

Smoking and your mouth

Smoking exposes your mouth to over 7,000 chemicals found in tobacco smoke.¹ It can affect the health of your mouth in several ways. They range from those that affect your social life such as stained teeth and bad breath, to painful diseases that disable, disfigure or even kill, such as cancer.

Stopping smoking can reduce your risk of diseases caused by smoking, including cancer, and improve the health of your mouth, gums and teeth.²



Smoking causes mouth and throat cancers

Smoking is a major cause of cancer affecting the mouth (oral cavity) and the throat (pharynx).³ Cancers of the mouth include tumours of the cheek, gum, tongue, lip, and the floor and lining of the mouth. Cancers of the throat include tumours in the area behind the nose and mouth that connects to the oesophagus (food pipe), e.g. the base (back third) of the tongue, tonsil, soft palate, the walls of the throat.⁴

Cancers of the mouth and throat and their treatment may affect your breathing, talking, eating, chewing and swallowing. Advanced cancers of the mouth and throat can cause lasting pain, loss of function and disfigurement. Treatment for advanced cancer can involve surgery removing flesh and bone, radiation treatment, putting a hole in the neck (tracheostomy) to aid breathing or putting a feeding tube into the stomach.⁴

Using any form of tobacco increases the risk of mouth and throat cancers. The risk of developing cancer increases with the length of time you have smoked and the amount you have smoked. The risk of dying from mouth and throat cancer is around 10 times higher among men who smoke and 5 times higher among women who smoke compared to someone who has never smoked.³ For mouth cancer alone, the risk is over 3 times.⁵

Within 10 years of **stopping smoking** your risk of mouth and throat cancers are half that of someone who keeps smoking and it will keep going down over time. After 20 years your risk of mouth and throat cancers are similar to someone who has never smoked.^{5,6} If you already have mouth or throat cancer, stopping smoking increases the likelihood of treatment success and survival, and reduces the risk of developing a second cancer.⁷

Precancerous conditions

One symptom that may lead to cancer is a condition called leukoplakia.² Leukoplakia is a white patch or plaque on the lining of your mouth that will not rub off.²⁻⁴ Most leukoplakias do not develop into cancer. But some leukoplakias are either cancerous when first found or have pre-cancerous changes that eventually progress to cancer if not properly treated.⁴

If you smoke, you are much more likely to develop leukoplakia than people who don't smoke.⁸⁻¹⁰ The risk increases with increasing numbers of cigarettes smoked per day and years of smoking.^{8,11} **Stopping smoking** reduces your risk of leukoplakia.² If you already have leukoplakia and you stop smoking, it is more likely to disappear within a few years of quitting than in people who keep smoking.⁸

Smoking and alcohol and cancer

Heavy alcohol use is also a major risk factor for mouth and throat cancers.⁴ Together, tobacco and alcohol account for most cases of these cancers.^{4,7} People who both smoke and drink heavily are at very high risk of mouth and throat cancer.^{3,4} The risk is much higher than simply adding the risks of only smoking and only heavy drinking.¹² This effect is called synergy.¹³ For example in one large study, compared to non-smokers who had less than one drink per week, the risk for mouth and throat cancer in men was:

- 7 times for heavy smoking only (40 or more cigarettes per day)
- 6 times for heavy drinking only (30 or more alcoholic drinks per week)
- and 38 times for men who both smoked and drank heavily for over 20 years.³

Alcohol appears to increase the impact of certain cancer-causing chemicals in tobacco smoke. It might also contribute to the risk of cancer by making it easier for damaging chemicals to penetrate cells in the body, and through malnutrition in people who drink heavily.¹

How common is mouth and throat cancer?

In 2021, estimates for new cases of mouth and throat cancer in Australia were 3,115 cases in men and 1,208 cases in women. Estimates for deaths from mouth and throat cancer in 2021 were 697 deaths in men and 282 deaths in women.¹⁴ The difference in cases and

deaths for men and women reflect the higher smoking and drinking rates among men over past decades.¹⁵

After diagnoses with mouth cancer, 60% of men and 67% of women are still alive after five years.¹⁴ Early detection significantly increases the chances of survival.⁴

In 2010, it was estimated that 65% of all mouth and throat cancer cases in men and 60% in women were caused by smoking.¹⁶



Effects of smoking on the teeth, gum and bone

Smoking is a cause of periodontitis.³ This is a common dental disease affecting the gum and bone that support your teeth.³ It usually results from toxins produced by bacteria in plaque seeping down between your teeth and gums causing them to become inflamed.^{3,17} This can lead to problems such as swollen and infected gums, loss of jawbone that holds teeth in place, and deep spaces forming around the teeth that collect bacteria if plaque is not cleaned away (periodontal pockets).^{3,18}

Smoking may play a role in periodontal disease in a few different ways. Smoking affects the immune system, making it less able to fight infection. Smoking may also over-stimulate parts of the immune system, leading to the breakdown of the bone and connecting tissues around the tooth.^{3,18,19} As well, smoking may impair the healing of gum, connective tissues, and bone, leading to the worsening of periodontal disease.^{2,3,18-20}

People who smoke are more likely to have periodontitis than people who don't smoke.^{2,3} It is estimated that about a third of moderate to severe periodontitis cases in Australia are due to smoking. Among severe cases, over half are due to smoking.²¹ The risk increases with increasing numbers of cigarettes per day and years of smoking.³ People who smoke also show less improvement following treatment than people who don't smoke.^{19,20,22}

