

“Light” Cigarettes and Cancer Risk**Key Points**

- On June 22, 2010, a law that bans tobacco manufacturers from using the terms “light,” “low,” or “mild” in tobacco product labeling went into effect. However, some manufacturers are using color-coded packaging (such as gold or silver packaging) on previously marketed products and selling them to consumers who may continue to believe that these cigarettes are not as harmful as other cigarettes (see Question 1).
- When tar is measured with a smoking machine, the smoke from a so-called light cigarette has a lower yield of tar than smoke from a regular cigarette. However, people don’t smoke cigarettes like a machine, so they may still get a high yield of tar with a light cigarette (see Questions 1, 2, 4, and 5).
- Light cigarettes are no safer than regular cigarettes. The only way to reduce the risk of smoking-related diseases is to stop smoking completely (see Questions 1–3).

1. What is a so-called light cigarette?

Tobacco manufacturers have been redesigning cigarettes since the 1950s. Certain redesigned cigarettes with the following features were marketed as “light” cigarettes:

- Cellulose acetate filters (to trap tar).
- Highly porous cigarette paper (to allow toxic chemicals to escape).
- Ventilation holes in the filter tip (to dilute smoke with air).
- Different blends of tobacco.

When analyzed by a smoking machine, the smoke from a so-called light cigarette has a lower yield of tar than the smoke from a regular cigarette. However, a machine cannot predict how much tar a smoker inhales. Also, studies have shown that changes in cigarette design have not lowered the risk of disease caused by cigarettes (1).

On June 22, 2009, President Barack Obama signed into law the Family Smoking Prevention and Tobacco Control Act, which granted the U.S. Food and Drug Administration the authority to regulate tobacco products. One provision of the new law bans tobacco manufacturers from using the terms “light,” “low,” and “mild” in product labeling and advertisements. This provision went into effect on June 22, 2010. However, some tobacco manufacturers are using color-coded packaging (such as gold or silver packaging) on previously marketed products and selling them to consumers who may continue to believe that these cigarettes are not as harmful as other cigarettes (2–4).

2. Are light cigarettes less hazardous than regular cigarettes?

No. Many smokers chose so-called low-tar, mild, light, or ultralight cigarettes because they thought these cigarettes would expose them to less tar and would be less harmful to their health than regular or full-flavor cigarettes. However, light cigarettes are no safer than regular cigarettes. Tar exposure from a light cigarette can be just as high as that from a regular cigarette if the smoker takes long, deep, or frequent puffs. The bottom line is that light cigarettes do not reduce the health risks of smoking.

Moreover, there is no such thing as a safe cigarette. The only guaranteed way to reduce the risk to your health, as well as the risk to others, is to stop smoking completely.



Because all tobacco products are harmful and cause cancer, the use of these products is strongly discouraged. There is no safe level of tobacco use. People who use any type of tobacco product should quit. For help with quitting, refer to the National Cancer Institute (NCI) fact sheet *Where To Get Help When You Decide To Quit Smoking*, which is available at <http://www.cancer.gov/cancertopics/factsheet/tobacco/help-quitting> on the Internet.

3. Do light cigarettes cause cancer?

Yes. People who smoke any kind of cigarette are at much greater risk of lung cancer than people who do not smoke (5). Smoking harms nearly every organ of the body and diminishes a person's overall health.

People who switched to light cigarettes from regular cigarettes are likely to have inhaled the same amount of toxic chemicals, and they remain at high risk of developing smoking-related cancers and other disease (1). Smoking causes cancers of the lung, esophagus, larynx (voice box), mouth, throat, kidney, bladder, pancreas, stomach, and cervix, as well as acute myeloid leukemia (6).

Regardless of their age, smokers can substantially reduce their risk of disease, including cancer, by quitting.

4. What were the tar yield ratings used by the tobacco industry for light cigarettes?

Although no Federal agency formally defined the range of tar yield for light or ultralight cigarettes, the tobacco industry used the ranges shown in the table below (5, 7).

Industry Terms on Packages	Machine-measured Tar Yield (in milligrams)
Ultralight or Ultralow tar	Usually 7 or less
Light or Low tar	Usually 8–14
Full flavor or Regular	Usually 15 or more

These ratings were not an accurate indicator of how much tar a smoker might have been exposed to, because people do not smoke cigarettes the same way the machines do and no two people smoke the same way.

Ultralight and light cigarettes are no safer than full-flavor cigarettes. There is no such thing as a safe cigarette (1).

5. Are machine-measured tar yields misleading?

Yes. The ratings cannot be used to predict how much tar a smoker will actually get because the way the machine smokes a cigarette is not the way a person smokes a cigarette. A rating of 7 milligrams does not mean that you will get only 7 milligrams of tar. You can get just as much tar from a light cigarette as from a full-flavor cigarette. It all depends on how you smoke. Taking deeper, longer, and more frequent puffs will lead to greater tar exposure. Also, a smoker's lips or fingers may block the air ventilation holes in the filter, leading to greater tar exposure (7).

