

cancer.org | 1.800.227.2345

Health Risks of Smoking Tobacco

- How smoking tobacco affects your cancer risk
- How smoking tobacco damages your lungs
- How smoking tobacco affects your heart and blood vessels
- How smoking tobacco can affect your sex life and reproductive system
- Other ways smoking tobacco affects your health
- How smoking tobacco can affect children and teens

Tobacco use remains the leading preventable cause of death in the US, accounting for about 1 in 5 deaths each year.

On average, people who smoke die about 10 years earlier than people who have never smoked.

Most people know smoking can cause cancer. But it can also cause a number of other diseases and can damage nearly every organ in the body, including the lungs, heart, blood vessels, reproductive organs, mouth, skin, eyes, and bones.

How smoking tobacco affects your cancer risk

Smoking causes about 20% of all cancers and about 30% of all cancer deaths in the United States.

About 80% of <u>lung cancers</u>¹, as well as about 80% of all lung cancer deaths, are due to smoking. Lung cancer is the leading cause of cancer death in people in the United States.

Smoking also increases the risk for cancers of the:

- Mouth²
- Larynx³ (voice box)
- Pharynx⁴ (throat)
- Esophagus⁵
- Kidney⁶
- Cervix⁷
- Liver⁸
- Bladder⁹
- Pancreas¹⁰
- Stomach¹¹
- Colon/rectum¹²

It also raises the risk of <u>acute myeloid leukemia</u>¹³.

Cigarettes, cigars, and pipes can all cause cancer. There is no safe form of tobacco smoke.

How smoking tobacco damages your lungs

Smoking damages the airways and small air sacs in your lungs. This damage starts soon after someone starts smoking, and lung function continues to worsen as long as the person smokes. Still, it may take years for the problem to become noticeable enough for lung disease to be diagnosed.

Smoke damage in the lungs can lead to serious long-term lung diseases such as **chronic obstructive pulmonary disease (COPD)**. Smoking can also increase the risk of lung infections such as **pneumonia** and **tuberculosis**, and it can worsen some existing lung diseases, such as **asthma**.

COPD

COPD, which is one of the leading causes of death in the United States, includes both chronic bronchitis and emphysema (discussed below). Most people with COPD have both of these conditions, but the severity of each of them varies from person to person.

In COPD, damage to the small airways in the lungs makes it hard for the lungs to get oxygen to the rest of the body.

Smoking is by far the most common cause of COPD. The risk goes up the more you

smoke and the longer you smoke.

Some of the early signs and symptoms of COPD can include noises in the chest (such as wheezing, rattling, or whistling), shortness of breath when active, and coughing up mucus (phlegm). Over time, COPD can make it hard to breathe at rest as well, sometimes even when a person is getting oxygen through a mask or nasal tube.

COPD tends to get worse over time, especially if a person continues to smoke. There is no cure for COPD, although some medicines might help with symptoms.

Chronic bronchitis

Chronic bronchitis is a common problem in people who smoke for a long time. In this disease, the airways make too much mucus, forcing the person to try to cough it out. The airways become inflamed (swollen), and the cough becomes chronic (long-lasting). The symptoms can get better at times, but the cough keeps coming back. Over time, the airways can get blocked by scar tissue and mucus, which can lead to bad lung infections (pneumonia).

There's no cure for chronic bronchitis, but quitting smoking can help keep symptoms under control and help keep the damage from getting worse.

Emphysema

In emphysema, the walls between the tiny air sacs in the lungs break down, which creates larger but fewer sacs. This lowers the amount of oxygen reaching the blood. Over time, these sacs can break down to the point where a person with emphysema might struggle to get enough air, even when at rest.

People with emphysema are at risk for many other problems linked to weak lung function, including pneumonia. In later stages of the disease, patients often need an oxygen mask or tube to help them breathe.

Emphysema cannot be cured, but it can be treated and slowed down if the person stops smoking.

Why do people who smoke have "smoker's cough?"

Tobacco smoke has many chemicals and particles that can irritate the upper airways and the lungs. When a person inhales these substances, the body tries to get rid of them by making mucus and causing a cough.

The early morning cough common among people who smoke happens for many reasons. Normally, tiny hair-like structures (called *cilia*) in the airways help sweep harmful material out of the lungs. But tobacco smoke slows this sweeping action, so some of the mucus and particles in the smoke stay in the lungs and airways. While the person sleeps (and doesn't smoke), some cilia recover and start working again. After waking up, the person coughs because the lungs are trying to clear away the irritants and mucus that built up from the day before.

