



The following article features consumer information from Columbia University College of Dental Medicine. All information is intended for your general knowledge only and isn't a substitute for medical advice or treatment for specific medical conditions. Talk to your doctor about what's best for you.

Cardiovascular diseases

Some cardiovascular (heart and artery) diseases may require changes in your dental treatment and how you receive dental care. Recent research has linked periodontal disease with the risk of coronary artery disease and stroke. Periodontal disease has also been associated with preterm birth, low birth weight and intrauterine growth restriction, diabetes, osteoporosis, respiratory disease and cancer. Treatment of periodontal disease can reduce overall inflammation in the body and of course will make your teeth and gums healthier. However, at present there is limited evidence that periodontal treatment can prevent heart disease, heart attack or stroke.

If you have a one of these conditions, make sure that your dentist always has an up-to-date list of all the medicines you take. The list should be neatly written or typed. It should include prescription drugs, and over-the-counter medicines such as antacids. It also should include vitamins, herbal pills and other nutritional supplements. Your list should provide the name of each drug, the dosage, how often you take it and when your physician prescribed it. Put the date that you made the list at the top of the page. This will let the dentist know that it is a current list.

Periodontal disease and cardiovascular conditions

Periodontal disease can affect your overall health. Over time, it may increase the risk for heart disease and stroke. Several studies have shown that people with periodontal disease may be more likely to have coronary artery disease than people with healthy mouths. Right now, scientists have two possible explanations for this association.

One is that the bacteria that cause periodontal disease can release toxins into or travel through the bloodstream and help to form fatty plaques in the arteries. These plaque deposits can lead to serious problems, such as blood clots, which can block blood flow.

The other explanation is that these bacteria cause the liver to make high levels of certain proteins, which inflame the blood vessels. The inflammatory response, that these bacteria can cause, makes periodontal disease a risk factor for cardiovascular events such as stroke, congestive heart failure, myocardial infarction (heart attack), peripheral artery disease and atherosclerosis.

Symptoms of periodontal disease include:

- Persistent bad breath
- Red, swollen or tender gums
- Gums that bleed when you brush your teeth
- Gums that have pulled away from the teeth



- Loose teeth
- A change in the way your teeth come together when you bite down

If you have symptoms of periodontal disease, see your dentist soon for treatment.

Heart disease and dental treatment

Patients with certain heart conditions have a higher risk of endocarditis. This is an infection of the heart. It can be life threatening. It happens when bacteria in the bloodstream attach to damaged heart valves or other damaged heart tissue. People with certain heart conditions may need antibiotics before they have certain types of dental procedures. Make sure to inform your dentist of any heart issues.

In 2017, the American Heart Association and the American College of Cardiology published a focused update to their 2014 guidelines for the use of antibiotics prior to dental treatment. The new policy advises antibiotics for fewer conditions than the old policy did.

Pre-treatment with antibiotics is still recommended for people who fall into certain categories:

- People who have had infective endocarditis in the past
- People with artificial cardiac valves
- People who have had transplants and later developed heart valve problems
- People with a prosthetic material used for valve repair

Pre-treatment with antibiotics also is recommended for people with certain heart conditions that were present at birth:

- Cyanotic heart disease that has not been repaired or was repaired incompletely. This includes people with shunts and conduits.
- A heart defect that was completely repaired with a prosthetic material or device. In this case, antibiotics are advised only for the first six months after the procedure.
- Any repaired heart defect that still has some defect at or next to the site of a prosthetic patch or device

Taking antibiotics before dental treatment is no longer advised for people with:

- Acquired heart valve dysfunction (for example, rheumatic heart disease)
- Mitral valve prolapse
- Bicuspid valve disease
- Calcified aortic stenosis
- Congenital heart conditions, such as ventricular septal defect, atrial septal defect, and hypertrophic cardiomyopathy

The American Heart Association guidelines recommend pre-treatment antibiotics for dental procedures that involve an incision or manipulation of the gums or the tissues around a tooth root.



