

Highlights: Overview of Findings Regarding Cardiovascular Disease

Smoking and exposure to cigarette smoke are major causes of coronary heart disease and stroke. The cardiovascular risk from tobacco smoke goes up significantly even with brief exposure. Breathing tobacco smoke quickly affects blood chemistry and damages the delicate cells that line blood vessels throughout the body. These important cells help maintain proper blood flow. When they are damaged by the chemicals in tobacco smoke, they do not work properly. As a result, blood flow to and from the heart can be impaired. In the short term, heart rate and blood pressure increase. Over time, the walls of blood vessels thicken and the vessels become narrower, further affecting blood flow.

Breathing secondhand smoke or smoking only a few cigarettes a day raises the risk for cardiovascular disease. Exposure to secondhand smoke could even trigger heart attacks. A number of studies confirm that hospitalization rates for heart attacks go down in locations that pass laws banning smoking in public places and in work spaces.

An aortic aneurysm is a bulge in the aorta, the major blood vessel that feeds blood to the body. A ruptured aortic aneurysm can be life threatening, causing uncontrollable bleeding and death. Smokers have higher risks of developing aortic aneurysms than do nonsmokers.

Smoking Damages the Body's Circulatory System

Tobacco smoke causes inflammation within the body's circulatory system. Inflammation leads to narrowing of the small blood vessels that supply blood to the body's organs, including the heart.

Smoking can cause chemical changes that make platelets in the blood stick together and form clots. The chemicals in tobacco smoke also interfere with the body's ability to repair damage in the lining of arteries. Clots are more likely in a damaged artery. Smoking causes dangerous plaque to build up and clog arteries. Plaque, which is made up of cholesterol and scar tissue, can break free and form clots. Clots can block blood flow to the heart, causing chest pain, weakness, and heart attack. Clots can block blood flow to the brain, causing strokes. Clots can also block blood flow to the limbs, causing skin ulcers and eventually tissue death and amputation. Completely blocked arteries can cause sudden death.

Quitting Can Cut Cardiovascular Risks

Quitting smoking reduces the risk for cardiovascular disease and death. The risk for heart attack drops sharply just 1 year after smokers quit entirely. Even patients who have already had a heart attack cut their risk of having another one by a third to a half if they quit smoking. After 2 to 5 years the chance of stroke could fall to about the same level as a nonsmoker's. There is no evidence that smoking lower-tar or lower-nicotine cigarettes reduces the risks for cardiovascular disease.

Disclaimer: Data and findings provided on this page reflect the content of the 2010 Surgeon General's Report (*How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*). More recent information may exist elsewhere on the Smoking & Tobacco Use Web site (for example, in fact sheets, frequently asked questions, or other materials that are reviewed on a regular basis and updated accordingly).