

How NRT Can Help You Quit Smoking

The CDC logo is on screen. A title card appears. It reads: "How NRT Can Help You Quit Smoking." The title disappears and a hand holding a pencil comes into the frame. Throughout the rest of the video the hand draws the path and effects of nicotine to the brain and the role of nicotine replacement therapies.

NARRATOR: Ever wondered what happens in your brain when you smoke a cigarette?

Nicotine is an addictive drug that actually changes your brain. That's what can make quitting so hard.

Nicotine reaches your brain fast. In less than ten seconds, it travels from your lungs into the bloodstream and then into your brain.

The brain is made up of many cells called neurons. Nicotine affects a pathway in the brain called the reward pathway. The reward pathway is a normal and important part to our survival. It's an area of the brain that makes us feel good when we do something we enjoy.

Once nicotine arrives at this area of the brain, nicotine attaches itself to a receptor on neurons – like a key fitting in a lock – waking up the reward pathway of the brain.

When the reward pathway is activated, a chemical called dopamine gets released and we feel warm and satisfied. However, too much repetitive stimulation of the reward system can be dangerous, especially with nicotine.

Nicotine takes over the reward pathway, attaching to nicotine receptors to release dopamine, making the brain crave another cigarette.

Every time we smoke, we get that feeling of reward and so we do it more. This sets up an unhealthy pattern as nicotine tricks the brain into activating those feelings of enjoyment with every puff.

This causes changes in the brain over time. The longer you smoke, the more and more nicotine receptors are created. And each one craves its nicotine fix.

Over time, the body learns that it needs nicotine to feel good, but it can never get enough. That's why it's so hard to quit.

The longer we smoke, the stronger the cravings for nicotine become.

With no nicotine to bind to nicotine receptors, the reward pathway is not stimulated anymore. This means the brain releases less dopamine. With less dopamine, people can get withdrawal symptoms.

The good news is that these changes in the brain start returning to normal the longer you go without a cigarette. Getting past the first stages of withdrawal when you quit can be hard, with lots of empty nicotine receptors screaming out for their fix. But the good news is that over time, there are fewer and fewer nicotine receptors as your brain goes back to the way it was before you smoked.

While you are waiting for your brain to return to the way it was, there are scientifically proven ways you can help ease some of the withdrawal symptoms. One of these is nicotine replacement therapy, or NRT.

NRT allows just enough nicotine to be in the body and bind to the nicotine receptors to keep many, but not all of them, filled. This helps reduce the withdrawal symptoms you may feel when quitting smoking.

NRT comes in two forms: long-acting and short-acting.

NRT patches are long-acting. They keep a steady, low level of nicotine receptors filled for a long period of time to help make withdrawal symptoms – like feeling cranky or restless – more manageable.

Short-acting NRT products include gum, lozenge, nasal spray, and inhaler. These get nicotine to the brain pretty fast, but the nicotine doesn't stay for very long. They can be helpful when you suddenly get a stronger craving. NRT weakens the cravings and re-trains the brain to start losing its extra nicotine receptors.

Using both long- and short-acting forms of NRT together is more effective than using one type alone. Use the patch for that steady, low level of nicotine throughout the day and then the gum, lozenge, spray, or inhaler for those moments when you have shorter, stronger cravings.

Combining NRT with personalized help from a quitline coach or a healthcare professional can further increase the chances of quitting for good. Getting coaching can help you understand and change the behaviors that go along with your smoking.

For help quitting smoking, including deciding which medicine is right for you, call 1-800-QUIT-NOW or visit [CDC.gov/quit](https://www.cdc.gov/quit).

The hand leaves the frame as the drawing is finished. The drawing fades away to a white screen. The CDC logo appears on screen. The art card reads: "For Help Quitting Smoking, 1-800-QUIT NOW, [CDC.gov/quit](https://www.cdc.gov/quit)."

NARRATOR: For help quitting smoking, including deciding which medicine is right for you, call 1-800-QUIT-NOW or visit [CDC.gov/quit](https://www.cdc.gov/quit).

The text fades away and is replaced by new text. It reads: "Many thanks to Quit, Cancer Council of Victoria, Australia for producing the original videos on which this content is based. CDC does not endorse any particular organization, product, or service."