Women and Smoking

An epidemic of smoking-related cancer and disease in women

In March 2001, the Office of the US Surgeon General released a long-awaited, detailed report called *Women and Smoking*, along with this statement:

> *When calling attention to public health problems, we must not misuse the word "epidemic." But there is no better word to describe the 600-percent increase since 1950 in women's death rates for lung cancer, a disease primarily caused by cigarette smoking. Clearly, smoking-related disease among women is a full-blown epidemic.*
>
> – David Satcher, MD, PhD

Smoking is the most preventable cause of early death in this country. According to the Centers for Disease Control and Prevention (CDC), smoking-related diseases cause the deaths of more than 200,000 women in the United States each year. On average, women who smoke die 14.5 years sooner than non-smokers.

The most recent CDC survey (from 2012) showed that nearly 1 in 6 American women aged 18 years or older (15.8%) smoked cigarettes. The highest rates were seen among multi-racial women (24%), American Indian/Alaska Native women (18.7%), then white (18.4%), African-American (14.8%), Hispanic (7.8%), and Asian women (5.5%).

In general, the less education a woman has, the more likely it is she will smoke. For instance, women who are high school graduates are more than twice as likely to smoke as college graduates. Women with GED's are more than three times as likely to smoke as women who graduated from college.

Overall, women are less likely to smoke than men. But smoking is more popular among younger than older women. Nearly 18% of women ages 25 to 44 smoke cigarettes. Cigarette smoking rates are somewhat lower among women aged 18 to 24, about 14.5%, but these numbers do not include women in these age groups who smoke other forms of tobacco, such as little cigars, hookahs, and electronic cigarettes. If these younger women continue to smoke as they get older, they will have smoking-related illnesses and disabilities. About 7.5% of women age 65 and over smoke.

Women who smoke often started as teenagers − in most cases before age 18. And the younger a girl is when she starts, the more heavily she is likely to use tobacco as an adult. The most recently published CDC survey, reporting by school grade, showed that 35% of 9th grade girls had smoked

at least one cigarette. By 12th grade, it was nearly 54%. As early as middle school, about 3% of girls reported smoking at least one cigarette in the past month.

It's not just cigarettes, either. In a 2013 drug use survey, 21% of 12th grade girls reported using a hookah in the past year. Asked about just the past month, more than 8% of high school girls (not just seniors) reported using small cigars, while 5% said they'd used a hookah. A newer trend is e-cigarettes − 10% of high school students have tried them at least once, and 2% of girls reported using e-cigarettes in the past month.

For more on kids and how they're using tobacco, see our document called *Child and Teen Tobacco Use*.

How can smoking affect your health?

Smoking shortens lives

A large 2013 study of women in the United Kingdom found that 2 out of 3 deaths in smokers who were in their 50s, 60s, and 70s were caused by smoking. The researchers observed that continuing smokers lose at least 10 years of their lifespans, but added that smokers who quit before age 40 were able to avoid 90% of the early deaths caused by continued smoking. If the women quit before age 30, they were able to avoid more than 97% of these early deaths.

Cancers

Tobacco use accounts for nearly 1 in 3 cancer deaths. Women who smoke are about 26 times more likely than non-smokers to develop lung cancer. Tens of thousands of women will die this year from lung cancer, which has shot past breast cancer as the leading cause of cancer death in women. About 70% of lung cancer deaths in women will be caused by smoking.

Not only does smoking increase the risk for lung cancer, it's also a risk factor for cancers of the:

- Mouth
- Larynx (voice box)
- Pharynx (throat)
- Nose and sinuses
- Lips
- Esophagus (swallowing tube)
- Kidney
- Cervix
- Liver
- Bladder
- Pancreas

- Stomach
- Ovary (mucinous)
- Colon/rectum

Smoking is also linked to acute myeloid leukemia.

Smoking raises the risk of heart disease and stroke

Women who smoke greatly increase their risk of heart disease (the leading killer among women) and stroke. The risk goes up with the number of cigarettes smoked and the length of time a woman has been smoking, but even people who smoke less than 5 cigarettes a day can have heart and blood vessel disease. Even though most of the women who die of heart disease are past menopause, smoking increases the risk more in younger women than in older women. Studies suggest that smoking cigarettes increases the risk of heart disease even more among younger women who are also taking birth control pills.

Smoking damages your lungs

Smoking damages the airways and small air sacs in the lungs. This can cause chronic coughing, wheezing, trouble breathing, and long-term (chronic) lung disease. More than 90% of deaths due to chronic bronchitis and emphysema – together these are known as *chronic obstructive pulmonary disease (COPD)* – are caused by smoking. Today, more women than men die from COPD, and evidence suggests that women are more likely to get severe COPD at younger ages than men.

