

# HEALTH

THE BASICS *green edition*



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PowerPoint® Lecture Outlines prepared by  
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### Alcohol and Tobacco

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- About 8.6 million people in the U.S. have at least one serious illness caused by smoking.
  - For every person who dies of a smoking-related disease, there are 20 more people who suffer from at least one serious illness associated with smoking.<sup>3</sup>
  - Among current smokers, chronic lung disease accounts for 73 percent of smoking-related conditions. Even among smokers who have quit chronic lung disease accounts for 50 percent of smoking-related conditions.<sup>4</sup>

# Tobacco Use in the United States

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## ■ Financial Costs to Society

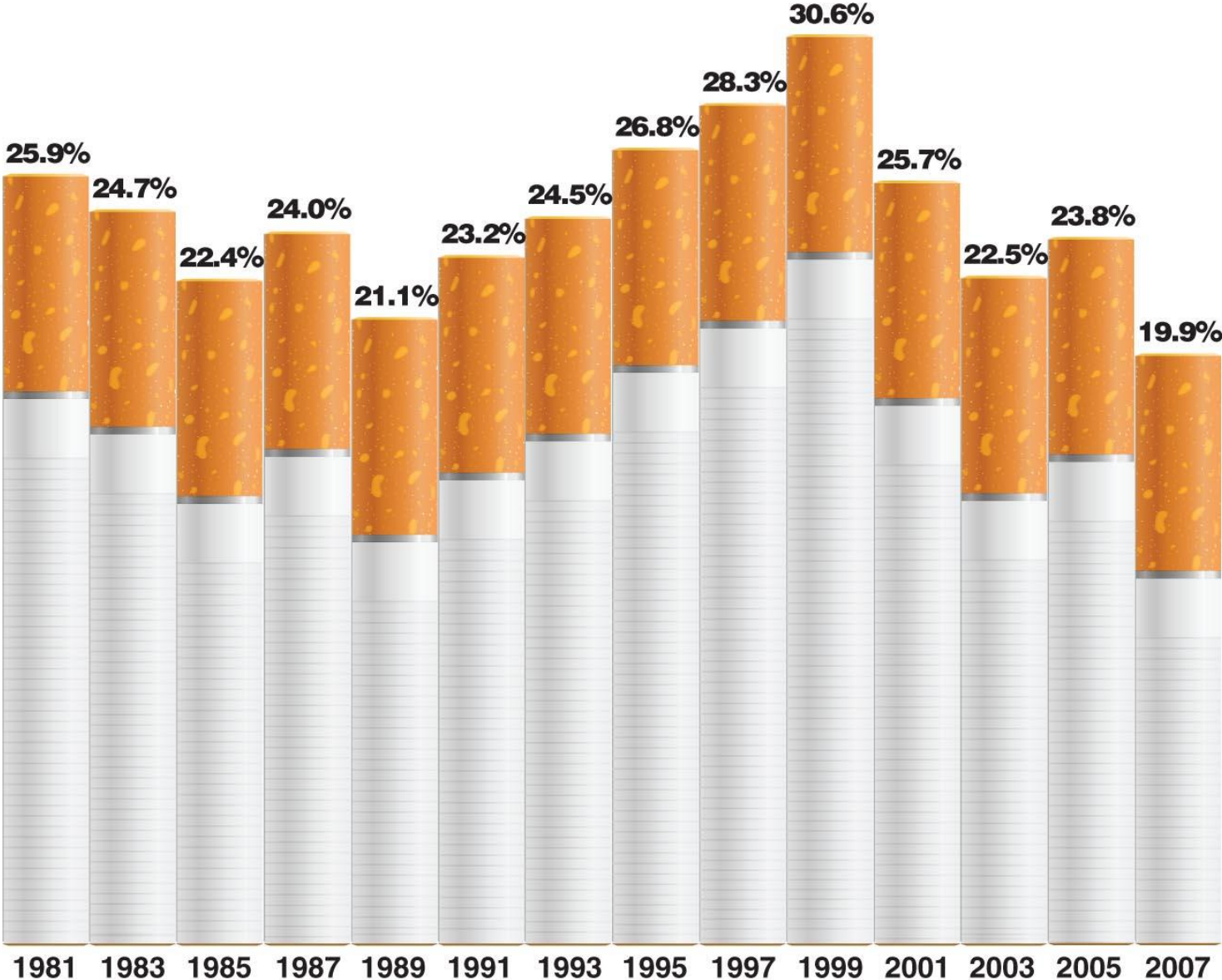
- \$193 billion in annual health-related economic losses
- \$95 billion in medical expenditures

