



[cancer.org](https://www.cancer.org) | 1.800.227.2345

Laryngeal and Hypopharyngeal Cancer Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for laryngeal and hypopharyngeal cancers.

- [Risk Factors for Laryngeal and Hypopharyngeal Cancers](#)
- [What Causes Laryngeal and Hypopharyngeal Cancers?](#)

Prevention

There is no way to completely prevent cancer. But there are things you can do that might lower your risk. Learn more.

- [Can Laryngeal and Hypopharyngeal Cancers Be Prevented?](#)

Risk Factors for Laryngeal and Hypopharyngeal Cancers

A risk factor is anything that affects your chance of getting a disease like cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like a person's age or family history, can't be changed.

But risk factors don't tell us everything. Having a risk factor, or even several risk factors, doesn't mean that you will get the disease. And many people who get the disease may have few or no known risk factors.

[Laryngeal and hypopharyngeal cancers](#)¹ are often grouped with other cancers of the mouth and throat (commonly called *head and neck cancers*). These cancers often have many of the same risk factors, which are listed below.

Tobacco and alcohol use

[Tobacco use](#)² is the most important risk factor for head and neck cancers (including cancers of the larynx and hypopharynx). The risk for these cancers is much higher in smokers than in nonsmokers. Most people with these cancers have a history of smoking or other tobacco exposure. The more you smoke, the greater your risk. Smoke from cigarettes, pipes, and cigars all increase your risk of getting these cancers.

Some studies have also found that long-term exposure to secondhand smoke might increase the risk of these cancers, but more research is needed to confirm this.

Moderate or heavy [alcohol use](#)³ (more than 1 drink a day) also increases the risk of these cancers, although not as much as smoking.

People who use both tobacco and alcohol have the highest risk of all. Combining these 2 habits doesn't just add both risks together, it actually multiplies them. People who smoke and drink are many times more likely to get head and neck cancer than are people with neither habit.

If you are [thinking about quitting smoking and need help](#)⁴, call the American Cancer Society at 1-800-227-2345. A tobacco cessation and coaching service can help increase your chances of quitting for good. More information is also available in the [Stay Away from Tobacco](#)⁵ section of our website.

Poor nutrition

Poor nutrition may increase the risk of getting head and neck cancer. The exact reason for this isn't clear. Heavy drinkers often have vitamin deficiencies, which may help explain the role of alcohol in increasing risk of these cancers.

Researchers have been comparing eating habits and risk. It's been suggested that eating fewer fried foods and processed foods and eating more plant-based foods might help reduce laryngeal cancer risk.

Human papillomavirus infection

[Human papillomavirus](#)⁶ (HPV) is a group of over 150 related viruses. They are called *papilloma viruses* because some of them cause a type of growth called a *papilloma*, more commonly known as a wart.

Infection with certain types of [HPV can also cause some forms of cancer](#)⁷, including cancers of the penis, cervix, vulva, vagina, anus, and throat. Other types of HPV cause warts in different parts of the body.

HPV infection of the throat seems to be a factor in some throat cancers, such as some cancers of the [tonsils](#)⁸ and some cancers of the hypopharynx. HPV infection is very rarely a factor in laryngeal cancer.

Genetic syndromes

People with syndromes caused by [inherited gene](#)⁹ defects (mutations) have a very high risk of throat cancer, including cancer of the hypopharynx.

Fanconi anemia: People with this syndrome often have blood problems at an early age, which may lead to [leukemia](#)¹⁰ or aplastic anemia. They also have a very high risk of cancer of the mouth and throat.

Dyskeratosis congenita: This genetic syndrome can cause aplastic anemia, skin rashes, and abnormal fingernails and toenails. People with this syndrome have a very high risk of developing cancer of the mouth and throat when they are young.

Workplace exposures

Long and intense exposures to wood dust, paint fumes, and certain chemicals used in the metalworking, petroleum, plastics, and textile industries can increase the risk of laryngeal and hypopharyngeal cancers.

[Asbestos](#)¹¹ is a mineral fiber that was often used as an insulating material in many products in the past. Exposure to asbestos is an important risk factor for [lung cancer](#)¹² and [mesothelioma](#)¹³ (cancer that starts in the lining of the chest or abdomen). Some studies have suggested a link between asbestos exposure and laryngeal cancer, but not all studies agree.

Gender

Cancers of the larynx and hypopharynx are about 4 times more common in men than women. This is likely because the main risk factors—smoking and heavy alcohol use—are more common in men. But in recent years, as these habits have become more common among women, their risks for these cancers have increased as well.

