

## Nicotine and Smoking Backgrounder

Cigarette smoke contains more than 4,000 toxic chemicals and tobacco kills about 37,000 Canadians a year, causing the death of half of all current smokers.<sup>1,2</sup> According to the 2005 Canadian Tobacco Use Monitoring Survey, there were almost five million Canadian smokers in 2005.<sup>3</sup>

Smoking is often referred to, incorrectly, as a habit; it is actually an addiction. The addictive properties of nicotine in cigarettes and the psychological and physical dependence caused by smoking explain why people have difficulty quitting and often must try to stop numerous times before quitting successfully.<sup>4</sup>

### Nicotine and How it Works

- Nicotine is a toxic substance found in tobacco plants to protect the plant from being eaten by insects.
- Studies have shown that nicotine addiction can be as hard to break as heroin or cocaine addiction.<sup>5</sup>
- Nicotine is known as a “reinforcing” drug, which means that users desire the drug regardless of the damaging effects.<sup>6</sup>
- Within seconds of the first inhalation of a cigarette, nicotine enters the brain where it triggers the release of dopamine, resulting in an immediate reward sensation.<sup>7</sup>
- Nicotine causes several physiological reactions.<sup>7</sup>
  - Acute increase in heart rate and blood pressure
  - Constriction of blood vessels causing a temperature drop in the hands and feet
  - Brain waves are altered and muscles relax

### The Negative Effects of Smoking

- The average smoker will die about eight years earlier than a similar non-smoker.<sup>6</sup>
- There is strong scientific evidence that smoking is related to more than two dozen diseases and conditions including cardiovascular diseases, cancer and respiratory diseases and symptoms.<sup>8</sup>
- Smoking increases a person’s risk of developing heart disease and stroke by contributing to a build-up of plaque in arteries, increased risk of blood clots, reduced oxygen in the blood, and increased blood pressure.<sup>9</sup>
- Smoking can also increase the risk of developing cancer of the bladder, breast, cervix, colon and rectum, esophagus, kidney, larynx, mouth and throat, pancreas and stomach.<sup>10</sup>
- Smoking permanently damages the alveoli (air sacs) in the lungs, making it hard to breathe.<sup>11</sup>

## The Positive Effects of Quitting

Being smoke-free has enormous benefits on the health of a smoker and the people around him or her:

- Within 10 years of quitting, the overall risk of an ex-smoker dying from lung cancer is cut in half.<sup>12</sup>
- Compared to people who continue to smoke, people who quit smoking after having a heart attack reduce their chances of having another heart attack by 50 per cent.<sup>13</sup>

The chart below shows the positive effects quitting has on the body:<sup>14</sup>

Time after quitting	Health benefits
20 minutes	Blood pressure and pulse return to normal.
8 hours	Carbon monoxide level drops in the body and oxygen level in the blood increases to normal.
48 hours	Your chances of having a heart attack start to go down and your sense of smell and taste begin to improve.
72 hours	Bronchial tubes relax making breathing easier and lung capacity increases.
2 weeks to 3 months	Blood circulation improves and lung functioning increases up to 30 per cent.
1 year	Risk of heart disease falls to half that of a smoker.
10 years	Risk of lung cancer falls to half that of a smoker.
15 years	Risk of heart attack is now the same as someone who has never smoked.

## How to Quit Smoking

Quitting takes commitment and support. When smokers quit they experience cravings for cigarettes and withdrawal symptoms that contribute to the likelihood of relapse.<sup>15</sup> Getting a smoking cessation aid, advice, support, and being prepared for a relapse can help smokers quit for good.<sup>4</sup>

Successful smoking cessation treatment combines counselling with pharmacotherapy.<sup>16</sup>

- Counselling and Behavioural Therapy – three types of counselling and behavioural therapies have been found effective: provision of practical counselling, provision of social support as part of treatment, and help in securing social support outside of treatment.<sup>17</sup>
- Pharmacological Therapy – effective pharmacotherapies for smoking cessation can be used by patients attempting to quit smoking.<sup>16</sup>

Stopping smoking is the single most important step that smokers can take to enhance the length and quality of their lives.<sup>14</sup> Canadians considering quitting smoking should speak to their physician who can work with them to develop a quit plan and can help find the smoking cessation treatment option that is right for them.

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