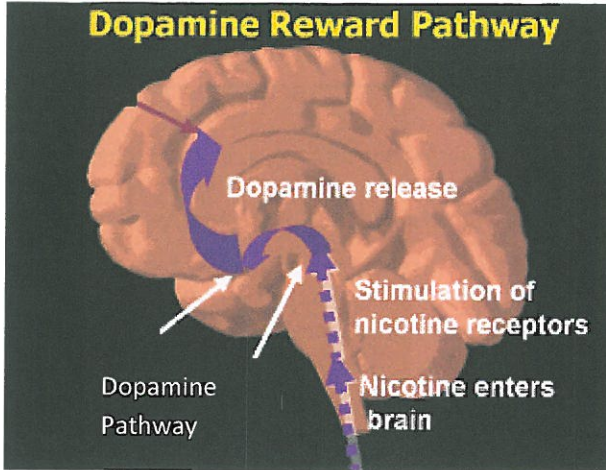


How Does Nicotine Affect the Body?



After smoking a cigarette...

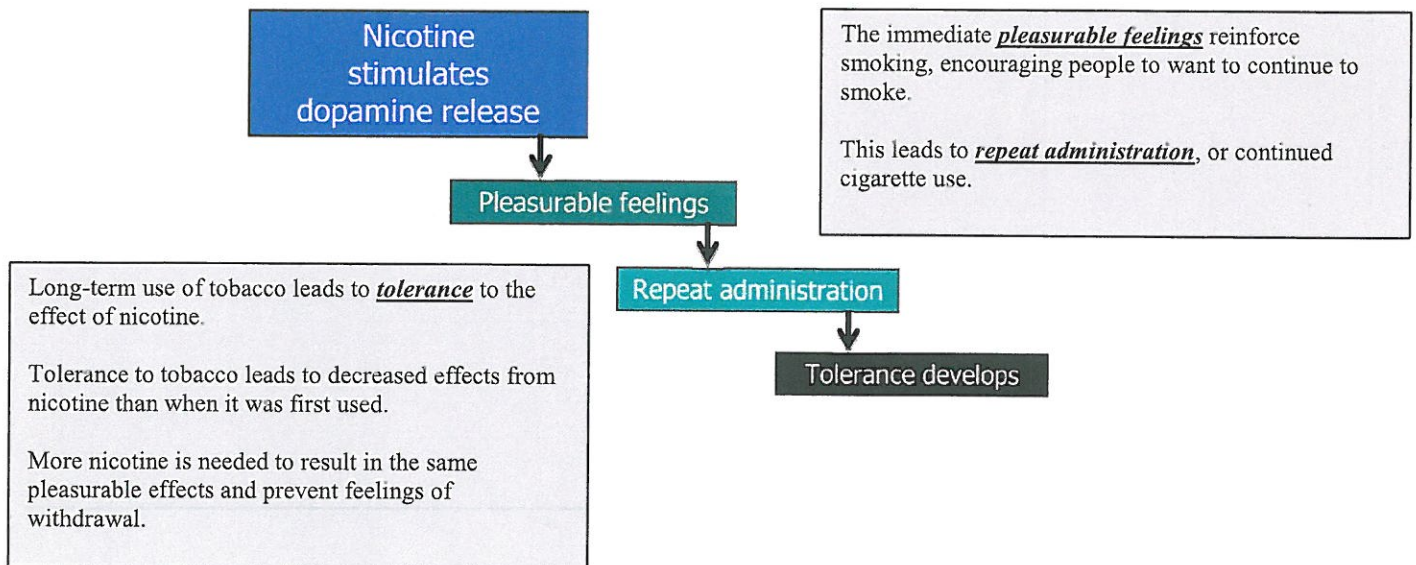
- Nicotine enters the body,
- then enters the bloodstream,
- then, crosses into the brain within 10-20 seconds after smoking

Once nicotine is in the brain...

- Nicotine activates the dopamine reward pathway by stimulating the nicotine receptors
- Activation of this pathway leads to a release of dopamine in the brain
- Dopamine in the brain is what makes smoking feel good

What is craving?

- Nicotine is removed quickly from the brain
- When the levels of dopamine in the brain are low then smokers experience craving





Because...

- During long periods of time when an individual is not smoking (e.g. while sleeping), the amount of nicotine in the brain decreases to a low level.
- Due to the low levels of nicotine in the brain, it is easier for an individual to experience the pleasant effects of nicotine after their first cigarette of the day.
- The amount of nicotine in the brain increases as a result of the cigarettes smoked throughout the day. This produces tolerance.
- This means that the amount of nicotine needed to experience the pleasant effects and prevent withdrawal increases throughout the day.
- The cigarettes smoked throughout the day will enable an individual to avoid withdrawal but will not result in the same pleasant effects as the first cigarette of the day.



How do Nicotine Replacement Therapies work?

The basics of Nicotine Replacement Therapy (NRT):

Why use NRT?

- NRT reduces the severity of withdrawal symptoms when an individual is trying to quit.

What forms of NRT are there?

- There are various forms of NRT: patches, gum, nasal spray, inhaler, and lozenge.

Note: refer to "Know Your Options" handout for more information on each form of NRT

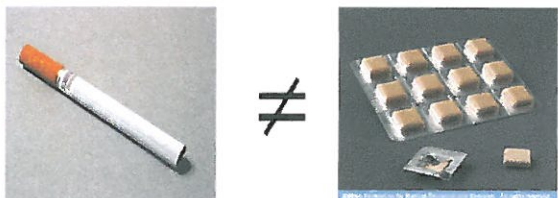
How does NRT work?

- NRT delivers nicotine to the brain without smoking tobacco.
- Each form of NRT produces different levels of nicotine in the brain at different rates.

Why are the effects of NRT different than smoking?

- Smoking results in more immediate, higher levels of nicotine to the brain while NRT delivers nicotine more slowly and steadily.
- Different forms of NRT deliver the nicotine to the brain at different rates, explaining why different types will feel differently. For example, the nasal spray produces immediate effects most similar to a cigarette while the patch will take the edge of the withdrawal.
- It is less likely that a person will become dependent on NRT because only 30-75% of nicotine levels that are achieved by a cigarette are reached by using NRT.

Understanding how NRT works and how it feels can help in deciding which NRT is the best to use for each person making a quit attempt. It may be possible to use more than one NRT, if advised by a medical professional.



Information adapted from: Rx for Change (2010). *Pharmacologic Aids for Quitting Smoking*, Powerpoint provided in Teaching Materials.



