

# Dental Diseases and Damage from Them

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**Received:** 28 March 2025; **Accepted:** 24 April 2025; **Published:** 26 May 2025

**Abstract:** The most common dental diseases include tooth decay, gum disease, and oral cancer. Let's take a closer look at how these happen and how they can be prevented.

When you consume food and drinks that are sugary or starchy (high in carbohydrates), the bacteria that naturally live in your mouth, break them down forming acids. These acids attack and dissolve the outer surface (enamel) of your teeth. Over time this can result in a hole. The risk of tooth decay is increased for people with dry mouth syndrome.

**Keywords:** Risk of tooth, tooth decay, acids attack, food and drinks.

**Introduction:** The first sign of tooth decay is a chalky white spot on the tooth. At this stage, the decay process can be reversed. If you think you might have early stage tooth decay, make an appointment to see your oral health professional.

**Gum Disease.** Gum disease is usually caused by a build-up of plaque (bacteria) on your teeth. There are two main stages of gum disease: gingivitis and periodontitis.

Gingivitis is early gum disease and occurs when dental plaque builds up on your teeth, particularly around the gum line. Signs of gingivitis include bleeding, redness, and/or swelling of the gums. Periodontitis is advanced gum disease that can occur if gingivitis is left untreated. The part of the gum that joins to the tooth becomes weakened and allows bacteria to become trapped between the gum and the tooth. This can damage the soft tissue that connects your teeth and jaw bones, which can cause teeth to loosen.

Oral cancer refers to cancer that develops in the lips, tongue, gums, floor and roof of the mouth. Oral cancer is the 8th most common cancer in men in Victoria, and the 14th most common cancer in women. Consuming alcohol and tobacco are the two main risk factors for oral cancer.

Oral cancer symptoms can include:

A visible mass or lump (may or may not be painful)

Mouth ulcer that won't heal

White or red patches in the mouth/tongue/gums

Loss of sensation anywhere in the mouth

Difficulty swallowing, moving your tongue, or moving your jaw

Loose teeth or sore gums

Altered taste

Swollen lymph glands

Whilst dental diseases are common, there are several simple ways you can reduce your risk. Clean well for a healthy mouth. Regular tooth brushing helps to prevent tooth decay and gum disease by reducing the amount of bacteria and plaque around your teeth and gums. Tips for effective cleaning include: Clean your teeth twice a day; in the morning and before bed.

Use a toothbrush with a small head and soft bristles and a pea-sized amount of fluoride toothpaste.

Gently brush teeth and along the gum line in small circles, making sure to brush each tooth on the front, back, and chewing surfaces.

After brushing, spit out toothpaste – do not swallow it, and do not rinse with water. This allows the fluoride more time to strengthen your teeth. Electric toothbrushes can also be a good option. Guide the brush slowly across, pausing for a few seconds at each

tooth. Do not press too hard or scrub, let the brush do the work. Find out about tooth brushing for children.

#### Flossing

It is important to clean between teeth where a toothbrush can't reach. Products such as floss and interdental brushes can remove plaque from between your teeth. Talk to your oral health professional about whether you should use one of these products.

#### Eat well for a healthy mouth

The foods you eat impact your oral health. Sugary and starchy foods feed the bacteria that can cause tooth decay and gum disease.

Tips for eating well include:

Limit how often you have sweet foods and eat them at mealtimes rather than between meals. Choose healthy snacks such as fresh fruit, vegetable sticks, natural yoghurt, plain popcorn, soups, or cheese. Choose fresh fruit over dried fruit, as dried fruit can stick on your teeth and feed the bacteria that cause tooth decay. Have a piece of cheese after eating sweet or acidic foods as dairy foods assist in repairing damage by decay-causing bacteria.

#### METHODS

For more information on eating well, visit the Australian Dietary Guidelines.

Chewing sugar-free gum can also be helpful in the fight against decay. It can help to produce saliva, which is able to wash sugar out of the mouth into the stomach, neutralize acid, fight bacteria and repair the early stages of tooth decay.

#### Drink well for a healthy mouth

Like food, what you drink also impacts your oral health. Sugary drinks feed the bacteria that can cause tooth decay and gum disease. Choosing tap water (which contains fluoride for most Victorians) helps to repair the damage done by bacteria and reduces your risk of tooth decay.

The early signs of dental disease can be difficult to see. An oral health professional is trained to spot and treat any problems early, which can prevent bigger problems developing. They can also provide you with care to prevent disease, such as fluoride treatments and dental sealants to prevent tooth decay.

Ask your oral health professional how often you should have a dental check-up. If you have not had a dental visit for a while, it might be a good idea to book one. Having no pain does not always mean that your teeth and mouth are healthy.

Always see your oral health professional if you have:  
mouth pain

bleeding gums

swelling of the face

a damaged or knocked out tooth (or teeth)

mouth sores that don't heal after a couple of weeks.

Most people learn at an early age that regular brushing and flossing can help prevent cavities. But what many don't know is that good dental health is key to maintaining whole-person health – especially for people with certain medical conditions.

"During a routine exam, a dentist can often detect the first signs of underlying conditions such as diabetes, leukemia, or heart disease," said Dr. Cary Sun, Cigna's chief dental officer. "Regular treatment is crucial for these patients to help address needed dental treatment and prevent serious infections that can impact their overall health."

Improving whole-person health. This link will open in a new tab. has become a key focus in health care. Just as mental illness has shown to increase the risk. This link will open in a new tab. of diabetes and heart disease, poor oral health can exacerbate those and other conditions, such as lupus and rheumatoid arthritis. In addition to improving overall health, obtaining routine preventive dental care can also reduce overall health care costs. A recent Cigna study. This link will open in a new tab. found that on average, those who receive consistent preventive dental care can reduce their total medical costs by 4.4% per year. For those with diabetes, the savings was even higher – an average of 12.25% per year.

