

A TIP FROM A  
FORMER  
SMOKER

LET YOUR KIDS  
INSPIRE YOU  
TO QUIT.

Beatrice, Quit at age 37  
New York

OH, YOU SMOKE

This is tobacco marketing.  
Kids who  
likely to smoke.

TOGETHER  
We can be...  
TOBACCO-FREE  
SGR-50

# THE ROAD TO WELLNESS

## Driving Tobacco And Cancer Off The Map

A Newspaper In Education Supplement To The Washington Times



GEOGRAPHIC HEALTH  
EQUITY ALLIANCE

WARNING!  
CIGARETTES  
ARE ADDICTIVE.

DID YOU KNOW?

NEW RESEARCH SHOWS  
MENTHOLS  
MAY BE EVEN  
MORE  
ADDICTIVE  
THAN OTHER  
CIGARETTES

# Introduction

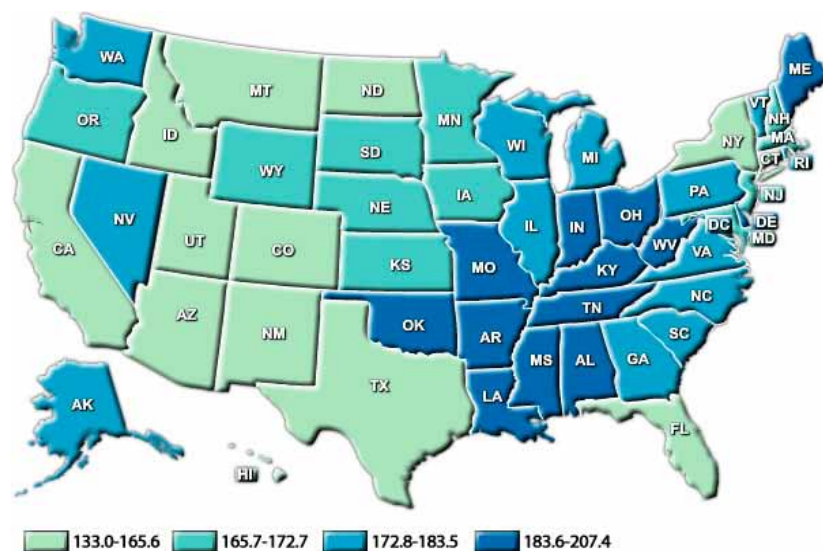
The tobacco use epidemic in our country is still a major public health issue. However, we are making progress!

In 1997, 36.4 percent of high school students smoked cigarettes—more than one in three. Today, that number is slashed in half, with only 15.7 percent of high school students smoking. Adult cigarette smoking rates have also fallen — from about 43 percent (1965) to about 18 percent today. That is a welcome improvement. However, the U.S. Surgeon General, the “top doctor” who watches out for the health of all Americans, released the 32nd Surgeon General’s Report (SGR) in January of 2014 marking the 50th Anniversary of the first report warning of health hazards related to smoking. It showed that there is still a long way to go. The report reveals that 5.6 million of today’s children will die at an early age if current smoking rates are not further reduced.

Smoking tobacco does not only cause lung cancer, smoking affects nearly every organ in the body. Cigarette smoke contains more than 7,000 chemicals. In addition, there is no risk-free level of exposure to secondhand smoke. In fact, the SGR shows that since 1964, 2.5 million non-smokers have died from secondhand smoke.

If you don’t smoke or use any kind of tobacco, congratulations! Quitting smoking or never starting in the first place is one of the most important health-related decisions you can make for yourself and those around you. Many smokers will advise you not to start because they already wish they never had become addicted to nicotine. They know how hard it is to quit. You will meet some of those people in this supplement.

Here’s something else to consider. It turns out that where you live can directly impact and affect your quality of health and life. In fact, people who live in certain places are less likely to get cancer than those who live in other places. Where you live will either help or hinder your choices and what you are exposed to on a daily basis. Factors such as your community’s employment rate, the amount of environmental pollution, access to health information and healthcare, how much “green area” there is in your town, and even how close you live to a supermarket that sells fresh fruits and vegetables can all affect wellness. These factors are called “social determinants of health.” In other words, they are social conditions in your community, county or state that affect your health. This supplement will help you



All places are not created equal, so the health of people in all places is not equal. How did your state rate on this “deaths from all cancers” map? The numbers are deaths per 100,000 residents. The darker the color, the higher the rate.

Source: U.S. Cancer Statistics Working Group. United States Cancer Statistics: 1999–2010 Incidence and Mortality Web-based Report. Atlanta (GA): Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2013. Available at: [www.cdc.gov/uscs](http://www.cdc.gov/uscs)

understand how tobacco use can harm your health and can cause several types of cancer, in addition to other chronic diseases and conditions. It will also help you understand that where you live can impact cancer risk. You will learn how you and your friends, teachers, parents and neighbors can help reduce tobacco use and improve the wellness of your

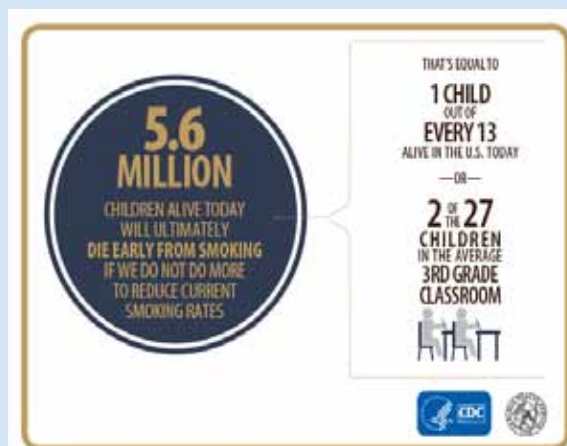
community. In addition to reading, you will be encouraged to watch videos, do your own detective work, and use social media to help spread the word about what you learn. Working with others, you can help make your community a healthier, tobacco-free place.

Source: 2014 Surgeon General’s Report

## YOU(th) and Tobacco: The 2014 Surgeon General’s Report

The very first Surgeon General’s Report on tobacco was published in 1964 with a key finding: smoking causes lung cancer in males. Females were not part of the study then. Each report that has been published since then has revealed more information about tobacco’s relationship to cancer and other diseases. By 2004, the report had firmly established that smoking affects nearly every organ of the body.

The 2012 Surgeon General’s Report on Smoking and Health is titled Preventing Tobacco Use Among Youth and Young Adults. This report provided important information about the causes and the consequences of tobacco use among youth and young adults by focusing on the social, environmental, advertising, and marketing influences that encourage youth and young adults to initiate and sustain tobacco use. This report was the first time tobacco data on young adults as a discrete population was explored in detail. The report also highlighted successful strategies to prevent young people from using tobacco. It also talked about the ways in which laws were passed to prevent youth from smoking – such as banning flavoring in cigarettes and the sale of individual ones – as well as the impact of tobacco ads on youth. The 2014 Surgeon General’s Report followed up with more information



Source: Centers for Disease Control and Prevention [http://www.cdc.gov/tobacco/data\\_statistics/sgr/50th-anniversary/infographics/index.htm](http://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/infographics/index.htm)

about tobacco use by teens and young adults, along with many other new findings. It also stressed the importance of finding ways to stop the tobacco epidemic in America and to increase our life expectancy. In this section you’ll find some basic information from the most recent Surgeon General’s Report that was published in 2014.

Most people who smoke cigarettes or use smokeless tobacco started as teens or young adults. In fact, nearly 9 out of 10 smokers start before the age of 18

and 98 percent start smoking by the age of 26. Many think they will just use tobacco occasionally, but 2,100 youth and young adults who are occasional smokers become daily smokers each day. According to the National YRBS, current cigarette smoking among students is at an all-time low in 2013 with less than one in five high school students smoking (16.4 percent males, 15 percent females). The definition for current tobacco use included only cigarettes, cigars, and smokeless tobacco, thus yielding slightly lower estimates of current tobacco use. (Source: [www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf](http://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf), Chapter 13, Table 13.2)

You may have heard people say, “Yeah, I smoke (or dip), but I can quit any time I want.” Unfortunately, the addictive effects of nicotine are very powerful, and that is why those who think they will be able to use tobacco “just once in a while” do not necessarily succeed. The 2012 Surgeon General’s Report states that because most high school smokers are not able to break free from the powerful, addicting effects of nicotine, about three out of four will smoke in adulthood. Among those who persist in smoking, one third will die about 13 years earlier than their nonsmoking peers.

In 2012, 6.7 percent of middle school and 23.3 percent of high school students currently used tobacco products, including cigarettes, cigars, hookahs, snus, smokeless tobacco, pipes, bidis, dissolvable tobacco, and electronic cigarettes.

# Smoking and Disease: No Waiting in This Line

Most teens that start using tobacco do not look toward the future. Long-term health consequences seem so far down the road that it seems like it doesn't matter. It turns out they're not that far away.

The 2014 Surgeon General's report tells us that smokers don't have to wait for tobacco use to begin harming their health. Today's cigarette smoke contains more than 7,000 chemicals and chemical compounds. Many of these are so toxic that they can cause immediate damage to the human body. Even young adults can develop health problems that are related to smoking, such as:

## Early cardiovascular [heart] disease:

- The 2012 SGR: "New research shows that smoking during adolescence and young adulthood causes early damage to the abdominal aorta, the large artery that carries oxygen-rich blood from the heart through the abdomen to major organs. Even young adults who have only been smoking for a few years can show signs of narrowing of this large artery. When a person breathes tobacco smoke, it causes immediate damage to blood vessels throughout the body. Re-

peatedly breathing tobacco smoke can cause a mixture of scar tissue and fats to build up inside blood vessels. This plaque makes blood vessels narrow and limits blood flow."

- Smaller lungs that don't function normally. This can cause wheezing and asthma right now and sets the stage for emphysema and COPD later in life.

SGR 2012: "Young people are still growing. Their lungs don't reach full size until late teens for girls and after age 20 for boys. Adults who smoked during adolescence can have lungs that never grow to their potential size and never perform at full capacity."

This means that young people who are on sports teams or who simply enjoy running or working out will be short of breath and experience reduced performance if they smoke.

- DNA damage that can cause cancer almost anywhere in the body.

On average, lifelong smokers become sicker faster and die an average of 13 years younger than nonsmokers.