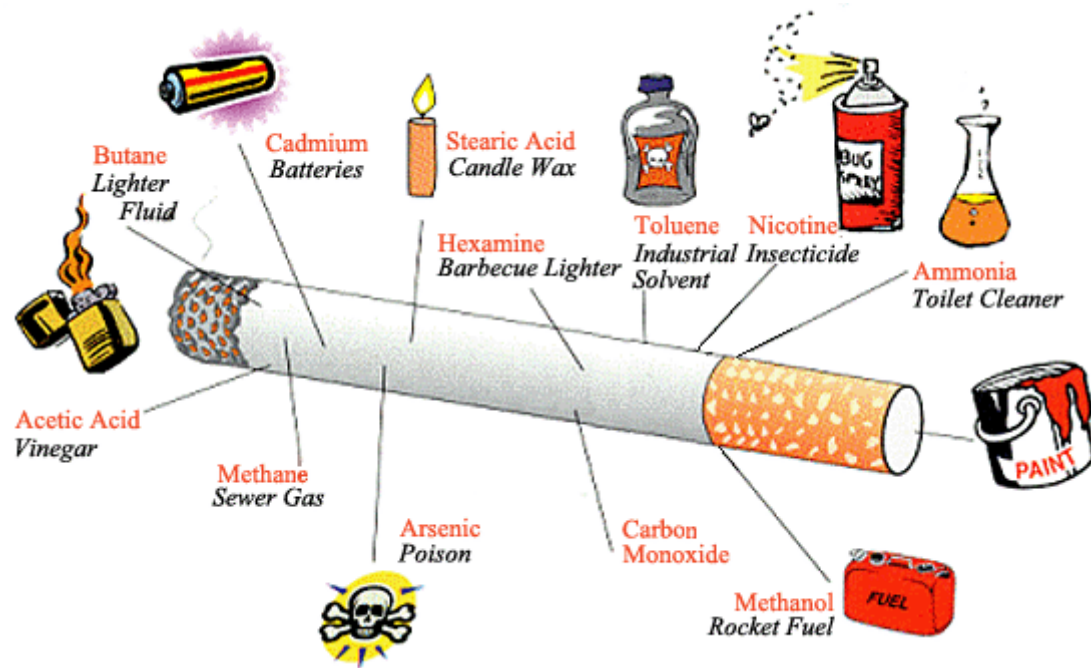
## ■ College Students and Tobacco Use

- Estimated 19 percent reported having smoked in the past 30 days in a 2007 study
- “Social smokers” are those who smoke when they are with people, rather than alone.

## ■ *Does tobacco appear to be a big problem on your campus?*

# Trends in Prevalence of Cigarette Smoking in the Past Month among College Students





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- Many of these chemicals are also found in consumer products, but these products have warning labels. While the public is warned about the danger of the poisons in these products, there is no such warning for the toxins in tobacco smoke.
  - Here are a few of the chemicals in tobacco smoke, and other places they are found:
    - Acetone – found in nail polish remover
    - Acetic Acid – an ingredient in hair dye
    - Ammonia – a common household cleaner
    - Arsenic – used in rat poison
    - Benzene – found in rubber cement
    - Butane – used in lighter fluid
    - Cadmium – active component in battery acid
    - Carbon Monoxide – released in car exhaust fumes
    - Formaldehyde – embalming fluid
    - Hexamine – found in barbecue lighter fluid



# Tobacco and Its Effects

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## ■ Nicotine

- It is the main addictive substance in tobacco.
- Stimulates CNS.
- Stimulates adrenal glands.
- Increases production of adrenaline.
- Increases heart rate.
- Increases respiratory rate.
- Constricts vessels.
- Increases blood pressure.

# Tobacco and Its Effects

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## ■ **Tar and Carbon Monoxide**

- Tar is a thick, brownish sludge, that contains various carcinogenic (cancer-causing) agents.
- Tar accounts for about 8 percent of tobacco smoke.
- 92 percent of the remaining tobacco smoke consists of various gases.
- The most dangerous gas is carbon monoxide, which is 800 times higher than the level considered safe by the EPA.
- Carbon monoxide causes oxygen deprivation in many body tissues.



