



PROFESSIONALS & RESEARCHERS

Quick Reference: Fact Sheets



Smoking During Pregnancy

Smoking is a major public health problem. All smokers face an increased risk of lung cancer, other lung diseases, and cardiovascular and other disorders. Smoking during pregnancy can harm the health of both a woman and her unborn baby. Currently, at least 10 percent of women in the United States smoke during pregnancy (1).

In the United States and in other industrialized countries, 18 percent of women smoke (2). This proportion is somewhat smaller in developing countries where only 8 percent of women smoke (3). Statistics from the United States are compelling. According to the U.S. Public Health Service (4), if all pregnant women in this country stopped smoking, there would be an estimated:

- 11 percent reduction in [stillbirths](#)
- 5 percent reduction in newborn deaths

Cigarette smoke contains more than 2,500 chemicals. It is not known for certain which of these chemicals are harmful to the developing baby, but both nicotine and carbon monoxide play a role in causing adverse pregnancy outcomes.

How can smoking harm the newborn?

Smoking nearly doubles a woman's risk of having a [low-birthweight](#) baby. In 2004, 11.9 percent of babies born to smokers in the United States were of low birthweight (less than 5½ pounds), compared to 7.2 percent of babies of nonsmokers (1). Low birthweight can result from poor growth before birth, preterm delivery or a combination of both. Smoking has long been known to slow fetal growth. Smoking also increases the risk of [preterm delivery](#) (before 37 weeks of gestation) (5). Premature and low-birthweight babies face an increased risk of serious health problems during the newborn period, chronic lifelong disabilities (such as [cerebral palsy](#), mental retardation and learning problems), and even death.

The more a pregnant woman smokes, the greater her risk of having a low-birthweight baby. However, if a woman stops smoking even by the end of her second trimester of pregnancy, she is no more likely to have a low-birthweight baby than a woman who never smoked (6).

A recent study suggests that women who smoke anytime during the month before pregnancy to the end of the first trimester are more likely to have a baby with birth defects, particularly [congenital heart defects](#) (7). The risk of heart defects appears to increase with the number of

cigarettes a woman smokes.

Can smoking cause pregnancy complications?

Smoking is associated with a number of pregnancy complications. Smoking cigarettes doubles a woman's risk of developing [placental problems](#) (4). These include:

- Placenta previa (a low-lying placenta that covers part or all of the opening of the uterus)
- Placental abruption (in which the placenta peels away, partially or almost completely, from the uterine wall before delivery)

Both can result in heavy bleeding during delivery that can endanger mother and baby, although cesarean delivery can prevent most deaths.

Smoking in pregnancy increases a woman's risk of premature rupture of the membranes (PROM), when the sac that holds the baby inside the uterus breaks before completion of 37 weeks of pregnancy (4). (Usually, when it breaks, normal labor ensues within a few hours.) If the rupture occurs before 37 weeks of pregnancy, it often results in the birth of a premature baby.

Does smoking affect fertility?

Cigarette smoking can cause reproductive problems before a woman even becomes pregnant. Studies show that women who smoke may have more trouble conceiving than nonsmokers (4). Studies suggest that fertility returns to normal after a woman stops smoking.

Does smoking during pregnancy cause other problems in babies or young children?

A 2003 study suggests that babies of mothers who smoke during pregnancy undergo withdrawal-like symptoms similar to those seen in babies of mothers who use some illicit drugs (8). For example, babies of smokers appear to be more jittery and difficult to soothe than babies of nonsmokers.

Babies whose mothers smoked during pregnancy are up to three times as likely to die from sudden infant death syndrome (SIDS) as babies of nonsmokers (5).

Can exposure to secondhand smoke during pregnancy harm the baby?

Studies suggest that babies of women who are regularly exposed to secondhand smoke during pregnancy may have reduced growth and may be more likely to be born with low birthweight (5). Pregnant women should avoid exposure to other people's smoke.

How can a woman stop smoking?

The March of Dimes recommends that women stop smoking before they become pregnant and do not smoke throughout pregnancy and after the baby is born. A woman's health care provider can refer her to a smoking-cessation program or suggest other ways to help her quit. The March of Dimes supports a 5- to 15-minute, 5-step counseling approach called "The 5 A's," which is performed by the health care provider during routine prenatal visits. This approach has been shown to improve smoking cessation rates among pregnant women by at least 30 percent (9).