Age

Cancers of the larynx and hypopharynx usually develop over many years, so they are not common in young people. Over half of patients with these cancers are 65 or older when the cancers are first found.

Race

Cancers of the larynx and hypopharynx are more common among African Americans and whites than among Asians and Latinos.

Gastroesophageal reflux disease

When acid from the stomach backs up into the esophagus it's called *gastroesophageal reflux disease* (GERD). GERD can cause heartburn and increase the chance of [cancer of the esophagus](#)¹⁴. Studies are being done to see if it increases the risk of laryngeal and hypopharyngeal cancers, too.

Hyperlinks

1. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/about/what-is-laryngealand-hypopharyngeal.html
2. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html
3. www.cancer.org/cancer/cancer-causes/diet-physical-activity/alcohol-use-and-cancer.html
4. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html
5. www.cancer.org/healthy/stay-away-from-tobacco.html
6. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
7. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv/hpv-and-cancer-info.html
8. www.cancer.org/cancer/oral-cavity-and-oropharyngeal-cancer.html
9. www.cancer.org/cancer/cancer-causes/genetics.html
10. www.cancer.org/cancer/leukemia.html

11. www.cancer.org/cancer/cancer-causes/asbestos.html
12. www.cancer.org/cancer/lung-cancer.html
13. www.cancer.org/cancer/malignant-mesothelioma.html
14. www.cancer.org/cancer/esophagus-cancer.html

References

Barul C, Fayossé A, Carton M, et al. Occupational exposure to chlorinated solvents and risk of head and neck cancer in men: a population-based case-control study in France. *Environ Health*. 2017;16(1):77.

Ferster APO, Schubart J, Kim Y, Goldenberg D. Association Between Laryngeal Cancer and Asbestos Exposure: A Systematic Review. *JAMA Otolaryngol Head Neck Surg*. 2017;143(4):409-416.

Peng WJ, Mi J, Jiang YH. Asbestos exposure and laryngeal cancer mortality. *Laryngoscope*. 2016;126(5):1169-1174.

Shivappa N, Hébert JR, Rosato V, Serraino D, La Vecchia C. Inflammatory potential of diet and risk of laryngeal cancer in a case-control study from Italy. *Cancer Causes Control*. 2016;27(8):1027-1034.

Steuer CE, El-Deiry M, Parks JR, Higgins KA, Saba NF. An update on larynx cancer. *CA Cancer J Clin*. 2017;67(1):31-50.

See all references for Laryngeal and Hypopharyngeal Cancer (www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/references.html)

Last Medical Review: November 27, 2017 Last Revised: November 27, 2017

What Causes Laryngeal and Hypopharyngeal Cancers?

We don't know what causes each case of [laryngeal or hypopharyngeal cancer](#)¹. But we

do know many of the risk factors for these cancers (see [Risk Factors for Laryngeal and Hypopharyngeal Cancers](#)) and how some of them cause normal cells to become cancer.

Scientists believe that some risk factors, such as [tobacco](#)² or heavy [alcohol use](#)³, cause these cancers by damaging the DNA of the cells that line the inside of the larynx and hypopharynx.

DNA is the chemical in each of our cells that makes up our [genes](#)⁴ – the instructions for how our cells function. We usually look like our parents because they are the source of our DNA. But DNA affects more than how we look. Some genes have instructions for controlling when cells grow and divide into new cells. Genes that help cells grow and divide are called *oncogenes*. Genes that slow down cell division or cause cells to die at the right time are called *tumor suppressor genes*. Cancers can be caused by DNA changes that turn on oncogenes or turn off tumor suppressor genes.

Some people inherit DNA mutations (changes) from their parents that greatly increase their risk for developing certain cancers. But inherited gene mutations are not believed to cause very many cancers of the larynx or hypopharynx.

Gene changes related to these cancers usually happen during life, rather than being inherited. These *acquired* mutations often result from exposure to cancer-causing chemicals, like those found in tobacco smoke. An acquired change in the *p16* tumor suppressor gene seems to be important in laryngeal and hypopharyngeal cancers, although not all these cancers have this change. Several different gene changes are probably needed for cancer to develop, and not all of these changes are understood at this time.

Inherited mutations of oncogenes or tumor suppressor genes rarely cause these cancers, but some people seem to inherit a reduced ability to detoxify (break down) certain types of cancer-causing chemicals. These people are more sensitive to the cancer-causing effects of tobacco smoke, alcohol, and certain industrial chemicals. Researchers are developing tests that may help identify such people, but these tests are not yet reliable enough for routine use.