The risk of COPD goes up with the number of cigarettes smoked each day and with the length of time a woman has been smoking. Female smokers aged 35 or older are almost 13 times more likely to die from emphysema or bronchitis than those who have never smoked.

The lungs grow more slowly in teenage girls who smoke. And adult women who smoke start losing lung function in early adulthood.

Smoking causes other health problems

Smoking can cause or worsen poor blood flow to the arms and legs (a condition known as *peripheral vascular disease* or *PVD*). This can limit everyday activities such as walking, and may lead to open sores that don’t heal. Even worse, surgery to improve the blood flow often fails in people who keep smoking. This is why many doctors who operate on blood vessels (vascular surgeons) won’t do certain surgeries on patients with PVD unless they stop smoking. Stopping smoking lowers a woman’s risk of PVD. And in people who already have PVD, quitting smoking improves the odds that PVD treatments will work.

Women who smoke, especially after going through menopause, have lower bone density (thinner bones). This means they have a higher risk for broken bones, including hip fracture, than women who do not smoke. They may also be at higher risk for getting rheumatoid arthritis and cataracts (clouding of the lenses of the eyes), as well as age-related macular degeneration, which can cause blindness.

Smoking affects your reproductive health

Tobacco use can damage a woman's reproductive health. Women who smoke are more likely to have trouble getting pregnant. Smokers tend to be younger at the start of menopause than non-smokers and may have more unpleasant symptoms while going through menopause.

Smoking can also cause problems during pregnancy that can hurt both mother and baby. Smokers have a higher risk of the placenta (the organ that protects and nourishes the growing fetus) growing too close to the opening of the uterus. They're also more likely to have an ectopic pregnancy (where the embryo implants outside the uterus), which can threaten the mother's life. Smokers are also more likely to have early membrane ruptures and placentas that separate from the uterus too early. Serious bleeding, early delivery (premature birth), and emergency Caesarean section (C-section) may result from these problems. Smokers are more likely to have miscarriages, stillbirths, babies with cleft lip or palate, and low birth-weight babies, too.

How can smoking affect your baby's health?

Up to 5% of infant deaths could be prevented if pregnant women did not smoke.

More than 10% of women smoke throughout their pregnancies − some studies put the number at 15% or higher, and it varies by age. Pregnant women aged 18 to 25 smoke at higher rates, with more than 20% smoking in the past month, compared to nearly 13% of women 26 or older.

Smoking is linked to an increased risk of early delivery and infant death. Babies born to smokers have a slightly higher risk of heart defects, cleft lip or palate, and possibly other birth defects compared to babies born to non-smokers. Research also suggests that babies of mothers who smoke during and after pregnancy are 3 to 4 times more likely to die from sudden infant death syndrome (SIDS) than babies born to non-smoking mothers. The risk of SIDS is somewhat less for infants whose mothers stop smoking during pregnancy, even if they start smoking again after delivery. Infants of non-smoking mothers have the lowest risk of SIDS.

Of the women who are able to stop smoking during pregnancy, half are smoking again 6 months after the delivery.

Smoking during pregnancy causes low birth-weight in at least 1 in 5 infants. This is because smoking during pregnancy slows fetal growth, often causing babies to have health problems as a result of being born underweight. Women who quit during the first 3 to 4 months of pregnancy are less likely to have low birth-weight babies than those who keep smoking. Women who stop smoking before they get pregnant reduce their risk of having a low birth weight baby to that of women who never smoked.

Many women are able to quit smoking during early pregnancy. But those who have mood disorders, such as depression, often find it much harder to quit. Researchers have learned that between one-third and one-half of women who smoke during pregnancy have a mood disorder. It can be harder for pregnant women to get treatment for depression, anxiety, or nicotine withdrawal with medicines because of concerns about the drugs hurting the fetus. Still, counseling or mental health therapy may help some of these women. If the woman is unable to quit smoking with therapy, she might want to talk with her doctor about other things she can try.

After a baby is born, nicotine and other substances in tobacco smoke can also be passed on through breast milk. This can affect a baby right away. For instance, infants who were breastfed by mothers

who smoked slept for a full half-hour less than when the mothers didn't smoke (this was measured over 3½ hours right after breastfeeding). It's best not to smoke while breastfeeding. But even when the mother smokes, breastfeeding is still thought to be healthier for the baby than bottle feeding. And women who can't quit right away can do other things to reduce the baby's exposure:

- Make the entire home smoke-free
- Smoke right after breast-feeding rather than before
- Cut back on smoking as much as possible

If you managed to quit smoking while you were pregnant, don't pick up the habit again after your baby is born. When you find yourself tempted to start back, get help right away. And keep in mind that parents who smoke are more likely to have children who smoke. So if you stay tobacco-free your child stands a better chance of never starting.

