

Invisible Reality

take
CONTROL! 

Helping you become smoke-free

Group support, individual support,
and workplace support

613-549-1232, ext. 1333

KFL&A Public Health, 221 Portsmouth Avenue, Kingston, Ontario

This booklet contains a brief description of a complex process. It describes some of the invisible changes which happen in your brain when you smoke. This information can help you quit.

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There is "good news"!

Your body has a great capacity to heal itself. Have you ever hurt yourself and needed stitches or a cast? The recovery from an injury can be irritating or painful. Quitting is like that. When you stop smoking your body begins to heal almost immediately. Some research has shown that some of the extra receptors sites from nicotine can gradually begin to diminish or become less active. Each time you feel a craving or withdrawal symptom, perhaps you could think of yourself as healing from nicotine and having fewer receptor sites. Withdrawal symptoms do not last forever, and they do lessen over time, so it is important not to be tempted by smoking again. You've done a lot of work to quit and preventing relapse is critical, as you begin to take back control of your life again, from tobacco.

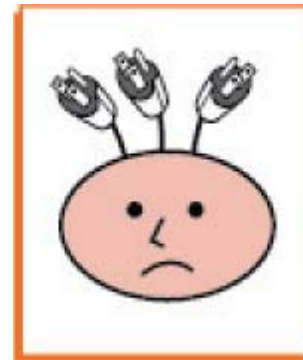


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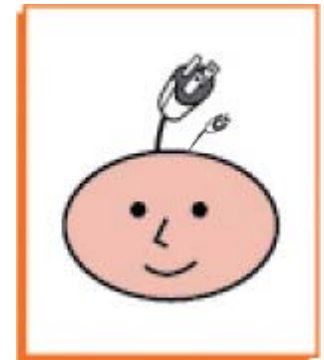
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Smoking



Smoke-free

Pressing the “snooze button” on your alarm centre, (continued)

Medication can help you quit by reducing your withdrawal symptoms. Quitting is still hard work but it can help you turn the volume down on your alarm centre.



Dopamine is a natural chemical in your brain that you want to learn how to release. To take control and release dopamine, you need to replace your smoking with activities that reawaken your pleasure pathway and make you feel good in a natural way. People who enjoy running do this and it's called the “runner's high”. You can get this same

effect by doing something you enjoy, for example: listening to music, laughing, reading a good book, etc. Find out what you need to do and practice before you set your quit date so it becomes routine.

The “Primitive” rules

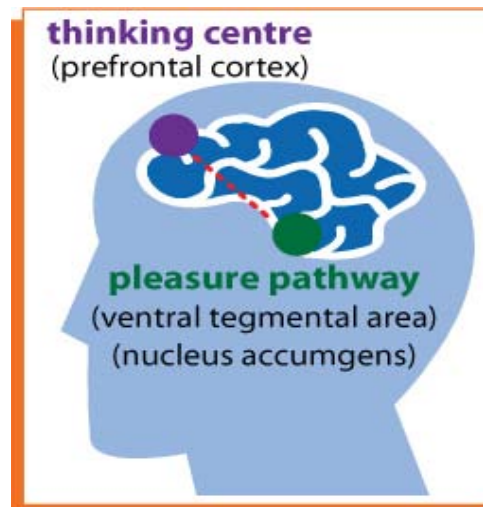
Practicing before you quit is important because your brain's pleasure pathway is located in the primitive centre of your brain. It connects to your thinking and learning centre and as a result, smoking becomes linked with learned situations. This is important to understand when trying to quit because situations where you previously smoked can create cravings. These are called triggers.



The Invisible Reality “The biochemistry of nicotine addiction”

Changes happen in your brain from smoking. You can't see them, but they affect how you feel and think. Your brain has different centres for specific functions (i.e., seeing, hearing, pleasure, learning, balance, etc). Each of these different centres must communicate with other parts of your brain and your body. This is done through your nervous system.

When you smoke, nicotine reaches your brain in seven seconds and hits nerve receptor sites. This causes a chemical called dopamine to be released which stimulates your brain's pleasure pathway.

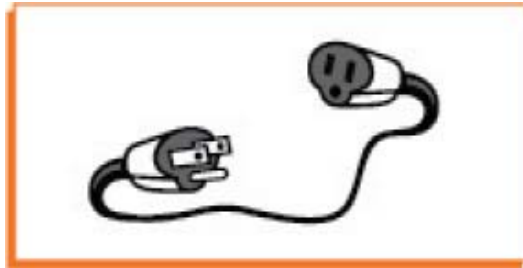


Lets make it easier to visualize what's happening by using something you already use at home.

Your nervous system and plugging in a TV

To understand your nervous system, think of millions of separate electrical wires that need to communicate with each other at different times. For example, how do you turn on a TV? Before you can turn it on, you have to plug it in. Nerve cells in your brain are like that. To work, they have to “plug in” to each other. There are receptor sites at the end of each cell that “plug in” to each other. However, you can’t move these nerve cells to plug them in. Each one is separate from each other with a space between. So how do you get them to connect together? You produce chemicals that do this for you. Dopamine is one of these chemicals. It crosses the space between the nerve cells to connect them, so they can work together.

This all happens at these nerve cell’s receptor sites. You can visualize the receptor sites by picturing the plugs at each end of an extension cord.



Nicotine makes changes to your “plugs”?

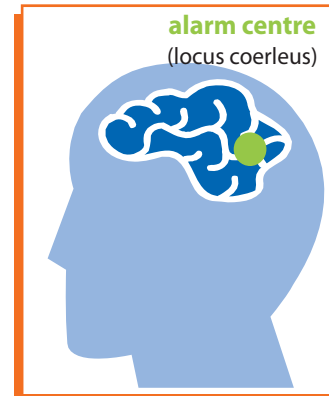
What would happen if an extension cord grew extra plugs at each end of the cord? Nicotine causes this to happen in your brain. It is an addictive drug that makes changes to your receptor sites. It makes them increase in number and become more sensitive.

As a result, you crave more and more cigarettes. When you try to quit, you have uncomfortable withdrawal symptoms.



When you quit, your “alarm centre” rings

When you stop smoking, your nicotine blood levels fall and your receptor sites become agitated. They send a warning to an alarm centre in your brain which activates your autonomic nervous system. Withdrawal symptoms begin to appear and the discomfort during withdrawal can lead people back to smoking.



Withdrawal symptoms can include: cravings, irritability, frustration, difficulty concentrating, shakiness, dizziness, fatigue, appetite changes, and headaches.

Pressing the “snooze button” on your alarm centre

When cravings happen you can learn to press the “snooze button” on this alarm centre by distracting yourself with new strategies. Intense cravings during the withdrawal period might be only two to three minutes long but can happen often when you first stop smoking. As time passes they lessen in frequency and duration. Withdrawal can last for about three months, but the first week could possibly be the most difficult. Learn how you can press the “snooze button” on this alarm centre. There are many things you can do: distract yourself; learn new activities you enjoy; or join a quit group. Each person is unique and you need to learn what is best for you.

