CONDITION

Cocaine intoxication

Learn how cocaine intoxication affects the heart, brain, and body, including warning signs, emergency treatment, possible complications, and follow-up care.

WHAT IT IS
Harmful effect while cocaine is active

BODY SYSTEM
Nervous system, heart and circulation

MAIN SYMPTOMS
Agitation, fast heartbeat, chest pain, high body temperature

WHAT CAUSES IT
Cocaine use

HOW IT IS DIAGNOSED
Symptoms, physical examination, vital signs, substance-use history

MAIN TREATMENT
Emergency supportive care and complication treatment

CAN IT BE CURED?
No, no single antidote reverses cocaine

IS IT AN EMERGENCY?
Sometimes, with chest pain, seizures, collapse, or breathing difficulty

LONG-TERM OUTLOOK
Variable, with complications that can develop or persist

Overview

Cocaine intoxication is the harmful effect that occurs while cocaine is active in the body. It may follow any form of cocaine use, including snorting powder, smoking crack cocaine, swallowing cocaine, or injecting it.

Cocaine is a powerful stimulant like methylphenidate or lisdexamfetamine . It increases the activity of chemical messengers involved in alertness and the body's stress response. As a result, heart rate, blood pressure, body temperature, and mental activity may rise. Cocaine also narrows blood vessels and can reduce blood flow to the heart, brain, and other organs.

Effects can range from mild restlessness or a fast heartbeat to seizures, dangerous heart rhythms, stroke, or heart attack. Serious toxicity can occur in a person who has used cocaine before without a major problem. The actual amount and purity may be unknown, and cocaine

may contain fentanyl or other substances.

Symptoms often begin within minutes when cocaine is smoked or injected. They may develop more slowly after snorting or swallowing it. Repeated doses can extend the intoxication and increase the risk of complications.

There is no single antidote that reverses cocaine itself. Emergency treatment focuses on calming excessive nervous system activity, supporting breathing and circulation, lowering dangerously high body temperature, and treating complications.

Symptoms

Cocaine intoxication can affect mood, behavior, movement, and several organ systems. Possible symptoms include:

Someone who has taken cocaine may not recognize how impaired or medically unwell they are. A calm environment and clear, simple communication may help while medical assistance is arranged.

Call emergency services immediately for chest pain, difficulty breathing, a seizure, collapse, severe confusion, extreme agitation, a very high body temperature, or an irregular heartbeat. Sudden weakness on one side, facial drooping, difficulty speaking, loss of coordination, or an abrupt severe headache may be signs of a stroke.

Slow or stopped breathing, blue or gray lips, inability to wake, or pinpoint pupils are not typical stimulant effects. They may suggest exposure to fentanyl or another opioid like oxycodone or morphine mixed with cocaine. Give naloxone if it is available, call emergency services, and provide rescue breathing or CPR if trained. Naloxone will not worsen cocaine intoxication, although more than one dose may be needed for an opioid overdose.

While waiting for help, do not give the person more drugs or alcohol. Keep the area quiet and reasonably cool. Do not put anything in the person's mouth during a seizure, and do not try to hold them down.

- Unusual energy, alertness, confidence, or talkativeness
- Anxiety, panic, irritability, or agitation
- Restlessness, tremor, sweating, or enlarged pupils
- Fast heart rate or awareness of a pounding heartbeat
- High blood pressure
- Nausea, vomiting, or abdominal pain

- Headache, dizziness, or confusion
- Chest pain or shortness of breath
- Paranoia, hallucinations, or aggressive behavior
- Muscle stiffness or repetitive movements
- High body temperature

Causes and risk factors

Cocaine intoxication results from cocaine's effects on the brain, heart, blood vessels, and nervous system. Risk is not determined by dose alone. Illicit cocaine varies in strength and may contain other drugs or chemicals.

Smoking and injection deliver cocaine to the brain quickly. This creates a rapid, intense effect and may increase the chance of severe toxicity. Repeated use over a short period can cause cocaine and its effects to build up.

Factors that may increase risk include:

Using cocaine with alcohol produces a substance in the body called cocaethylene. It may last longer than cocaine alone and can add to strain on the heart.

A severe reaction is possible even in a younger person or someone without known heart disease. Previous use without complications does not make future use safe.

- Using a larger amount or taking repeated doses
- Smoking, injecting, or swallowing a packet that leaks or breaks
- Combining cocaine with alcohol, opioids, amphetamines, or other stimulants
- Using cocaine during intense exercise or in a hot environment
- Dehydration, lack of sleep, or prolonged agitation
- Existing heart, blood vessel, kidney, seizure, or mental health conditions
- Pregnancy
- Unknown purity or contamination with fentanyl or another substance

Diagnosis

Cocaine intoxication is diagnosed from the person's symptoms, physical examination, vital signs, and available information about substance use. Emergency clinicians first assess

breathing, circulation, mental status, body temperature, and blood glucose.

