

# AU InforMed

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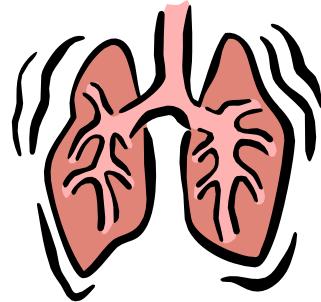


## Key Inforbits

- Why are the lungs important?
- Hazards of smoking
- Smoking Cessation
- FDA Update
- Did you know...about autumn?
- Happy Halloween

October is...

## Healthy Lung Month



### Why are the lungs important?

Oxygen is the fuel required for normal cell and organ function, and it is through the lung that oxygen enters our bloodstream. The lungs are also responsible for removing carbon dioxide, which is the metabolic by-product of oxygen. Without the lungs, there would be no way for our organs to receive the fuel they require or eliminate some toxins. Although the lungs are central organs, they are constantly being exposed to environmental factors. With every breath, pollen, dust, pet dander, viruses, bacteria, and air borne chemicals invade our bodies and leave us vulnerable to numerous diseases.

- Lung disease is currently the third most deadly disease in the U.S. and is responsible for about 1 in every 6 deaths.
- It is responsible for more than 400,000 deaths per year in the U.S.
- Lung disease includes conditions such as asthma, COPD, lung cancer, tuberculosis, influenza, pneumonia, and sarcoidosis.
- The most common risk factor for lung disease is smoking.

1. Lungusa.org [homepage on the Internet]. American Lung Association; Washington, DC: c2009 [cited August 28, 2009]. Available from: [http://www.lungusa.org/site/c.dvLUK900E/b.22551/k.F8CD>Your\\_Lungs.htm](http://www.lungusa.org/site/c.dvLUK900E/b.22551/k.F8CD>Your_Lungs.htm)



### Smoking

About 440,000 people in the U.S. die each year as a result of diseases caused by smoking. This means that 1 in 5 deaths is thought to be due to smoking. Cigarette smoke contains over 4,800 chemicals, 69 of which are known to cause cancer. An estimated 87% of all lung cancer cases are thought to be due to smoking, and it contributes to as many as 30% of all cancer related deaths.

Smoking has also been found to be a major risk factor for premature and low birth weight babies. While many people only associate smoking with cigarettes, other tobacco products such as cigars and tobacco pipes are harmful as well.<sup>1,2</sup>

As of 2006, it was estimated that about 45.3 million Americans smoked. While there was a significant decline (40%) in the number of smokers from 1965 to 1990, the numbers since have been relatively stable. On the other hand, the number of cigarettes consumed per year has recently declined. U.S. consumption has dropped by more than 100 billion cigarettes over the last decade. Fortunately, this indicates that while the number of people smoking each year remains the same, the number of cigarettes they are smoking is decreasing.<sup>3</sup>

1. Lungusa.org [homepage on the Internet]. American Lung Association; Washington, DC: c2009 [cited August 28, 2009]. Available from: [http://www.lungusa.org/site/c.dvLUK900E/b.33347/k.AC09/Data\\_Statistics.htm](http://www.lungusa.org/site/c.dvLUK900E/b.33347/k.AC09/Data_Statistics.htm)
2. Lungusa.org [homepage on the Internet]. American Lung Association; Washington, DC: c2009 [cited August 28, 2009]. Available from: [http://www.lungusa.org/site/c.dvLUK900E/b.44465/k.1FA3/Smoking\\_and\\_Lung\\_Disease\\_in\\_Minority\\_Groups.htm](http://www.lungusa.org/site/c.dvLUK900E/b.44465/k.1FA3/Smoking_and_Lung_Disease_in_Minority_Groups.htm)
3. Trends in tobacco use. American Lung Association Research and Program Services Epidemiology and Statistics Unit. American Lung Association; Washington, DC: c2008 [cited September 2, 2009]. Available from: [http://www.lungusa.org/atf/cf%7B7a8d42c2-fcca-4604-8ade-7f5d5e762256%7D/TREND\\_TOBACCO\\_JULY\\_08.PDF](http://www.lungusa.org/atf/cf%7B7a8d42c2-fcca-4604-8ade-7f5d5e762256%7D/TREND_TOBACCO_JULY_08.PDF)