# Save YOUR face.

## Be through with CHEW!



You are probably most familiar with cigarettes, but using smokeless tobacco is also dangerous and habit-forming. Smokeless tobacco is also called chewing tobacco, oral tobacco, spit or spitting tobacco, dip, chew, and snuff/snus. Instead of being smoked, users place pieces of the tobacco, also known as "plugs," "wads," or "chew," between the cheek and gum or between teeth. Nicotine in the tobacco is absorbed through tissues in the mouth and the user spits out the brown saliva that has soaked through the tobacco.

Smokeless tobacco causes oral cancers

and has been linked to pancreatic cancer, which is difficult to treat successfully. Some people who try to quit cigarettes switch to smokeless tobacco because they think it will be easier to quit smoking cigarettes and then they can easily quit "the dip." Unfortunately, smokeless tobacco is just as addictive, so they are just trading one addiction for another. The best thing is to quit using all tobacco products completely.

Source:  
[www.cancer.org/cancer/cancercauses/tobaccocancer/smokeless-tobacco](http://www.cancer.org/cancer/cancercauses/tobaccocancer/smokeless-tobacco)

**Cancer-causing Chemicals**

- Formaldehyde**: Used to embalm dead bodies
- Benzene**: Found in gasoline
- Polonium 210**: Radioactive and very toxic
- Vinyl chloride**: Used to make pipes

**Toxic Metals**

- Chromium**: Used to make steel
- Arsenic**: Used in pesticides
- Lead**: Once used in paint
- Cadmium**: Used in making batteries

**Poison Gases**

- Carbon Monoxide**: Found in car exhaust
- Hydrogen cyanide**: Used in chemical weapons
- Ammonia**: Used in household cleaners
- Butane**: Used in lighter fluid
- Toluene**: Found in paint thinners

Tobacco smoke contains a deadly mix of **more than 7,000 chemicals**. Hundreds are toxic. About 70 can cause cancer. Here are some of the chemicals.

## ACTIVITY:

### Fact Check on the Surgeon General's Report

Read each statement. Then, based on information from this article, indicate whether the statement is TRUE or FALSE.

1. Most people start smoking when they are teenagers or young adults.
2. Cigarette companies add chemicals to tobacco, but they are not harmful.
3. Switching to smokeless tobacco is a good way to quit cigarettes.
4. Smoking affects nearly every organ of the body.
5. Smokers die an average of 13 years sooner than non-smokers.
6. Young people's lungs continue to grow until into their late teens and early 20s.
7. If you start using tobacco while you're in your teens, the damage begins immediately.
8. Smokeless tobacco does not cause cancer or other diseases.
9. Almost one in four high school students uses tobacco in some form.
10. Smoking can cause shortness of breath and reduce athletic performance.

### Inside the e-cigarette



## Hey, YOU(th): Think E-Cigarettes Are Safe? Think Again?

If you're familiar with electronic vapor products, such as e-cigarettes, vape pens, hookah pens, tanks or mods, you might think that what is inhaled and exhaled is just harmless water vapor and that "vaping" can't hurt you. **WRONG!** E-cigarettes contain nicotine, which is addictive and toxic, especially to a teen's developing brain. Different brands contain varying chemicals, some of which are known to be harmful.<sup>1</sup> So, e-cigarettes are far from "harmless water vapor"—they contain nicotine and can contain other lethal chemicals. Unfortunately, not all youth are getting the message that e-cigarettes can be harmful. More than a quarter of a million youth who had never smoked a cigarette used e-cigarettes in 2013—that's a three-fold increase from 2011!<sup>2</sup> The fact is no youth should use any tobacco products—including e-cigarettes. Spread the message to your friends!

Sources: 1) Centers for Disease Control and Prevention, Morbidity and Mortality Weekly Report: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6235a6.htm?s\\_cid=mm6235a6\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6235a6.htm?s_cid=mm6235a6_w)

2) Centers for Disease Control and Prevention, Study in Nicotine and Tobacco Research Journal: <http://www.cdc.gov/media/releases/2014/p0825-e-cigarettes.html>

### Activity:

Interview an older person you know who smokes. Ask them: when they started, where they started, who gave them their first cigarette, why they smoke now, and how hard they think it would be to quit. Finally, ask them if they would advise you to start smoking (or continue smoking). Record a video of the interview if the person agrees, and post it on YouTube. Provide the link to your teacher and classmates. Or simply view it in class. For a more in-depth interview, summarize for your interviewee some of the important facts you learned from this summary of the Surgeon General's Reports. Urge him or her to seriously think about quitting.

## Why Do Teen Smokers Start?

In this section, we focus on why teens are attracted to tobacco use. What makes teens want to start smoking? Why shouldn't they start? If they already smoke, why and how should they stop?

Human beings of all ages are great imitators of those they admire. We copy trends in hairstyles and fashion, and want the latest in electronics. Dressing a certain way and using the latest slang terms can make you feel like you fit in with a group. In various ways, teens smoke because they think it will make them feel better about themselves.

Teens who decide to try tobacco often do so because they want to fit in with a group they perceive as cool. Someone in the group offers them a cigarette, and they accept it thinking that if they smoke, they'll be like the "cool" group of teens.

Teens whose parents smoke may see it as a perfectly normal behavior, just another milestone on the road to becoming an adult. If their parents don't disapprove, it seems acceptable. It isn't very convincing when parents say, "Do as I say, not as I do."

Teenaged girls and young women are often concerned with their weight and want to be extremely thin. They think smoking will keep them from eating and help them to control their weight. But, the health risks of putting on a few extra pounds are nothing in comparison to the dangerous risks of actively using tobacco.

Laws and policies also can decrease the likelihood that young people smoke because as restaurants, bars and other public spaces ban smoking,



smoking becomes less acceptable and fewer teens are seeing others smoke.

Since the 1964 Surgeon General's report, comprehensive tobacco control programs and policies have been proven effective for controlling tobacco use. However, half of all states do not have smoke-free laws that ban smoking in worksites, restaurants and bars. Taxes that increase prices are also important. The more expensive tobacco products are the less likely youth are to buy them.

Source: 2012 Surgeon General's Report



Most smokers want to quit, and large numbers of adults quit or try to quit when they get older. Some are told by their doctors to quit; others develop cancer, heart disease, emphysema or other tobacco-related diseases and disabilities, or watch tobacco-using friends and relatives die. They often don't realize that smoking and tobacco use is addictive and it becomes habit forming and very difficult to quit.

The tobacco companies know that they are losing older smokers. They need to convince young people to start in order to keep their profits high. They spend \$23 million daily on cigarette advertisements to market and promote

their products.<sup>3</sup> One marketing technique is to offer special promotions ("Buy two packs, get one free"). They also offer price cuts through coupons and gifts available to those who collect points with their purchases. (The gifts, of course, bear the cigarette brand's name and logo—more advertising.) Smokeless tobacco companies also spend most of their multi-million dollar advertising budget to keep prices low enough that teen users can afford the products.

But is this kind of bargain really a bargain? What if you just didn't buy the product at all? You would save the whole price—and your health.

If you fall for the many types of tobacco advertising you see every day, you are falling into a trap carefully set for you by the tobacco companies. If you start using tobacco, you are basically agreeing to add to their profits, possibly for the rest of your life. At today's costs, you'd be handing over more than \$100,000 over time to the very people who convinced you to damage your health. Since tobacco prices are always rising, it will actually far exceed that amount. That's a win-win situation for them, but a lose-lose situation for you.<sup>2</sup>

Sources:

1) Federal Trade Commission Cigarette Report, 2011

2) [www.cdc.gov/tobacco/data\\_statistics/sgr/2012/consumer\\_booklet/pdfs/consumer.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/2012/consumer_booklet/pdfs/consumer.pdf)

# Big Tobacco Wants YOU

Look around and you will find that everywhere you go there are images that encourage tobacco use. Your mom stops to put gas in the car, and right there at the pump is a huge, colorful poster advertising special deals the store is running on a certain brand of cigarettes. There are even ads placed at eye level for young kids, aimed at getting them interested in smoking as soon as possible. A little-known fact is that tobacco companies have contests among the convenience stores. The stores compete to sell the most tobacco products. The winning stores claim cash prizes or product discounts.<sup>1</sup>

One of the places you most commonly see people smoking is in movies, using actors who are extremely appealing to teens. They may seem sophisticated and stylish as they light up, but there is nothing

stylish about disabilities and diseases caused by smoking. Celebrities are popular people in our society, and even if they don't smoke in real life. Seeing them smoke on screen may form a subconscious connection in your mind between the actor you admire and the fact that he or she smoked in the movie. As highlighted in the new Truth campaign, "Finish It," led by Legacy for Health Foundation, celebrities shown using tobacco are the new face of Big Tobacco and they don't even know it. The Truth campaign calls these celebrities "unpaid spokespersons" for Big Tobacco.

In 2012, half of top-grossing youth-rated movies—those with G, PG, or PG-13 ratings—contained images of smoking. Some of these are movies approved for children who are not yet in grade school!



Tobacco ads are on the internet and in magazines and newspapers. You will find them in social media, and in apps on smart phones. You will also see video-game characters smoking (maybe even the ones you create yourself). Tobacco companies use websites, videos, games and contests to promote their products.

The sad fact is that U.S. tobacco companies specifically target teens and young

adults. They are not doing this because they want you to get sick, although they apparently don't care if you do. They are doing it for MONEY.<sup>2</sup>

Source:

1) [www.tobaccofreekids.org/content/what\\_we\\_do/industry\\_watch/store\\_report/deadlyalliance\\_full\\_report.pdf](http://www.tobaccofreekids.org/content/what_we_do/industry_watch/store_report/deadlyalliance_full_report.pdf)

2) [www.cdc.gov/tobacco/data\\_statistics/sgr/2012/consumer\\_booklet/pdfs/consumer.pdf](http://www.cdc.gov/tobacco/data_statistics/sgr/2012/consumer_booklet/pdfs/consumer.pdf)



## Who is at risk?

- Some youth are at higher risk for tobacco use. For example, young people are more likely to use tobacco if they:
  - Have access to smoking areas and tobacco products—especially to low-cost or free tobacco.
  - Have friends, brothers, or sisters who use tobacco.
  - Watch movies that have smoking in them.
  - Are not doing well in school or have friends who are not doing well in school.
  - Are not engaged in school or religious activities.
  - Use other substances, such as alcohol or marijuana.

