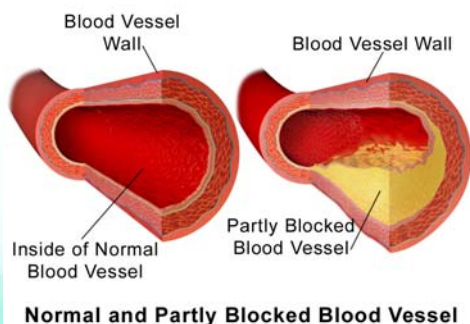


## Oral Health = Heart Health

- Oral health and heart disease are connected by the **spread of bacteria – and other germs** – from your mouth to other parts of your body through the blood stream.
- When these bacteria reach the heart, they can **attach themselves to any damaged area and cause inflammation.**
- This can result in illnesses such as **endocarditis**, an infection of the inner lining of the heart, according to **Mayo Clinic**.

## Oral Health = Heart Health

- Other cardiovascular conditions such as atherosclerosis (clogged arteries) and stroke have also been linked to inflammation caused by oral bacteria, according to the **American Heart Association**.



## Oral Health = Heart Health

- **Inflammation** is another common denominator for between heart disease and gum disease.
- When people have moderate to severe gum disease, their levels of **C-reactive protein (CRP)**, a protein that rises during whole-body inflammation, increase.
- CRP levels are also used to assess a person's risk of a heart attack.

## Oral Health = Heart Health

- **C-reactive protein (CRP)** is a substance produced by the liver that increases in the presence of inflammation in the body.
- An elevated **C-reactive protein** level is identified with blood tests and is considered a non-specific “marker” for disease.
- A C-reactive protein (CRP) test can help doctors determine your risk for heart disease or stroke.
- A Harvard study found CRP to be **more effective** than cholesterol at predicting coronary issues in women.

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- The [Physicians' Health Study](#) found that among nearly 15,000 healthy adult men, a high level of CRP was associated with a risk of heart attack that was **three times higher than average.**
- According to the [Cleveland Clinic](#), the Harvard Women's Health Study showed that high CRP levels were more predictive of coronary conditions in women than were high cholesterol levels.
- High cholesterol is a more commonly cited risk factor. The [Jackson Heart Study](#) found that hs-CRP is associated with type 2 diabetes in African-Americans.

## Oral Health = Heart Health

- According to the [Cleveland Clinic](#), a reading of **less than 1 mg/L indicates you're at low risk** of cardiovascular disease.
- A reading between **1 and 2.9 mg/L means you're at intermediate risk.**
- A reading **greater than 3 mg/L means you're at high risk for cardiovascular disease.**
- A reading above 10 mg/L may indicate a need for further testing to determine the cause of **severe inflammation in your body.**



## Oral Health = Heart Health

- The joint report also made these recommendations:
- Dentists should tell patients with moderate to severe gum disease that they may have an increased risk for heart and blood vessel problems.
- People who have moderate to severe gum disease and a known risk factor for [heart disease](#), such as [smoking](#), should consider getting a medical evaluation if it's been one year or longer since their last one.

## Oral Health = Heart Health

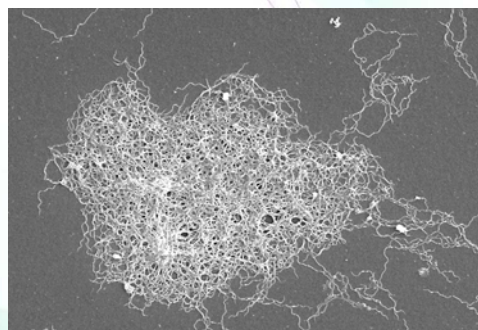
- Physicians and dentists should work together to focus on reducing [heart disease risk](#) and ensuring good periodontal care for patients with heart disease and gum disease.
- Patients with heart disease who also have signs or symptoms of gum disease (but have not yet been diagnosed with it) or a high CRP level should get a periodontal evaluation.

## Who Is At Risk?

- Patients with chronic gum conditions such as **gingivitis or advanced periodontal disease have the highest risk for heart disease** caused by poor oral health, particularly if it remains undiagnosed and unmanaged.
- The bacteria that are associated with gum infection are in the mouth and can enter the blood stream, where they **attach to the blood vessels** and increase your risk to cardiovascular disease.

## Who Is At Risk?

- Even if you don't have noticeable gum inflammation, however, **inadequate oral hygiene and accumulated plaque puts you at risk for gum disease.**



## Symptoms and Warning Signs

- According to the American Association of Periodontology (AAP), you may have gum disease, even if it's in its early stages, if:
- Your gums are red, swollen and sore to the touch.
- Your gums bleed when you eat, brush or floss.
- You see pus or other signs of infection around the gums and teeth.
- Your gums look as if they are "pulling away" from the teeth.