Some forms of [human papillomavirus \(HPV\)](#)⁵ are important causes of some throat cancers (including cancers of the hypopharynx). The outlook for people with these cancers appears to be better than for people whose cancers are the result of tobacco or alcohol use.

Hyperlinks

1. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/about/what-is-laryngealand-hypopharyngeal.html
2. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html
3. www.cancer.org/cancer/cancer-causes/diet-physical-activity/alcohol-use-and-cancer.html
4. www.cancer.org/cancer/cancer-causes/genetics/genes-and-cancer.html
5. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html

References

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology. Head and Neck Cancers. Version 2.2017 -- May 8, 2017.

See all references for Laryngeal and Hypopharyngeal Cancer (www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/references.html)

Last Medical Review: November 27, 2017 Last Revised: November 27, 2017

Can Laryngeal and Hypopharyngeal Cancers Be Prevented?

Not all [laryngeal and hypopharyngeal cancers](#)¹ can be prevented, but the risk of developing these cancers can be greatly reduced by avoiding [certain risk factors](#) such as smoking and alcohol use.

[Tobacco use](#)² is the most important cause of these cancers. Avoiding exposure to tobacco (by [not smoking](#)³ and avoiding [secondhand smoke](#)⁴) lowers the risk of these cancers. [Heavy alcohol use](#)⁵ is a risk factor on its own. It also greatly increases the cancer-causing effect of tobacco smoke, so it's especially important to avoid the combination of drinking and smoking.

For people who work with chemicals linked to these cancers, having plenty of workplace ventilation and using industrial respirators are important protective measures.

Poor nutrition and vitamin deficiencies have been linked to laryngeal and hypopharyngeal cancers. Eating a balanced, healthy diet may help lower your risk of these cancers (and many others). The American Cancer Society recommends eating a healthy diet, with an emphasis on plant foods. This includes eating at least 2½ cups of vegetables and fruits every day. Choosing whole-grain breads, pastas, and cereals instead of refined grains, and eating fish, poultry, or beans instead of processed meat and red meat may also help lower your risk of cancer. In general, eating a healthy diet is much better than adding vitamin supplements to an otherwise unhealthy diet. See the [American Cancer Society Guidelines on Nutrition and Physical Activity for Cancer Prevention](#)⁶ for our full guidelines.

Doctors have been looking at whether certain drugs or vitamins might help prevent these cancers, especially in people who are at high risk. So far, none have been successful enough to be recommended.

Avoid HPV infection

The risk of [human papillomavirus](#)⁷ (HPV) infection of the throat is increased in those who have oral sex and multiple sex partners. Smokers are more likely to get HPV infections, probably because the smoke damages their immune system or the cells that line the throat. These infections are common and rarely cause symptoms. While HPV infection is linked to some cases of cancer of the larynx or hypopharynx, most people with HPV infections of the throat do not go on to develop this cancer. And most cancers of the larynx and hypopharynx are not related to HPV infection.

Vaccines that reduce the risk of infection with certain types of HPV are available. At first, these vaccines were meant to lower the risk of cervical cancer, but they've been shown to lower the risk of [other cancers linked to HPV](#)⁸ as well, such as cancers of the anus, vulva, vagina, and mouth and throat cancers.

Since these vaccines are only effective if given before someone is infected with HPV, they are given at an early age. Learn more in [HPV Vaccines](#)⁹.

Hyperlinks

1. www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/about/what-is-laryngealand-hypopharyngeal.html
2. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html
3. www.cancer.org/healthy/stay-away-from-tobacco.html
4. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer/secondhand-smoke.html

5. www.cancer.org/cancer/cancer-causes/diet-physical-activity/alcohol-use-and-cancer.html
6. www.cancer.org/healthy/eat-healthy-get-active/acs-guidelines-nutrition-physical-activity-cancer-prevention.html
7. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
8. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv/hpv-and-cancer-info.html
9. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html

References

See all references for Laryngeal and Hypopharyngeal Cancer

(www.cancer.org/cancer/laryngeal-and-hypopharyngeal-cancer/references.html)

Last Medical Review: November 27, 2017 Last Revised: November 27, 2017

Written by

The American Cancer Society medical and editorial content team

(www.cancer.org/cancer/acs-medical-content-and-news-staff.html)

Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

American Cancer Society medical information is copyrighted material. For reprint requests, please see our Content Usage Policy (www.cancer.org/about-us/policies/content-usage.html).

cancer.org | 1.800.227.2345