



## HEALTH HARMS FROM SMOKING AND OTHER TOBACCO USE

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Tobacco use kills more than 400,000 people each year in the United States, or more than the total number killed by AIDS, alcohol, motor vehicles, homicide, illegal drugs, and suicide combined.<sup>1</sup> Among current smokers 57 percent of all male deaths and nearly 50 percent of all deaths in women are attributed to smoking.<sup>2</sup> Even if the number of smoking related deaths were cut in half, smoking would still kill more people than all of these other causes.

In 1964, the Surgeon General first documented the harmful effects of smoking in *Smoking and Health: Report of the Advisory Committee of the Surgeon General of the Public Health Service*, which summarized the state of the science knowledge regarding tobacco use at that time.<sup>3</sup> Research conducted since then has firmly established that smoking and other forms of tobacco consumption cause an enormous amount of health problems and related death and suffering. Today, smoking is the leading preventable cause of death in the United States. Despite the numerous reports of the Surgeon General and the National Institute for Health on the risks of smoking, 46 million Americans still smoke; and approximately half of all continuing smokers will die prematurely as a result of their habit.

**Smoking-Caused Cancer.** Smoking is responsible for 87 percent of lung cancer deaths (90 percent in men, 80 percent in women).<sup>4</sup> Over 125,000 men and women die of smoking caused lung cancer each year.<sup>5</sup> Compared to nonsmokers, men who smoke are about 23 times more likely to develop lung cancer and women who smoke are about 13 times more likely.<sup>6</sup> Beyond just lung cancer, thirty percent of all cancer deaths are due to smoking.<sup>7</sup> Smoking is a known cause of cancer of the lung, larynx, oral cavity, bladder, pancreas, uterus, cervix, kidney, stomach and esophagus.<sup>8</sup>

**Smoking-Caused Respiratory Diseases.** Twenty-three percent of smoking-attributable deaths, or more than 100,000 smoking deaths per year, involve respiratory diseases.<sup>9</sup> Smoking is a known cause of most cases of chronic obstructive pulmonary disease (COPD) which includes emphysema and chronic bronchitis.<sup>10</sup> Smoking is accountable for more than 90 percent of all COPD deaths.<sup>11</sup> Male and female smokers increase their risk of death from bronchitis and emphysema by 10 times.<sup>12</sup>

**Smoking-Caused Heart Disease and Heart Attacks.** Cancer and respiratory disease are not the only health risks associated with smoking. More men and women in the United States have died from cardiovascular disease attributed to smoking than cancer.<sup>13</sup> Twenty-one percent of all coronary heart disease deaths in the United States each year are attributable to smoking. This risk is strongly dose-related.<sup>14</sup> Smoking triples the risk of dying from heart disease among middle-aged men and women.<sup>15</sup> Cardiovascular smoking deaths are also due to hypertension and stroke. The risk of ischemic stroke is nearly doubled by smoking.<sup>16</sup> Smoking accounted for 18 percent of all stroke deaths.<sup>17</sup> Both active and passive smoking are associated with an increase in the progression of atherosclerosis.<sup>18</sup> More than 128,000 Americans die from smoking related cardiovascular diseases.<sup>19</sup>

**Other Direct Health Harms From Smoking.** Heart disease, cancer and respiratory diseases are just a few of the physical and medical problems associated with smoking. Smoking may reduce fertility and lead to impotence among men.<sup>20</sup> Cigarette smoking increases both the risk and the severity of rheumatoid arthritis.<sup>21</sup> Hearing loss and vision problems, including cataracts, have been linked to smoking.<sup>22</sup> Chronic coughing, increased phlegm, emphysema and bronchitis have been well-established products of smoking for decades; and smokers are also more susceptible to influenza and more likely to experience severe symptoms when they get the flu.<sup>23</sup> While many smokers believe that smoking relieves stress, it is actually a major cause. Smoking only appears to reduce stress because it lessens the irritability and tension caused by the underlying nicotine addiction.<sup>24</sup>