Source: The Surgeon General's Report, Preventing Tobacco Use Among Youth and Young Adults, 2012

## Tobacco Products are Now More Addictive and Deadlier than Ever

According to a study released in June by the Campaign for Tobacco Free Kids, tobacco is more addictive and dangerous than ever before, thanks to new designs and more additives.

Since the Surgeon General's report was first released in 1964 – 50 years ago – 20 million Americans have died from smoking. Even though the number of people smoking has decreased since then, tobacco is more dangerous than ever, with today's smokers having a much higher risk of developing lung cancer and chronic obstructive pulmonary disease (COPD) than ever before.

This is not an accident. Over the past few decades, the American tobacco industry has added specific substances and designs to make cigarettes more appealing to youth, while at the same time making tobacco more addictive. How sneaky!

For example, there is more nicotine, which is the substance that gets you hooked on tobacco, in today's cigarettes than ever before. Ammonia or ammonia compounds are also added, helping the brain receive nicotine faster, as well as sugars, which makes the smoke easier to inhale and increases the addictiveness. Who doesn't like sweets?

According to one study, rats who were exposed to both nicotine and sugar were more than twice as likely to press a lever to receive those substances than the ones exposed to just nicotine and just sugar separately.

There are also other chemicals in cigarettes that make them even easier to smoke. One is levulinic acid, which makes smoke less irritating to your throat. Chemicals called bronchodilators are also added to help expand the lungs' airways, making it easier for smoke to get into your lungs. Menthol, a popular ingredient in many cigarettes, numbs and cools your throat, reducing irritation.

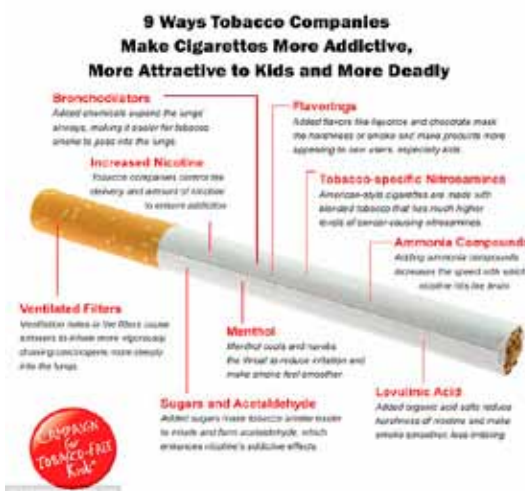
Cigarettes today are designed differently than they were in 1964, making them even more deadly. There is a huge increase in levels of something called Tobacco-Specific

Nitrosamines (TSNAs), which cause cancer. In fact, cigarettes in America have a higher level of TSNAs than those in countries like Canada and Australia.

Last but not least, the tobacco industry also puts small holes in cigarette filters, which allow smokers to inhale more deeply and powerfully, bringing cancer-causing toxins more deeply into the lungs.

As if these aren't enough reasons for you to not smoke cigarettes, you can read the full report at: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Source: [www.tobaccofreekids.org/content/what\\_we\\_do/industry\\_watch/product\\_manipulation/2014\\_06\\_19\\_DesignedforAddiction\\_web.pdf](http://www.tobaccofreekids.org/content/what_we_do/industry_watch/product_manipulation/2014_06_19_DesignedforAddiction_web.pdf)



## Activities

For the next two days, keep track of how many times a person, advertisement, video game, movie or anything else shows you smoking in a positive light. One way to keep track is to take pictures on your phone.

Be brave! Start your own individual anti-smoking campaign by posting pictures to your Facebook, Instagram, Google+ or other social media site. Use pictures of ads or look for things you find disgusting—like an ashtray full of butts, a spit cup or someone who looks really unhealthy but is smoking. You can retrieve buttons and badges for your campaign from <http://teen.smokefree.gov> and from other anti-tobacco websites on the last page of this supplement. Or design your own, scan and post.

# How Real is Nicotine Addiction?

When you think of the word “addiction,” you might immediately think about people who use street drugs or are addicted to prescription painkillers. The truth is that nicotine is every bit as addictive as cocaine or OxyContin! In addition, nicotine may harm adolescent brain development, delaying proper growth

In addition to advertising to try to get people to smoke, tobacco companies do everything they can to make tobacco products more appealing. Although it is now illegal to flavor the tobacco in cigarettes — except for menthol — companies quickly got around that by marketing small flavored cigars that look

agent in tobacco products that makes people want to smoke another cigarette or use another tobacco product. The body soon builds a tolerance to it. While one cigarette may leave a new smoker light-headed, once they’re addicted they hardly notice the effects of just one cigarette. In fact, their brain will be sending out signals that it craves more and more nicotine. If they don’t get the nicotine, they will experience withdrawal symptoms.

Nicotine addiction is what keeps people smoking even when they want to quit. The younger smokers are when they start, the more likely they are to become addicted. It is believed youth are more sensitive to nicotine addiction because their bodies and brains are not yet fully developed.

Nicotine is found in all tobacco products. For example, smokeless tobacco, or “dip” as it’s sometimes called, often contains more nicotine than cigarettes. An average-sized dip that a user holds in their mouth for 30 minutes delivers the same amount of nicotine as three cigarettes. If someone uses two cans of snuff a week, they’re taking in the same amount of nicotine as someone who smokes 210 cigarettes in that week.<sup>1</sup>

## Why are cigarettes so addictive?

Nicotine is a substance that occurs naturally in tobacco. Cigarette makers know that nicotine addiction helps sell their products, but cigarettes today deliver more nicotine more quickly than ever before. Tobacco companies use additives and chemicals to make them more addictive.

It doesn’t take long to feel the symptoms of nicotine withdrawal—just two to three hours after not using. However, symptoms are at their worst after about 48-72 hours. This is when people often give up and return to tobacco use. Common symptoms include:

- An intense craving for nicotine
- Feeling nervous or anxious
- Feeling sad, tired or having trouble sleeping; bad dreams and nightmares
- Feeling tense, restless, or frustrated
- Headaches
- Feeling hungry or gaining weight
- Problems concentrating<sup>2</sup>

Nicotine addiction is real, and so are the symptoms of withdrawal. Of course, you will never have to experience any of these symptoms if you don’t become addicted to nicotine in the first place. Even so, it helps to be aware of them so you will know what people who quit go through—and what you would go through if you started to smoke and then tried to quit.



## Activities

**1. If you currently use tobacco, you might have said, “I can quit any time I want to.”** Quitting may be harder than you think, but you can do it and it is the best thing you can do for your health. Quit. (For help quitting, see the Resources sections later on in this guide.)

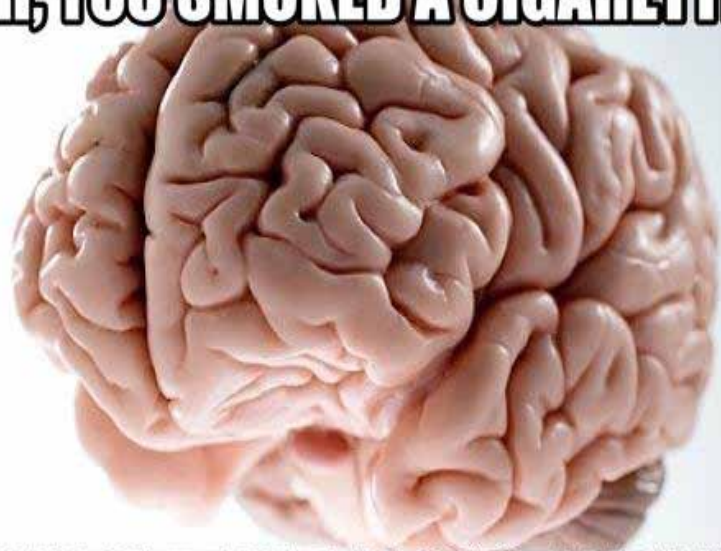
**2. If you don’t use tobacco, you can still get an idea of what withdrawal symptoms are like.** Give up a favorite snack you enjoy every day—such as something sweet. Giving up certain activities can also bring on symptoms of withdrawal. Try not using your phone, not checking in with social media, or giving up video games for a few days. Whatever you give up, keep a journal for the days you’ve quit. Make three entries per day noting how you feel. Look at the list of withdrawal symptoms listed in the article above. In your entries, include any of the symptoms that you feel.

**3. Ways to Say No.** Whether it has happened yet or not, there will surely come a time when a friend offers you a cigarette, or smokeless tobacco, an e-cigarette or one of those little cigars in a tempting flavor like chocolate or cherry. Remember that you can always say “no” and that just walking away is always an option, but you might want to add a reason or even voice your concern about your friend’s health. You could say, “My mom will smell it on me and I’ll be grounded for a week” or “No thanks, you may want to smell like an ashtray, but I don’t want to.” Make a list of five other ways to say no that you think will work for you.

Sources:

- 1) <http://www.cancer.org/cancer/cancercauses/tobaccoandhealth/questionsaboutsmokingtobaccoandhealth/questions-about-smoking-tobacco-and-health-is-tobacco-addictive>
- 2) U.S. Department of Health and Human Services. <http://betobaccofree.hhs.gov/health-effects/nicotine-health>

OH, YOU SMOKED A CIGARETTE?



I'M GOING TO REWIRE YOUR BRAIN SO YOU'LL BE MORE LIKELY TO BECOME A LIFELONG SMOKER.

and production. We say “may” because this evidence comes from animal studies, but they are well designed and the results are consistent. We can’t do studies on humans because that would just be wrong!

There is evidence that teens begin to feel dependent on the nicotine in tobacco sooner than adults who start smoking later on. That makes it even harder for teen and young adult tobacco users to stop.

like cigarettes in dark paper and it is still legal to flavor smokeless tobacco in its many forms. Let’s not forget e-cigarettes, some which contain liquid nicotine, come in different flavors too.

When someone smokes cigarettes or uses other tobacco products, nicotine is rapidly absorbed into the bloodstream. Within 10 seconds of entering the body, nicotine reaches the brain, which releases adrenaline. Nicotine is the addictive

## DID YOU KNOW?

NEW RESEARCH SHOWS  
MENTHOLS  
MAY BE EVEN  
MORE  
ADDICTIVE  
THAN OTHER  
CIGARETTES

## Not So Cool:

New FDA research indicates that menthol cigarettes may be more addictive. It suggests menthol can alter nicotine receptors in the brain as well as increase and prolong nicotine’s presence in the body.

