Most people know that smoking is bad for your lungs and can cause cancer. However, fewer may be aware of the effects of smoking on the heart and the circulatory system—the arteries and veins that carry the blood throughout the body. The May 7, 2008, issue of JAMA includes an article reporting that quitting greatly reduces the excess death rates due to smoking in women. This Patient Page is based on one published in the July 2, 2003, issue of JAMA.

**SMOKING, BLOOD VESSELS, AND DEATH**

Cigarette smoking is the main preventable cause of premature death in the developed world. It accounts for nearly 440,000 deaths every year in the United States.

When you smoke, toxic chemicals from tobacco enter your bloodstream. Some of these chemicals send signals to your heart to beat harder and faster. Smoking also causes blood vessels to constrict (become more narrow), forcing blood to travel through a smaller space. Both of these effects cause high blood pressure. Smoking also lowers high-density lipoprotein (good cholesterol) in your body and increases the likelihood of plaques (fatty buildups) collecting on the inside of blood vessels, a condition called atherosclerosis (hardening of the arteries). Smoking also increases the risk of thrombosis (blood clots blocking a blood vessel). Over time, these effects increase the risk of having a myocardial infarction (heart attack).

Smoking can also increase the risk of having a stroke (sudden blockage of blood circulation in the brain). A stroke is usually caused by a blood clot getting lodged in the blood vessels supplying the brain with blood and oxygen. When this happens, brain cells begin to die. This can cause permanent brain damage or even death. Women who smoke and use oral contraceptives (birth control pills) are at a much higher risk of developing heart disease or having a stroke than women taking oral contraceptives who do not smoke.

**BENEFITS OF QUITTING SMOKING**

- Reduces risk of heart disease by almost half and reduces chances of having heart-related problems if you already have heart disease
- Reduces risk of having a blood clot
- Reduces chances of developing several different kinds of cancer
- Reduces risk of developing emphysema, a serious lung disease that impairs breathing
- Improves stamina for exercising and participating in sports
- Improves senses of taste and smell

Quitting smoking can be a difficult process but is well worth the effort. A number of prescription and nonprescription aids are available to help you quit. If you are still smoking, talk with your doctor about it!

Sources: American Heart Association, American Lung Association; National Heart, Lung, and Blood Institute; National Cancer Institute
“Thank you for not smoking”

When you smoke, everyone near you smokes

t is now clear that tobacco is linked with many health problems in addition to lung disease and cancer. As our knowledge about the health consequences of smoking grows, these health concerns have also been extended to the innocent bystanders (those who regularly encounter secondhand smoke).

In 1964, the U.S. Surgeon General’s office issued its first report on the health risks associated with smoking. Less than 10 years later, in 1972, the same office put out its first report on secondhand smoking as a health risk. Secondhand smoke has since been associated with many of the same health problems as smoking: respiratory problems, lung cancer, and cardiovascular and heart disease.

Secondhand smoke, also known as passive smoking or environmental tobacco smoke (ETS), is the smoke from the burning tobacco and the smoke exhaled by the smoker. Harmful chemicals, including toxins and carcinogens (cancer-causing substances) are released in the air from the burning end of a lit cigarette. These airborne chemicals, mixed with the smoke exhaled by the smoker, create a toxic environment for anyone in close proximity to the smoker. Secondhand smoke has been classified by the EPA as a Group A carcinogen. Group A is a rating used only for substances proven to cause cancer in humans.

The December 9, 1998, issue of JAMA reports on the observable health benefits to bartenders from a new California law that prohibits smoking in bars. The law provided a smoke-free environment for a profession traditionally exposed to large amounts of secondhand smoke. The researchers found that the bartenders in the study were reporting improved respiratory health and had improved lung function only 2 months after the new program took effect.

DANGERS OF SECONDHAND SMOKE:

• Smoke from a burning cigarette contains many carcinogens, chemicals, and toxins, including tar, carbon monoxide, hydrogen cyanide, phenols, ammonia, formaldehyde, benzene, nitrosamines, and nicotine.
• Smoke from a burning cigarette is unfiltered and contains twice as much tar and nicotine as the smoke a smoker inhales through a filter.
• A U.S. Environmental Protection Agency (EPA) study concluded that each year approximately 3,000 nonsmokers’ deaths from lung cancer are due to secondhand smoke.
• Studies have shown that mothers who smoke are at a higher risk of having a baby with low birth weight.
• There is an association with higher incidence of sudden infant death syndrome (SIDS) and mothers who smoke.
• Children with asthma who are exposed to secondhand smoke on average have more intense and more frequent episodes of asthma.
• Children exposed to secondhand smoke also appear to be at higher risk for respiratory problems such as asthma, bronchitis, colds, middle-ear disorders, pneumonia, and reduced lung function.
• Secondhand smoke has been estimated to cause up to 300,000 children in the United States to suffer from lower respiratory tract infections.
• Do not allow others to smoke in your home and, if possible, at your workplace.
• Do not allow smoking near children or persons with asthma.
• Do not allow smoking in closed compartments such as a car. (This greatly increases the concentration of dangerous chemicals and toxins from secondhand smoke.)
• Minimize time spent in smoky environments, such as bars and the homes of people who smoke.

FOR MORE INFORMATION:

• Centers for Disease Control and Prevention
Office on Smoking and Health
4770 Buford Highway, NE, Mail Stop K-50
Atlanta, GA  30341-3724
800/CDC-1311
or www.cdc.gov/tobacco

• National Cancer Institute
Building 31, Room 10A24
Bethesda, MD  20892
800/4-CANCER
or www.nci.nih.gov

INFORM YOURSELF:

To find this and previous JAMA Patient Pages, check out the AMA’s Web site at www.ama-assn.org/consumer.htm.