**Harm Caused by Smokeless Tobacco Use.** The Surgeon General has determined that the use of oral snuff can lead to oral cancer, gum disease, and nicotine addiction,<sup>25</sup> and increases the risk of cardiovascular disease, including heart attack.<sup>26</sup> Constant exposure to tobacco juice causes cancer of

the esophagus, pharynx, larynx, stomach and pancreas. Smokeless tobacco users are at a heightened risk for oral cancer compared to non-users and these cancers can form within five years of regular use.<sup>27</sup> New studies have found that the levels of the carcinogenic NNK in smokeless tobacco products were comparable to those cigarettes<sup>28</sup> and using Swedish snus can heighten one's risk for pancreatic cancer.<sup>29</sup> A 2008 study from the WHO International Agency for Research on Cancer concluded that smokeless tobacco users have an 80 percent higher risk of developing oral cancer and a 60 percent higher risk of developing pancreatic and esophageal cancer.<sup>30</sup> Spit tobacco causes leukoplakia, a disease of the mouth characterized by white patches and oral lesions on the cheeks, gums, and/or tongue. Leukoplakia, which can lead to oral cancer, occurs in more than half of all users in the first three years of use. Studies have found that 60 to 78 percent of smokeless tobacco users have oral lesions.<sup>31</sup> Gum disease (gingivitis) is also caused by spit tobacco.<sup>32</sup> Spit tobacco has also been linked to dental caries. A study by the National Institutes of Health and the Centers for Disease Control and Prevention found chewing tobacco users were four times more likely than non-users to have decayed dental root surfaces.<sup>33</sup>

**Harms from Pregnant Smokers or Exposure to Secondhand Smoke.** Even more disturbing is the impact of smoking on pregnant women. Research studies have found that smoking and exposure to secondhand smoke among pregnant women is a major cause of spontaneous abortions, stillbirths, and sudden infant death syndrome (SIDS) after birth.<sup>34</sup> According to a meta-analysis of published studies, tobacco use is responsible each year for 19,000 to 141,000 spontaneous abortions, 1,900 to 4,800 infant deaths caused by prenatal or pre-birth disorders, and 1200 to 2200 deaths from SIDS.<sup>35</sup> A more recent comprehensive study found that parental smoking causes 2,800 deaths at birth and 2,000 deaths from SIDS.<sup>36</sup> Children exposed to secondhand smoke before and after birth are at a great risk of abnormal blood pressure, cleft palates and lips, childhood leukemia, attention deficit disorder, childhood wheezing and respiratory disorders.<sup>37</sup>

**Other Secondhand Smoke Harms.** Secondhand smoke is the combination of "mainstream smoke" (the smoke exhaled by a smoker) and side-stream smoke (from the burning end of the cigarette). Secondhand smoke is also referred to as environmental tobacco smoke, passive smoke, or involuntary tobacco smoke. It is a complex mixture of over 4,000 chemicals that are produced by the burning materials of a cigarette. Secondhand smoke exposure is causally associated with several different health risks in both children and adults. Children exposed to secondhand smoke are at a higher risk of Sudden Infant Death Syndrome (SIDS), acute lower respiratory tract infections, asthma induction and exacerbation, chronic respiratory symptoms, middle ear infections.<sup>38</sup> In adults, secondhand smoke exposure increases the risk of lung cancer, nasal sinus cancer, heart disease mortality, acute and chronic coronary heart disease morbidity eye and nasal irritation.<sup>39</sup> A 1997 analysis of 37 epidemiological studies of lung cancer and ETS found that lifelong nonsmokers living with smokers had, on average, a 24 percent higher chance of contracting lung cancer than those living with nonsmokers, and that those exposed to the heaviest smokers for the longest time had the highest risks.<sup>40</sup> Subsequent research studies have made similar findings.<sup>41</sup> Secondhand smoke is listed as a carcinogen in the U.S. Public Health Services' *Ninth Report on Carcinogens*, as recommended by a scientific advisory panel of the National Toxicology Program that unanimously affirmed the findings of two other scientific groups that secondhand smoke is a carcinogen and should be included in the report.<sup>42</sup>

**Immediate and Short-Term Harms from Smoking.** While most of the major health harms from smoking, such as lung cancer and heart disease, typically appear after years of tobacco use, many health problems can appear almost immediately, even among otherwise young and healthy kids. For example, cigarette smoking immediately increases heart rate and blood pressure, and the resting heart rates of young adult smokers are two to three beats per minute faster than nonsmokers.<sup>43</sup> In addition, high school seniors who are regular smokers and began smoking by grade nine are 2.4 times more likely than their nonsmoking peers to report poorer overall health. High school seniors who smoke are 2.4 to 2.7 times more likely to report cough with phlegm or blood, shortness of breath when not exercising, and wheezing or gasping.<sup>44</sup> Teens who smoke are also three times more likely than nonsmokers to use alcohol, eight times more likely to use marijuana, and 22 times more likely to use cocaine.<sup>45</sup>