# Tobacco and Its Effects

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## ■ Tobacco Addiction

- Between 60 and 80 percent of people have tried a cigarette.
- Smoking delivers the drug to the brain in just a few seconds.
- *Nicotine poisoning*—dizziness, light-headedness, rapid and erratic pulse, clammy skin, nausea, vomiting, and diarrhea
- When a person continues to smoke because stopping is too difficult, that person is addicted.
- *Pairing*—an environmental cue triggers a craving for nicotine
- Two specific genes may influence smoking behavior by affecting dopamine.

# Tobacco and Its Effects

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## ■ Tobacco Products

- Cigarettes
- Cigars
- Pipe
- Bides (hand-rolled, flavored cigarettes)
- Spit (smokeless) tobacco
  - Chewing tobacco
  - Dipping
  - Snuff



# Health Hazards of Tobacco Products

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## ■ Cancers

- Lung 85 to 90 percent associated with smoking
- Pancreatic
- Lip
- Esophagus
- Tongue

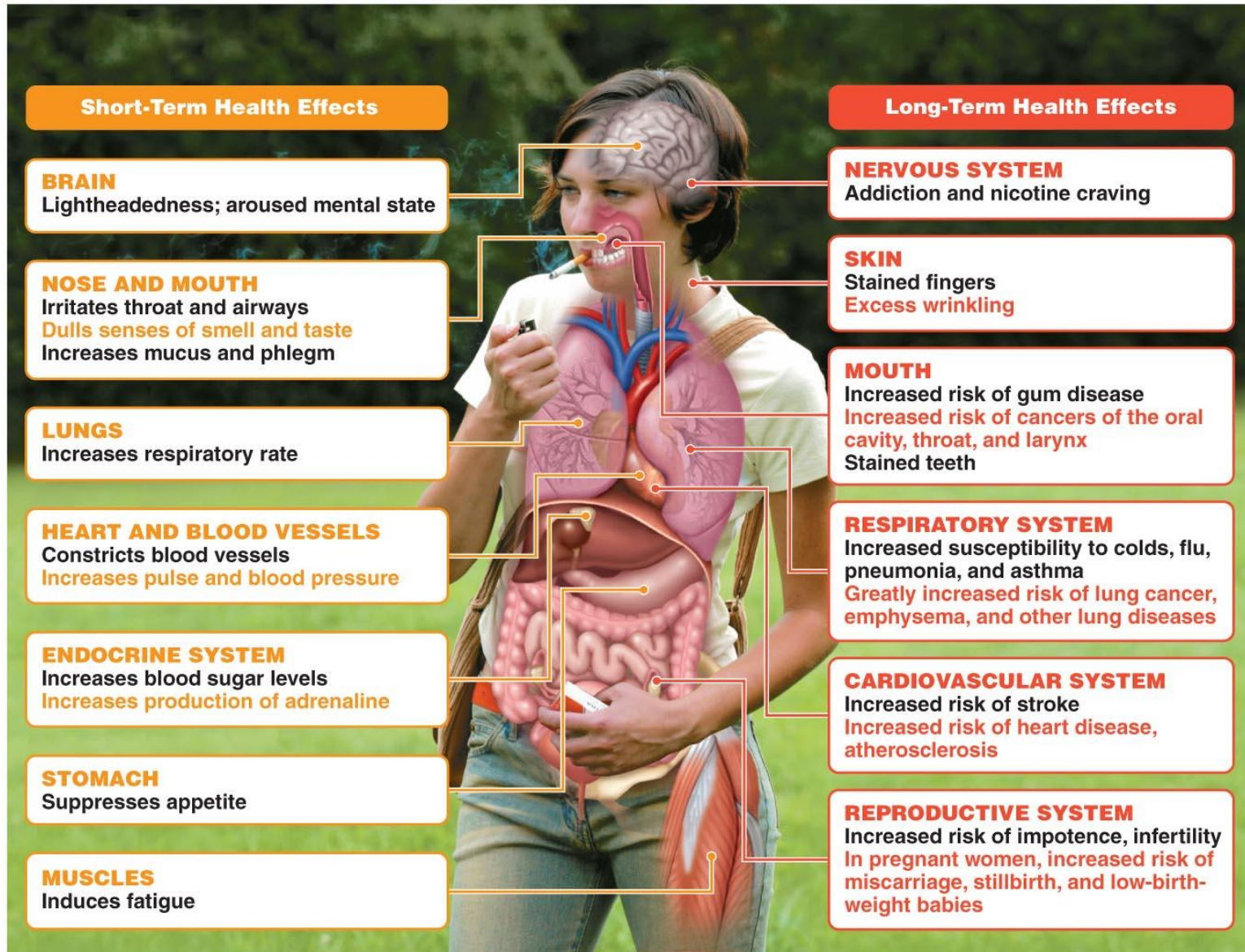
## ■ Cardiovascular disease

- Smokers have a 70 percent higher death rate than nonsmokers.

## ■ Stroke

- Smokers are 2 times more likely to suffer a stroke than nonsmokers.

# Effects of Smoking on the Body and Health



# Health Hazards of Tobacco Products

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## ■ **Respiratory Disorders**