Learn more at:  
<http://smokefree.gov/menthol-cigarettes>

# The Hookah Hipsters

By Khiree Smith  
CADCA NYLI Youth Trainer

Remember when you could barely walk into most public places without being attacked by a cloud of toxic cigarette smoke? It seems like an eternity ago, before major battles in the tobacco war were won and cigarette smoke in America went from being the norm to being rightfully shunned. The latest available data from the Centers for Disease Control and Prevention (CDC) indicates a dramatic decline in cigarette smoking among high school students and adults from 1991 to 2012<sup>1</sup>. Laws and social campaigns joined together for a one-two punch, knocking out cigarette smoking among young people. Smoking cigarettes is simply no longer cool. People began listening to the Surgeon General and the anti-tobacco soldiers of the nation and decided to put the cancer sticks down. But is the tobacco war won? Or is there a new enemy on our shores?

Hookah also has the cigarette's most dangerously attractive quality — the fatally misleading “cool” illusion. The wool is being pulled over the eyes of youth who fall victim to the allure of the glass bottle, mysterious smoke, and Aladdin-esque quality of hookah and hookah bars. Instagram time lines filled with beautiful young women promoting the new preferred method of tobacco use as they indulge have replaced the once negatively effective “Joe Camel” ads.

Many “hookah hipsters” mistakenly believe hookah is completely safe. Some argue that it is only water vapor. False. Hookah usually involves burning tobacco and there are serious risks involved with use.

While in some ways hookah use differs from cigarette use, the reality is that many young people don't know the facts. Here are some myths and realities related to hookah as researched by The Hookah Task Force.

So, you think smoking **Hubbly Bubbly** is a safer alternative to cigarettes?

## Think Again

### Hubbly contains **harmful substances**:

- Nicotine (ADDICTIVE)
- Tar
- Carbon monoxide
- Heavy metals (arsenic, cobalt, chromium and lead)

### Hubbly can be **more harmful than cigarettes**:

- 1 hour of smoking hubbly leads to 200 times **more smoke volume** than 1 cigarette
- The smoke produced in a typical hubbly smoking session can contain **38 times more tar** and **8 times more carbon monoxide** than 1 cigarette

### Smoking hubbly can lead to **long term health effects**:

- Cancer
- Heart disease
- Respiratory disease
- Impotence
- Skin wrinkling

Just being in a room where others are smoking hubbly can **expose** you to **deadly chemicals**

Fruit flavours **disguise** the toxic substances



Many toxins are **not filtered** out by the bubbling water

Hookah mouth pieces can spread **Herpes** and **TB**

MYTH	REALITY
It's only water vapor.	Hookah is a form of smoking tobacco.
Hookah smoke is better for you than cigarette smoke.	Hookah smoke of various fruity flavors, tastes and aromas can be even more harmful than disease-causing cigarette smoke.
Hookah is not addictive.	Hookah can contain up to 4 times more nicotine than cigarette smoke.
The water in a Hookah filters out all of the chemicals and bad stuff.	The water at the base of a hookah pipe cools the smoke but does not filter out any of the chemicals.
	The charcoal used to burn Hookah contains 3 times more carbon monoxide than cigarettes.

This data is subject to interpretation that considers methods of use. Hookah is typically used communally and less frequently than cigarettes. However, the facts say that hookah is more harmful than young people realize and its new popularity needs a serious discussion about health effects and consequences.

Source: 1) [http://www.cdc.gov/tobacco/data\\_statistics/tables/trends/cig\\_smoking](http://www.cdc.gov/tobacco/data_statistics/tables/trends/cig_smoking)  
Dibs, G., RN, Fakhoury, A., PharmD, Chiha, M., MD, Topalian, RN

# Smoking and Cancer

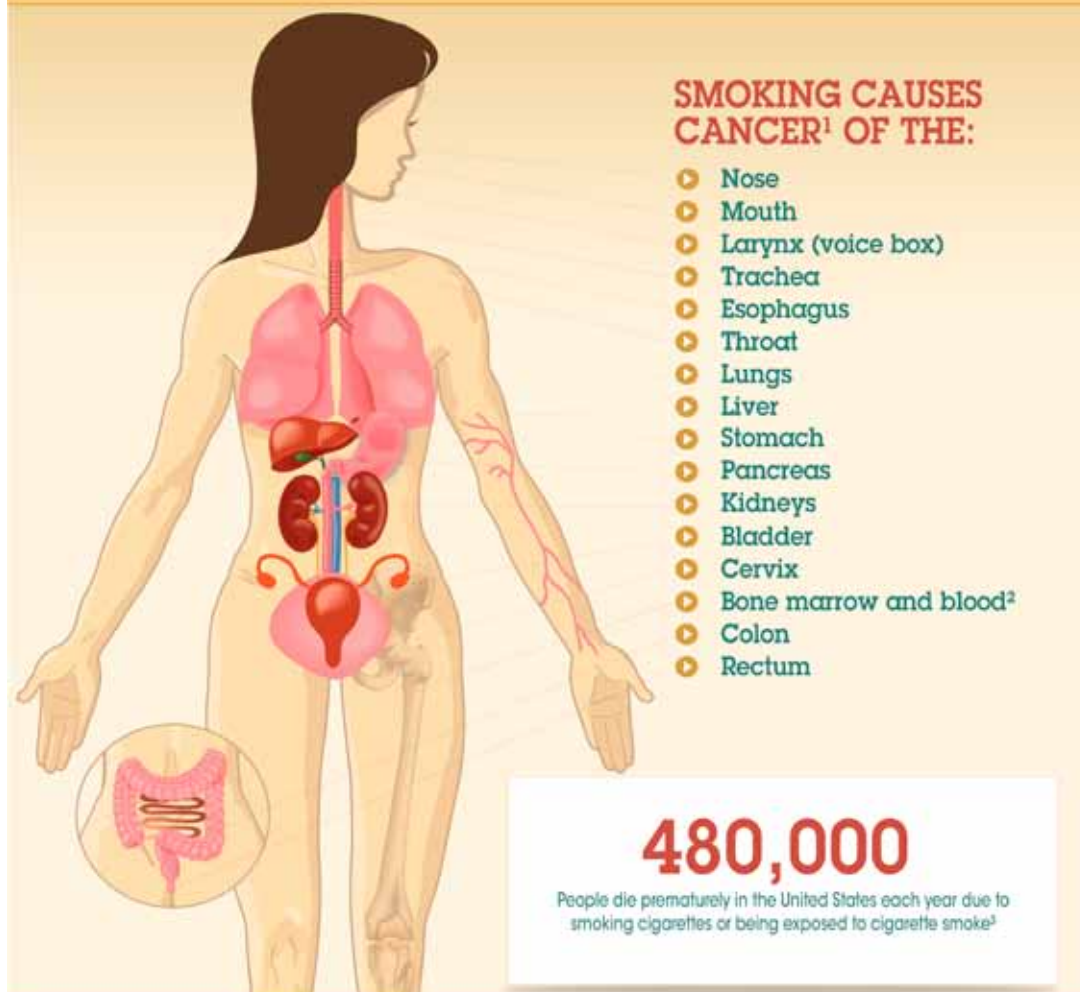
Just about everyone knows that using tobacco can cause lung cancer. Smoking causes nearly all lung cancer—the number-one cancer that kills both men and women. If no one in the United States smoked, one out of three cancer deaths could be prevented. What you may not know is that smoking can cause cancer almost anywhere in the body.

Source: <http://betobaccofree.hhs.gov/health-effects/smoking-health/index.html>



Healthy Lungs & Liver Compared to a Smokers Lungs & Liver.

## CIGARETTE SMOKE AFFECTS YOUR BODY



## SMOKING ALSO AFFECTS YOUR

### AUTOIMMUNE SYSTEM

- Crohn's Disease<sup>4</sup>
- Rheumatoid Arthritis<sup>5</sup>
- Type 2 Diabetes

### HEART

- Plaque Buildup in Your Arteries<sup>6</sup>
- Aneurysms<sup>7</sup>
- Coronary Heart Disease<sup>8</sup>
- Heart Attack<sup>9</sup>
- Peripheral Arterial Disease<sup>10</sup>
- Stroke<sup>11</sup>

### BLOOD

- Increased Blood Pressure<sup>17</sup>
- Changes to Blood Chemistry<sup>18</sup>
- Thickened Blood Vessels<sup>19</sup>

### VISION

- Macular Degeneration<sup>14</sup>
- Optic Nerve Damage<sup>15</sup>
- Blindness<sup>16</sup>

### BONES

- Osteoporosis<sup>12</sup>
- Bone Loss<sup>13</sup>

### LUNGS

- Chronic Obstructive Pulmonary Disease<sup>20</sup>
- Emphysema<sup>21</sup>
- Chronic Bronchitis<sup>22</sup>
- Pneumonia<sup>23</sup>
- Asthma
- Tuberculosis

### REPRODUCTIVE SYSTEM

- Preterm Birth
- Stillbirth
- Ectopic Pregnancy
- Erectile Dysfunction
- Orolacial Clefts

 [www.BeTobaccoFree.gov](http://www.BeTobaccoFree.gov)

## Activity:

Carefully look over the diagram. Write a paragraph answering the following questions:  
Which effect of smoking do you see as the most important reason to quit?  
Which effect surprised you the most? Which one is the scariest?  
Do you think most tobacco users who view this diagram will stop their habit?  
Why or why not?

## When Cancer Comes to Visit, it Might Not Leave

“Exactly what is cancer anyway?”

Cancer is not a visitor that anyone welcomes into their body. Everyone reacts with fear and dread when the doctor says, “I have some bad news for you. You’ve got cancer.” But exactly what is cancer?

Your body is made up of trillions of living cells. Usually they grow and divide to make new cells. Worn out or injured cells die off and new ones are formed. Your cells divide faster when you are young until you reach adulthood. Then, cells die when they wear out. If you have an injury, the injured cells die and new ones form to take the place of injured tissues.

There are many kinds of cancer. The word “cancer” is a term that applies to over 100 diseases. One thing that all types of cancer have in common is that cancer cells are abnormal cells in the body. Instead of dying off like normal cells, they continue to divide and grow, forming more and more abnormal cells. Cancer cells can attack other tissues and grow out of control. In most types of cancer, the cancer cells form tumors that attach to some part of the body. If someone is told that they have lung cancer, it means they have cancerous tumors growing in their lungs.

