



Nicotine poisoning: What are the symptoms, and can you overdose?



Medically reviewed by [Darragh O'Carroll, MD](#) — By [Jayne Leonard](#) — Updated on [February 16, 2023](#)

[How much nicotine?](#) | [Where is nicotine found?](#) | [Symptoms](#) | [Other effects](#) | [Treatment](#) | [Prevention](#) | [Outlook](#) | [FAQs](#) | [Summary](#)

Nicotine poisoning can cause nausea, vomiting, and headaches. It is typically caused by liquid nicotine ingestion and can lead to overdose and even fatality. Some people refer to this as 'nic sick.'

Overexposure to [nicotine](#) can carry serious health risks. Nicotine inhalation, ingestion, or absorption through the skin or eyes can cause overexposure. However, ingestion of liquid nicotine is the most common cause of nicotine poisoning.

While nicotine poisoning is a relatively rare occurrence, the popularity of e-cigarettes and their liquids has seen [an increase](#) in reported cases.

This article discusses the causes, symptoms, and treatments of nicotine poisoning.

ADVERTISEMENT

How much nicotine can cause poisoning?

ADVERTISEMENT





Christian Horz/Getty Images

Any amount of nicotine ingestion can potentially lead to toxicity and cause adverse effects. However, the amount of nicotine necessary for poisoning will vary in the form of ingestion and a person's physical state.

A 2019 review found that reported cases of nicotine poisoning from doses as little as [1.8 milligrams \(mg\) and as large as 100 mg](#) ⁶.

Lethal doses

The amount of nicotine necessary for a lethal dose is dependent on a person's weight and overall health. The Centers for Disease Control and Prevention (CDC) states that the lethal dose of nicotine for a typical adult weighing 70 kg is [50 to 60 mg](#) ⁶. The lethal dose for children is around 6 mg.

However, [some researchers](#) ⁶ claim that the threshold for lethal doses is much higher.

Where is nicotine found?

Nicotine is present in:

- [cigarettes](#)
- cigars
- [e-cigarettes \(vaping\)](#)
- liquid nicotine
- nicotine gum
- nicotine patches
- nicotine lozenges
- [chewing tobacco](#)

ADVERTISEMENT



- snuff
- some insecticides
- tobacco plants

The nicotine content of all the above products can [vary greatly](#)[🔗]. For example, some e-cigarettes may contain little to no nicotine, while others can [contain more nicotine](#)[🔗] than standard cigarettes and cigars. It is essential to check the nicotine content of individual products before use.

ADVERTISEMENT

Symptoms of nicotine poisoning

Nicotine poisoning tends to occur in [two stages](#).

Within the first 15 to 60 minutes following exposure, symptoms are related to the stimulatory effects of nicotine and include:

- [excess saliva in the mouth](#)
- [nausea](#)
- [stomach ache](#)
- [vomiting](#)
- [loss of appetite](#)
- [dehydration](#)
- [eye irritation](#)
- [headache](#)
- [dizziness](#)
- [tremors](#)
- [anxiety](#)
- [confusion](#)
- [sweating](#)
- [cough](#)

ADVERTISEMENT



- [elevated blood pressure](#)

Following this stage, the body begins to wind down. Nicotine's depressor effects appear within a few hours. These include:

- [low blood pressure](#)
- [slow heart rate](#)
- [shallow breathing](#)
- [diarrhea](#)
- [fatigue](#)
- [weakness](#)
- [pale skin](#)

In extreme cases, symptoms include:

- [seizures](#)
- [coma](#)
- [breathing difficulties](#)
- [respiratory failure](#)

Serious or fatal nicotine overdoses [can occur](#)⁹. However, they are rare in adults.

Other effects of nicotine

Nicotine affects the body in a variety of ways. It is both a sedative and a stimulant that impacts the heart, hormones, and digestive system.

Aside from nicotine poisoning, the [primary risk](#) of nicotine use is its addictive qualities.

Many people who quit nicotine will experience withdrawal symptoms such as:

- [anxiety](#)
- [cravings](#)
- [depression](#)
- [difficulty concentrating](#)
- [irritability](#)

Treatment for nicotine poisoning

Nicotine poisoning and nicotine overdose are [medical emergencies](#). The

ADVERTISEMENT



If the person is experiencing breathing difficulties, doctors will use a ventilator to deliver oxygen.

If necessary, doctors may use other supportive treatments, including medications, to manage seizures, low blood pressure, and abnormal heart rates.

When to seek help

If someone is experiencing nicotine poisoning symptoms, it is important to seek emergency medical attention. Follow the directions of the medical personnel and do not force the person to vomit or give them any food or liquids.

Prevention of nicotine poisoning

The most effective way to prevent nicotine poisoning is to stop using cigarettes and other nicotine-containing products.