Antibiotics are not required for the following:

- Routine anesthetic injections through non-infected tissue
- X-rays
- Placement of dentures
- Placement or adjustment of removable orthodontic appliances
- Placement of the bracket part of braces (not bands)
- The natural loss of baby teeth in children
- Bleeding from trauma to the lips or mouth

The most important dental factors in the prevention of infective endocarditis are good oral hygiene at home, and regular dental cleanings.

Heart attack (myocardial infarction)

Oral effects: A heart attack can sometimes feel like pain that starts in the chest and spreads to the lower jaw. Other times it may be pain that starts in the jaw or in the left arm or shoulder.

At the dentist: You should wait at least six weeks after a heart attack to have most dental treatments. Your dentist should have oxygen and nitroglycerin available during your appointment. Your dentist and physician should discuss your condition before dental treatment.

Some medicines you take can change the way your dentist treats you. For example, if you are taking blood thinning drugs (anticoagulants), your blood is less likely to clot. You may need to stop taking your blood thinning medicines before some dental procedures. Do not stop taking any medicines until you have spoken to your physician. This is something your dentist will discuss with you and your physician. Let your dentist know the medicines you take, and their doses. You may need to take blood tests before some dental procedures, such as deep scaling (cleaning) of your gums, gum surgery (periodontal surgery) or extractions, to measure bleeding and clotting times.

High blood pressure (hypertension)

Oral effects: Some drugs that treat high blood pressure (anti-hypertensive medicines) cause dry mouth (xerostomia) or an altered sense of taste (dysgeusia). Others may make you more likely to faint when you are raised from the relatively flat position in the dentist's chair to a sitting or standing position quickly. This reaction is called orthostatic hypotension.

Gum overgrowth is a possible side effect of some drugs that treat high blood pressure. These include calcium channel blockers. It can begin as soon as one month after you start drug therapy. Some people's gums become so large that they have difficulty chewing. In some cases, surgery is needed to remove part of the overgrown gum tissue.



At the dentist: If you have high blood pressure, your dentist should check your blood pressure at each visit. Your dentist can decide whether it's OK for you to have non-emergency dental treatment. It will depend on:

- How high your blood pressure is
- How well your blood pressure is controlled
- Whether you have other medical conditions

The first time you visit the dental office after being diagnosed with high blood pressure, your dentist may take your blood pressure two or three times. This is to establish a "baseline" blood pressure. This way, the dentist will know if your blood pressure changes in response to treatment or a medicine.

Most people with high blood pressure can safely take anti-anxiety drugs — such as nitrous oxide or diazepam (Valium) — for dental procedures. They can also safely receive local anesthetics even if they contain epinephrine. If you have concerns about these drugs, talk to your dentist, physician or both.

Some people taking calcium channel blockers may notice gum overgrowth (gingival hyperplasia). Your dentist will give you detailed oral hygiene instructions and may ask you to visit more often for professional cleanings. Remember that your daily tooth brushing and flossing at home is very important. If you stop taking the drugs, and only do so after consultation with your physician, your gums recede somewhat. However, this may take several months. Some people's gums do not return to normal on their own. Gum surgery may be necessary.

Make sure your dentist knows which drugs you are taking for your high blood pressure. Before a dental visit, take your medicines as you normally do.

Coronary artery bypass graft (CABG)

Oral effects: There are no oral effects of this procedure.

At the dentist: For the first couple of weeks after surgery, you may feel severe pain when reclining in the dental chair. This is a side effect of the surgery. Work with your dentist to find a comfortable position in the chair. Unless they need dental treatment within a few weeks after the surgery, people who have had CABG generally do not require antibiotics before a dental procedure. If you have had this surgery, speak to your physician before having any dental treatment within the next six months.

Angina

Oral effects: Angina is pain that starts in the chest. Sometimes it spreads to your lower jaw. Some people with angina take drugs called calcium channel blockers. These drugs can cause gum overgrowth. This can happen as soon as one month after you start these drugs. Some people's gums become so large that they have problems chewing. People who have this problem will most likely need surgery on their gums (periodontal surgery).



