Smoking and Cardiovascular Disease

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Cardiovascular disease refers to disorders of the heart and circulatory system. The latter includes the arteries that supply blood to all organs of the body and veins which return the de-oxygenated blood to the heart.

What is Coronary Heart Disease (CHD)?
The heart needs a steady supply of blood to function effectively. Coronary heart disease is a general term that describes conditions caused by an interrupted or diminished blood flow through the coronary arteries to the heart muscle. Coronary heart disease usually occurs when fatty materials and a substance called plaque build up in the arteries, which makes them get narrow and allows less blood flow to the heart. This can cause chest pain (known as angina). When the blood supply is totally cut off, a myocardial infarction (heart attack) occurs.

Risk factors for Coronary Heart Disease
Cigarette smoking, raised blood cholesterol and high blood pressure are the most firmly established, non-hereditary risk factors leading to CHD, with cigarette smoking being the "most important of the known modifiable risk factors for CHD", according to the US Surgeon General[1]. Coronary heart disease is the leading cause of death in the United States, with cigarette smokers being 2-4 times more likely to develop coronary heart disease than nonsmokers[2].

The role of smoking in Cardiovascular Disease
Tobacco smoke can quickly affect the heart and blood vessels, causing heart rate to rise almost immediately. The carbon monoxide in tobacco smoke also reduces the blood's ability to carry oxygen.

Smoking tends to increase blood cholesterol levels. The ratio of high-density lipoprotein cholesterol (the "good" cholesterol) to low-density lipoprotein cholesterol (the "bad" cholesterol) tends to be lower in smokers compared to non-smokers.   Smoking also raises the levels of fibrinogen (a protein which causes blood to clot) and increases platelet production (also involved in the formation of blood clots) which makes the blood stickier. Because the blood is stickier, carbon monoxide attaches itself to hemoglobin (the oxygen-carrying pigment in red blood cells) much more easily than oxygen does. This reduces the amount of oxygen available to the tissues. All these factors make smokers more at risk of developing various forms of heart disease.

Aneurysm
An aneurysm is a balloon-like bulge in the wall of an artery which can eventually burst. A study looking at over 5,000 men and women aged 65-79 years found that smoking was the most important avoidable risk factor for abdominal aortic aneurysm[3].

[1] Office on Smoking and Health. The health consequences of smoking: cardiovascular disease. A report of the surgeon general. Rockville, Maryland: Public Health Service, U.S. Department of Health and Human Services, 1983.
[2] Centers for Disease Control and Prevention.
http://www.cdc.gov/tobacco/basic_information/health_effects/heart_disease/index.htm.
[3] Vardulaki, K. A., Walker, N. M., Day, N. E., Duffy, S. W., Ashton, H. A. and Scott, R. A. P. (2000), Quantifying the risks of hypertension, age, sex and smoking in patients with abdominal aortic aneurysm. British Journal of Surgery, 87: 195–200.

Public Health
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Tobacco FACT *Sheet*

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Peripheral vascular disease (PVD)

Peripheral artery disease is a condition of the blood vessels that leads to narrowing and hardening of the arteries that supply the legs and feet. Smoking tightens arteries, decreases the blood's ability to carry oxygen, and increases the risk of forming clots. Smokers have a 16 times greater risk of developing peripheral vascular disease (blocked blood vessels in the legs or feet) than people who have never smoked[4].

Stroke

Smokers are more likely to develop stroke than non-smokers. A stroke is an interruption of the blood supply to any part of the brain. Cigarette smoking approximately doubles a person's risk for stroke[5]. Even secondhand smoke can substantially increase one's chances of having stroke, based on a study of nonsmoking spouses married to a smoker[6].

The benefits of stopping smoking

Your body will begin to heal itself almost immediately after your last cigarette! Within 20 minutes your heart rate and blood pressure drop, within 12 hours the carbon monoxide level in your blood drops, and within just a few weeks your circulation begins to improve and lung function increases. Quitting long term can even bring an ex-smoker's coronary heart disease and stroke risk to the same as a non-smoker[7].

Secondhand Smoke

Exposure to secondhand tobacco smoke can cause heart disease in non-smokers. One recent study indicated that secondhand smoke can increase the risk of coronary heart disease by 50% to 60%[8].

Five tips for quitting

Studies have shown that these five steps will help you quit and quit for good. You have the best chances of quitting if you use these five steps to develop and maintain your own quit plan.

1. Get ready.
2. Get Support
3. Learn new skills and behaviors.
4. Get medication and use it correctly.
5. Be prepared for difficult situations.

Talk to your health care provider, they can help. If you do not have insurance or just need to talk to someone, call the Washington Tobacco Quitline.

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[4] Cole, CW et al Cigarette smoking and peripheral arterial occlusive disease. Surgery 1993; 114: 753-757

[5] Centers for Disease Control and Prevention. http://www.cdc.gov/tobacco/basic_information/health_effects/heart_disease/index.htm

[6] M. Maria Glymour, ScD; Triveni DeFries; Ichiro Kawachi, MD, PhD; and Mauricio Avendano, PhD. Spousal Smoking and Incidence of First Stroke: The Health and Retirement Study. American Journal of Preventive Medicine, Volume 35 Issue 3 (September 2008)

[7] American Cancer Society. http://www.cancer.org/Healthy/StayAwayfromTobacco/GuidetoQuittingSmoking/guide-to-quitting-smoking-benefits

[8] Whincup, P et al. Passive smoking and risk of coronary heart disease and stroke: prospective study with cotinine measurement. BMJ 2004; 329: 200-205

Tobacco Quit Line
1-800-QUIT-NOW
toll-free   1-800-784-8669
QUITLINE.COM

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