Cancer that starts in one part of the body can spread to other parts. This spread is called metastasis. If cancer is caught early enough, this metastasis may be prevented. Cigarette smoking accounts for at least 30 percent of all cancer deaths. It’s linked with an increased risk of these cancers: lung, head/throat/mouth, cervical and colorectal. Smoking accounts for 87 percent of lung cancer deaths in men and 70 percent in women. Lung cancer is the leading cause of cancer death in both men and women, one of the hardest cancers to treat, and can often be prevented.

Screening tests can be done for some types of cancers: lung, breast, cervical and colorectal all have effective screening interventions. Finding cancer cells early and treating the patient means there is a better chance that the cancer can be completely destroyed and the person can live many years.<sup>1</sup>

The American Cancer Society does not recommend screening tests for teens who are in good health, but once you get older you will need to take charge of your health and work with your doctor to get screenings when the time is appropriate. Right now you can encourage adults in your life to check with their doctors to see if they need to be screened. Examples of cancer screening tests that are now standard for everyone include:

- Mammograms for breast cancer
- Pap tests for cervical cancer
- Colonoscopy for colorectal cancer
- Low-dose computed tomography (CT) screening for lung cancer

Source: 1) [www.cancer.org/cancer/cancercauses/tobaccocancer/cigarettesmoking/cigarette-smoking-illness-and-death](http://www.cancer.org/cancer/cancercauses/tobaccocancer/cigarettesmoking/cigarette-smoking-illness-and-death)



## The Real Cost of Tobacco Use

You were probably surprised to find out just how many parts of your body can be affected by cigarette smoking. To take a closer look at facts about tobacco, let's look at some of the real costs that you may not be aware of. You'll do this by checking out a website designed with teens in mind and then taking a quiz.

### Activity

Go to: <http://therealcost.betobaccofree.hhs.gov>

Explore the site. By reading the facts, watching the videos and taking the quiz in the lower right-hand part of the page, you will find answers to the following questions. Circle the correct answers. Then discuss them in a small group or as a class, whichever your teacher directs.<sup>1</sup>

- Besides cancer, tobacco use can affect how attractive you are by causing
  - Yellow and stained teeth
  - Skin problems like acne and wrinkles
  - Tooth loss, gum disease and bad breath
  - All of these
- There are \_\_\_\_\_ chemicals in cigarette smoke. Nearly \_\_\_\_ are linked to cancer.
  - 80, 70
  - 6700, 700
  - 2300, 40
  - 7000, 80
- Carbon monoxide is found in cigarette smoke. It is also found in
  - French fries
  - Car exhaust
  - Body wash
  - Garlic
- At least \_\_\_\_\_ chemicals in smokeless tobacco are linked to cancer.
  - 80
  - 32
  - 28
  - 280
- In the commercials on "The Real Cost," part of the cost of cigarettes is paid for by people removing
  - Expensive shoes
  - A tooth
  - A patch of facial skin
  - Both B and C
- Formaldehyde is found in cigarette smoke and is also used
  - To make cola drinks
  - In aspirin
  - To preserve dead bodies
  - All of these
- Approximately how many deaths in the US are caused by smoking-related disease?
  - 1 In 100
  - 1 In 50
  - 1 In 10
  - 1 In 5
- Smokeless tobacco causes all except which type of cancer?
  - Tongue
  - Liver
  - Pancreas
  - Lip
- If you smoke and you quit, you may experience which of these?
  - Feelings of anger and irritability
  - Trouble sleeping
  - Increased appetite
  - All of these
- People who want to quit smoking find it easier if they
  - Figure out their "smoking routine" and change it.
  - Avoid situations where they usually smoke.
  - Share their plan to quit with others and ask them to help
  - All of these

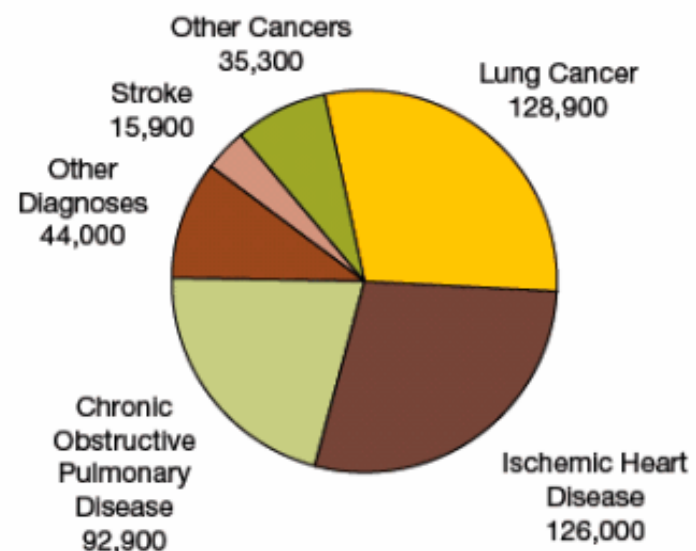


## HELPFUL TOOLS

At <http://teen.smokefree.gov> you can get a free smartphone app (QUITSTART) from the National Cancer Institute that can help you quit. You can also sign up for smokefreeTXT, a 24/7 text-messaging program that helps you to stay on track.

The National Cancer Institute offers LiveHelp, an instant messaging service with a smoking cessation counselor at <https://livehelp.cancer.gov>

### About 443,000 U.S. Deaths Attributable Each Year to Cigarette Smoking\*



\* Average annual number of deaths, 2000–2004. Includes deaths from secondhand smoke.  
Source: *MMWR* 2008;57(45):1226–1228.

# Tips to Reduce Your Cancer Risk Right Now



- **Do not use tobacco in any form.**
- **Stay at a healthy weight:** For girls and women, figure 100 pounds for the first five feet (60 inches) of your height plus five pounds for each inch over five feet. So if you are 65 inches tall (5 feet, 5 inches), a good weight for you is 125 pounds. For boys and men, a good guide is 100 pounds for the first five feet (60 inches) of height and seven pounds for each inch over five feet. So if you are

70 inches tall (5 feet, 10 inches), a good weight for you is 170 pounds.

- **Get moving!** Try to get an hour of physical activity every day, and three times a week aim for a vigorous activity such as a sport, running or fast walking. A popular and easy way to measure your exercise is to wear a pedometer, a device that measures how many steps you take each day, along with how far you walked and how many calories

you burned. Aim for 10,000 steps a day. There are many different models, from inexpensive clip-ons to high-tech wrist models.

- **Eat plenty of fruits and vegetables, at least 2 ½ cups each day. Eat less red meat.** Choose whole grains (for example oatmeal or whole wheat bread) instead of refined grains (for example, white rice or white bread). Trade soda for water.

- **Do not use alcohol.**
- **Protect your skin by using sunblock and limiting the amount of time you spend in the sun.**
- **Find out about your family history of cancer.** If someone in your family has had cancer, you may be at higher risk of developing it yourself.

Source: [www.aicr.org/assets/docs/pdf/brochures/10-ways-to-reduce-cancer.pdf](http://www.aicr.org/assets/docs/pdf/brochures/10-ways-to-reduce-cancer.pdf)

## Activity

**Do you have healthy habits? Copy the chart below and keep track of your diet and exercise habits for three days. Write down the good things you ate and your physical activity. Then note what you should do to improve your health.**

	Day One	Day Two	Day Three
I ate at least 2½ cups of fruits and vegetables.			
I chose whole grains instead of refined ones.			
I got an hour or more of physical activity.			
I did not use tobacco.			
I did not drink alcohol.			
What things can you do more of and less of to improve your health?			

# How Healthy is Your Community?

Take a look at cancer death rates by state and county on this map (all races, genders 2006-2010, cancer.gov). You can see that cancer risks vary greatly by state and county. Your wellness and that of your friends, relatives and neighbors are based on many factors. To learn how your state, county and community are doing, visit: <http://statecancerprofiles.cancer.gov>.

## Health Indicators

So what health indicators do you use when you evaluate your community's wellness? Here are some to consider:

- Education
- Transportation
- Housing
- Poverty
- Unemployment
- Opportunities for employment<sup>1</sup>

### Education

You might be wondering how education can affect your wellness. Let's look at just one factor for wellness, cigarette smoking. It is the most preventable cause of cancer in the United States. A study done by the Centers for Disease Control and Prevention (CDC) revealed these figures:



Education Level	Cigarette Smoking Rate
8th grade or less	15.2%
GED	41.9%
High school graduate	23.1%
Some college	20.9%
Associate degree	17.9%
Undergraduate degree	9.1%
Graduate degree	5.9%

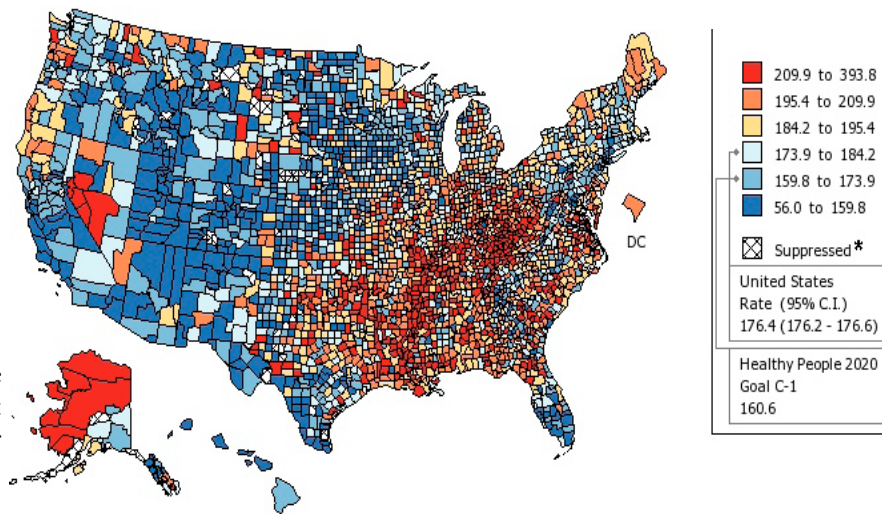
Source: CDC

Who smokes the most?  
Who smokes the least?  
What connection can you see between education and smoking?

It seems that as people become more educated, they also realize that cigarette smoking is something they do not want to do and that it can seriously endanger their health and that of those around them.

We learn in other ways besides school and college. For example, if your parents smoke, you "learn" that it is okay for you, too. On the other hand, if you have a relative or family friend who is suffering from a tobacco-related disease like cancer, COPD, emphysema, asthma or heart disease, they might tell you their problem would not have occurred if it were not for smoking. You learn from them that smoking is a habit you do not want to acquire.