How can secondhand smoke affect your children's health?

It's estimated that about 1 out of every 4 children ages 3 to 11 in the United States lives with at least one smoker. Studies show that older children whose parents smoke get sick more often. They have bronchitis and pneumonia more often, and they cough and wheeze more. Secondhand smoke can also trigger asthma attacks, make asthma symptoms worse, and even cause new cases of asthma in kids who had not shown symptoms before. More than 40% of children who go to the emergency room for asthma live with smokers. A severe asthma attack can be deadly.

Children who live with parents who smoke also get more ear infections. This often causes fluid to build up in their ears and they may need surgery to have ear tubes placed for drainage.

Some of these problems might seem small, but they add up quickly: think of the expenses, doctor visits, medicines, lost school time, and often lost work time for the parent who must stay home with a sick child. And this doesn't include the discomforts that the child goes through.

The Surgeon General's report: Secondhand smoke kills people who don't smoke, and makes others sick

Secondhand smoke, also known as environmental tobacco smoke (ETS), has also been shown to increase the risk of lung cancer. The 2006 Surgeon General's report on secondhand smoke stated that:

- Many millions of Americans, both children and adults, are exposed to secondhand smoke in their homes and workplaces, even though a great deal of progress has been made in tobacco control.
- Secondhand smoke causes premature death and disease in children and adults who do not smoke.
- Children exposed to secondhand smoke are at an increased risk for sudden infant death syndrome (SIDS), respiratory infections, ear problems, and more severe asthma.
- When parents smoke, it causes breathing (respiratory) symptoms and slows lung growth in their children.

- Secondhand smoke harms the heart, blood vessels, and blood circulation right away. Over time it can cause heart disease, strokes, and heart attacks.
- The scientific evidence shows there's no safe level of exposure to secondhand smoke. Any exposure is harmful.
- The only way to fully protect non-smokers from exposure to secondhand smoke indoors is to prevent all smoking in that indoor space or building. Separating smokers from non-smokers, cleaning the air, and ventilating buildings cannot keep non-smokers from being exposed to secondhand smoke.

Kicking the smoking habit

In a 2010 health survey, more than 70% of women said they wanted to quit smoking. More than half reported that they tried to quit in the past year. The chance of quitting and staying quit is about the same for both men and women, but there may be some ways women are different (see the section below, "Differences between women and men").

Quitting can help reduce the risk of many of the health problems linked to smoking. The risk of heart disease is greatly reduced just 1 to 2 years after quitting. The risk of stroke can drop to that of a non-smoker within 2 to 5 years after quitting.

Many women are afraid to quit for fear of gaining weight. Some women who quit smoking do add a few pounds, mostly in the first year. It varies, but women gain an average of around 10 pounds after quitting. This amount of weight gain can usually be controlled through diet and exercise. And the health benefits of quitting are much greater than any problems posed by a small weight gain.

Differences between women and men

Some studies have shown there may be differences in men and women who are trying to quit smoking. A few studies, for instance, found that nicotine replacement therapies seemed to help men more than women. Studies of other medicines, such as bupropion (Zyban®) and varenicline (Chantix®) have not found such a difference – men and women had the same success rates. Some of these studies used counseling or group support, which seemed to help both men and women quit and stay quit.

There's also a question about how monthly hormone changes can affect pre-menopausal women as they're quitting smoking. Study results have been mixed about whether it works better for women to try to quit during the first or last parts of their menstrual cycles. Most of the studies seem to support the idea that women may have stronger urges to smoke just before their menstrual period is due to start. This is about the same time women may have pre-menstrual symptoms. Because of this, some experts recommend that women quit smoking after the pre-menstrual symptoms have passed.

Get help to quit

You don't have to do it alone. In fact, quitting tools such as phone-based quitting programs, support groups, and medicines can improve your chances of quitting and staying quit. For more information, see our document called *Guide to Quitting Smoking*, as well as our other information

listed below. You can also call us at 1-800-227-2345 or visit www.cancer.org to learn more about taking this important step towards better health.

To learn more

More information from your American Cancer Society

Here is more information you might find helpful. You also can order free copies of our documents from our toll-free number, 1-800-227-2345, or read them on our website, www.cancer.org.

