



Smoking Facts

www.lung.org > Stop Smoking > Smoking Facts

Marijuana and Lung Health

The American Lung Association is concerned about the health impacts of marijuana use, especially on lung health. We caution the public against smoking marijuana because of the risks it poses to the lungs.

Scientists are researching marijuana now, and the American Lung Association encourages continued research into the effects of marijuana use on lung health.

Marijuana

The health effects of marijuana are determined in large part by how it's consumed. Marijuana is most commonly smoked using pipes, bongs, paper-wrapped joints, blunts and other devices including those that heat or vaporize marijuana. Marijuana can also be consumed through dozens of different products including e-cigarettes, candy, brownies and other baked goods, capsules, beverages and many more.

While this statement focuses on marijuana and lung health, it's important to note that there are other health concerns outside the lungs attributed to marijuana use that are not addressed here, including neurological and cognitive effects.^{1,2}

Additionally, there are significant public health concerns associated with pediatric poisonings caused by accidental ingestion of edible marijuana products.³

Marijuana Smoke

Smoke is harmful to lung health. Whether from burning wood, tobacco or marijuana, toxins and carcinogens are released from the combustion of materials. Smoke from marijuana combustion has been shown to contain many of the same toxins, irritants and carcinogens as tobacco smoke.⁴⁻⁷

Beyond just what's in the smoke alone, marijuana is typically smoked differently than tobacco. Marijuana smokers tend to inhale more deeply and hold their breath longer than cigarette smokers, which leads to a greater exposure per breath to tar.⁸

Secondhand marijuana smoke contains many of the same toxins and carcinogens found in directly-inhaled marijuana smoke, in similar amounts if not more.⁵ While there is no data on the health consequences of breathing secondhand marijuana smoke, there is concern that it could cause harmful health effects, especially among vulnerable children in the home. Additional research on the health effects of secondhand marijuana smoke is needed.

Lung Health and Marijuana Smoke

Smoking marijuana clearly damages the human lung. Research shows that smoking marijuana causes chronic bronchitis and marijuana smoke has been shown to injure the cell linings of the large airways, which could explain why smoking marijuana leads to symptoms such as chronic cough, phlegm production, wheeze and acute bronchitis.^{4,9}

Smoking marijuana has also been linked to cases of air pockets in between both lungs and between the lungs and the chest wall, as well as large air bubbles in the lungs among young to middle-aged adults, mostly heavy smokers of marijuana.

However, it's not possible to establish whether these occur more frequently among marijuana smokers than the general population.⁴

Smoking marijuana can harm more than just the lungs and respiratory system—it can also affect the immune system and the body's ability to fight disease, especially for those whose immune systems are already weakened from immunosuppressive drugs or diseases, such as HIV infection.^{4,9}

Smoking marijuana hurts the lungs' first line of defense against infection by killing cells that help remove dust and germs as well as causing more mucus to be formed. In addition, it also suppresses the immune system. These effects could lead to an increased risk of lower respiratory tract infections among marijuana smokers, although there is no clear evidence of such actual infections being more common among marijuana smokers.^{4,9} However, frequent marijuana-only smokers have more healthcare visits for respiratory conditions compared to nonsmokers.¹⁰

Studies have shown that smoking marijuana may increase the risk of opportunistic infections among those who are HIV positive, although it does not seem to affect the development of AIDS or lower white cell counts.^{4,9}

Another potential threat to those with weakened immune systems is *Aspergillus*, a mold that can cause lung disorders. It can grow on marijuana, which if then smoked exposes the lungs to this fungus.⁴ However, it rarely causes problems in people with healthy immune systems.

"Vaping" Marijuana

There is little known on the potential lung health effects of inhaling marijuana or products made from it through routes other than smoking. However:

Use of "vape-pens" to inhale cannabis concentrates or liquids may have similar respiratory health effects as e-cigarette use.

"Dabbing" (inhaling flash-vaporized cannabis concentrates) may also cause respiratory problems.

Medical Marijuana

The American Lung Association encourages continued research into the health effects of marijuana use, as the benefits, risks and safety of marijuana use for medical purposes require further study. Patients considering using marijuana for medicinal purposes should make this decision in consultation with their doctor, and consider means of administration other than smoking.

Bottom Line

Smoking marijuana clearly damages the human lung, and regular use leads to chronic bronchitis and can cause an immune-compromised person to be more susceptible to lung infections.

No one should be exposed to secondhand marijuana smoke.

Due to the risks it poses to lung health, the American Lung Association strongly cautions the public against smoking marijuana as well as tobacco products.

More research is needed into the effects of marijuana on health, especially lung health.

See our public policy position on marijuana and lung health.

Sources

National Institute on Drug Abuse. [DrugFacts: Marijuana](#)

Volkow ND, Baler RD, Compton WM, Weiss SRB. Adverse health effects of marijuana use. *N Engl J Med*. 2014;370(23):2219-27.

Wang GS, Roosevelt G, Heard K. Pediatric marijuana exposures in a medical marijuana state. *JAMA Pediatr*. 2013;167(7):630-3.

Tashkin DP. Effects of marijuana smoking on the lung. *Ann Am Thorac Soc*. 2013;10(3):239-47.

Moir D, Rickert WS, Levasseur G, et al. A comparison of mainstream and sidestream marijuana and tobacco cigarette smoke produced under two machine smoking conditions. *Chem Res Toxicol*. 2008;21(2):494-502. doi:10.1021/tx700275p.

Novotny M, Merli F, Wiesler D, Fencel M, Saeed T. Fractionation and capillary gas chromatographic—mass spectrometric characterization of the neutral components in marijuana and tobacco smoke condensates. *J Chromatogr A*. 1982;238:141-50. doi: 10.1016/S0021-9673(00)82720-X

Hoffmann D, Brunnemann KD, Gori GB, Wynder EL. On the Carcinogenicity of Marijuana Smoke. In: Runeckles VC, ed. *Recent Advances in Phytochemistry*. Springer US; 1975:63-81.

Wu T-C, Tashkin DP, Djahed B, Rose JE. Pulmonary hazards of smoking marijuana as compared with tobacco. *N Engl J Med*. 1988;318(6):347-51.

Howden ML, Naughton MT. Pulmonary effects of marijuana inhalation. *Expert Rev Respir Med*. 2011;5(1):87-92.