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## EXPLAINER

# Drug Use 101: Physical Dependence and Withdrawal

November 2024

## Background

A daily coffee drinker suddenly deprived of their favorite beverage may find themselves drowsy and distracted, irritable, depressed, or suffering from an excruciating headache. These symptoms are a [form of withdrawal](#) resulting from physical dependence on a substance—in this case, caffeine. While it can be uncomfortable, physical dependence on caffeine is unlikely to affect a person's life dramatically. Caffeine withdrawal tends to be relatively mild and short-lived, and returning to use comes without major health or legal consequences.

But people can experience physical dependence on a variety of substances, and the symptoms and consequences of that dependence vary according to a range of factors.

## What are drug dependence and withdrawal?

[Physical dependence](#) is when a person's body requires a particular substance to function optimally. Many substances—including legal, recreational, illicit, and prescription—can cause physical dependence with prolonged, consistent use. While physical dependence on a substance may be one aspect of a [substance use disorder](#), its presence is neither necessary nor sufficient to make a diagnosis.

[Withdrawal](#) occurs when a person who is physically dependent on a substance abruptly tapers or ceases use, including missing a usual dose. Symptoms vary between substances and may be physiological, behavioral, and/or cognitive. Withdrawal [can be acute](#) (often occurring within hours of last use and persisting for a week or more) or chronic, although colloquial use of the term generally refers to the former.

## How common is physical dependence on substances?

Rates of physical dependence vary by substance. For example, [roughly half of regular coffee drinkers](#) develop physical dependence on caffeine and experience withdrawal symptoms if they abstain, whereas [an estimated 56 to 85 percent](#) of regular nicotine users develop dependence that leads to withdrawal on abstinence. Similarly, [research suggests](#) that 56 percent of people tapering antidepressant medications experience withdrawals, and nearly half of these individuals will have severe symptoms. The vast majority of [people who regularly consume opioids](#) develop physical dependence, although only about 8 percent develop an opioid use disorder.

## Why do dependence and withdrawal matter?

The implications of dependence and withdrawal vary according to the substance involved. Substance dependence can be particularly harmful when withdrawal symptoms are severe, when the substance is difficult (or illegal) to access, or when its use is associated with health risks. For example, withdrawal from [alcohol](#) or [opioids](#) can be life threatening, and the powerful desire to relieve miserable opioid withdrawals can [increase risk of overdose](#), needle sharing, and [criminal activity](#). Similarly, nicotine dependence can be deadly when it drives a person to [smoke combustible cigarettes](#). In turn, dependence is much less problematic when regulated products and medications are available. [Reduced-risk nicotine](#) and [medications for opioid use disorder](#) provide safer alternatives to combustible cigarettes and illicit opioids while preventing withdrawal.



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### Acute Withdrawal Symptoms for Select Substances

	Caffeine	Nicotine	Alcohol	Opioids	Methamphetamine	Selective serotonin reuptake inhibitors (anti-depressants)	Cannabis
Sleep disturbances <sup>1</sup>	X	X	X	X	X	X	X
Depressed mood <sup>2</sup>	X	X	X	X	X	X	X
Gastrointestinal <sup>3</sup>		X	X	X	X	X	X
Anxiety		X	X	X	X	X	X
Headache (including “brain zaps”)	X	X	X			X	X
Flu-like symptoms <sup>4</sup>		X	X	X		X	X
Anger <sup>5</sup>	X	X	X	X			X
Sensory disturbances <sup>6</sup>			X	X		X	
Cardiovascular <sup>7</sup>		X	X	X			
Difficulty concentrating	X	X				X	
Mood swings			X	X		X	
Uncontrolled movement/ tremors			X			X	
Confusion (including paranoia/ delirium)			X		X		
Restlessness		X					X
Dilated pupils			X				
Red/itchy eyes					X		
Yawning				X			
Tingling hands/ feet		X					
Loss of balance/ coordination						X	
Seizures				X			
Suicidal thoughts						X	

## Contact us

For more information,  
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1. E.g., Fatigue, excessive sleep, insomnia, nightmares
2. Includes loss of interest/pleasure, loss of motivation
3. E.g., Changes in appetite, nausea/vomiting, stomach cramps, diarrhea, constipation
4. E.g., Runny nose, sweating, clamminess, fever, chills, body aches, dizziness, weakness, shakiness
5. Ranging from mild (frustration, agitation, irritability) to severe (aggression)
6. E.g., Ringing in ears, smelling odors not present, visual hallucinations, light sensitivity
7. E.g., Increased or decreased heart rate, increased blood pressure