If you or someone you care about is trying to quit

Guide to Quitting Smoking (also in Spanish)

Increase Your Chances of Quitting Smoking

Quitting Smoking: Help for Cravings and Tough Situations (also in Spanish)

Living Smoke-free for You and Your Baby (also in Spanish)

Set Yourself Free: Deciding How to Quit – A Smoker's Guide (also in Spanish)

Helping a Smoker Quit: Do's and Don'ts

More on smoking and health

Questions About Smoking, Tobacco, and Health (also in Spanish)

Secondhand Smoke (also in Spanish)

Child and Teen Tobacco Use

Cigarette Smoking (also in Spanish)

National organizations and websites*

Along with the American Cancer Society, other sources of information and support for quitting smoking include:

Women.smokefree.gov
Website: http://women.smokefree.gov

> An online resource that offers free, accurate, evidence-based information and professional help to support women trying to quit smoking. Discusses how smoking relates to pregnancy, relationships, stress, and other issues that may be harder for women

National Cancer Institute
Free tobacco line: 1-877-448-7848 (1-877-44U-QUIT) (also in Spanish)
Direct tobacco website: www.smokefree.gov

> Quitting information, quit-smoking guide, and counseling are offered, as well as referral to state telephone-based quit programs (if needed for special services)

Nicotine Anonymous (NicA)
Toll-free number: 1-877-879-6422 (1-877-TRY-NICA)
Website: www.nicotine-anonymous.org

Offers information and free support groups that use a 12-step program to quit and stay quit.

Centers for Disease Control and Prevention
Office on Smoking and Health
Free quit support line: 1-800-784-8669 (1-800-QUIT-NOW)
TTY: 1-800-332-8615
Website: www.cdc.gov/tobacco

The quit support line offers information on smoking and health as well as help with quitting. Languages and range of services vary by your state of residence

Environmental Protection Agency (EPA)
Telephone: 202-272-0167
Website: www.epa.gov/smokefree

Has advice on how to protect children from secondhand smoke, a Smoke-free Homes Pledge, and other tobacco-related materials on the website.

US Department of Health and Human Services Office on Women's Health
National Women's Health Information Center
Toll-free number: 1-800-994-9662
TTY: 1-888-220-5446
Website: www.womenshealth.gov

Has information on many different women's health issues and can connect women to other information resources

American Heart Association
Toll-free number: 1-800-242-8721 (1-800-AHA-USA-1)
Website: www.americanheart.org

Quitting tips and advice can be found at www.everydaychoices.org or by calling 1-866-399-6789

**Inclusion on this list does not imply endorsement by the American Cancer Society.*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at **1-800-227-2345** or visit www.cancer.org.

References

Allen SS, Bade T, Center B, et al. Menstrual phase effects on smoking relapse. *Addiction*. 2008;103:809-821.

American Heart Association. Smoking & Cardiovascular Disease (Heart Disease). Accessed at www.heart.org/HEARTORG/GettingHealthy/QuitSmoking/QuittingResources/Smoking-Cardiovascular-Disease_UCM_305187_Article.jsp on February 7, 2014.

American Cancer Society. *Cancer Facts & Figures 2014*. Atlanta, Ga: American Cancer Society, 2014.

Bohadana A, Nilsson F, Rasmussen T, Martinet Y. Gender differences in quit rates following smoking cessation with combination nicotine therapy: influence of baseline smoking behavior. *Nicotine Tob Res*. 2003;5:111-116.

Carpenter MJ, Saladin ME, Leinbach AS, et al. Menstrual phase effects on smoking cessation: a pilot feasibility study. *J Womens Health*. 2008;17:293-301.

Centers for Disease Control and Prevention (CDC). Annual smoking-attributable mortality, years of potential life lost, and economic costs --- United States, 1995-1999. *MMWR*. 2002;51:300-303. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/mm5114a2.htm on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Current cigarette smoking among adults – United States, 2011. *MMWR*. 2012;61(44):889-894.

Centers for Disease Control and Prevention (CDC). Current Tobacco Use Among Middle and High School Students – United States, 2011. *MMWR*. 2012;61(31):581-585. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/mm6131a1.htm?s_cid=mm6131a1_w#tab on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Health Effects of Cigarette Smoking Fact Sheet. Accessed at www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Quitting Smoking Among Adults --- United States, 2001--2010. *MMWR*. 2011;60:1513-1519. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/mm6044a2.htm?s_cid=mm6044a2_w on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Smoking-attributable mortality, years of potential life lost, and productivity losses, United States, 2000--2004. *MMWR*. 2008;57:1226-1228. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a3.htm on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Tobacco Product Use Among Middle and High School Students – United States, 2011 and 2012. *MMWR*. 2013;62(45); 893-897. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/mm6245a2.htm?s_cid=mm6245a2_e on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Tobacco-Related Mortality. Accessed at www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/ on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Trends in Smoking Before, During, and After Pregnancy --- Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 31 Sites, 2000--2005. *MMWR*. 2009;58(S S04):1-29. Accessed at www.cdc.gov/mmwr/preview/mmwrhtml/ss5804a1.htm on February 7, 2014.