At the dentist: People with stable angina can be treated like any other patients, with a few differences. Your dentist should have oxygen and nitroglycerin available during your visit. Your dentist should talk to your physician before your appointment.

People with unstable angina should not receive non-emergency dental care. If you need emergency dental care, your heart should be continuously monitored.

Stress can trigger angina attacks. If being in the dental chair increases your anxiety, speak with your dentist about ways to reduce this stress. If you feel any chest discomfort, tell your dentist or the dental staff right away.

High cholesterol (hyperlipidemia)

Oral effects: People with high cholesterol have too much fat in their blood. There are no oral effects of high cholesterol.

At the dentist: Some drugs used to treat high cholesterol can make you feel faint after you get up from the dental chair. Oral side effects of these drugs include dry mouth (xerostomia), fruit-like breath odor and joint pain. High cholesterol puts you at risk of hardening of the arteries, which can lead to a heart attack or stroke. Your dentist should know about your condition and the drugs you are taking. Statins that are used to reduce treat high cholesterol can also have positive oral effects because of their anti-inflammatory and antioxidant properties and their positive effect on wound healing.

Stroke

Oral effects: Stroke can cause many long-term effects. These include:

- Paralysis
- Difficulty speaking and swallowing
- Increased or decreased sensitivity to pain
- Blurred vision
- Poor memory
- Personality changes (anxiety, depression)

In some people, a stroke paralyzes one side of the body. If this happens to you, a family member or caregiver may need to help you with activities of daily living, including your dental care. Special toothbrushes and floss holders also are available. If you wear dentures, they may need to be adjusted.

If your face or tongue is paralyzed, you may not be able to rinse your mouth. You may also not realize when you have food left in your mouth. You may bite your lip or tongue and not realize it. To keep your teeth and gums healthy, your dentist may suggest that you use a fluoride gel or saliva substitute.

At the dentist: Some stroke survivors take blood thinners. Tell your dentist about all the medicines you take. You may need to stop taking your blood-thinning medicines before some dental procedures. Do not stop taking any medicines until you have spoken to your physician. This is something your dentist will discuss with you and your physician.



Usually, routine dental treatment is safe. Bring a copy of your most recent blood tests to your dentist at every visit.

Congestive heart failure

Oral effects: Many of the medicines used to treat congestive heart failure (CHF) cause dry mouth. The medical term for dry mouth is "xerostomia."

At the dentist: If you are being treated for CHF and have no complications, side effects or physical limitations, there are usually no special changes needed for dental treatment. However, the dentist may make some changes, depending on the medicines you take and your overall health.

If you have more severe heart failure, you should not lie down in the dental chair too far. The fluid build-up in your lungs may affect your breathing. You also should not sit up or lie down very quickly. These changes can make you dizzy and light-headed. Your dentist can confirm how serious your CHF is by talking with your physician or cardiologist. Some people with severe CHF may need to have their dental treatment in a hospital setting. This includes people whose disease is considered class III or IV under the New York Heart Association functional classification system.

Pacemaker/defibrillator implantation

Oral effects: There are no specific oral effects caused by having a pacemaker or defibrillator.

At the dentist: If you have a pacemaker or defibrillator you should confirm that there are no interactions between electromagnetic devices in your dentist's office and your pacemaker or defibrillator. Certain machines that a dentist or dental hygienist may use could potentially interact and cause a problem with a pacemaker or defibrillator. Examples include machines used for ultrasound or electrosurgery. The chance of any interaction is very small. You or your dentist should be able to find out about interactions from your physician or from the device's manufacturer. Talk with your physician about possible interactions before visiting the dental office. If there is a chance of interaction, your dentist can take precautions to prevent it.

You should avoid elective dental care within the first few weeks after receiving your pacemaker. If you must receive dental care within that time, your dentist and physician should decide if you need to take antibiotics before treatment.

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