Stopping smoking reduces the risk of developing periodontitis and slows down the progress of existing disease.^{2,3} After stopping smoking for more than 10 years your risk for periodontitis is close to that of someone who has never smoked.² Response to periodontal treatment improves in people who no longer smoke.^{2,19,20,23}

Smoking and mouth surgery

Cigarette smoking impairs wound healing after mouth surgery.²²

One study of head and neck cancer patients¹ who had undergone surgery found that **quitting smoking** for at least 3 weeks before surgery reduced the risk of impaired wound healing.²⁴ In studies on other types of surgery, stopping smoking was found to reduce the risk of wound infections within 4 to 8 weeks.^{22, 25-27}

Smoking and your teeth

People who smoke are more likely to have tooth decay and tooth loss than people who don't smoke.^{2,3,23,28}

This could be because the saliva of someone who smokes is less protective against tooth decay or because the root surfaces at the base of the teeth are more likely to become exposed due to periodontal disease caused by smoking.^{2,3} Your risk for tooth loss decreases within 10 years of **quitting smoking** and is close that of someone who has never smoked after 10 to 30 years (depending on the study).^{2,23,29,30}

Other tobacco-related conditions of the mouth

- Tobacco stains teeth, dentures and dental restorations. These brown to blackish stains are particularly noticeable around the base of the teeth.^{31,32}
- Bad breath (halitosis) and impaired taste are more common among people who smoke.^{2,33,34}
- Smoker's melanosis appears as brown blotches on the gums. It is not associated with a risk of mouth disease.² After stopping smoking, gum colour gradually returns to normal after one or more years.^{2,35}
- Black hairy tongue occurs when the tongue cannot clean itself properly and bacteria, yeast and debris collect on the tiny bumps on the tongue (called papillae). It is mainly seen in people who smoke heavily.³⁶
- Smoker's palate is where the roof of the mouth (hard palate) becomes thickened and pale or white, often with many red dots (inflamed salivary gland openings). People who smoke pipes are more likely to have this condition than people who smoke cigarettes. It appears to be related to irritation and heat of concentrated tobacco smoke. It can disappear within several weeks of stopping smoking.^{2,32}
- Dental implants are about twice as likely to fail in people who smoke.^{23,37} A dental implant is a screw that acts as an artificial tooth root. It is inserted into your jawbone to support a replacement tooth, bridge or other dental prosthesis.³⁸ Quitting smoking may improve the success rate of dental implants.²

¹ includes cancers of the nose, mouth, throat, voice box and oesophagus

What happens when you quit?

After you quit smoking:

- **Within one week** your sense of smell and taste may improve³⁹
- **After 3 to 4 weeks** your outcome for surgery improves with less risk of infection which helps to heal wounds^{24,25,27}
- **After several weeks** smokers' palate may disappear^{2,32}
- **After one year or more** if you have smokers' melanosis your gum colour gradually returns to normal^{2,35}
- **After a few years** any leukoplakia is more likely to disappear than if you'd kept smoking⁸
- **Within 10 years** your risk of mouth and throat cancers are half that of someone who keeps smoking^{5,6} and you are less likely to lose teeth^{2,29,30}
- **After 10 years** your risk for periodontitis (gum and jawbone disease) is close to that of someone who has never smoked²
- **After 20 years** your risk for mouth and throat cancers are similar to someone who has never smoked.^{5,6}

Quitting smoking improves your response to treatment for periodontitis and surgery.^{2,19,20,23-27}



Help to stop smoking

The best way to **stop smoking** is to talk with Quitline and use stop smoking medications. These include prescribed tablets or [nicotine patches, lozenges, mouth spray, inhalator or gum](#). Your doctor or pharmacist can advise you on what would suit you.

If you are taking any medicines, talk with your doctor or pharmacist as they may need to look at your medicines before you stop smoking.

Contact Quitline

Quitline is a welcoming, free and confidential counselling service. Quitline counsellors are experts at helping you gain the skills to break free from smoking or vaping, or both. We will help you build and keep up your motivation to quit and help you create a quit plan that works for you. We listen carefully and answer your questions without judgement and can support you throughout your quit journey. Quitline counsellors can also support you if you are using vapes to stop smoking and can help you stop vaping.

There are many ways to contact Quitline:

- **Call 13 7848** Monday to Friday 8am to 8pm
- **Text 'call back' to 0482 090 634** (VIC, SA, WA, NT only)
- **Webchat** at quit.org.au (VIC, SA, WA, NT only)
- **Facebook Messenger @quitvic** or **WhatsApp 61 385 832 920** (VIC, SA, WA, NT only)
- Ask Quitline to call you back **for free** at quit.org.au/callback

Aboriginal and Torres Strait Islander people can call Quitline and ask to yarn with an Aboriginal and/or Torres Strait Islander Quitline Counsellor if they wish, for Culturally sensitive support, delivered by mob, for mob.

Quitline has worked with people in the LGBTIQ+ community to make Quitline a safe and inclusive space. You can speak to Quitline in a language other than English: call 13 7848 and tell us you need an interpreter and we will call you back. We also use the National Relay Service with people with a hearing or speech impairment.

Go online: quit.org.au

Create your own quit plan to stop smoking or vaping with easy-to-find information. You'll find tips, distractions, tools and stories from people who quit.

Please note: this information is for general use only. Please consult your health professional for further advice.

March 2024

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