CONDITION

# Caladium plant poisoning

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

**WHAT IT IS**
Irritation from caladium plant exposure

**BODY SYSTEM**
Digestive system, skin and eyes

**MAIN SYMPTOMS**
Mouth burning, swelling, difficulty swallowing, eye pain

**WHAT CAUSES IT**
Insoluble calcium oxalate crystals

**HOW IT IS DIAGNOSED**
Exposure history, plant identification, physical examination

**MAIN TREATMENT**
First aid and supportive care

**CAN IT BE CURED?**
Yes, most irritation settles after removal

**IS IT AN EMERGENCY?**
Sometimes, difficulty breathing or swallowing saliva

**LONG-TERM OUTLOOK**
Most recover without lasting injury

## Overview

Caladium plant poisoning is irritation caused by chewing, swallowing, or handling part of a caladium plant. Caladiums are ornamental plants known for their large, colorful, heart-shaped leaves. They are commonly grown indoors and in gardens.

All parts of the plant contain bundles of microscopic, needle-shaped calcium oxalate crystals. These crystals are called raphides. When the plant is chewed or crushed, the crystals can penetrate nearby tissue. This produces immediate burning, pain, and swelling, especially in the mouth and throat.

The sap may also irritate the skin. If it enters an eye, it can cause significant pain and may scratch the clear surface at the front of the eye, called the cornea.

Most accidental exposures cause local irritation rather than poisoning throughout the body. This is different from exposure to soluble oxalate chemicals, which can affect calcium levels and the kidneys. However, mouth or throat swelling can sometimes interfere with swallowing or breathing, so every exposure should be taken seriously.

Children may be exposed after putting a leaf or stem in their mouth. Adults may come into contact with sap while pruning, dividing, or repotting the plant. Contact a poison center for advice after suspected ingestion, even if symptoms appear mild.

## Symptoms

Symptoms usually begin immediately or soon after contact because the crystals directly irritate tissue.

After chewing or swallowing caladium, symptoms may include:

A person may spit out the plant quickly because the irritation is sudden and painful. This often limits the amount swallowed. Even a small bite can still cause marked mouth discomfort.

Skin exposure may cause redness, itching, burning, or a rash where the sap touched the skin. Symptoms can be worse if the person has small cuts or damaged skin.

Eye exposure may cause:

Severe tongue or throat swelling, difficulty breathing, noisy breathing, blue or gray lips, collapse, or an inability to swallow saliva are emergency symptoms. Call emergency services immediately if any of these occur.

- Burning, tingling, or pain in the lips, mouth, tongue, or throat
- Swelling of the lips, tongue, mouth, or throat
- Drooling or difficulty swallowing
- A hoarse voice
- Blisters or redness inside the mouth
- Nausea or vomiting
- Reduced interest in eating or drinking
- Immediate burning or pain
- Redness and tearing
- Sensitivity to light

- A feeling that something is stuck in the eye
- Blurred or reduced vision
- Trouble keeping the eye open

## Causes and risk factors

Caladium poisoning is caused by contact with insoluble calcium oxalate crystals in the plant. "Insoluble" means that the crystals do not easily dissolve in water. Their sharp shape allows them to pierce the mouth, skin, or eye surface. Other substances released from damaged plant tissue may add to the inflammation.

Exposure can occur when someone:

Young children are at increased risk because they explore objects with their mouths. People with developmental or cognitive conditions may also be more likely to taste a household plant.

Gardeners and plant-care workers have a greater chance of skin or eye exposure. Not wearing gloves or eye protection while cutting caladiums can increase that risk.

The severity of symptoms depends on where the sap or plant material made contact, how much tissue was chewed or crushed, and how quickly the area was rinsed. A person who already has trouble swallowing or protecting their airway may need earlier medical assessment.

Caladium is one of several ornamental plants that contain similar crystals. If the plant's identity is uncertain, do not assume the exposure is harmless. Some plants cause different and more serious forms of poisoning.

- Bites or chews a leaf, stem, or other plant part
- Touches cut or broken plant tissue with bare hands
- Rubs their eyes after handling the plant
- Is splashed in the eye while cutting or repotting it
- Mistakes the plant for something edible

## Diagnosis

There is no single blood test that confirms caladium exposure. Diagnosis is usually based on the history, plant identification, timing of symptoms, and physical examination.

A poison specialist or healthcare professional may ask:

A clear photograph of the plant, including its leaves and stems, may help with identification. Handle the plant carefully, and do not bring loose or uncovered plant material into a healthcare setting unless instructed.