Anti-smoking campaigns are often sponsored by local hospitals with the help of businesses and community organizations. They are an effective way to learn about the dangers of smoking. They help people who want to quit learn the best ways to do it. They also provide plenty of reasons for non-smokers not to start.<sup>2</sup>



## Transportation Someone Smoking on the Bus? Then You Are Too!

How do you get from home to school and other places you go? Many people use public transportation such as buses, trains, and subways. If you ride on one of these vehicles where someone is smoking, then you too are smoking via secondhand smoke. Even if there is no smoking allowed on the vehicle, you may have to wait in an area where people are smoking, and once again you are breathing secondhand smoke. The smaller the vehicle, the more smoke you are exposed to. For example, if an adult or friend who drives you places smokes in the car, your secondhand smoke intake will be concentrated. The Federal government has not written any laws banning smoking on public transportation. This is left up to the cities that operate them. Some have bans in place, even for e-cigarettes. Others do not. Another way that transportation can affect your health is through exhaust fumes. If you are on city streets a lot, you may be breathing more than the average amount of carbon monoxide from cars. Diesel exhaust fumes are the worst, as you can probably tell by how horrible trucks and buses smell.<sup>3</sup>

### Housing

If nobody in your home smokes, can you still be exposed to secondhand smoke? The answer is yes. If you live in an apartment with smokers in nearby units, you can be subjected to secondhand smoke. This is especially true when the weather is nice and everyone has their windows open. Even if you live in a single-family home, you can tell when your neighbors light up when you are both outdoors. Where your home is located is also important to your health. If you live close to a busy highway or a plant or factory that belches toxic smoke, your neighborhood's air quality can be causing undue stress on your immune system. This makes it harder for your body to deal with other foreign substances.<sup>4</sup>

Continued on Page 12



**Protect children: don't make them breathe your smoke**

## What is Secondhand Smoke?

Around 88 million nonsmokers in the United States are exposed to secondhand smoke. There are two types of secondhand smoke: mainstream smoke that is blown into the air by a smoker and sidestream smoke that comes from the end of the combusted product. Often, that person with no choice is a child. Secondhand tobacco smoke exposure causes heart disease and lung cancer in nonsmoking adults. In children, it has been linked to sudden infant death syndrome, serious respiratory infections, asthma, and decreased lung function. People with low incomes are subjected to secondhand smoke at a higher rate than those with higher incomes: 60.5 percent of Americans who live below the poverty level were exposed to secondhand smoke in 2007-2008, compared with 36.9 percent of persons living at or above the poverty level.

**Learn more at:**  
[www.cdc.gov/tobacco](http://www.cdc.gov/tobacco)

**CONSIDER THIS:**

Up to 50% of the air in apartment buildings may be recirculated throughout the entire building. And the U.S. Surgeon General says there is no safe level of exposure to tobacco smoke.

Ask your landlord about no-smoking policies that could clear the air in your home.

*Continued from Page 11*

**Poverty**

People with limited incomes often do not have a great deal of choice about where they live or how they get where they need to go. They may have no choice about breathing other people's smoke or living in an area where the air is polluted. There may not be a park or other green area where they feel safe to go for "a breath of fresh air." If they do become ill, people with limited resources often do not seek medical care until they are in an emergency situation. They are less likely to go for wellness checkups that could catch problems early enough for something to be done before it's too late.<sup>5</sup>

Also, because it is very stressful to be poor and to worry about money all the time, many poor people use tobacco in some form because they mistakenly believe it calms their nerves. The fact is the cost of tobacco addiction simply adds to their money troubles. Now they have an expensive habit to support.

**Unemployment**

Unemployment goes hand-in-hand with poverty and worries about money. In areas where opportunities for good jobs are declining, stress and depression can lead to tobacco addiction or other kinds of addiction. In some cases, unemployed smokers may be passed over for jobs because they emit the telltale "I'm a smoker" odor at interviews. The unemployed tend to think, "I'll quit smoking when I'm not so stressed out, when I finally find a job, when my life straightens out." They also put off medical checkups for the same reasons, hoping to get a job with employer-provided healthcare. As long as they remain jobless, medical care comes second to the basics of housing and food.

**A Combination of Health Indicators**

All too often, people's lifestyles include not just one of these health indicators, but several. For example, people whose families have limited incomes are less likely to graduate from high school. They are more likely to live in areas where the air quality is poor and to use transportation that exposes them to secondhand smoke. Unemployment rates are higher in poorer neighborhoods, and there is less access to medical care and to information about disease prevention. On a daily basis, many poor people experience these indicators that lead to an unhealthy lifestyle. It doesn't have to be this way. Some indicators are matters of personal choice, like pledging to never smoke and to finish high school. Other indicators require the whole community to pull together to increase wellness no matter where a person lives or what economic circumstances exist.

You can be a part of this change, so get ready for action!

Sources for 1-5:  
[www.unnaturalcauses.org/resources.php?topic\\_id=6](http://www.unnaturalcauses.org/resources.php?topic_id=6)

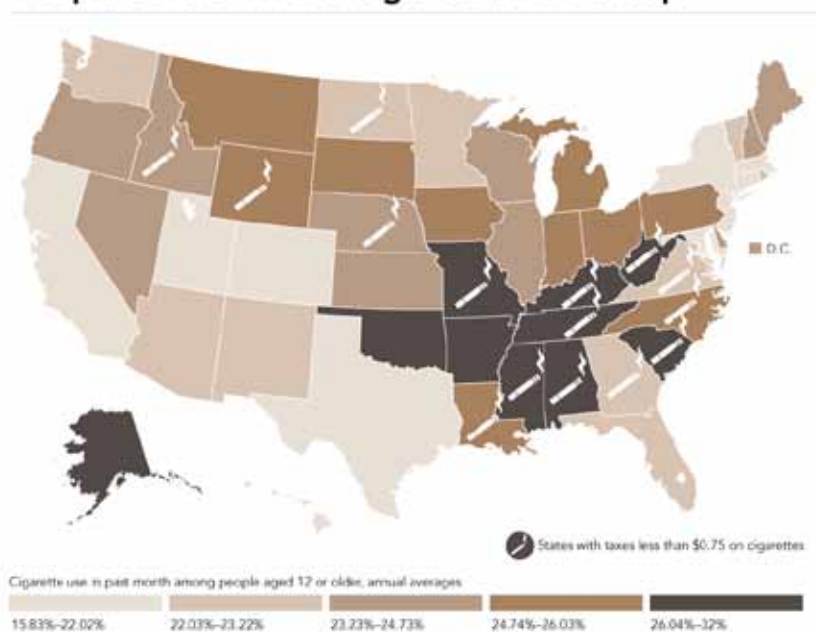
**Activities**

**1. Check out your state, county or city laws regarding smoking in public places.** Summarize your findings in a paragraph. In a second paragraph, give your opinion of the laws you found and explain your reasons for your opinion. Search suggestion: smoking regulations +[your state, county or city]

**2. Choose three of the health indicators discussed in this article and describe how you and/or your community are affected by each one.** For example: Does your community/school/youth group have an anti-smoking program or campaign? What affects the air quality in your neighborhood? How do poverty and unemployment in your county or state compare to other states' levels?

**3. This article is about how to measure a community's health.** What indicators do you use to measure your own health? In what ways could you improve your health?

**4. Activity: Visit [www.unnaturalcauses.org/resources.php](http://www.unnaturalcauses.org/resources.php)** Read "Ten Things to Know About Health." Choose three things you learned that surprised you and describe them to your class, or summarize them in a paragraph.

**People Smoke Where Cigarettes Are Cheap****When Surrounded By Smokers, People See Less Risk**

Perceptions of great risk of smoking one or more packs of cigarettes per day, among people aged 12 or older, annual averages



Sources: Substance Abuse and Mental Health Services Administration, Campaign for Tobacco-Free Kids

THE HUFFINGTON POST

**My Zip Code, My Cancer**

We talked how Americans in different parts of the country receive information about their health and how much access they have to health care and support when they want to quit a harmful habit like smoking.

You already know that tobacco use in the nation's leading cause of preventable death. In 2009, the Federal government passed legislation called the Family Smoking Prevention and Tobacco Control Act. It gave the Food and Drug Administration the authority to regulate tobacco products and how they are marketed, sold and manufactured, at least to some extent.

States still have a powerful tool that can be used to control how much their residents smoke: state taxes on tobacco, paid by the consumer, smoke-free laws, bans on flavors and minimum price laws. It turns out that people smoke more where cigarettes cost less. The lower price is due to lower state taxes.

It's not too surprising that seven of the states with the highest tobacco use are also among states with the highest overall cancer rates. (To see which ones, compare this map to the map at the beginning of the guide.) Their state cigarette tax rates per pack are exceedingly low compared to states with lower smoking rates and higher taxes. For

example, Missouri charges only 17 cents per pack in taxes, while in New York, where the smoking rate is declining nearly 29 percent faster than the national average,<sup>1</sup> the tax per pack is \$4.35.<sup>2</sup>

Obviously, the cost of cigarettes has a lot to do with how likely people are to smoke. The nationwide average cost of a pack is \$5.50. For someone who smokes a pack a day, that adds up to \$2,007.50 per year.

On the following website is another map where you can get up close and personal with how your own state did in the American Lung Association's State of Tobacco Control, 2014:

[www.stateoftobaccocontrol.org](http://www.stateoftobaccocontrol.org).

Simply select your state from the dropdown menu to look at its "report card" for four areas: How Much the State Spent on Tobacco Prevention, In What Areas Smoking is Prohibited or Restricted, The Amount of the State Cigarette Tax, and Funding for Smoking Cessation in State-Supported and Private Health-care Plans.

Sources: 1) Tobacco Free New York State <http://www.tobaccofreenys.org/tobacco-control-works-ny/>

2) [www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf](http://www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf)

# Your Environment & Cancer

Most people think of the outdoors when they think of “the environment.” Cancer research scientists define the environment as everything outside the body. Anything that enters the body and interacts with it is part of this scientific environment. These interactions are called environmental exposures. When you go outside you are exposed to sunshine, and that means harmful exposure to UV (ultraviolet) rays. Most of the meat we eat is from animals that were given hormones. Many fruits and vegetables are dangerously high in pesticide residue. There are viruses, bacteria, and chemicals in the air, water, food, and workplace.

