CONDITION

Calla lily poisoning

Learn how calla lily exposure can irritate the mouth, skin, and eyes, what first aid may help, and when to contact Poison Control or seek emergency care.

WHAT IT IS
Local irritant poisoning from calla lilies

BODY SYSTEM
Digestive system, skin and eyes

MAIN SYMPTOMS
Mouth burning, tongue swelling, painful swallowing, vomiting

WHAT CAUSES IT
Insoluble calcium oxalate crystals

HOW IT IS DIAGNOSED
Exposure history and symptom pattern

MAIN TREATMENT
Decontamination and supportive care

CAN IT BE CURED?
Yes, most improve with supportive care

IS IT AN EMERGENCY?
Sometimes, with breathing trouble or throat swelling

LONG-TERM OUTLOOK
Most uncomplicated exposures improve with supportive care

Overview

Calla lily poisoning happens when someone chews or swallows part of a calla lily plant, or when the plant's sap contacts the skin or eyes. Calla lilies belong to the Zantedeschia group. Despite their name, they are not true lilies.

Calla lilies contain bundles of tiny, needle-shaped crystals called insoluble calcium oxalate crystals. These crystals can be released when the plant is crushed or chewed. They pierce and irritate nearby tissue, causing immediate burning, pain, and swelling.

This type of poisoning usually causes a local reaction in the mouth rather than widespread poisoning throughout the body. It is different from poisoning by plants that contain soluble oxalates, which can be absorbed and may affect organs such as the kidneys.

Many exposures cause brief but uncomfortable symptoms. However, swelling involving the tongue or throat can make swallowing difficult. Serious breathing problems are uncommon, but they require emergency care. Eye exposure also needs prompt rinsing because the crystals can injure the eye's surface.

If a person has chewed or swallowed calla lily, contact a poison center for advice. In the United States, Poison Help is available at 1-800-222-1222 . Do not wait for symptoms before calling if the amount or plant identity is uncertain.

Symptoms

Symptoms often begin immediately or within minutes because the crystals directly irritate tissue. The type and severity of symptoms depend on how the exposure occurred.

After chewing or swallowing the plant, symptoms may include:

A person may spit out the plant quickly because the pain begins almost at once. This immediate discomfort often limits how much is swallowed.

Sap on the skin may cause redness, itching, burning, or a rash. Repeated contact while gardening or arranging flowers may make irritation more likely.

Eye exposure can cause severe stinging, tearing, redness, sensitivity to light, or blurred vision. The eyelids may swell. Persistent pain or changes in vision need prompt medical assessment.

Call emergency services if the person has trouble breathing, rapidly increasing tongue or throat swelling, blue or gray lips, collapse, or cannot be awakened normally. An inability to swallow saliva, severe voice changes, or noisy breathing also requires urgent emergency evaluation.

- Sharp burning or stinging in the lips, mouth, tongue, or throat
- Redness and swelling of the lips or tongue
- Drooling, especially in a young child
- Pain when swallowing
- Refusal to eat or drink
- A hoarse voice
- Nausea, vomiting, or stomach discomfort

Causes and risk factors

All parts of a calla lily may contain calcium oxalate crystals. Exposure can occur from biting the leaves or flowers, handling cut stems, or touching sap and then rubbing the eyes or mouth.

Young children are at increased risk because they explore objects with their mouths and may be attracted to colorful flowers. People with developmental or cognitive conditions may also have a greater chance of accidentally chewing a plant.

Gardeners, florists, and others who frequently handle calla lilies may develop skin or eye irritation from the sap. Cuts or damaged skin can make contact more uncomfortable.

An exposure may be more concerning when the person has significant mouth swelling, has swallowed a larger amount, or cannot clearly describe what happened. Someone who already has difficulty swallowing may be less able to manage saliva and plant material safely.

Plant identification can also be uncertain. Other plants may cause different or more serious effects. A clear photograph of the whole plant, leaves, flowers, and label may help a poison specialist identify it. Do not handle an unidentified plant with bare hands to obtain a sample.

The reaction from calla lily crystals is mainly mechanical irritation. It is not usually an allergic reaction, although a person could separately be allergic to plant material. Hives away from the contact area, wheezing, or faintness may suggest a severe allergic reaction and require emergency care.

Diagnosis

Calla lily poisoning is usually identified from the exposure history and the pattern of immediate mouth, skin, or eye irritation. There is no routine blood test that confirms the diagnosis.

A healthcare professional or poison specialist may ask:

For a mild mouth exposure that improves after rinsing, testing may not be needed. A clinician may examine the lips, tongue, throat, and breathing. More serious swelling may require continued observation and a closer examination of the upper airway.

Eye symptoms are assessed by checking vision and examining the surface of the eye. A clinician may use a special dye and light to look for scratches or other damage to the cornea, the clear front layer of the eye.

Blood tests or imaging are not routine for a simple exposure. They may be used when there is repeated vomiting, dehydration, breathing difficulty, an uncertain plant identification, or concern that another substance was involved.

