CONDITION

Black nightshade poisoning

Learn how black nightshade poisoning can affect the digestive and nervous systems, what to do after a possible exposure, and when emergency care is needed.

WHAT IT IS
Poisoning from eating toxic black nightshade parts

BODY SYSTEM
Digestive and nervous systems

MAIN SYMPTOMS
Nausea, vomiting, stomach cramps, confusion

WHAT CAUSES IT
Toxic plant glycoalkaloids

HOW IT IS DIAGNOSED
Exposure history, examination, plant identification

MAIN TREATMENT
Supportive care

CAN IT BE CURED?
Sometimes, many recover with timely care

IS IT AN EMERGENCY?
Sometimes, with trouble breathing, seizure, or collapse

LONG-TERM OUTLOOK
Many recover with timely care, serious poisoning possible

Overview

Black nightshade poisoning can occur after someone eats toxic parts of a black nightshade plant. The name usually refers to Solanum nigrum , but it is also used for several closely related species. Because these plants can look alike, identifying the exact species may be difficult.

Black nightshade belongs to the same broad plant family as tomatoes, potatoes, peppers, and eggplants. It is not the same plant as deadly nightshade, or Atropa belladonna . Deadly nightshade contains different chemicals and can cause a different pattern of poisoning. However, common names are unreliable, so any suspected nightshade exposure should be assessed based on the plant, the amount eaten, and the person's symptoms.

Black nightshade contains steroidal glycoalkaloids. These natural plant chemicals help protect the plant from insects and other threats. In people, they can irritate the digestive tract and

affect the nervous system. The amount and type of glycoalkaloid can vary with the plant species, growing conditions, maturity, and plant part.

Unripe green berries and foliage are generally considered more concerning than fully ripe berries. Some identified black nightshade varieties are prepared as traditional foods in certain regions. That does not mean an unknown wild plant is safe to eat. Appearance, ripeness, or cooking alone cannot reliably confirm safety.

Most concerning exposures involve swallowing the plant. Prompt advice from a poison center is important because symptoms may not start immediately and the toxicity of a particular plant can be difficult to predict.

Symptoms

Symptoms often involve the stomach and intestines first. They may begin within several hours, although timing varies. A person may develop:

More serious poisoning may affect the brain, heart, blood pressure, or breathing. Possible findings include marked drowsiness, hallucinations, seizures, an abnormal heart rate, low blood pressure, slowed breathing, or loss of consciousness.

Symptoms alone cannot identify the plant. Foodborne illness, medication effects, pesticide exposure, and other poisonous plants can produce similar problems. Deadly nightshade, for example, may cause large pupils, hot or dry skin, a fast heart rate, confusion, and hallucinations because it contains atropine-like chemicals.

Call emergency services immediately if the person:

Do not give anything by mouth to someone who is unconscious, having a seizure, or unable to swallow safely.

- Nausea, vomiting, stomach cramps, or diarrhea
- Burning or irritation in the mouth
- Headache, dizziness, or unusual tiredness
- Weakness or difficulty coordinating movement
- Confusion, agitation, or unusual behavior
- Blurred vision or other vision changes
- Has trouble breathing
- Collapses, cannot be awakened, or becomes severely confused

- Has a seizure
- Develops severe weakness or cannot stand safely
- Has signs of shock, such as fainting, pale or clammy skin, or extreme weakness

Causes and risk factors

Poisoning usually follows accidental or intentional ingestion of berries, leaves, or other plant material. Children may be attracted to berries. Adults may mistake black nightshade for an edible berry plant or gather its leaves as wild greens.

Risk may be higher when:

It may not be possible to estimate risk from the number of berries alone. Berries can differ in size and toxin content, and the identity of the plant may be uncertain. A small child may also receive a larger exposure relative to body size than an adult who eats the same amount.

Ordinary cooking should not be relied on to make an unidentified nightshade plant safe. Traditional preparation practices apply to particular plants that have been correctly identified. They should not be generalized to wild plants with a similar appearance.

Touching black nightshade is less likely to cause whole-body poisoning than swallowing it. Plant sap may still irritate the skin or eyes in some people. Wash exposed skin with soap and water. Rinse an exposed eye gently with clean, lukewarm water and seek advice if pain, redness, or vision changes continue.

- An unknown wild plant is eaten without expert identification
- Green or partly ripe berries are consumed
- Leaves or shoots are used as food or herbal remedies
- A child has access to plants growing in a yard, field, or garden
- Several related nightshade species grow in the same area
- A homemade preparation contains an uncertain amount of plant material

Diagnosis

Black nightshade poisoning is diagnosed from the exposure history, symptoms, physical examination, and, when possible, plant identification. There is no commonly available bedside blood test that confirms this specific poisoning.