- Chronic bronchitis
- Emphysema

## ■ **Sexual Dysfunction and Fertility Problems**

- Males are twice as likely to suffer impotence as are females.
- Women are likely to suffer infertility and problems with pregnancy.

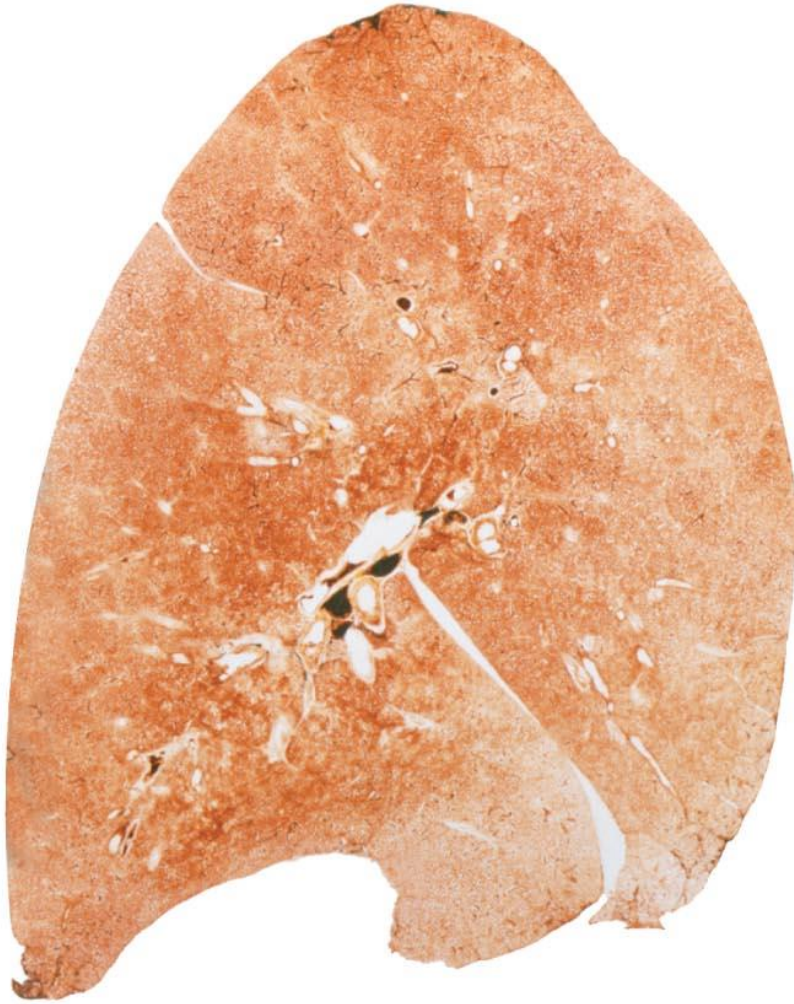
## ■ **Other Health Effects**

- Gum disease, macular degeneration, premature skin wrinkling, and risk of Alzheimer's disease
- Metabolism of drugs affected



# Comparison of Cross Sections with a Healthy Lung and with the Lung of a Smoker

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**a** A healthy lung



**b** A smoker's lung permeated with deposits of tar

# Environmental Tobacco Smoke

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- **Risks from Environmental Tobacco Smoke (ETS)**
  - *Mainstream*—smoke drawn through tobacco while inhaling
  - *Sidestream*—smoke from the burning end of a cigarette or smoke exhaled by a smoker
    - Contains 2 times more tar and nicotine, 5 times more carbon monoxide, and 50 times more ammonia than mainstream smoke
    - Causes more deaths a year than any other environmental pollutant
  - Every year, ETS is estimated to be responsible for 3,000 lung cancer deaths, 46,000 coronary and heart disease deaths, and 430 SIDS deaths in newborns.



