Healthy Living

The effects of smoking on the human body

Smoking rates are on the decline among the adult population. According to the National Health Interview Survey, adult cigarette smoking rates dipped below 10 percent for the first time in 2024. To put that in perspective, an American Lung Association analysis of data from the Centers for Disease Control and Prevention found that adult smoking rates in 1979 were at 33.5 percent.

It's undeniably good news that more and more adults have recognized the harmful effects of cigarette smoking. But younger adults, teenagers and even the roughly 9 percent of adults who still smoke may need a reminder of just what smoking does to the human body. Those effects are perhaps more wide-ranging than people realize, and recognition of that potential damage may compel more people to embrace the trend of avoiding smoking. The Cleveland Clinic notes that much of the body pays a significant toll when people decide to smoke.

• Eyes: Smoking can contribute to macular degeneration, cataracts and vision loss. The American Academy of Ophthalmology notes macular degeneration is a disease of the retina that causes loss of central vision. The Mayo Clinic indicates cataracts cause cloudy areas to form on the normally clear lens of the eye. While cataracts are treatable, surgery is the only proven way to remove them.

• Brain: Smoking can have an adverse effect on smokers' mental health, increasing their risk for anxiety and depression. A 2023 study published in the journal JAMA Network Open found that individuals with anxiety and depression were significantly more likely to be current smokers than people without those symptoms. Some people even smoke to alleviate symptoms of anxiety and depression, as nicotine temporarily increases levels of mood-enhancing hormones dopamine and serotonin. However, the effect of nicotine in that regard is fleeting, and some people end up smoking more, and thus increasing their dependency, in an effort alleviate the sadness and tension that can come with anxiety and depression.

• Oral health/sensitivity: The Cleveland Clinic notes that smoking can lead to a reduced sense of taste and smell, but researchers warn that further study is necessary to determine the full extent of that dynamic. Smoking also has been found to stain teeth. That happens because smoking cigarettes burns nicotine. When burning nicotine combines with oxygen, a yellowish substance is produced and that substance can cling to the teeth. Smoking also can contribute to gum disease by weakening the body's immune system and making it harder to fight infections of the gums. Those infections may develop because smoking decreases saliva, making it easier for infection-causing bacteria to stick to the teeth and get under the gums. The CDC notes that, once gums are damaged, smoking also makes it harder for them to heal.

• Heart: Smoking can have an adverse effect on heart health by increasing a smoker's risk for blood clots, heart attack and stroke. The U.S. Food and Drug Administration notes that when smokers breathe in cigarette smoke, the blood that is delivered to the rest of the body is contaminated with chemicals that can damage the heart and blood vessels. When that occurs, a smoker's risk for cardiovascular diseases like heart attack and stroke increases. Those same chemicals also can thicken the blood in the arteries, making it more difficult for blood cells to reach the heart and the brain and increasing the chances blood will clot.

• Skin: Even the largest organ in the body is not immune to the ill effects of smoking. According to Healthline, the toxins in tobacco decrease blood flow to skin cells, which reduces moisture in the skin and breaks down the proteins collagen and elastin. When that breakdown occurs, the result is wrinkled skin.

Smoking affects the body in countless ways. Recognition of those effects may be just what people need to keep smoking rates on the decline in the decades to come.



The link between sitting and type 2 diabetes

The International Diabetes Federation notes that one in nine individuals between the ages of 20 and 79 across the globe are living with diabetes. That equates to roughly 589 million adults, a figure the IDF expects to rise to 853 million adults by 2050.

Risk factors for diabetes are sometimes linked to variables individuals cannot control. For example, the Centers for Disease Control and Prevention notes that type 1 diabetes is thought to be a byproduct of an autoimmune reaction. The CDC adds that individuals with a parent or sibling with type 1 diabetes are at greater risk for the disease than individuals with no such family history. But various risk factors for type 2 diabetes, which the Cleveland Clinic notes accounts for more than 90 percent of diabetes cases, often are within individuals' control. Sitting for extended periods of time, not only at work but also during free time, has been linked to type 2 diabetes. A 2015 meta-analysis published in the journal Medicine and Sport Science suggested a large duration of sedentary behavior is associated with a 112 percent greater risk for type 2 diabetes.

So why does sitting affect type 2 diabetes risk? One reason concerns the effects of long periods of sitting on metabolism. In a 2019 interview with Health Matters, endocrinologist Dr. Rekha B. Kumar noted that prolonged sitting required muscles to work less. Active muscles, Dr. Kumar noted, boost metabolism and lead to better blood sugar management. When a body sits for long periods of time, metabolism is adversely affected and the risk for type 2 diabetes increases.

Another way sitting has been linked to type 2 diabetes concerns the effects of sitting on insulin. According to the diaTribe Foundation, which aims to inform about diabetes and advocate for diabetes patients, sitting affects the way muscles respond to insulin, the hormone that reduces the amount of sugar in the blood. When people sit for long periods of time, they may not have the bandwidth to contract their muscles, and that can make it harder to regulate blood sugar. As that happens, people may develop a resistance to insulin that increases their risk for type 2 diabetes.

Surveys from the CDC have indicated that people self-report sitting somewhere between 6.5 to eight hours per day, while other studies suggest heavy screen users may be spending as much as 11 hours per day sitting. That's a potentially dangerous and costly development, but one that people can confront head on by making a concerted effort to spend less time sitting each day.

