



Smoking and Cardiovascular Disease

What Healthcare Professionals Need to Know

Smoking Causes Cardiovascular Disease

Cardiovascular disease (CVD) is the leading cause of death in the United States. Cigarette smoking is a major cause of CVD and is responsible for about 1 in every 4 U.S. deaths from CVD.

Research shows that smoking increases risk of CVD, including:

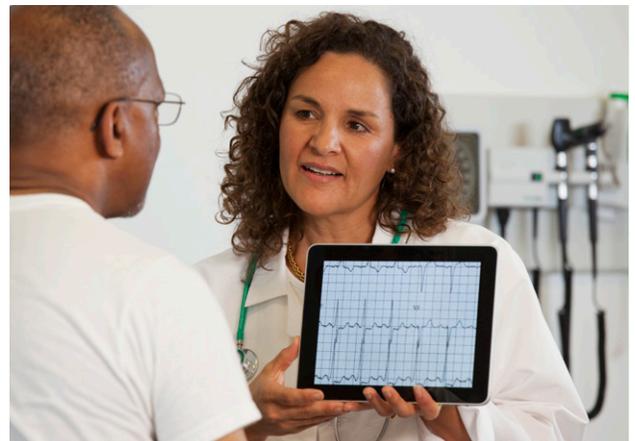
- Atherosclerosis
- Coronary heart disease (CHD), including myocardial infarction and sudden cardiac death
- Stroke
- Peripheral arterial disease
- Abdominal aortic aneurysm

People with CHD who continue to smoke cigarettes after revascularization may have adverse clinical outcomes, including stent thrombosis. Research also shows that exposure to secondhand smoke increases risk of CHD and stroke.

Smoking Cessation Improves Heart Health

Smoking cessation is one of the most important actions people who smoke can take to reduce their risk for CVD. This is true for all people who smoke, regardless of age or smoking duration and intensity. The health benefits also extend to patients already diagnosed with CHD.

Smoking cessation improves cardiovascular health. Healthcare professionals, particularly those in cardiovascular care, should treat patients' tobacco use and dependence.



Benefits of Smoking Cessation

- ▶ Reduces markers of inflammation and hypercoagulability.
- ▶ Leads to rapid improvement in high-density lipoprotein cholesterol (HDL-C) levels.
- ▶ Reduces the development of subclinical atherosclerosis and slows progression as time since cessation lengthens.
- ▶ Reduces the risk of disease and death from CVD.
- ▶ Reduces the risk of coronary heart disease, with risk falling sharply 1 to 2 years after cessation and then declining more slowly over the longer term.
- ▶ Reduces the risk of disease and death from stroke, with risk approaching that of never smokers after cessation.
- ▶ Reduces the risk of abdominal aortic aneurysm, with risk reduction increasing with time since cessation.
- ▶ May reduce the risk of atrial fibrillation, sudden cardiac death, heart failure, venous thromboembolism, and peripheral arterial disease.

Benefits of Smoking Cessation for Patients With Coronary Heart Disease

- ▶ Reduces the risk of all-cause mortality.
- ▶ Reduces the risk of death due to cardiac causes and sudden death.
- ▶ Reduces the risk of new and recurrent cardiac events.

Clinical Interventions Work

Tobacco use and dependence is a chronic, relapsing condition that often requires repeated intervention and long-term support. Quitting can be hard, but evidence-based treatments (listed below) improve success.

- **Behavioral Counseling:** Counseling can be in person (one-on-one or in a group) or over a telephone quitline. Text messaging and web-based interventions also help people quit smoking.
- **Medication:** Seven medications are approved by the U.S. Food and Drug Administration (FDA) for smoking cessation (see text box). All seven are tolerable and effective options for people with stable CVD.
- **Combining Treatments:** Counseling and medication are effective on their own, but using them together can more than double the chances of quitting. Combining long-acting NRT (patch) with short-acting NRT (e.g., gum, lozenge) also increases the chances of quitting.

FDA-Approved Medications

- ▶ **Nicotine Replacement Therapy (NRT)** reduces nicotine withdrawal symptoms and is available over the counter (patch, gum, and lozenge) and by prescription (inhaler and nasal spray).
- ▶ **Varenicline** is a nicotine receptor partial agonist available only by prescription. It reduces nicotine withdrawal symptoms (including craving) and reduces the rewarding effects of cigarettes by blocking nicotinic receptors.
- ▶ **Bupropion** is a dopamine and norepinephrine reuptake inhibitor with nicotine receptor antagonist properties. It reduces craving and other withdrawal symptoms and is available by prescription only.

The Entire Clinical Care Team Can Help

A team approach is the best way to treat tobacco use and dependence. Integrating treatment into the routine clinical workflow and engaging the entire healthcare team in treatment delivery can make a difference.



Advise Patients to Quit

- Talk to patients at every visit about their tobacco use. Even brief advice can influence a patient's decision to quit smoking.
- Advise patients that quitting is one of the most important things they can do to improve their health and prognosis.
- Remind patients that it is never too late to quit smoking. Quitting is beneficial at any age.
- Provide patients support, regardless of their readiness to quit.



Offer Patients Treatment

- Offer patients a combination of counseling and medications.



Refer Patients to Additional Support

- Refer patients to cessation resources and programs in your health system and community. You can also refer them to telephone quitlines (1-800-QUIT-NOW) and web- and text-based programs.



Follow Up With Patients

- Assess your patients' progress over time and provide additional support. It may take several attempts for them to quit smoking.
- Try new strategies, like new medications the patient hasn't tried, medication combinations, or new approaches to handling triggers.
- Provide ongoing support and encourage patients to keep trying and not give up.

Smoking Cessation Resources for Clinicians

- ▶ CDC resources: www.cdc.gov/TobaccoHCP
- ▶ Million Hearts resources: [Tobacco Treatment Protocol](#), [Action Guide](#), and [Change Package](#) available at millionhearts.hhs.gov
- ▶ [Treating Tobacco Use and Dependence, Clinical Practice Guideline: 2008 Update](#) available at www.ahrq.gov
- ▶ U.S. Preventive Services Task Force: [Tobacco Smoking Cessation in Adults, Including Pregnant Women: Behavioral and Pharmacotherapy Interventions](#) available at www.uspreventiveservicestaskforce.org
- ▶ American College of Cardiology resources: [2018 ACC Expert Consensus Decision Pathway on Tobacco Cessation Treatment](#) and [ACC Clinician Tool](#) available at www.acc.org