# Clear the Air

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## ■ **Efforts to Reduce the Hazards of ETS**

- 17,059 municipalities across the United States are covered by a 100 percent smoke-free provision in workplaces, and/or restaurants, and/or bars.
- Hotels and motels set aside rooms for nonsmokers, and many hotels are now 100 percent smoke free.
- Car rental agencies designate certain vehicles for nonsmokers.
- Smoking is banned on all U.S. airlines.
- Many colleges have rules in effect banning smoking in all public places.

# 3<sup>rd</sup> hand smoke

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- **What Exactly is Third-hand Smoke?**
- Third-hand smoke is a term used to describe the particles and gases that are left over after a cigarette is extinguished. These particles land and remain on virtually any surface in an area where someone has smoked -- on clothes, in hair, on furniture and on flooring.

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- **Why is Third Hand Smoke Dangerous?**
  - Chemicals that are left over after smoking land on any surface in an area where smoking has taken place. Studies have found that of chemicals in third-hand smoke, 11 are [carcinogens](#) (substances capable of causing cancer.) A few of the chemicals that have been found on surfaces after smoking include [nicotine](#), [cyanide](#), [radioactive polonium-210](#), lead, [arsenic](#), butane, polycyclic aromatic hydrocarbons, and butane.
  - [“Off-gassing”](#). Off-gassing occurs when substances from smoke that have been deposited on surfaces, such as nicotine, are released back into the air as gases. Through this process, tobacco residue that has built up on surfaces continues to emit toxins long after smoking has occurred.
  - new toxins are created by the interaction of substances in THS with other chemicals present in the environment

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- **Cigarettes & Gummy Bears**

- In 1997, a tobacco company executive said, in a sworn testimony, that he believed cigarettes were no more addicting than Gummy Bears.

# Tobacco Use and Prevention Policies

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- It has been over 40 years since the government recognized the hazard of tobacco use.
- In 1998, the tobacco industry reached a Master's Settlement Agreement with 40 states.
- 46 states have sued to recover health care costs related to treating smokers.
- States have imposed extra taxes on tobacco products.
- Tobacco control initiatives are increasing.
  
- ***Have you seen any antismoking public service announcements you thought were powerful?***

# Quitting

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- **Breaking the Nicotine Addiction**
  - 70 percent attempt to quit a year
  - Fewer than 5 percent succeed
- **Nicotine Replacement Products**
  - Nicotine chewing gum
  - Nicotine patch
  - Nicotine nasal spray
  - Nicotine inhaler
  - Nicotine lozenges

# Tips for Quitting



## Tips for Quitting

If you're a smoker and you're ready to quit, try these tips to help kick the habit:

- \* Use the four Ds to fight the urge to smoke:
  - Delay—put off smoking for 10 minutes; when the 10 minutes are up, put it off for another 10 minutes.
  - Deep breathing
  - Drink water
  - Do something else
- \* Keep “mouth toys” handy: hard candy, gum, toothpicks, and carrot sticks can help.
- \* If you've had trouble stopping before, ask your doctor about nicotine chewing gum, patches, nasal sprays, inhalers, or lozenges.
- \* Tell your family and friends that you've stopped smoking so they won't offer you a cigarette.
- \* Aim to spend your time in places that don't allow smoking.
- \* Take up a new sport, exercise program, hobby, or organizational commitment. This will help shake up your routine and distract you from smoking.
- \* Throw out your cigarettes or keep them in a place that's harder to access or that makes smoking inconvenient, such as the freezer, in your car's glove compartment, or at a friend's house.