Other preventive measures include:

- protecting the skin, especially when using liquids containing nicotine
- safely storing nicotine products away from children and pets
- correctly disposing of nicotine products — including cigarette butts and empty nicotine cartridges

People who wish to [quit smoking](#) or use other nicotine products should consult their doctor for further information.

Outlook

The outlook for those with nicotine poisoning depends on how much nicotine they have ingested and how quickly they seek treatment. With rapid medical treatment, most people make [a full recovery](#) without any long-term effects.

In rare cases, severe nicotine poisoning can be fatal.

Frequently asked questions

How common is nicotine poisoning?

Nicotine poisoning is rare. However, its prevalence is increasing. There were [2,901 cases](#) of nicotine poisoning involving e-cigarettes in 2018. This was an increase of 4,990% in 2010.

ADVERTISEMENT



Children are most at risk of nicotine poisoning. Causes include eating cigarettes or nicotine-containing products or drinking or touching liquid nicotine by accident.

What are the most dangerous forms of nicotine?

The higher a product's nicotine content, the higher its risk of producing adverse effects. Direct consumption of nicotine liquids is the most dangerous to ingest.

ADVERTISEMENT

Summary

Nicotine poisoning is a serious health risk and is typically the result of exposure to or ingestion of liquid nicotine. Consuming large amounts of nicotine can also lead to overdose.

The amount of nicotine required for poisoning is dependent on a person's weight and their overall health. Young children are most at risk of nicotine poisoning and overdose.

It is uncommon for nicotine poisoning and overdose to be fatal in adult populations, and prompt medical treatment can aid full recovery. Accidental ingestion of concentrated nicotine can be fatal in infants.

ADVERTISEMENT



ADVERTISEMENT

Explore online talk therapy options



Great for a large network of licensed therapists

- \$65 to \$90/week, billed every 4 weeks
- Therapy via messaging, phone, or live video chat
- Flexible cancellation at any time

LEARN MORE

20% off your first month



Great for additional psychiatry services

- \$69 to \$129/week, with billing options available
- Therapy via messaging, phone, or live video chat
- Psychiatric treatment and prescription management available

LEARN MORE

Use code 'SPACE' for \$100 off your first subscription



Great for cognitive behavioral therapy

- \$40 to \$88/week, billed monthly
- Therapy via messaging, live video chat, and worksheets
- Multi-faceted program includes

Next

ADVERTISEMENT



20% off your first month

*Great for online
medication delivery*

Last medically reviewed on June 6, 2022

Emergency Medicine Smoking / Quit Smoking

How we reviewed this article:

 SOURCES

Share this article



RELATED COVERAGE

The pros and cons of e-cigarettes revealed

These are the conclusions of one of the largest reports to have ever been conducted on the health risks of electronic cigarettes.

READ MORE

Smoking every day can increase psychosis risk, study finds

Smoking at least 10 cigarettes every day or using marijuana at least five times may raise the risk of developing psychosis, according to two new...

READ MORE

The reasons why smoking is bad for you

ADVERTISEMENT



Smoking can cause harm throughout the body, including the heart, brain, and lungs. This article discusses why smoking is bad for health and...

READ MORE

What is nicotine dependence?

Medically reviewed by [Timothy J. Legg, PhD, PsyD](#)

The majority of cigarette, cigar and pipe smokers have nicotine dependency. Nicotine is a highly addictive substance that leads to life-...

READ MORE

Everything you need to know about nicotine

Medically reviewed by [Debra Rose Wilson, Ph.D., MSN, R.N., IBCLC, AHN-BC, CHT](#)

Nicotine is highly addictive and harmful. It is a component in cigarettes and some e-cigarette liquid. Learn more here.

READ MORE



Get our newsletter

Keep up with the ever-changing world of medical science with new and emerging developments in health.

Enter your email

SUBSCRIBE

Your [privacy](#) is important to us

ADVERTISEMENT



[About Us](#)[Health Topics](#)[Contact Us](#)[Health Hubs](#)[Terms of Use](#)[Medical Affairs](#)[Privacy Policy](#)[Content Integrity](#)[Privacy Settings](#)[Newsletters](#)[Advertising Policy](#)[Do Not Sell or Share My Personal Information](#)

© 2024 Healthline Media UK Ltd, Brighton, UK. All rights reserved. MNT is the registered trade mark of Healthline Media. Any medical information published on this website is not intended as a substitute for informed medical advice and you should not take any action before consulting with a healthcare professional. [See additional information.](#)

**HEALTHLINE MEDIA**[About](#) | [Careers](#) | [Advertise with us](#)**OUR BRANDS**[Healthline](#)[Medical News Today](#)[Greatist](#)[Psych Central](#)[Bezzly](#)

ADVERTISEMENT