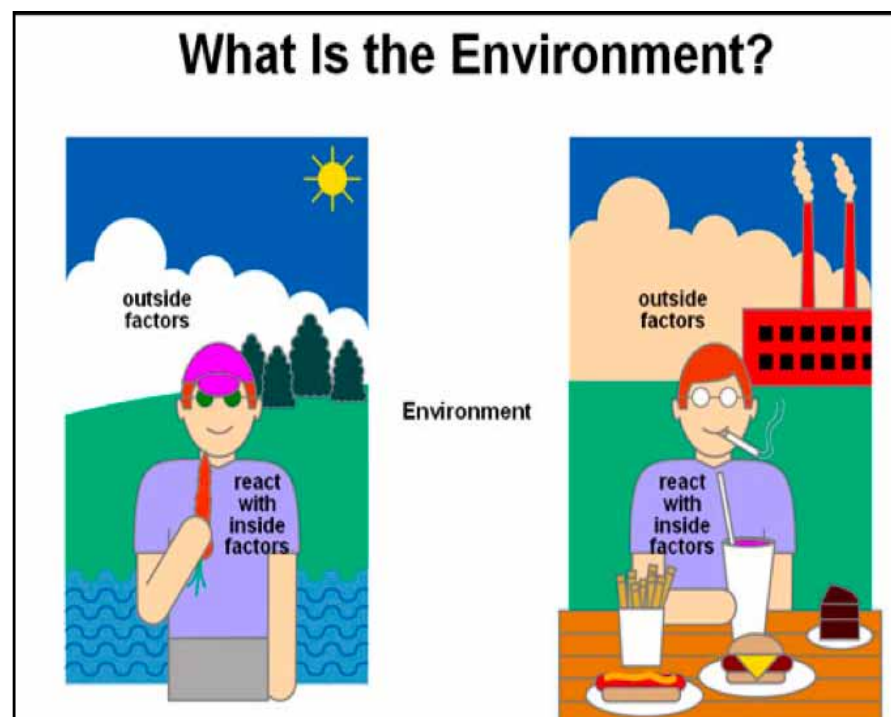
We can choose to avoid some of our environmental exposures. We can choose not to use tobacco or drink alcohol, and we can eat a healthful diet and exercise regularly. We can use sunblock when we

will be outdoors and wear a hat and sunglasses. It is not so easy to avoid unknown components in food or substances in the air, water and soil.

It has been estimated by cancer researchers that about 67 percent of cancer cases can be linked to environmental exposures.

## Activity

Look at the picture to the right. Then make a T-chart and list the outside factors that are affecting the person’s health in a positive way. List the outside factors that are affecting his health in a negative way. Which factors can the person change and which need community action?



Source: American Cancer Society

# Carcinogens in Tobacco & Your Environment

It isn’t just the nicotine in tobacco products that’s bad for you, some estimate that cigarettes contain more than 70 chemicals that are known to cause cancer<sup>1</sup>. These chemicals are also referred to as carcinogens. Here are a few that you should know about:

## Arsenic

Arsenic is a naturally occurring, poisonous element found in the soil. Arsenic may be found alone as a metal, or more commonly as a metal-like compound. The International Agency for Research on Cancer has classified arsenic as cancer causing to humans. Inorganic arsenic has been linked to several cancers, including: lung, skin, bladder, liver and kidney. Arsenic-containing pesticides used in tobacco farming exist in small quantities in cigarette smoke. Inorganic arsenic is present in mainstream tobacco smoke. According to a report from the California Air Resources Board and the Department of Health Services, smokers breathe an estimated 0.8 to 2.4 micrograms of inorganic arsenic per pack of cigarettes, with approximately 40 percent of it being deposited in the respiratory tract.

## Benzene

Benzene is a hydrocarbon present because of the burning of tobacco. Benzene becomes dangerous during the course of its transit through the body when it gets absorbed by the lungs and then transported to various organs like the liver. It’s difficult to take benzene out of tobacco

smoke because it’s not in tobacco; it’s produced during the burning process. Benzene is a gas that can irreversibly damage the lungs to produce things like emphysema and asthma. Asthma has been shown to develop in children whose parents smoke.

## Cadmium

A single cigarette typically contains 1-2 micrograms of cadmium. When burned, cadmium is present at a level of 1,000-3,000 parts per billion in the smoke. Approximately 40 to 60 percent of the cadmium inhaled from cigarette smoke is able to pass through the lungs and into the body. This means that for each pack of cigarettes smoked, a person can absorb an additional 1-3 micrograms of cadmium over what is taken in from other sources in their daily life. Smokers typically have twice as much cadmium in their bodies than nonsmokers. Cadmium causes damage to the liver, kidneys and brain, and stays in the body for years.<sup>2</sup>

## Formaldehyde

Formaldehyde is a substance known to cause cancer in humans found in tobacco smoke. The chemical is primarily used in industrial products and to preserve dead bodies. Long-term inhalation of formaldehyde increases your risk for cancer of your nasal passages and certain types of leukemia. These cancers afflict industrial workers exposed to formaldehyde as well as funeral workers, because it’s a key component of embalming fluid. It is not



clear specifically how exposure to formaldehyde causes cancer, although exposure leads to chemical reactions that can damage the genes inside cells, potentially causing cancer.<sup>3</sup>

Sources: 1) U.S. Department of Health and Human Services.: <http://betobaccofree.hhs.gov/about-tobacco/Smoked-Tobacco-Products>  
2) Cadmium Factsheet, April 2010. Centers for Disease Control  
3) Formaldehyde and Cancer Risk Fact Sheet. National Cancer Institute. [www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde](http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde)

## Activity

Visit [www.stateoftobaccocontrol.org](http://www.stateoftobaccocontrol.org) and enter your zip code to learn about the quality of air in your community, then answer the following questions.

1. What grades did your state receive in each of the four areas measured by the State of Tobacco Control report?
2. What is the amount of tax that your state charges on a pack of cigarettes?
3. What changes do you think your state needs to make in order to improve its grades?

# Community Impact: Investing in Health Equity

So far, you have learned a lot about the various types of cancer. You have also learned where your state, county and community stand when it comes to cancer rates and tobacco use. But did you know that although the U.S. is one of the richest countries in the world, we rank 29th for life expectancy? We spend more than twice as much per person as what other countries spend on health care, but America gets failing grades when it comes to dealing with cancer, heart disease, and diabetes.<sup>1</sup>

You might be wondering what, if anything, you can do and why it should matter to you. Of course, you can pass this special section on to friends and family and discuss the information you've learned about how much tobacco use affects health in general. That is definitely Step One, and it is not a very difficult one to take. More than that, you could be surprised to find that by working together with other committed people your age, you can reach out to a much larger group of people than you imagine.

## How Do I Get Involved?

The answer to this question depends on where you live and what problems you can identify in your community. You will need to use your skills as an investigator (and maybe even as an under-cover spy) to find out what's going on and then make some plans to change things.

USE CAUTION when you are out in your community asking questions. If you run up against any hostility, just turn and

walk away. Some people may simply want to hold onto their unhealthful habits and get offended if they are challenged. Remember, just walk away.

## On to Step Two

Step Two is really the rest of what you will do to try to make your community a healthier place. Have you ever been placed in a certain class based on how well you did in a certain subject? (For example, students who demonstrate that their skills are higher than average have the opportunity to take Advanced Placement classes, while those who do not do well on tests may have to repeat a class.)

In a similar way, you will first need to give your community or neighborhood a "grade" for health risks. To answer the following questions, you will need to do some research. To make things easier, work in teams of six, and then in pairs within the team, to find out the answers. Report your findings back to the team and to the class. Add information other teams learned to what you gathered so that everyone has the same information.

## Health Determinant: Tobacco Use

1. Count how many places you see advertising for tobacco products within five miles of your home. (20 miles if you live in a rural area)
2. About how much does a person pay for a pack of cigarettes or a container of smokeless tobacco?



Did you know that CVS Health stopped selling cigarettes and other tobacco products at its CVS Pharmacy stores? Ask other companies to follow their lead!

3. Is there a law prohibiting the sale of tobacco products to anyone under a certain age? What is the minimum age for sale of tobacco in your city? Is it enforced?

4. Are there laws in your state that prohibit smoking in:
- Restaurants?
  - Schools?
  - Day care centers?
  - Workplaces?

5. How often do you and family members find yourselves breathing bad air—from secondhand smoke, exhaust fumes

from idling vehicles, factory emissions or other air pollution? How many times per day, per week? Maybe never?

6. Where do you see cars, buses or trucks idling (running with their engines on even though they are not moving)?

At [www.youtube.com](http://www.youtube.com), search for "Tobacco Videos" . . . lies, commercials, etc. to see ways tobacco companies have promoted smoking through the years.

Source: 1) [www.ncbi.nlm.nih.gov/books/NBK62584](http://www.ncbi.nlm.nih.gov/books/NBK62584)

## Action Plans

Below are some suggested actions that coordinate with the areas your team investigates. The ones you choose will depend on what you learned and which are most appropriate for your grade level, transportation capability, and other factors.

You may want to coordinate your activities with the Great American Smokeout, which takes place the third Thursday in November, or Kick Butts Day, which takes place in March. Your main goal will be to get students at your school to stop using tobacco. Try to get your parents involved at their workplace, too.

**Write a story for the school newspaper about the social and health consequences of smoking.**

**Create a "How to Quit" brochure to hand out to anyone who wants to stop using tobacco.** Be sure to include online and community resources. A good place to start is with the information included in the Resources section that follows.

**Create and produce an anti-tobacco**



**commercial.** Ask teachers in every home-room to show it. Include in your commercial an invitation to student smokers to stop at a certain place (the guidance office, school nurse, etc.) for information on how to quit. Be sure that place is well supplied with brochures, which you can get from a number of different organizations (see Resources). For inspiration, watch some tips from former smokers at: [www.cdc.gov/tobacco/campaign/tips/stories](http://www.cdc.gov/tobacco/campaign/tips/stories).

**Hold a contest for the best stop-smoking poster.** All of the posters entered

should be displayed first in your school. Then, several days after the contest winner is announced, take the posters to the community. Ask business owners' or managers' permission to put the posters up. Don't forget public places like libraries, fire stations, senior centers, and community halls. Include a "Take One" pocket near each poster with brochures about how to quit.

**Ask a local radio or TV station to interview you or your team about your activities.**

**Write a press release about your activities and send it to your local newspaper.**

**"Adopt" an adult or family member who smokes and wants to quit.** Be sure he or she has access to as much information as possible on the best ways to quit, including medications. Contact him or her several times every day to check in with how he or she is doing.