## Symptoms and Warning Signs

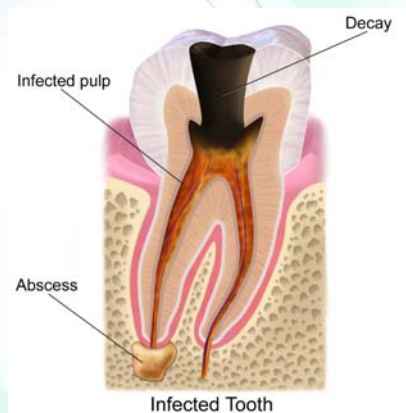
- You frequently have bad breath or notice a bad taste in your mouth.
- Some of your teeth are loose, or feel as if they are moving away from the other teeth.

## Eating for Oral Health

- The **foods you choose** and **how often** you eat them can affect your general health and the health of your teeth and gums, too.
- If you consume **too many sugar-filled** sodas, sweetened fruit drinks or non-nutritious snacks, you could be at risk for tooth decay.
- Tooth decay happens when **plaque come into contact with sugar in the mouth, causing acid to attack the teeth.**

## Eating for Oral Health

- Foods that contain sugars of any kind can contribute to tooth decay.



## Eating for Oral Health

- **Limit the number of snacks** you eat.
- If you do snack, choose something that is healthy like fruit or vegetables or a piece of low-fat cheese.
- Foods that are eaten as part of a meal cause less harm to teeth than eating lots of snacks throughout the day, because **more saliva is released during a meal.**
- Saliva helps wash foods from the mouth and lessens the effects of acids, which can harm teeth and cause cavities.

## Eating for Oral Health

- If your diet lacks certain nutrients, it may be more difficult for tissues in your mouth to resist infection.
- This may contribute to gum disease.
- Severe gum disease is a major cause of tooth loss in adults.
- Researchers believe that the disease progresses faster and is potentially more severe in people with **poor nutrition.**



## Foods That Damage Teeth

- Sports drinks
- They sound healthy, but sugar is a top ingredient for many sports and energy drinks
- The American Academy of Pediatrics says sports drinks can be helpful for **young athletes engaged in prolonged, vigorous physical activities, but unnecessary in most cases.**
- Unnecessary for most exercisers, no matter age
- Check the label to make sure your drink of choice is low in sugar or drink water.

## Foods That Damage Teeth

- Hard candy
- While these hard candies seem harmless, eat too many and the constant exposure to sugar can be harmful to your teeth.
- Hard candies also put your teeth at risk because in addition to being full of sugar, they can also trigger a dental emergency such as a broken or chipped tooth.

## Foods That Damage Teeth

- Ice
- Many people think ice is good for their teeth. It's made of water, after all, and doesn't contain any sugar or other additives.
- But chewing on hard substances can leave your teeth vulnerable to a dental emergency and damage enamel.
- Break the habit and enjoy water in its liquid form.

## Foods That Damage Teeth

- Citrus
- Frequent exposures to acidic foods can erode enamel, making teeth more susceptible to decay over time.
- So even though a squeeze of lemon or lime can turn a simple glass of water into a fun beverage, it's not always the best choice for your mouth.
- Citric fruits and juices can also irritate mouth sores.

## Foods That Damage Teeth

- Coffee/Tea
- In their natural form, coffee and tea can be healthy beverage choices.
- Unfortunately too many people can't resist adding sugar.
- Caffeinated coffee and tea can also dry out your mouth.
- Frequent drinks of coffee and tea may also stain your teeth.
- If you do consume, make sure to drink plenty of water and try to keep the add-ons to a minimum.

## Foods That Damage Teeth

- Sticky foods
- Many people put dried fruit at the top of the list.
- But many dried fruits are sticky.
- Sticky foods can damage your teeth since they tend to stay on the teeth longer than other types of food.
- If you find yourself eating dried fruits or trail mix often, make sure to rinse with water after and to brush and floss carefully.

## Foods That Damage Teeth

- Potato chips
- potato chips are **filled with starch**, which tends to get **trapped in your teeth**.
- Take extra care when you floss that day to remove all the food particles that can lead to plaque build-up.