## Secondhand smoke



According to the American Cancer Society, secondhand smoke is defined as cigarette smoke inhaled by nonsmokers that comes from a lighted cigarette or smoke that is exhaled by a smoker. The Environmental Protection Agency (EPA) classifies secondhand smoke as a “known human carcinogen” as there are more than 60 carcinogenic chemical compounds in a single cigarette.

- Secondhand smoke is thought to be responsible for
  - ~3,400 lung cancer deaths in non-smoking adults
  - 150,000 to 300,000 lung infections in children <18 months of age
  - 750,000 middle ear infections in children
  - Increased risk of having low birth weight babies when exposed during pregnancy

## Thirdhand smoke



Thirdhand smoke is defined as tobacco toxins that stay on clothes, hair, carpets, and other materials even after the period of active smoking. Thirdhand smoke is especially dangerous to infants and small children because they crawl and play near these surfaces and breathe in these toxins. It is impossible to eliminate smoke by opening a window or smoking in another room, or even outside. There is limited data on the consequences and risks associated with thirdhand smoke; however, researchers are concerned about its possible dangerous consequences. The bottom line is that if you can smell cigarette smoke, you are breathing in toxins.



1. MayoClinic.com [homepage on the Internet]. Mayo Clinic; Rochester, MN: c1998-2009 [updated June 23, 2009, cited August 28, 2009]. Available from: <http://www.mayoclinic.com/health/thirdhand-smoke/MY00591/rss=12>

Healthy People 2010 is a campaign from the U.S. Department of Health and Human Services that states objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats. One of the 28 focus areas is tobacco use. Since its initiation in 1998, the percentage of the adult population that smokes has been reduced from 24% to 21% in 2006, but reaching the target of 12% seems unlikely. The overall goal of reducing illness, disability, and death related to tobacco use and exposure to secondhand smoke is still within reach and Healthy People 2010 is well on its way!

1. About Healthy People [Internet]. Washington D.C.: U.S. Department of Health and Human Services [cited 2009 Aug 28]. Available from: <http://www.healthypeople.gov/About/hpfact.htm>

## Medications Commonly Used for Smoking Cessation

### Nicotine Replacement Therapy (NRT)

- Several products are available:
  - Nicotine gum (Nicorette®)
  - Nicotine lozenge (Commit®)
  - Nicotine patch (NicoDerm®)
  - Nicotine inhaler (Nicotrol®)
  - Nicotine nasal spray (Nicotrol NS®)



These medications decrease withdrawal symptoms and cravings associated with quitting smoking. NRTs increase the level of nicotine in your body without the harmful effects of toxic substances that are contained in cigarettes.<sup>1</sup>

#### Varenicline (Chantix®)

- Does not contain nicotine
- Blocks nicotine receptors in the brain
- > 6 million people in the U.S. have already been prescribed this medication
- In studies, 44% of participants were able to quit smoking after 9-12 weeks.
- Usually taken once daily for 12 weeks. The doses are slowly titrated up to the recommended dose.
  - If the patient does not successfully quit smoking by the end of the 12 week period, it can be continued for another 12 weeks.
- It is relatively expensive (around \$130) and is not covered by most insurance companies, which often limits its use.<sup>2</sup>

#### Bupropion (Zyban®)

- Does not contain nicotine
- Thought to block the reuptake of norepinephrine and dopamine
- Contraindicated in the following patients
  - Patients with seizure disorders
  - Patients with eating disorders
  - Patients also taking Wellbutrin® (another trade name for bupropion)
  - Undergoing abrupt discontinuation of alcohol or sedatives
- In studies, 30% of participants were able to quit smoking after 12 weeks.
- Initiated at 1 tablet once daily for three days, and is taken twice daily thereafter.
- Treatment usually lasts for 7-12 weeks.<sup>3</sup>

