Stimulants

What are stimulants?

Stimulants are a type of drug that affect the messaging system between the brain and nerve cells. These substances can make people who use them feel less tired, more focused, and more energetic. While some types of stimulants can help people with ADHD and narcolepsy, addiction can happen if the drugs are used incorrectly. People with a stimulant prescription may be asked by others to sell or share their drugs. Illicit stimulants, such as methamphetamine and cocaine, are also addictive.

According to the Minnesota Department of Health, the state has seen a rise in the number of deaths due to stimulants in the past ten years. Nationwide, the rate of cocaine overdoses is higher in urban areas, and the rate of stimulant overdose with abuse potential (which include methamphetamine, amphetamine, and methylphenidate) is greater in rural regions.

Racial disparities are clear in stimulant overdose deaths in Minnesota. American Indian communities have been negatively impacted and experience high rates of methamphetamine use and the highest rate of methamphetamine overdose deaths compared to other racial groups.

Learn more about how Extension's American Indian Resource and Resiliency Team (AIRRT) is addressing substance use in Indigenous communities.

Want to learn more about specific types of stimulants, stigma, and other topics? Check out our stimulant mini-course.

How do they affect the brain?

Stimulants change how the brain's "reward center" works. Dopamine is a neurotransmitter, a chemical in the brain that passes messages along nerves, and it creates the feeling of pleasure. The brain usually increases dopamine during important survival activities, such as eating. Stimulants increase the amount of

active dopamine in the brain which causes a “high”. Stimulants can also cause the brain to release a neurotransmitter called norepinephrine which affects how focused you are and how you feel. Norepinephrine is also part of how you learn and make memories. Levels of another neurotransmitter, serotonin, can also be affected by stimulants.

Using stimulants and opioids together

People may use a stimulant and a depressant (like an opioid) at the same time - either on purpose or by mistake. If these types of drugs are purposefully used together, it is often called “speed balling.” In the short term, using both types of drugs at the same time helps to hide the bad side effects of each drug. For example, stimulants commonly cause the heart to begin beating more quickly but using an opioid at the same time will help prevent this increased heart rate. However, “speed balling” is dangerous because it makes an overdose more likely and can make overdoses harder to treat.

Fentanyl, a very powerful type of opioid, has become very common in the illicit drug supply, and people could accidentally use stimulants and opioids at the same time as a result. People who do not realize that the substance they are using contains fentanyl can overdose with very little of the opioid.

How do you know if you are addicted to stimulants?

The effect of stimulants on how you feel and act will be different based on the type of stimulant used. For example, a high body temperature is a sign of methamphetamine use while cocaine use can cause nosebleeds. To learn more about how stimulant misuse can affect the body, visit the American Addiction Center website.

It is also common for people to “binge” when using stimulants. In other words, people may use the stimulant repeatedly in a short amount of time to feel the enjoyable effects of stimulant use or improve focus.

Harm reduction

Harm reduction methods help lower the risk of negative impacts of drug use without requiring people to stop using drugs. Many of the harm reduction methods used to address opioid use can be used for stimulants too. To reduce the risk of an overdose from fentanyl, people who use stimulants could test their supply with fentanyl test strips. If an opioid overdose occurs during stimulant use, due to “speedballing” or accidental use of fentanyl, naloxone can help prevent death by allowing the person breathe again. Learn more about these harm reduction methods.

Learn more

Tips for Teens from SAMHSA: These fact sheets lay out facts about different stimulants for a teen audience.

- Prescription Stimulants
- The Truth About Cocaine
- The Truth About Methamphetamine
- Tips for Teens in Spanish

Stimulant Use in American Indian/Native American Population Webinar: Learn how stimulant use has affected American Indian communities and how stimulant use disorder is being treated with culturally-specific methods.

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