

## The Biochemistry and Physiology of Smoking

When people insist, “Smoking is relaxing,” LifeED facilitators do not disagree, even though they *know* that nicotine is not a tranquilizer. It is a poison, a paralytic, and a *stimulant*. So, what is relaxing about smoking? To know the answer, we have to know a little bit about biochemistry and physiology.

Let’s take it one step at a time. The smoker lights a cigarette, inhales deeply, and then exhales, long and slow. Within seven seconds, the deep breath of the inhalation has increased the flow of blood and oxygen to the heart, and the body relaxes. *Not* because of the cigarette, but due to the long slow inhalation and exhalation! A simple deep breath of clean air does the job beautifully!

Unfortunately another action is already taking place. Within moments of the initial inhalation, nicotine is stimulating pleasure centers in the brain – the same centers targeted by cocaine. That’s why we call nicotine a drug!

Seven to fifteen minutes later, the nicotine enters the liver after its quick rampage through the now unprotected lungs! Why, unprotected? Because nicotine is a poison, remember? It poisons by paralyzing breathing organs, starting with cilia in the airways.

Cilia are hair-like formations that react to inhaled poisons by “sweeping” or coughing the culprits back out of the airways. If the smoker puffs long enough, the cilia become paralyzed, and can no longer protect the lungs and ultimately the blood from this encroaching danger.

Not only can nicotine now flow unhampered through the airways, air borne bacteria and viruses can do the same. No wonder smokers are more frequently ill than non-smokers.

With cilia effectively paralyzed, bacteria, viruses, nicotine and, at last count **43** other poisons and carcinogens in cigarettes are now moving through the lungs, into the blood and to the liver. They do not move through these organs without damaging the equipment. With time, the lungs and liver lose their ability to work as the vital filtering systems of the body. This loss of efficiency allows more and more poisons into the blood stream to bathe every bodily organ in a toxic cancerous bath. Very relaxing.

For now though, let us stay in the present. We are in the liver. Nicotine biochemically alerts the liver to release *sugar* into the blood stream. The elevated blood sugar brings a physical uplift. So now we have a sense of relaxation and uplift. Nice, . . . but not for long.

High sugar levels in the blood call the pancreas into action. The pancreas releases *insulin* to bring down the excess blood sugar. Plunging blood sugar brings on feelings of fatigue, irritability, hunger, or a desire for something, *anything* to boost blood sugar, like – Surprise! Another cigarette! Or sugar, candy, chocolate, alcohol, -- all popular and all addictive!

At this very moment the nicotine is also stimulating the nervous system, causing the release of adrenaline into the body. Adrenaline produces increased heart rate and respiration doubling those feelings of tension and being wired. By now, the smoker is desperate for another cigarette, which, he insists, will **be relaxing!**

The addictive cycle is complete! And the myth “smoking is relaxing,” is born.