Studies suggest that certain factors make it more likely that a woman will be successful in her efforts to quit smoking during pregnancy. These include:

- Attempting to quit in the past
- Having a partner who doesn't smoke
- Getting support from family or other important people in her life
- Understanding the harmful effects of smoking

How does exposure to smoke after birth affect a baby?

It is important to stay smoke-free after the baby is born. Parents should refrain from smoking in the home and should ask visitors to do the same. Babies who are exposed to smoke suffer from more lower-respiratory illnesses (such as bronchitis and pneumonia) and ear infections than do other babies. Babies who are exposed to their parents' smoke after birth also may face an increased risk of asthma and SIDS.

Smoking harms a mother's health, too. Smokers have an increased risk of lung and other cancers, heart disease, stroke and emphysema (a potentially disabling and, sometimes, deadly lung condition). Quitting smoking makes parents healthier and better role models for their children.

Does the March of Dimes fund research on the risks of smoking during pregnancy?

The March of Dimes has long supported research on the risks of smoking during pregnancy. In the 1970s, March of Dimes-supported research suggested that nicotine and carbon monoxide reduce the supply of oxygen to the baby, perhaps explaining how these chemicals in cigarette smoke reduce fetal growth.

In 2002, a March of Dimes grantee published a study that may shed light on why some women who smoke cigarettes during pregnancy have low-birthweight babies and others do not (10). The researcher reported that pregnant women who smoke are more likely to have a premature or low-birthweight baby if they have either of two common genetic traits (which influence the body's ability to dispose of certain chemicals). These findings could lead to better ways to identify and treat women at high risk of having a low-birthweight baby.

A current March of Dimes grantee is investigating whether smoking at a critical stage of embryonic palate development increases the risk of [cleft lip/palate](#).

What resources are available for pregnant women?

- [National Partnership for Smoke-Free Families](#)
- [American Legacy Foundation](#)
- www.smokefree.gov/
- 1800quitnow.cancer.gov/
- A toll-free quit line (800)-QUITNOW (784-8669)

What resources are available for health care providers?

- The [American College of Obstetricians and Gynecologists](#) provides information for health care providers to assist them as they help patients stop smoking.
- [Smoking Cessation for Pregnancy and Beyond](#) is a free CME course for health care providers available from Dartmouth Medical School.

References

1. *Martin, J.A., et al. Births: Final Data for 2004. National Vital Statistics Reports, volume 55, number 1, September 29, 2006.*
2. *Centers for Disease Control and Prevention (CDC). Smoking and Tobacco Fact Sheet: Women and Smoking. February 28, 2007.*
3. *World Health Organization (WHO). Women and the Tobacco Epidemic: Challenges for the 21st Century. 2001.*

4. *U.S. Department of Health and Human Services. The Health Consequences of Smoking: A Report of the Surgeon General, 2004. Centers for Disease Control and Prevention, Office on Smoking and Health, Atlanta Georgia, May 2004.*
5. *Centers for Disease Control and Prevention (CDC). What Do We Know About Tobacco Use and Pregnancy. June 11, 2007.*
6. *American College of Obstetricians and Gynecologists (ACOG). Smoking Cessation during Pregnancy. ACOG Committee Opinion, number 316, October 2005.*
7. *Malik, S., et al. Maternal Smoking and Congenital Heart Defects. Pediatrics, volume 121, number 4, April 2008, pages e810-e816.*
8. *Law, K.L., et al. Smoking During Pregnancy and Newborn Neurobehavior. Pediatrics, volume 111, number 6, June 2003, pages 1318-1323.*
9. *Centers for Disease Control and Prevention (CDC). Preventing Smoking During Pregnancy. November 2005.*
10. *Wang, X., et al. Maternal Cigarette Smoking, Metabolic Gene Polymorphism, and Infant Birth Weight. Journal of the American Medical Association, volume 287, number 2, January 9, 2002, pages 195-202.*

April 2008

© 2008 March of Dimes Foundation. All rights reserved. The March of Dimes is a not-for-profit organization recognized as tax-exempt under Internal Revenue Code section 501(c)(3). Our mission is to improve the health of babies by preventing birth defects, premature birth, and infant mortality.