So-called "smoker's cough" can be an early sign of COPD.

How smoking tobacco affects your heart and blood vessels

Smoking tobacco damages your heart and blood vessels (cardiovascular system), increasing your risk of heart disease and stroke.

Smoking is a major cause of **coronary heart disease (CHD)**, in which the arteries of the heart can't supply the heart muscle with enough oxygen-rich blood. CHD is the main cause of heart attacks, and it's the leading cause of death in the United States.

Smoking causes high blood pressure, lowers your ability to exercise, and makes your blood more likely to clot. It also lowers HDL (good) cholesterol levels in the blood. All of these are risk factors for **heart attacks** and **strokes**.

Smoking is a major risk factor for **peripheral arterial disease (PAD)**. In PAD, plaque builds up in the arteries that carry blood to the head, organs, and limbs. This increases your risk of heart disease, heart attack, and stroke.

Smoking increases the risk of having an **aortic aneurysm**. This is a balloon-like bulge in the aorta, the main artery carrying blood from the heart to other organs. It is caused by a weakening of the wall of the aorta. Aortic aneurysms can grow larger over time, and they can be life threatening if they rupture (break open).

Smoking can cause or worsen poor blood flow to the arms and legs, which is called **peripheral vascular disease or (PVD)**. This can lead to pain in the legs when walking, and may lead to open sores that don't heal.

Because smoking affects blood flow, it can lower the body's ability to heal from cuts. This is why many doctors won't do certain operations on patients unless they stop smoking.

How smoking tobacco can affect your sex life and reproductive

system

Women

Tobacco use can damage a woman's reproductive health. For example, women who smoke are more likely to have **trouble getting pregnant**.

Smoking while pregnant can also lead to health problems that can affect both mother and baby. Women who smoke while pregnant have a higher risk of:

- An ectopic pregnancy (where the embryo implants outside the uterus), which can threaten the mother's life
- Problems with the placenta, which is the organ that connects the mother to fetus.
 The placenta might be in the wrong spot (placenta previa), or it might separate from the uterus too early (placental abruption). These problems might lead to serious bleeding, early delivery (premature birth), or other problems with the delivery, some of which might require an emergency Caesarean section (C-section).
- Premature births and low birth-weight babies
- Miscarriages and stillbirths
- Having a child with a cleft lip, cleft palate, and possibly other birth defects

Babies of mothers who smoke during and after pregnancy are also more likely to die from **sudden infant death syndrome (SIDS)**.

Men

Smoking can damage blood vessels anywhere in the body. Blood flow in the penis is a key part of male erections. Men who smoke have a higher risk of **erectile dysfunction**. This risk increases the more they smoke and the longer they smoke.

Smoking can also affect sperm, which can **reduce fertility** and increase the risk for miscarriages and birth defects.

Other ways smoking tobacco affects your health

Smoking can affect a person's health in many other ways as well, harming nearly every organ in the body. Here are a few examples of other ways smoking tobacco can affect your health:

- Increased risk of gum disease and tooth loss
- Lowered immune system function
- Increased risk of type 2 diabetes
- Decreased sense of smell and taste
- Premature aging of the skin
- Bad breath and stained teeth
- Lower bone density (thinner bones), which means a higher risk for broken bones, including hip fracture
- · Higher risk of rheumatoid arthritis
- Increased risk for cataracts (clouding of the lenses of the eyes)
- Increased risk for age-related macular degeneration, which can lead to blindness
- Wounds taking longer to heal

- Reduced physical fitness
- Poor lung growth and function, which increases the risk of COPD later in life

Tobacco use is linked to other harmful behaviors in teens

Research has shown that teen tobacco users are more likely to use alcohol and illegal drugs than are non-users. Teens who smoke are also more likely to get into fights, carry weapons, attempt suicide, suffer from mental health problems such as depression, and engage in high-risk sexual behaviors. This doesn't necessarily mean that tobacco use caused these behaviors, but they're more common in teens who use tobacco.