It is helpful to tell the care team what was taken, how it was used, when it was taken, and whether alcohol, medicines, or other drugs were involved. This information is used to guide care, not to judge the person. If a product or package is available, emergency personnel may want to know what it looked like, but no one should handle loose powder without appropriate precautions.

An electrocardiogram, or ECG, records the heart's electrical activity. It may identify an abnormal rhythm or signs of reduced blood flow to the heart. People with chest pain may need repeated ECGs and blood tests such as troponin, a marker of heart muscle injury.

Other testing depends on the symptoms. It may include blood counts, electrolytes, kidney and liver tests, or creatine kinase testing for muscle breakdown. Brain imaging may be needed for a severe headache, seizure, head injury, or possible stroke. Abdominal imaging may be considered if a swallowed drug packet is suspected.

Urine drug tests can support a history of recent cocaine exposure, but they do not show how much was taken or prove that cocaine caused every symptom. Some tests remain positive after the active effects have ended. Treatment should not be delayed while waiting for a drug test.

Treatment and management

Anyone with severe symptoms needs emergency assessment. Treatment may begin in an ambulance and continue in an emergency department or intensive care unit. Monitoring may include repeated blood pressure measurements, continuous heart rhythm checks, oxygen levels, temperature, and urine output.

A quiet setting with reduced stimulation can help limit agitation. Clinicians commonly use benzodiazepine medicines to treat severe anxiety, agitation, seizures, and the overactive stress response caused by stimulants. These medicines are given and monitored by trained professionals because they can cause sedation and affect breathing, especially when opioids or alcohol are also present.

Supplemental oxygen or breathing support may be needed. Intravenous fluids can help treat dehydration and support the kidneys, but the amount depends on the person's heart and kidney function.

A dangerously high temperature requires active cooling. This may involve removing excess clothing, misting the skin, using fans, applying cool packs, and giving medicines to reduce muscle activity. Fever-reducing medicines such as acetaminophen do not correct

stimulant-related overheating because the temperature rise is not caused by an infection-related fever.

Chest pain is evaluated as a possible heart emergency. Treatment may include medicines that relax blood vessels and reduce the heart's workload. If high blood pressure, chest pain, or a fast heart rate continues after initial treatment, clinicians choose additional medicines based on the person's heart rhythm and overall condition. Patients should not try to treat these symptoms with someone else's blood pressure or heart medicine.

Seizures are treated promptly. Dangerous heart rhythms, stroke, heart attack, severe high blood pressure, or organ failure require condition-specific emergency care.

Naloxone treats opioid effects but does not reverse cocaine. It should still be used when opioid exposure is possible and the person is not breathing normally.

After symptoms improve, observation may continue because chest pain, abnormal rhythms, recurrent agitation, or other problems can develop or persist. The needed observation period depends on symptoms, test results, substances involved, and response to treatment.

Complications

Cocaine can narrow arteries while increasing heart rate and blood pressure. This combination may lead to heart attack, inflammation of the heart muscle, heart failure, or a dangerous heart rhythm. It can also contribute to a tear in the aorta, the body's largest artery.

Brain complications include seizures, stroke, bleeding in or around the brain, and prolonged confusion. Severe agitation and overheating can cause muscle tissue to break down, a condition called rhabdomyolysis. Proteins released from damaged muscle can injure the kidneys.

Other possible complications include lung injury, breathing failure, bowel damage from reduced blood flow, and injuries sustained during confusion or seizures. Injection can lead to skin infections and blood-borne infections. During pregnancy, cocaine may reduce blood flow to the placenta and create risks for both the pregnant person and fetus.

The chance of complications depends on many factors. Symptoms and medical testing, rather than age or past experience with cocaine, guide the level of care.

Follow up

Follow the discharge instructions provided after emergency care. Recommended follow-up

may include primary care, cardiology, neurology, mental health, or addiction treatment, depending on the symptoms and test results.

Return for urgent assessment if chest pain, shortness of breath, fainting, severe headache, weakness, confusion, fever, or a seizure develops after discharge. Call emergency services for severe or rapidly worsening symptoms.

After cocaine wears off, some people experience a "crash" with fatigue, increased sleep, low mood, anxiety, strong cravings, or difficulty concentrating. These symptoms often need routine medical follow-up, but thoughts of suicide or self-harm require immediate crisis or emergency help.

A clinician can screen for stimulant use disorder, meaning cocaine use that has become difficult to control or continues despite harm. Effective care can include contingency management, which provides structured rewards for meeting treatment goals, as well as cognitive behavioral therapy and community reinforcement approaches. No medication is currently approved by the US Food and Drug Administration specifically for stimulant use disorder, although specialists may consider certain medicines for selected patients.

For someone who is not ready or able to stop, harm-reduction services can still lower risk. Options include carrying naloxone, avoiding use alone, not mixing cocaine with other substances, using sterile equipment, and checking for fentanyl where test strips are available. These steps do not make cocaine use safe, but they may reduce preventable harm.

Sources

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