**Tobacco Use and Appearance.** Concern about body weight and appearance are just a few reasons that smoke smokers begin. Most adolescents believe that smoking controls body weight and many times

women report that they smoke to keep their weight down.<sup>46</sup> While smoking cessation has been shown to result in weight gain among both men and women, initiation of smoking does not appear to be associated with weight loss.<sup>47</sup> Among women, the average weight of current smokers is only modestly lower than that of never or long-term former smokers. Smoking has also been linked with facial wrinkling. Smokers were significantly more likely than nonsmokers to be evaluated with having prominent wrinkling.<sup>48</sup>

**Smoking Addiction Starts Early.** The peak years for first trying to smoke appear to be in the sixth and seventh grades, or between the ages of 11 and 12, with a considerable number starting even earlier.<sup>49</sup> Within weeks or just days of first starting to smoke occasionally, young smokers show numerous signs of addiction, such as feeling anxious or irritable and having strong urges to smoke;<sup>50</sup> and more than a third of all kids who ever try smoking a cigarette will become regular, daily smokers before they even leave high school.<sup>51</sup> Addiction rates for experimenters who become habitual users for smoking are higher than addiction rates for marijuana, alcohol, or even cocaine.<sup>52</sup> Every day more than 3,500 kids under 18 try smoking for the first time, and another 1,000 kids who have already experimented with cigarettes become new regular daily smokers.<sup>53</sup> Overall, more than 80 percent of all adult smokers first become regular smokers before the age of 18 and more than 90 percent do so before leaving their teens.<sup>54</sup>

**Quitting Is Difficult, But Not Impossible.** Although half of all Americans who have ever smoked have quit, and most current smokers want to stop, an established addiction to nicotine is difficult to escape. Of the more than one million smokers who quit each year, 75 to 80 percent relapse within six months.<sup>55</sup> To quit, smokers must not only overcome their physiological dependence on nicotine but also cut their strong psychological and social ties to smoking or otherwise using tobacco. The three most effective components of smoking cessation treatment are pharmacological treatments (such as nicotine gum and patches), clinician-provided social support and advice, and skills training regarding techniques to achieve and maintain abstinence.<sup>56</sup> Another treatment approach combines nicotine replace, counseling and the use of anti depressants like bupropion. In general, more inclusive treatments are more effective in producing long-term abstinence from tobacco, and combined therapies raise the absolute percentage of smokers who remain abstinent.

**Health Benefits From Quitting.** There are substantial and immediate health benefits from quitting smoking. A 2007 study in the *New England Journal of Medicine* found that 11.7 percent of the decrease in coronary heart disease deaths between 1980 and 2000 were avoided or postponed by quitting smoking.<sup>57</sup> Upon quitting, former smokers' blood circulation immediately increases, their blood pressure and heart rate quickly return to normal, and the carbon monoxide and oxygen levels in the blood soon return to normal. Within a few days of quitting, a person's breathing becomes easier and their sense of smell and taste improve.<sup>58</sup> One year after quitting, a person's additional risk of heart disease is reduced by half, and after 15 years, this risk equals that of a person who never smoked.<sup>59</sup> Five to 15 years after quitting, the risk of stroke for an ex-smoker equals that of a person who never smoked.<sup>60</sup> Within 10 years of quitting a former smokers risk of developing lung cancer is 30 to 50 percent below that of a person who continues to smoke. The risk of developing cancers of the mouth, throat and esophagus lessen significantly after five years of quitting.<sup>61</sup> Persons aged 60 to 64 years of age who quit smoking are 10 percent less likely to die during the next 15 years than regular smokers are.<sup>62</sup> The benefit is even greater for individuals who quit smoking before the age of 50. Their risk of dying in the next 15 years is half that of a person who smokes.<sup>63</sup>

Despite the numerous reports of the Surgeon General and the National Institute for Health on the risks of smoking, more than 45 million Americans still smoke. Approximately half of all continuing, long-term smokers will die prematurely as a result of their habit. These tobacco-related deaths and illnesses are preventable.

*Campaign for Tobacco-Free Kids, January 12, 2009 / Ann Boonn*

More Campaign factsheets on the health harms of tobacco use are available at  
<http://www.tobaccofreekids.org/research/factsheets/index.php?CategoryID=13>.

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