Cavities are areas in the hard surface of your teeth that are damaged. These areas of tooth decay become tiny openings or holes that can lead to a serious toothache, infection and tooth loss. There are several causes of cavities, including bacteria in your mouth, snacking a lot, sipping sugary drinks and not cleaning your teeth well.

Cavities and tooth decay are among the world's most common health problems. They're especially common in children, teenagers and older adults. But anyone who has teeth can get cavities, including babies.

If cavities aren't treated, they get larger and affect deeper layers of your teeth. Regular dental visits and good brushing and flossing habits are the best ways to protect your teeth from cavities. The symptoms of cavities vary, depending on how many you have and where they're located. When a cavity is just beginning, you may not have any symptoms. As the decay gets larger, it may cause symptoms such as:

Toothache and other pain.

Tooth sensitivity.

Mild to sharp pain when eating or drinking something sweet, hot or cold.

Holes or pits in your teeth that you can see.

Brown, black or white staining on any surface of a tooth.

Pain when you bite down.

When to see a dentist

You may not be aware that a cavity is forming. That's why it's important to have regular dental checkups and cleanings, even when your mouth feels fine. But if you have a toothache or mouth pain, see your dentist as soon as possible. Plaque forms. Dental plaque is a clear sticky film that coats your teeth. It's due to eating a lot of sugars and starches and not cleaning your teeth well. When you don't clean sugars and starches off your teeth, bacteria quickly begin feeding on them and forming plaque. Plaque that stays on your teeth can harden under or above your gum line into tartar. Tartar makes plaque harder to remove and creates a shield for bacteria. A dental professional needs to remove this plaque.

Plaque attacks. The acids from bacteria remove minerals in your tooth's hard, outer enamel. This erosion causes tiny openings or holes in the enamel — the first stage of cavities. Once areas of enamel are worn away, the bacteria and acid can reach the next layer of your teeth, called dentin. This layer is softer than enamel and less resistant to acid, causing your teeth to be more sensitive.

Damage continues. As tooth decay happens, the bacteria and acid move through your teeth to the inner tooth material (pulp) that contains nerves and blood vessels. The pulp becomes swollen and irritated from the bacteria. Because there is no place for the swelling to expand inside of a tooth, the nerve becomes pressed, causing pain. Sometimes pain and damage can spread outside of the tooth root to the bone, causing bone loss around the tooth and even reaching nearby teeth.

Anyone who has teeth can get cavities, but these factors raise the risk:

**Tooth location.** Decay most often occurs in your back teeth — your molars and premolars. These teeth have lots of grooves, pits and crannies, and multiple roots that can collect food particles. That's why they're harder to keep clean than your smoother, easy-to-reach front teeth.

**Certain foods and drinks.** Foods that cling to your teeth for a long time are more likely to cause decay than foods that are easily washed away by saliva. These foods include milk, ice cream, honey, sugar, soda, dried fruit, cake, cookies, hard candy and mints, dry cereal,

and chips.

**Snacking or sipping a lot.** When you snack or sip sugary drinks a lot, you give mouth bacteria more fuel to make acids that attack your teeth and wear them down. And sipping soda or other acidic drinks throughout the day helps create a continual acid bath over your teeth.

**Bedtime baby feeding.** When babies are given bedtime bottles filled with milk, formula, juice or other liquids that have sugar, these beverages remain on their teeth for hours while they sleep. This feeds bacteria that can cause decay. This damage often is called baby bottle tooth decay. Similar damage can occur when toddlers wander around drinking from a sippy cup filled with these beverages.

**Not brushing your teeth well.** If you don't clean your teeth soon after eating and drinking, plaque forms quickly, and the first stages of decay and gingivitis can begin.

**Not getting enough fluoride.** Fluoride, a naturally occurring mineral, helps prevent cavities. It also can reverse the earliest stages of tooth damage. Because of its benefits for teeth, fluoride is added to many public water supplies. It's also a common ingredient in toothpaste and mouth rinses. But bottled water usually does not contain fluoride.

**Younger or older age.** In the U.S., cavities are common in very young children and teenagers. Older adults also are at higher risk. Over time, teeth can wear down and gums may recede, making teeth more likely to decay. Older adults also may use more medicines that reduce saliva flow, raising the risk of tooth decay.

**Dry mouth.** Dry mouth is caused by a lack of saliva. Saliva helps prevent tooth decay by washing away food and plaque from your teeth. Substances found in saliva also help counter the acid produced by bacteria. Certain medicines, some medical conditions, radiation to your head or neck, or certain chemotherapy drugs can raise your risk of cavities by reducing saliva production.

**Worn fillings or dental devices.** Over the years, dental fillings can weaken, begin to break down or get rough edges. This allows plaque to build up more easily and makes it harder to remove. Dental devices can stop fitting well, allowing decay to begin under them.

**Heartburn.** Heartburn, a common symptom of gastroesophageal reflux disease (GERD), can cause stomach acid to flow into your mouth. This is called reflux. It can wear away the enamel of your teeth and cause a lot of damage. This exposes more of the dentin to bacteria, creating tooth decay. Your dentist may recommend that you talk with your healthcare professional to see if GERD is causing your enamel loss.

Eating disorders. Anorexia and bulimia can lead to a lot of tooth erosion and cavities. Stomach acid from repeated vomiting, called purging, washes over the teeth and begins eating away at the enamel. Eating disorders also can get in the way of saliva production.

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