- Which part of the plant was involved

- Whether it was chewed, swallowed, touched, or splashed into the eyes
- When the exposure happened
- What symptoms are present
- Whether the person can breathe and swallow normally
- What first aid has already been given

Treatment and management

There is no specific antidote for calla lily poisoning. Treatment focuses on removing remaining plant material, easing irritation, and protecting breathing and swallowing.

After a mouth exposure, have the person spit out any plant pieces. Gently remove visible pieces that can be reached easily, then rinse the mouth with water. Do not reach deeply into the throat or sweep the mouth blindly with a finger.

If the person is fully awake and can swallow without difficulty, small sips of cool water or milk may help rinse the mouth and soothe discomfort. Ice chips or another cold food may also reduce local pain. Do not force fluids if the person is drooling heavily, choking, vomiting repeatedly, or struggling to swallow.

Do not make the person vomit. Vomiting may expose the mouth and throat to the irritating material again and may increase the risk of choking. Do not use vinegar, baking soda, or other home mixtures to try to neutralize the crystals.

Call a poison center for advice tailored to the exposure. Keep the plant, label, or photographs available when calling. Poison specialists can help determine whether home observation is reasonable or an in-person examination is needed.

For skin exposure, remove clothing or gloves contaminated with sap and wash the skin thoroughly with soap and water. Avoid touching the eyes until the hands have been cleaned. Persistent pain, blistering, or a spreading rash should be assessed by a healthcare professional.

For eye exposure, begin rinsing the eye immediately with a gentle flow of clean, lukewarm water. Remove contact lenses if this can be done easily. Continue rinsing while arranging poison-center or medical advice. Do not rub the eye or place nonprescription drops, creams, or plant remedies in it unless a clinician recommends them.

In a medical setting, treatment may include pain relief, nausea treatment, fluids if the person cannot drink, and monitoring for worsening swelling. Clinicians may provide oxygen or other breathing support if needed. Severe airway swelling may require a breathing tube, although this is not typical of most calla lily exposures.

Antihistamines like cetirizine or loratadine do not remove calcium oxalate crystals because the main injury is irritation rather than histamine release. A clinician may still use medicines when symptoms suggest an allergic reaction or another condition. Medication choices should be based on an individual assessment.

Complications

Most uncomplicated mouth exposures improve with rinsing and supportive care. Complications are more likely when swelling is significant, symptoms continue to worsen, or the plant was misidentified.

Possible complications include dehydration if mouth pain or vomiting prevents drinking. Young children may be especially affected because they cannot always explain why they are refusing fluids.

Marked swelling of the tongue or throat can interfere with swallowing and, rarely, breathing. A person who cannot swallow saliva may also be at risk of inhaling saliva or plant material into the lungs.

Eye exposure can lead to scratches, inflammation, or other injury to the cornea. Ongoing pain, light sensitivity, or blurred vision after rinsing should not be managed only at home.

Skin irritation usually settles after the sap is removed. Continued exposure can lead to persistent dermatitis, meaning inflamed, itchy skin. Scratching damaged skin may allow a secondary infection to develop, although this is not a usual effect of the plant itself.

Follow up

After a mild mouth exposure, follow the poison center's instructions and watch for changes. The person should be able to breathe comfortably, swallow saliva, and take fluids. Symptoms that are not clearly improving deserve further advice, even if they do not appear to be an emergency.

Arrange routine medical follow-up if mouth soreness continues, eating or drinking remains difficult, vomiting recurs, or a skin rash does not settle after washing and avoiding further contact. An eye professional may recommend follow-up after a corneal injury.

Seek urgent same-day care for persistent drooling, increasing mouth swelling, repeated vomiting, signs of dehydration, significant eye pain, light sensitivity, or any change in vision.

Call emergency services immediately for:

To prevent another exposure, keep calla lilies out of reach of children and people who may chew plants. Wear gloves when cutting or handling them, wash hands afterward, and avoid touching the face or eyes. Clean up fallen leaves and cut stems promptly.

- Trouble breathing or noisy breathing
- Rapidly worsening tongue or throat swelling
- Inability to swallow saliva
- Blue or gray lips
- Collapse, severe confusion, or difficulty waking
- Signs of a severe allergic reaction, such as widespread hives with wheezing or faintness

Sources

- U.S. National Library of Medicine. Calla lily poisoning . MedlinePlus Medical Encyclopedia . Accessed February 26, 2025.
- America's Poison Centers. Poison Help . National poison-center information and emergency contact service. Accessed February 26, 2025.
- National Capital Poison Center. The Poison Post: Oxalate plants . Poison Control. Accessed February 26, 2025.
- MSD Manual Professional Edition. Plant Poisoning . Merck & Co., Inc. Accessed February 26, 2025.
- Franceschi VR, Nakata PA. Calcium oxalate in plants: formation and function. Annual Review of Plant Biology . 2005;56:41-71. doi:10.1146/annurev.arplant.56.032604.144106.
- Hoffman RS, Howland MA, Lewin NA, Nelson LS, Goldfrank LR, eds. Goldfrank's Toxicologic Emergencies . 11th ed. McGraw-Hill Education; 2019.