**Each team should ask a local business to get involved with this one. Your team will need two shoeboxes.** Decorate one shoebox to look like a coffin. The other one can be decorated with lots of "blingy" stickers and sayings like "Brilliant!" "Way to go!" and "You can do it!" This second shoebox should have a slot in the top. You will also need to create and print some "pledges" for smokers to sign, pledging that they have quit. The idea is for smokers to put their cigarettes in the "coffin" shoebox and a signed pledge in the other. Design and print some "I Quit Smoking!" stickers for those who sign the pledge.

# Especially for Parents

Using this supplement, your son or daughter has been learning about tobacco use and its connection to many different types of cancer. We hope that your child is not using tobacco, and that he or she never starts. If you are a former smoker, you probably know it was hard to quit. If you currently use tobacco, you'll find plenty of good reasons to quit in these pages. You will also find resources to help you quit. Parents are important role models for children, and if you smoke they may think it's the grown-up thing to do. If you don't want your child to smoke, be a good role model! Start your "quit plan" now—and as you are going through the inevitable withdrawal, be sure to tell your kids how hard it is and how much you wish you had never started.

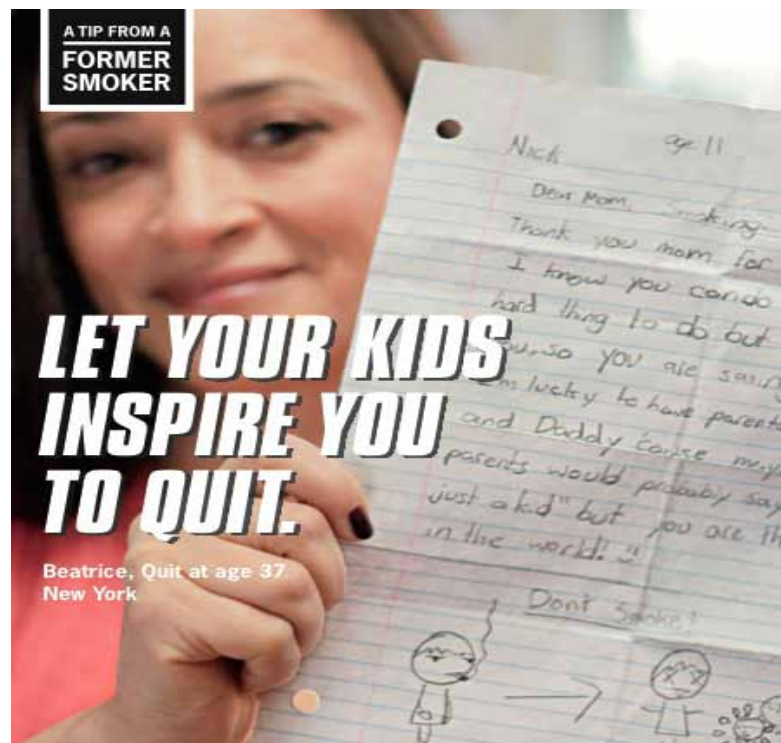
Kids are already exposed to smoking as a glamorous activity in movies and even in video games. They see dozens of ads for tobacco products. As a parent, your task is to combat the glamour by helping your kids see the other side of smoking.

## It's Never Too Early to Talk

You should start emphasizing the risks of smoking when children are as young as five or six. Don't assume that they "got the message" and will never start. Peer pressure is strong. Keep talking through their teens.

Since it is difficult for teens to imagine themselves getting a disease like cancer, your efforts to keep your child from smoking may be most effective if you emphasize the diseases and disabilities caused by smoking. The negative health consequences of tobacco use have a proven track record of effectively reaching youth. You can also note "nastiness" of it—yellow teeth and nails, bad breath, and smelly clothes. Point out people you know who are long-term smokers—those with an ever-present cough, hoarse smoker's voice and wrinkles.

If you have visitors who smoke ciga-



rettes or e-cigarettes or use any form of smokeless tobacco, ask them to use outside. Secondhand smoke is dangerous for everyone to breathe, especially babies or young people. The idea of smokers having to be isolated to indulge in the habit adds more negative connotations to tobacco use (similar to "time out"). If your children have friends who smoke, rehearse scenarios with your children that involve the friends offering them tobacco and them saying no in various ways.

If your teen smokes or uses smokeless tobacco or e-cigarettes, it's time for a serious talk and an offer to help them quit. You might feel like laying down the law and imposing serious consequences, but that may make the problem worse. Try to find out why your child began smoking. Does it make him or her feel part of a certain peer group? Is a group with a "smoking requirement" worth being part of? Is he or she attempting to relieve stress with nicotine? Try to help your teen find other ways to cope.

An approach that may work is to emphasize that teenagers as a whole are being manipulated by the tobacco industry. It is no coincidence that the most popular brands of cigarettes among teen smokers are Newport,

Marlboro and Camel. According to the "Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General," these are the brands most heavily marketed to teens.

## Be Vigilant

Also be aware that tobacco companies have introduced new ways to entice teenagers. Watch out for small, sweet cigars in packaging that looks like candy. They are popular with kids because they are usually sold in small packages or individually. This means they cost less, and also that there are no leftovers to hide from parents. Also be on the lookout for smokeless tobacco products that look like breath mints, teabags or even toothpicks. And don't believe your kids if they tell you that e-cigarettes are nothing but water vapor. E-cigarettes contain nicotine which is addictive and could harm adolescent brain development. They could also lead to youth use of other types of tobacco products such as cigarettes.

As a citizen, you can support smoke-free laws and higher cigarette taxes. These are proven to protect people from secondhand smoke and reduce tobacco use.

## Resources

### Centers for Disease Control and Prevention (CDC)

[www.cdc.gov/tobacco](http://www.cdc.gov/tobacco)

The CDC, through the Office on Smoking and Health (OSH), is the lead federal agency for comprehensive tobacco prevention and control.

### CDC's Tips From Former Smokers Campaign

[www.cdc.gov/tips](http://www.cdc.gov/tips)

The Centers for Disease Control and Prevention (CDC) launched the first-ever paid national tobacco education campaign—Tips From Former Smokers (Tips) in March 2012 and it has continued through 2013 and 2014. The Tips campaign, profiles real people—not actors—who are living with serious long-term health effects from smoking and secondhand smoke exposure.

### CDC's Cancer Prevention Among Youth

[www.cdc.gov/cancer/dpc/prevention/youth.htm](http://www.cdc.gov/cancer/dpc/prevention/youth.htm)

Youth go through many physical and social changes as they grow into adults. These changes create unique opportunities for cancer prevention. By addressing certain exposures and behaviors among today's youth, we can reduce their chances of getting cancer in the future.

### American Cancer Society

[www.cancer.org](http://www.cancer.org)

The American Cancer Society is the nationwide community-based voluntary health organization dedicated to preventing cancer, saving lives and diminishing suffering from cancer through research, education, advocacy, and service.

### ACS Great American Smokeout

[www.cancer.org/healthy/stayawayfromtobacco/greatamericansmokeout](http://www.cancer.org/healthy/stayawayfromtobacco/greatamericansmokeout)

The Great American Smokeout is the third Thursday in November. Call (800) ACS-2345 or visit their website.

### American Lung Association

[www.lung.org](http://www.lung.org)

1-800-LUNGUSA (1-800-586-4872)

### Be Tobacco Free

[www.betobaccofree.gov](http://www.betobaccofree.gov)

BeTobaccoFree.gov provides information from various Department of Health and Human Services (HHS) operating and staff divisions. Topics covered include: About Tobacco, Health Effects, Quit Now, and Don't Start.

### Campaign for Tobacco-Free Kids

[www.tobaccofreekids.org](http://www.tobaccofreekids.org)

Launched in September 1995, the Campaign for Tobacco-Free Kids was created to protect young people from tobacco addiction.

### How to Quit

[www.cdc.gov/tobacco/quit\\_smoking/index.htm](http://www.cdc.gov/tobacco/quit_smoking/index.htm)

This is an online version of the consumer guide titled You Can Quit Smoking. Originally produced by the Agency for Health Care Policy and Research, this brochure provides practical information and helpful tips for those who plan to quit smoking.

### Kick Butts Day

[www.kickbuttsday.org](http://www.kickbuttsday.org)

The annual Kick Butts Day in March is the Campaign for Tobacco Free Kids' annual celebration of youth advocacy, leadership and activism.

### Lung Cancer: Number One Cancer Killer in Women

<http://www.lungforce.org>

Most people know that pink is the color for breast cancer awareness. As of May 14, 2014, the American Lung Association has made turquoise the color for women's lung cancer awareness. You can "turquoise" your Facebook or Twitter profile at [www.lungforce.org](http://www.lungforce.org). The site has other ideas for encouraging the women you love not to smoke.

### National Cancer Institute

[www.cancer.gov](http://www.cancer.gov)

### Prevent Tobacco Use: A CADCA Toolkit

[www.preventtobaccouse.org](http://www.preventtobaccouse.org)

This comprehensive toolkit designed by Community Anti-Drug Coalitions of America (CADCA) provides strategies community and state leaders can implement to prevent and reduce tobacco use.

### Geographic Health Equity Alliance (The Alliance)

[www.nohealthdisparities.org](http://www.nohealthdisparities.org)

The Alliance aims to raise awareness about geographic health disparities related to tobacco and cancer and to support the development, dissemination and implementation of effective public health practices. The Alliance is managed by Community Anti-Drug Coalitions of America (CADCA) and is one of 7 national networks funded by the CDC.

Learn more at: [www.lung.org/stop-smoking/about-smoking/preventing-smoking/for-parents.html](http://www.lung.org/stop-smoking/about-smoking/preventing-smoking/for-parents.html)

## Activity:

According to the American Lung Association, nearly half of all Americans breathe unhealthy air. Visit [www.stateoftheair.org](http://www.stateoftheair.org). Enter your zip code to learn more about the quality of the air in your community. Explore the site to find out what you can do.

A TIP FROM A  
**FORMER  
SMOKER**

# ***AFTER YOU HAVE A LUNG REMOVED, TAKE SHORT BREATHS.***

Annette, Age 57, Diagnosed at 52  
New York

Smoking causes immediate damage to your body.  
For Annette, it caused lung cancer. You can quit.  
For free help, call **1-800-QUIT-NOW.**



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention  
[www.smokefree.gov](http://www.smokefree.gov)