During an examination, a clinician may check the lips, tongue, mouth, throat, breathing, and ability to swallow. Repeated vomiting or poor fluid intake may lead to an assessment for dehydration.

For an eye exposure, a clinician may examine the cornea using dye and a special light. This can show whether crystals have caused a surface scratch. Blood tests or imaging are not usually needed for a mild, clearly identified exposure, but they may be used if symptoms are severe or the plant is unknown.

- Which part of the plant was involved
- Whether it was chewed, swallowed, touched, or splashed into an eye
- When the exposure happened
- What symptoms have developed
- What first aid has already been given
- The person's age, weight, and medical conditions

## Treatment and management

Treatment focuses on removing plant material, reducing irritation, and watching for swelling that could affect breathing or swallowing.

After mouth exposure, remove any remaining plant pieces and gently rinse the mouth with water. Spit out the rinse water. Do not make the person vomit. Vomiting can expose the mouth and throat again and may increase the risk of choking.

If the person is fully awake and can swallow normally, a poison specialist may recommend small sips of water or another cool liquid. Ice chips or cold foods may sometimes soothe mouth discomfort. Do not give anything by mouth to someone who is drowsy, choking, vomiting repeatedly, or having difficulty swallowing.

For skin exposure, remove contaminated clothing and wash the skin thoroughly with soap and running water. Avoid touching the face or eyes until the hands have been washed.

For eye exposure, begin rinsing immediately:

Contact Poison Control after an ingestion or significant eye exposure. In the United States, call

the Poison Help line at 1-800-222-1222. It is available at all times and connects callers with their regional poison center. Outside the United States, contact the local poison information service or emergency health line.

Do not use activated charcoal, medicines, or home remedies unless a poison specialist or clinician recommends them. Activated charcoal is not routinely useful for irritation from insoluble calcium oxalate crystals and can be difficult to swallow when the mouth or throat is painful.

Medical treatment depends on the symptoms. Healthcare professionals may provide pain relief, medicine for nausea, or fluids if the person cannot drink enough. Breathing and throat swelling may be monitored until it is clear that symptoms are improving.

Severe airway swelling requires emergency treatment to maintain breathing. This is not the usual outcome, but it is the main reason worsening throat symptoms need prompt assessment.

After eye exposure, treatment may include a detailed eye examination and symptom-relieving medication. An ophthalmologist, a doctor who specializes in eye care, may be consulted if there is a corneal injury, ongoing pain, or a change in vision.

- Use clean, lukewarm running water.
- Rinse continuously for 15 to 20 minutes.
- Remove contact lenses if they come out easily during rinsing.
- Do not put plant remedies, creams, or unprescribed eye drops in the eye.

## Complications

Most uncomplicated mouth exposures improve after the plant material is removed and the irritation settles. Lasting injury is uncommon, but complications can occur.

Swelling of the tongue or throat can make it difficult to swallow. In severe cases, swelling may narrow the airway and interfere with breathing. Drooling, a changed voice, noisy breathing, or rapidly increasing swelling should not be observed at home without urgent professional advice.

Painful swallowing, vomiting, or refusal to drink can lead to dehydration. Signs may include a dry mouth, reduced urination, dizziness, unusual sleepiness, or a lack of tears in a young child.

Plant crystals in the eye can cause a corneal abrasion, which is a scratch on the eye's clear front surface. Without proper assessment, ongoing inflammation may lead to persistent pain, light sensitivity, or vision problems.

Skin irritation usually improves after washing. More severe or prolonged inflammation can

occur if sap remains on the skin or enters an existing cut. Scratching an irritated area may damage the skin and increase the chance of infection.

## Follow up

Follow the poison center's or clinician's instructions about observation and follow-up. A mild exposure that fully resolves may not require a routine medical visit.

Arrange routine follow-up if mouth soreness, skin irritation, or reduced appetite continues longer than expected, even if symptoms are not worsening. Children should be watched to make sure they return to normal drinking and urination.

Seek urgent medical assessment for worsening mouth or tongue swelling, repeated vomiting, inability to drink, persistent drooling, severe pain, or signs of dehydration. Eye pain, light sensitivity, blurred vision, or redness that continues after thorough rinsing also needs prompt assessment.

Call emergency services for difficulty breathing, noisy or labored breathing, rapidly increasing throat swelling, inability to swallow saliva, blue or gray lips, severe confusion, collapse, or unresponsiveness.

To prevent another exposure, place caladium plants out of reach of children. Wear gloves when cutting or repotting them, wash tools and hands afterward, and avoid touching the face. Eye protection may be helpful when plant sap could splash. Teach children not to taste any plant unless a responsible adult has confirmed that it is safe to eat.

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