In addition, using e-cigarettes (also known as vaping) might play a part in a kid or teenager wanting to experiment with other tobacco products. To learn more about e-cigarettes, see What Do We Know About E-cigarettes?15

Hyperlinks

- 1. www.cancer.org/cancer/types/lung-cancer.html
- 2. www.cancer.org/cancer/types/oral-cavity-and-oropharyngeal-cancer.html
- 3. www.cancer.org/cancer/types/laryngeal-and-hypopharyngeal-cancer.html
- 4. www.cancer.org/cancer/types/oral-cavity-and-oropharyngeal-cancer.html
- 5. www.cancer.org/cancer/types/esophagus-cancer.html
- 6. www.cancer.org/cancer/types/kidney-cancer.html
- 7. www.cancer.org/cancer/types/cervical-cancer.html
- 8. www.cancer.org/cancer/types/liver-cancer.html
- 9. www.cancer.org/cancer/types/bladder-cancer.html
- 10. www.cancer.org/cancer/types/pancreatic-cancer.html
- 11. www.cancer.org/cancer/types/stomach-cancer.html
- 12. www.cancer.org/cancer/types/colon-rectal-cancer.html
- 13. www.cancer.org/cancer/types/acute-myeloid-leukemia.html
- 14. www.cancer.org/cancer/risk-prevention/tobacco/guide-quitting-smoking.html
- 15. <u>www.cancer.org/cancer/risk-prevention/tobacco/e-cigarettes-vaping/what-do-we-know-about-e-cigarettes.html</u>

References

American Cancer Society. *Cancer Prevention & Early Detection Facts & Figures 2019-2020*. Atlanta, Ga: American Cancer Society; 2020.

Cao S, Gan Y, Dong X, Liu J, Lu Z. Association of quantity and duration of smoking with erectile dysfunction: A dose-response meta-analysis. *J Sex Med.* 2014;11(10):2376-2384.

Centers for Disease Control and Prevention (CDC). Health Effects of Cigarette Smoking. 2020. Accessed at

www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/in dex.htm on October 12, 2020.

Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, and Office on Smoking and Health. How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General. 2010. Atlanta (GA): Centers for Disease Control and Prevention. Accessed at

https://www.ncbi.nlm.nih.gov/books/NBK53017/ on October 12, 2020.

Centers for Disease Control and Prevention (CDC). Smoking & Tobacco Use Fast Facts. 2020. Accessed at

www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm# on October 12, 2020.

Centers for Disease Control and Prevention (CDC). Tips From Former Smokers: Pregnancy. 2020. Accessed at

https://www.cdc.gov/tobacco/campaign/tips/diseases/pregnancy.html on October 19, 2020.

Drope J, Cahn Z, Kennedy R, et al. Key issues surrounding the health impacts of electronic nicotine delivery systems (ENDS) and other sources of nicotine. *CA Cancer J Clin.* 2017;87(6):449-471. Accessed at https://doi.org/10.3322/caac.21413 on October 12, 2020.

Feldman H, Johannes C, Derby C, et al. Erectile dysfunction and coronary risk factors: Prospective results from the Massachusetts male aging study. *Prev Med.* 2000;30:328-338.

Hackshaw A, Rodeck C, Boniface S. Maternal smoking in pregnancy and birth defects: A systematic review based on 173 687 malformed cases and 11.7 million controls. *Hum Reprod Update*. 2011;17(5):589-604.

Islami F, Goding Sauer A, et al. Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States. *CA Cancer J Clin*. 2018;68(1):31-54. doi: 10.3322/caac.21440. Epub 2017 Nov 21.

Jha P, Ramasundarahettige C, Landsman V, et al. 21st-century hazards of smoking and benefits of cessation in the United States. *New Engl J Med.* 2013;368(4):341–350.

Nagelmann A, Tonnov Ä, Laks T, et al. Lung dysfunction of chronic smokers with no signs of COPD. *COPD*. 2011;8(3):189-195.

National Institutes of Health. National Heart, Lung, and Blood Institute. *How Does Smoking Affect the Heart and Blood Vessels?* Accessed at https://www.nhlbi.nih.gov/health-topics/smoking-and-your-heart on October 12, 2020.

Rodriguez D. Cigarette and tobacco products in pregnancy: Impact on pregnancy and the neonate. UpToDate. 2020. Accessed at https://www.uptodate.com/contents/cigarette-and-tobacco-products-in-pregnancy-impact-on-pregnancy-and-the-neonate on October 19, 2020.

US Department of Health & Human Services. *The Health Consequences of Smoking---50 Years of Progress: A Report of the Surgeon General.* 2014. Accessed at https://www.ncbi.nlm.nih.gov/books/NBK179276/pdf/Bookshelf_NBK179276.pdf on October 12, 2020.

Waldie KE, McGee R, Reeder AI, Poulton R. Associations between frequent headaches, persistent smoking, and attempts to quit. *Headache*. 2008;48:545-552.

Last Revised: October 28, 2020

Written by

The American Cancer Society medical and editorial content team (https://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/aboutus/policies/content-usage.html).

cancer.org | 1.800.227.2345