National Institutes of Health DrugAbuse.gov



# Cough and Cold Medicine (DXM and Codeine Syrup)

Street names: Candy, Drank, Robo

EXPAND ALL

#### **Revised May 2017**

# What are cough and cold medicines?



**Also known as:** Candy, Dex, Drank, Lean, Robo, Robotripping, Skittles, Triple C, Tussin, and Velvet

Millions of Americans take cough and cold medicines each year to help with symptoms of colds, and when taken as instructed, these medicines can be safe and effective. However, several cough and cold medicines contain ingredients that are psychoactive (mind-altering) when taken in higher-than-recommended dosages, and some people misuse them. These products also contain other ingredients that can add to the risks. Many of these medicines are bought "over the counter" (OTC), meaning you do not need a prescription to have them.

Two commonly misused cough and cold medicines are:

- Cough syrups and capsules containing dextromethorphan (DXM). These OTC cough medicines are safe for stopping coughs during a cold if you take them as directed. Taking more than the recommended amount can produce euphoria (a relaxed pleasurable feeling) but also dissociative effects (like you are detached from your body).
- **Promethazine-codeine cough syrup.** These prescription medications contain an opioid drug called codeine, which stops coughs, but when taken in higher doses produces a "buzz" or "high."

Read more about <u>prescription drugs</u> and what happens to the brain and body when someone misuses them.

#### **How Cough and Cold Medicines Are Misused**

Cough and cold medicines are usually sold in liquid syrup, capsule, or pill form. They may also come in a powder. Drinking promethazine-codeine cough syrup mixed with soda (a combination called syrup, sizzurp, purple drank, barre, or lean) was referenced frequently in some popular music beginning in the late 1990s and has become increasingly popular among youth in several areas of the country.

Young people are often more likely to misuse cough and cold medicines containing DXM than some other drugs because these medicines can be purchased without a prescription.

# What happens to your brain when you misuse cough or cold medicines?

When cough and cold medicines are taken as directed, they safely treat symptoms caused by colds and flu. But when taken in higher quantities or when such symptoms aren't present, they

may affect the brain in ways very similar to illegal drugs, and can even lead to addiction.

DXM acts on the same brain cell receptors as drugs like ketamine or PCP. A single high dose of DXM can cause hallucinations (imagined experiences that seem real). Ketamine and PCP are called "dissociative" drugs, which means they make you feel separated from your body or your environment, and they twist the way you think or feel about something or someone.

Codeine attaches to the same cell receptors as opioids like <a href="heroin">heroin</a>. High doses of promethazine-codeine cough syrup can produce euphoria similar to that produced by other opioid drugs. Also, both codeine and promethazine depress activities in the central nervous system (brain and spinal cord), which produces calming effects.

Both codeine and DXM cause an increase in the amount of <u>dopamine</u> in the brain's reward pathway. Extra amounts of dopamine increase the feeling of pleasure and at the same time cause important messages to get lost, causing a range of effects from lack of motivation to serious health problems. Repeatedly seeking to experience that feeling can lead to <u>addiction</u>.

Learn more about how the brain works and what happens when a person uses drugs.

# What happens to your body when you misuse cough or cold medicines?

DXM misuse can cause:

- loss of coordination
- numbness
- feeling sick to the stomach
- increased blood pressure
- faster heart beat
- in rare instances, lack of oxygen to the brain, creating lasting brain damage, when DXM is taken with decongestants

Promethazine-codeine cough syrup misuse can cause:

slowed heart rate

slowed breathing (high doses can lead to overdose and death)

Cough and cold medicines are even more dangerous when taken with alcohol or other drugs.

## Are cough and cold medicines addictive?

Yes, high doses and repeated misuse of cough and cold medicines can lead to addiction. That's when a person seeks out and takes the drug over and over again, even though it is causing health or other problems.

### Can you overdose or die if you use cough and cold medicines?

Yes. Misuse of promethazine-codeine cough syrup slows down the central nervous system, which can slow or stop the heart and lungs. Mixing it with alcohol greatly increases this risk. Promethazine-codeine cough syrup has been linked to the overdose deaths of a few prominent <u>musicians</u>.

### How many teens misuse cough and cold medicines?

Below is a chart showing the percentage of teens who misuse cough and cold medicines.

# Monitoring the Future Study: Trends in Prevalence of Cough Medicine (nonprescription) for 8th Graders, 10th Graders, and 12th Graders; 2016 (in percent)\*

Drug	Time	8th	10th	12th
	Period	Graders	Graders	Graders
Cough Medicine (non- prescription)	Past Year	2.60	3.00	4.00

<sup>\*</sup> Data in brackets indicate statistically significant change from the previous year.

For the most recent statistics on teen drug use, see results from <u>NIDA's Monitoring the Future</u> <u>study</u>.

### What should I do if someone I know needs help?

If you see or hear about someone misusing opioids, talk to a coach, teacher, or other trusted adult.

If you, or a friend, are in crisis and need to speak with someone now, please call:

• National Suicide Prevention Lifeline at 1-800-273-TALK (they don't just talk about suicide—they cover a lot of issues and will help put you in touch with someone close by).

If you need information on treatment and where you can find it, you can call:

• Substance Abuse Treatment Facility Locator at 1-800-662-HELP or visit <a href="https://www.findtreatment.samhsa.gov">www.findtreatment.samhsa.gov</a>.

For more information on how to help a friend or loved one, visit our <u>Have a Drug Problem</u>, <u>Need Help? page</u>.

### Where can I get more information?

#### **Drug Facts**

#### NIDA:

- Commonly Abused Prescription Drugs Chart
- <u>DrugFacts: Prescription and Over-the-Counter Medications</u>
- <u>DrugFacts: Cough and Cold Medicine Abuse</u>
- Research Report Series: Misuse of Prescription Drugs

#### **Statistics and Trends**

#### NIDA:

• <u>DrugFacts: High School and Youth Trends</u>

#### Monitoring the Future (University of Michigan):

Monitoring the Future

#### **Substance Abuse and Mental Health Services Administration:**

• National Survey on Drug Use and Health

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