## Foods That Damage Teeth

- Soda
- When you sip sugary drinks for long periods of time, **plaque bacteria use that sugar to produce acids that attack your enamel, the hard surface of your tooth.**
- Most carbonated soft drinks, including diet soda, are **acidic** and therefore, bad for your teeth.
- Caffeinated beverages, such as colas can also **dry out your mouth.**
- If you do consume soft drinks, try to drink alongside a cup of water.

## Foods That Damage Teeth

- Alcohol
- Alcohol causes dehydration and dry mouth.
- People who drink excessively may find their saliva flow is reduced over time, which can lead to tooth decay and other oral infections such as gum disease.
- Heavy alcohol use also increases your risk for **mouth cancer**.

## Eating for Oral Health

- Tooth decay happens when plaque come into contact with sugar in the mouth, **causing acid to attack the teeth**
- Research shows that some foods can counter the effects of acid attacks on the teeth:
- **Cheese/Dairy Products**
- **Nuts**
- **Sugar Free gum**, especially gum sweetened with xylitol
- **Fresh Vegetables/Fruits**



## Sugar Free Gum

- Chewing gum containing the sugar alcohol xylitol after meals may decrease your risk of forming cavities.
- Xylitol **increases saliva production** and prevents the bacteria in your mouth from producing the acids that cause cavities.
- But don't go overboard, because even if sugar alcohols won't harm your teeth, they **can** cause gas and bloating.

## Xylitol

- Xylitol is a five-carbon **sugar alcohol compound**.
- Sugar alcohols are **neither sugar nor alcohol**.
- They are carbohydrates that resemble sugar, but without the harmful effects of sugar.
- They can **occur naturally in plants** or can be manufactured from sugar and starches.
- Xylitol is **not an artificial sweetener**, but a crystalline carbohydrate which looks very much like sugar.
- It is a natural dental antidote for sugar.
- It can be derived from fibrous parts of plants, vegetables, and berry-type fruits such as strawberries and raspberries

## Xylitol

- Most of our dietary carbohydrates are based on a six-carbon monosaccharide unit, such as fructose and glucose.
- These units can be linked together and multiply
- Streptococcus mutans bacteria utilize these units as a food source.
- They excrete waste, which produce plaque biofilm that can ultimately lead to tooth decay.

## Xylitol

- Xylitol, on the other hand, with its unique five-carbon structure is very stable and **does not link together with other sugars.**
- It is not a good food source for Strep mutans bacteria.
- Instead, xylitol blocks its harmful effects and builds protective factors.

## Foods that are good for your teeth

- Water,
- Water is the best beverage for maintaining your oral health.
- Helps to flush bacteria from the mouth

## Foods that are good for your teeth

- Milk, and other dairy products such as cheese and yogurt, are low in sugar, which is a good thing for your dental health.
- Plus, they contain protein and are full of calcium, which can help to strengthen your teeth.

## Foods that are good for your teeth

- Fruits and veggies
- Fruits and veggies are an important part of any balanced diet, and they are also good for your teeth.
- Since they are **high in water and fiber**, they help to balance the sugars they contain and help to clean your teeth.
- Chewing also helps to **stimulate saliva** production, which washes harmful acids and food particles away from your teeth.

## Foods that are good for your teeth

- Nuts
- Nuts contain **protein and minerals** important for overall health.
- In addition, nuts that are **low in carbohydrates** don't add to your risk of cavities.
- Tooth decay is caused by acid-producing bacteria that are **activated by carbs/sugar**.
- Another benefit is that chewing nuts **stimulates saliva production**, which can reduce your risk for tooth decay.

## Foods that are good for your teeth

- Probiotics
- Probiotics may help to decrease gingivitis and plaque; bacteria in fermented foods might **suppress the growth of pathogens** in the oral cavity.
- One study showed that consuming **fermented dairy** like yogurt was associated with less periodontal diseases.

## Foods that are good for your teeth

- Foods rich in anthocyanins
- Cranberries and other plant foods rich in anthocyanins (such as blueberries, red cabbage, eggplant peel, black rice, and raspberries) may **prevent the attachment and colonization of pathogens** on teeth



## Foods that are good for your teeth

- Green tea
- Polyphenols have been known to reduce bacteria and toxic products of bacteria in the mouth.
- Both black and green tea also tends to be rich in natural fluoride

## Foods that are good for your teeth

- **Eat some raw, crunchy fruits and vegetables every day.**
- Raw veggies clean your teeth to a degree (apples, carrots, bell peppers, etc).
- Eating an apple as dessert after lunch will help to remove material that has adhered to the surface of your teeth.
- Plus, apples contain naturally occurring xylitol.

## Remember

- Invest in your smile – you wear it EVERY DAY!