1. Smokefree.gov [homepage on the Internet]. Smoking and Tobacco; Rockville, MD: [updated May 11, 2009, cited September 2, 2009]. Available from: <http://www.smokefree.gov/quit-smoking/index.html>

2. Chantix [homepage on the Internet]. Kansas, Pfizer International; ©2007-2009 [cited 2009 August 28]. Available from: <http://www.chantix.com/>

3. Lexi- Comp Electronic Edition. Hudson, OH: Lexi-Comp, Inc. Copyright 1978-2007

### **Update from the FDA...**

#### **FDA Requires New Boxed Warnings for Smoking Cessation Drugs Chantix® and Zyban®**

In May of 2008 the Federal Aviation Administration (FAA) banned the use of varenicline (Chantix®) by pilots and air traffic controllers. The ban was due to a study by the Institute for Safe Medication Practices that linked Chantix® to seizures, loss of consciousness, heart attacks, visual problems, and psychiatric instabilities.<sup>1</sup> As a follow-up to the ban by the FAA, the FDA has responded to this postmarketing data with the following black box warning requirement not only for Chantix® but Zyban® as well: “serious neuropsychiatric events, including depression, suicidal thoughts, and suicide have been reported with use”. Additionally, a written medication guide highlighting the risk of serious neuropsychiatric symptoms must be provided to the patient. These symptoms include changes in behavior, hostility, agitation, depressed mood, suicidal thoughts and behavior, and attempted suicide.<sup>2</sup>



## **What does the **Black Box Warning** actually mean?**

-  A boxed warning is ordinarily used to highlight for prescribers one of the following situations:
  - There is an adverse reaction so serious in proportion to the potential benefit from the drug (e.g., a fatal, life-threatening or permanently disabling adverse reaction) that it is essential that it be considered in assessing the risks and benefits of using a drug.
- OR**
  -  There is a serious adverse reaction that can be prevented or reduced in frequency or severity by appropriate use of the drug. (e.g., patient selection, careful monitoring, avoiding use in a specific clinical situation)
- OR**
  -  FDA approved the drug with restrictions to assure safe use because FDA concluded that the drug can be safely used only if distribution or use is restricted (e.g., under 21) A boxed warning can also be considered for a drug that has important risk/benefit information that is unique among drugs in a drug class.<sup>3</sup>

1. Anti-Smoking Medicine Chantix Banned [Internet]. Federal Aviation Administration; 2009. [Cited 2 Sept 2009]; [about 1 screen]. Available from: <http://www.faa.gov/news/updates/?newsId=56363>

2. Public Health Advisory: FDA Requires New Boxed Warnings for the Smoking Cessation Drugs Chantix and Zyban. Food and Drug Administration; 2009. [Cited 2 Sept 2009]; [about 1 screen]. Available from: <http://www.fda.gov/Drugs/DrugSafety/PublicHealthAdvisories/ucm169988.htm>

3. Guidance for industry: warnings and precautions, and boxed warning sections of labeling for human prescription drug and biological products. Food and Drug Administration. [Cited Sept 2009]; [about 1 screen]. Available from: <http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm075096.pdf>.

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## **DID YOU KNOW...?**

The word *harvest* was once the term usually used to refer to the season that we know as *autumn*. Around the 16<sup>th</sup> century as more people moved from farms to living in towns, the word *harvest* gradually began to lose its reference to the time of year when the gathering of crops occurred. The term *fall* began as a reference to the season in the 1500s as well.<sup>1</sup>

1. Autumn Word Origins [Internet]. Dictionary.com: ©2009. [Cited 1 Sept 2009]; [about 1 screen]. Available from: <http://dictionary1.classic.reference.com/features/autumn.html>

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**The last “dose” ...**

**Eat, drink, and be SCARY.**

-author unknown



**HAPPY HALLOWEEN!!!**

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