Centers for Disease Control and Prevention (CDC). Youth Risk Behavior Surveillance --- United States, 2011. *MMWR*. 2012;61(4):1-162. Accessed at www.cdc.gov/mmwr/pdf/ss/ss6104.pdf on February 7, 2014.

Chakravarthy U, Augood C, Bentham GC, et al. Cigarette smoking and age-related macular degeneration in the EUREYE Study. *Ophthalmology*. 2007;114:1157-1163.

Gonzales D, Bjornson W, Durcan MJ, et al. Effects of gender on relapse prevention in smokers treated with bupropion SR. *Am J Prev Med.* 2002;22:234-239.

Gonzales D, Rennard SI, Nides M, et al, for the Varenicline Phase 3 Study Group. Varenicline, an alpha4beta2 nicotinic acetylcholine receptor partial agonist, vs sustained-release bupropion and placebo for smoking cessation: a randomized controlled trial. *JAMA*. 2006;296:47-55.

Goodwin RD, Keyes K, Simuro N. Mental disorders and nicotine dependence among pregnant women in the United States. *Obstetrics & Gynecology*. 2007;109:875-883.

Environmental Protection Agency. *Health Effects of Exposure to Secondhand Smoke.* Accessed at www.epa.gov/smokefree/healtheffects.html#Health%20Risks%20to%20Children%20with%20Asthma on September 28, 2012.

Hackshaw A, Rodeck C, Boniface S. Maternal smoking in pregnancy and birth defects: a systematic review based on 173 687 malformed cases and 11.7 million controls. *Hum Reprod Update*. 2011;17(5):589-604.

Johnston LD, O'Malley PM, Miech RA, et al. 2013 Overview: Key Findings on Adolescent Drug Use, p 43. Accessed at www.monitoringthefuture.org//pubs/monographs/mtf-overview2013.pdf on February 7, 2014.

Mennella JA, Yourshaw LM, Morgan LK. Breastfeeding and smoking: short-term effects on infant feeding and sleep. *Pediatrics*. 2007;120:497-502.

O'Hara P, Connett JE, Lee WW, et al. Early and late weight gain following smoking cessation in the Lung Health Study. *Am J Epidemiol*. 1998;148:821-830.

Pirie K, Peto R, Reeves GK, et al, for the Million Women Study Collaborators. The 21st century hazards of smoking and benefits of stopping: a prospective study of one million women in the UK. *Lancet.* 2013;381(9861):133-141.

Salihu HM, Aliyu MH, Pierre-Louis BJ, Alexander GR. Levels of excess infant deaths attributable to maternal smoking during pregnancy in the United States. *Matern Child Health J*. 2003;7:219-227.

US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. *Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings.* Accessed at www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/NationalFindings/NSDUHresults2012.htm#ch4.3 on February 7, 2014.

US Department of Health and Human Services. *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General.* 2010. Accessed at www.surgeongeneral.gov/library/tobaccosmoke/report/full_report.pdf on February 6, 2014.

US Department of Health & Human Services. *The Health Benefits of Smoking Cessation: A Report of the Surgeon General.* 1990. Accessed at http://profiles.nlm.nih.gov/NN/B/B/C/T/ on February 6, 2014.

US Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General.* 2006. Accessed at www.surgeongeneral.gov/library/secondhandsmoke/report/ on February 7, 2014.

US Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General*. 2004. Accessed at www.surgeongeneral.gov/library/smokingconsequences/ on February 6, 2014.

US Department of Health & Human Services. *The Health Consequences of Smoking---50 Years of Progress: A Report of the Surgeon General.* 2014. Accessed at www.surgeongeneral.gov/library/reports/50-years-of-progress/ on January 27, 2014.

US Department of Health and Human Services. *Women and Smoking: A Report of the Surgeon General.* 2001. Accessed at www.surgeongeneral.gov/library/womenandtobacco/index.html on February 7, 2014.

Last Medical Review: 2/7/2014
Last Revised: 2/7/2014

2014 Copyright American Cancer Society

For additional assistance please contact your American Cancer Society
1-800-227-2345 or www.cancer.org