Skills for Behavior Change



# Quitting

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## ■ Smoking Cessation Medications

- Bupropriion (Zyban) works on dopamine and norepinephrine receptors in the brain.
- Chantix reduces nicotine cravings and it blocks the effects of nicotine at nicotine receptor sites in the brain.
  - Both drugs are associated with changes in behavior such as hostility, agitation, depressed mood, and suicidal thoughts or actions.
- NicVAX, an antismoking vaccine, is due out on the market soon.
  - Intended to prevent nicotine from reaching the brain, making smoking less pleasurable

# Quitting

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## ■ **Breaking the Smoking Habit**

- Operant conditioning
- Self-control therapy

## ■ **Benefits of Quitting**

- Many tissues will repair themselves, according to the American Cancer Society.
- Gain more energy, sleep better, and feel more alert
- Women less likely to bear babies with low birth weight
- Can save about \$1,772.68 per year

# When Smokers Quit

**START  
HERE**



## **8 hours**

- Carbon monoxide level in blood drops to normal.
- Oxygen level in blood increases to normal.

## **48 hours**

- Nerve endings start regrowing.
- Ability to smell and taste is enhanced.

## **1 to 9 months**

- Coughing, sinus congestion, fatigue, shortness of breath decreases.
- Cilia regrow in lungs, which increases ability to handle mucus, clean the lungs, reduce infection.
- Body's overall energy increases.

## **5 years**

- Lung cancer death rate for average former smoker (one pack a day) decreases by almost half.

## **15 years**

- Risk of coronary heart disease is that of a nonsmoker.

## **20 minutes**

- Blood pressure drops to normal.
- Pulse rate drops to normal.
- Body temperature of hands and feet increases to normal.

## **24 hours**

- Chance of heart attack decreases.

## **2 weeks to 3 months**

- Circulation improves.
- Walking becomes easier.
- Lung function increases up to 30%.

## **1 year**

- Excess risk of coronary disease is half that of a smoker.

## **10 years**

- Lung cancer death rate similar to that of nonsmokers.
- Precancerous cells are replaced.
- Risk of cancer of the mouth, throat, esophagus, bladder, kidney, and pancreas decreases.

# Litigation and Big Tobacco

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- In May 1998, we reached an historic settlement in the State of Minnesota and Blue Cross and Blue Shield of Minnesota's lawsuit against the major cigarette manufacturers after 15 weeks of trial. The case was settled for \$6.13 billion on behalf of the State of Minnesota and \$469 million on behalf of Blue Cross and Blue Shield of Minnesota. The [discovery](#) obtained by the firm is being used by other states, private litigants and foreign countries.

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**New York Times reporter Walt Bogdanich talks about Philip Morris' \$10 billion lawsuit against the American Broadcasting Companies and him for his reporting on how tobacco companies add nicotine to cigarettes.**

- <http://www.youtube.com/watch?v=J8dNUabRoIQ>

# Obama and Tobacco

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The Family Smoking Prevention and Tobacco Control Act requires tobacco product manufacturers and importers to:

- report quantities of harmful and potentially harmful constituents (HPHCs) found in tobacco products or tobacco smoke by brand and sub-brand.
- HPHCs are chemicals or chemical compounds in a tobacco product or tobacco smoke that cause, or could cause, harm to smokers or non-smokers.
- All HPHCs included on the list cause or may cause serious health problems including cancer, lung disease, and addiction to tobacco products.

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- more than 7,000 chemicals in tobacco and tobacco smoke, FDA has today established a list of 93 HPHCs that tobacco companies will be required to report for every regulated tobacco product sold in the United States.
  - Tobacco companies will be required to report the quantity of harmful and potentially harmful constituents – [HPHCs](#) – that are in their products to the FDA.



## Big Food' copying 'Big Tobacco'

Updated Mon Apr 29, 2013 11:58pm AEST

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- More than a dozen lawyers who took on the tobacco companies have filed 25 cases against industry players like ConAgra Foods, PepsiCo, Heinz, General Mills and Chobani that stock pantry shelves and refrigerators across America.
- <http://www.abc.net.au/news/2013-04-29/big-food-copying-big-tobacco/4658956>

# Food Vs Tobacco

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- *Is there is a fundamental and irreconcilable conflict between the food and beverage industry's interests and public health policy interests on obesity?*
- Food is obviously different from tobacco, and the food industry differs from tobacco companies in important ways, but there also are significant similarities in the actions that these industries have taken in response to concern that their products cause harm. Because obesity is now a major global problem, the world cannot afford a repeat of the tobacco history, in which industry talks about the moral high ground but does not occupy it.