

# Health Effects of Smokeless Tobacco

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Smokeless tobacco use is a significant health risk and cause of death & disease globally. Despite what the tobacco companies may claim, it is NOT a safe alternative to smoking or a method of quitting tobacco use / smoking.<sup>1</sup>

## Chemicals Found In Smokeless Tobacco

- Smokeless tobacco contains over 3,000 chemicals<sup>2</sup> including **28 identified carcinogens** (cancer-causing agents)<sup>3</sup> which includes:

<b>Formaldehyde</b> Embalming fluid	<b>Arsenic</b> An especially potent poison	<b>Polonium-210</b> Nuclear waste	<b>Cadmium</b> Used in car batteries
<b>Acetone</b> Paint Stripper	<b>Ammonia</b> Toilet bowl cleaner	<b>Nicotine</b> Insecticide	<b>Nickel</b> Carcinogen

- Tobacco-specific nitrosamines (**TSNAs**) are the most harmful carcinogens. They are formed during the growing, curing, fermenting, and aging of tobacco. TSNAs have been detected in some smokeless tobacco products at levels 100 times higher than what is allowed in foods.<sup>3</sup>

## Nicotine

- Nicotine, a highly addictive substance is the main ingredient in smokeless tobacco.
- The amount of nicotine in a can of smokeless tobacco is roughly 144 milligrams, which is equal to about 80 cigarettes. In other words, one can of snuff or dip equals about four packs of cigarettes.<sup>4</sup>
- Nicotine from smokeless tobacco stays in the bloodstream for a longer time when compared to cigarettes.<sup>3</sup>

## Short-Term Health Effects

- √ Bad Breath
- √ Stained Teeth
- √ Ulcers
- √ Cavities
- √ Gingivitis
- √ High Blood Pressure
- √ Addiction
- √ Ruins sense of taste and smell
- √ Mouth Sores (70% of smokeless tobacco users have sores)<sup>2</sup>
- √ Decreased athletic ability
- √ Dizziness and nausea

## Long-Term Health Effects<sup>3</sup>

- √ Potentially malignant lesions, characterized by white/red patches on cheeks/gums/tongue or inability to open the mouth
- √ Heart disease, including heart attack & stroke
- √ Cancer of the mouth, esophagus, pharynx, larynx, stomach and pancreas
- √ Tooth and bone loss

## Symptoms of the Harmful Effects of Smokeless Tobacco<sup>2</sup>

- A sore that will not heal in your mouth, on the inside of your cheek, or on your tongue
- A lump or white patch in your mouth or your gums
- Difficulty in chewing & swallowing food
- Difficulty moving and opening your tongue and/or jaw
- Constant feeling of something in your throat that you cannot clear out

## Other Smokeless Tobacco Health Facts

- Adolescents who use smokeless tobacco are more likely to become cigarette smokers.<sup>5</sup>
- Smokeless tobacco users are 4-6 times more likely to develop oral cancer compared to non-users and these cancers can form within 5 years of regular use.<sup>6</sup>
- Smokeless tobacco use has been shown to be a gateway drug not only leading to cigarette smoking, but the use of other drugs such as alcohol, marijuana, cocaine and inhalants.<sup>7</sup>

- A thirty-minute chew gives you the same amount of nicotine as three cigarettes and a two can/week snuff dipper delivers the same nicotine as a 1 1/2 pack-a-day cigarette use.<sup>4</sup>

<sup>1</sup>Campaign for Tobacco Free Kids. "Smokeless Tobacco in the U.S." 4 October 2007. <<http://tobaccofreekids.org/research/factsheets/pdf/0231.pdf>>

<sup>2</sup>The Bacchus Network. "Top Facts: Spit Tobacco." November 2006. 4 October 2007. <[http://www.tobaccofreeu.org/pdf/spit\\_web\\_site.pdf](http://www.tobaccofreeu.org/pdf/spit_web_site.pdf)>

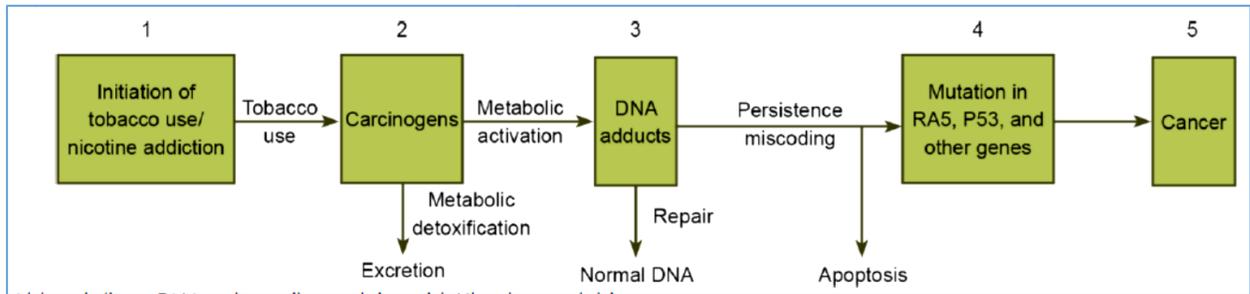
<sup>3</sup>National Cancer Institute. "Smokeless Tobacco & Cancer: Q & A." 30 May 2003. U.S. National Institutes of Health. 4 October 2007. <<http://www.cancer.gov/cancertopics/factsheet/Tobacco/smokeless>>

<sup>4</sup>National Spit Tobacco Education Program. "Spit Tobacco Facts." Oral Health America. 4 October 2007. <<http://www.nstep.org/WhatYouNeedtoKnow.htm>>

<sup>5</sup>Centers for Disease Control. "Fact Sheet: Smokeless Tobacco." April 2007. Department of Health & Human Services. 4 October 2007 <[http://www.cdc.gov/tobacco/data\\_statistics/Factsheets/smokeless\\_tobacco.htm](http://www.cdc.gov/tobacco/data_statistics/Factsheets/smokeless_tobacco.htm)>

<sup>6</sup>Campaign for Tobacco Free Kids. "Health Harms From Smoking & Other Tobacco Use." 4 October 2007. <<http://tobaccofreekids.org/research/factsheets/pdf/0194.pdf>>

<sup>7</sup>Campaign for Tobacco Free Kids. "Smokeless Tobacco & Kids." 4 October 2007 <<http://tobaccofreekids.org/research/factsheets/pdf/0003.pdf>>



**Fig. 1: Conceptual model of carcinogenesis of smokeless tobacco use**



**Fig. 2: Effects on teeth: Discoloration of the teeth and receding gingiva**



**Fig. 3: Squamous Cell Carcinoma of gingiva**



**Fig.4: Squamous Cell Carcinoma: Tongue**



**Fig. 5: Squamous cell carcinoma: Floor of the mouth**



**Fig. 6: Leukoplakia: Potentially Malignant Lesion**



**Fig. 7: Erythroplakia: Potentially Malignant Lesion**



**Fig. 8: Oral Submucous Fibrosis (restricted mouth opening): Potentially Malignant Condition**