A clinician or poison specialist may ask:

If it can be done safely, take clear photographs of the entire plant, including the leaves, stem, flowers, and berries. A sample may help with identification, but it should be placed in a sealed container and kept away from children and pets. Do not handle an unknown plant unnecessarily.

In a healthcare setting, evaluation may include repeated checks of alertness, breathing, heart rate, blood pressure, temperature, and hydration. An electrocardiogram may be used to examine the heart's electrical rhythm. Blood tests may check electrolytes, kidney function, blood sugar, or other problems caused by vomiting, diarrhea, or severe illness.

Clinicians may also consider other causes, especially if the plant cannot be confirmed. Treatment should not be delayed while waiting for formal botanical identification when serious symptoms are present.

- Which part of the plant was eaten
- Whether the berries were green, partly ripe, or dark-colored
- Approximately how much was swallowed
- When the exposure happened
- Whether vomiting or other symptoms have started
- The person's age, weight, health conditions, and medicines
- Whether anyone else ate the same plant or food

Treatment and management

After a possible ingestion, remove any remaining plant material from the mouth and rinse the mouth gently. Do not make the person vomit. Vomiting can lead to choking or allow material to enter the lungs.

In the United States, contact Poison Help at 1-800-222-1222 for case-specific guidance. The service connects callers with a regional poison center. Outside the United States, contact the local poison information service or emergency medical system. It is reasonable to call even if the person has no symptoms yet.

Have the plant, photographs, product container, or preparation recipe available when calling. Do not wait for symptoms if a child ate an unknown berry or if the plant may have been a nightshade species.

Management depends on the amount and type of plant, the person's age and health, the time

since exposure, and current symptoms. A poison specialist may recommend observation at home for a low-risk exposure, evaluation in an emergency department, or ambulance transport.

There is no specific antidote that reverses black nightshade glycoalkaloid poisoning. Medical care is supportive, meaning it protects important body functions while the toxins are cleared. Treatment may include:

Activated charcoal may sometimes be considered after a significant recent ingestion. It is not appropriate for every exposure and can be dangerous if the person is drowsy, vomiting, or unable to protect the airway. It should be given only when a poison specialist or healthcare professional recommends and supervises it.

Home remedies such as salt water, milk, alcohol, or herbal products do not neutralize the toxins. They may worsen vomiting or delay appropriate care.

- Fluids to treat dehydration
- Medicines for significant nausea or vomiting
- Monitoring of breathing, blood pressure, heart rhythm, and alertness
- Correction of electrolyte abnormalities
- Medicines to control seizures if they occur
- Oxygen or breathing support in severe cases

Complications

Repeated vomiting and diarrhea can cause dehydration and abnormal levels of body salts called electrolytes. Young children, older adults, and people with kidney or heart conditions may be less able to tolerate these changes.

A person who is very drowsy or vomiting may breathe stomach contents into the lungs. This is called aspiration and can cause breathing problems or lung inflammation.

Severe nervous system effects can include confusion, seizures, profound weakness, coma, or impaired breathing. Changes in heart rate or blood pressure may also occur. These complications need close monitoring and hospital treatment.

The outcome depends on the plant involved, the amount swallowed, how quickly symptoms are recognized, and the person's overall health. Many patients recover with timely supportive care. Serious poisoning is possible, particularly when a large or uncertain amount was eaten or when treatment is delayed.

Follow up

Follow the observation plan given by the poison center or treating clinician. After a mild exposure, this may include watching for vomiting, diarrhea, unusual sleepiness, confusion, weakness, or vision changes during a specified period.

If vomiting or diarrhea occurred, fluids may need to be replaced gradually. A clinician can advise when normal food and activity may be resumed. Do not return to foraging or eating from the same plant unless it has been reliably identified by a qualified expert and confirmed appropriate for food use.

Arrange routine medical follow-up if digestive symptoms continue, weakness does not resolve, or the person is not returning to normal eating, drinking, urination, or activity. Follow-up may include checking hydration, kidney function, or electrolytes after a more significant illness.

Seek urgent reassessment for worsening vomiting, persistent diarrhea, reduced urination, increasing weakness, new confusion, or difficulty keeping fluids down.

Call emergency services for trouble breathing, a seizure, collapse, severe confusion, inability to awaken the person, or rapidly worsening symptoms.

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