6. Why would someone smoking a light cigarette take bigger puffs than with a regular cigarette?

Cigarette features that reduce the yield of machine-measured tar also reduce the yield of nicotine. Because smokers crave nicotine, they may inhale more deeply; take larger, more rapid, or more frequent puffs; or smoke extra cigarettes each day to get enough nicotine to satisfy their craving. As a result, smokers end up inhaling more tar, nicotine, and other harmful chemicals than the machine-based numbers suggest (1).

Tobacco industry documents show that companies were aware that smokers of light cigarettes compensated by taking bigger puffs. Industry documents also show that the companies were aware of the difference between machine-measured yields of tar and nicotine and what the smoker actually inhaled (8).

7. How can I get help to quit smoking?

There are many groups that can help smokers quit:

- Go online to **Smokefree.gov** (<http://www.smokefree.gov>), a Web site created by NCI's Tobacco Control Research Branch, and use the Step-by-Step Quit Guide.
- Call **NCI's Smoking Quitline** at **1-877-44U-QUIT (1-877-448-7848)** for individualized counseling, printed information, and referrals to other sources.
- Refer to the NCI fact sheet *Where To Get Help When You Decide To Quit Smoking*, which is available at <http://www.cancer.gov/cancertopics/factsheet/tobacco/help-quit> on the Internet.

Selected References

1. National Cancer Institute. *Risks Associated With Smoking Cigarettes With Low Machine-Measured Yields of Tar and Nicotine*. Bethesda, MD: National Cancer Institute; 2001. Smoking and Tobacco Control Monograph 13.
2. Wakefield M, Morley C, Horan JK, Cummings KM. The cigarette pack as image: New evidence from tobacco industry documents. *Tobacco Control* 2002; 11(Suppl 1):i73-i80. [[PubMed Abstract](#)]
3. Hammond D, Parkinson C. The impact of cigarette package design on perceptions of risk. *Journal of Public Health* 2009; 31(3):345-353. [[PubMed Abstract](#)]
4. King B, Borland R, Abdul-Salaam S, et al. Divergence between strength indicators in packaging and cigarette engineering: A case study of Marlboro varieties in Australia and the USA. *Tobacco Control* 2010; 19(5): 398-402. [[PubMed Abstract](#)]
5. Harris JE, Thun MJ, Mondul AM, Calle EE. Cigarette tar yields in relation to mortality from lung cancer in the cancer prevention study II prospective cohort, 1982-8. *British Medical Journal* 2004; 328(7431):72. [[PubMed Abstract](#)]
6. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.
7. Federal Trade Commission. Statement of William Kovacic, FTC Commissioner, Testimony Before the Committee on Science, Commerce, and Transportation, United States Senate (November 13, 2007).
8. Anderson SJ, Ling PM, Glantz SA. Implications of the federal court order banning the terms "light" and "mild": What difference could it make? *Tobacco Control* 2007; 16(4):275-279. [[PubMed Abstract](#)]

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Related NCI materials and Web pages:

- National Cancer Institute Fact Sheet 10.15, *Smokeless Tobacco and Cancer* (<http://www.cancer.gov/cancertopics/factsheet/Tobacco/smokeless>)
- National Cancer Institute Fact Sheet 10.18, *Secondhand Smoke and Cancer* (<http://www.cancer.gov/cancertopics/factsheet/Tobacco/ETS>)
- National Cancer Institute Fact Sheet 10.19, *Harms of Smoking and Health Benefits of Quitting* (<http://www.cancer.gov/cancertopics/factsheet/Tobacco/cessation>)
- National Cancer Institute Fact Sheet 10.22, *How To Handle Withdrawal Symptoms and Triggers When You Decide To Quit Smoking* (<http://www.cancer.gov/cancertopics/factsheet/Tobacco/symptoms-triggers-quit>)
- National Cancer Institute Fact Sheet 10.23, *Where To Get Help When You Decide To Quit Smoking* (<http://www.cancer.gov/cancertopics/factsheet/Tobacco/help-quit>)
- *Clearing the Air: Quit Smoking Today* (http://www.smokefree.gov/pubs/clearing-the-air_acc.pdf)

How can we help?

We offer comprehensive research-based information for patients and their families, health professionals, cancer researchers, advocates, and the public.

- **Call** NCI's Cancer Information Service at 1-800-4-CANCER (1-800-422-6237)
- **Visit** us at <http://www.cancer.gov> or <http://www.cancer.gov/espanol>
- **Chat** using LiveHelp, NCI's instant messaging service, at <http://www.cancer.gov/livehelp>
- **E-mail** us at cancergovstaff@mail.nih.gov
- **Order** publications at <http://www.cancer.gov/publications> or by calling 1-800-4-CANCER
- **Get help** with quitting smoking at 1-877-44U-QUIT (1-877-448-7848)

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