



[Home](#) → [Medical Encyclopedia](#) → Copper poisoning

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Copper poisoning

This article discusses poisoning from copper.

This article is for information only. DO NOT use it to treat or manage an actual poison exposure. If you or someone you are with has an exposure, call your local emergency number (such as 911), or your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States.

Poisonous Ingredient

Copper can be poisonous if it is swallowed or inhaled.

Where Found

Copper is found in these products:

- Certain coins - all pennies in the United States made before 1982 contain copper
- Certain insecticides and fungicides
- Copper wire
- Some aquarium products
- Vitamin and mineral supplements (copper is an essential micronutrient, but too much can be toxic)

Other products may also contain copper.

Symptoms

Swallowing large amounts of copper may cause:

- Abdominal pain
- Diarrhea
- Vomiting
- Yellow skin and whites of the eyes (jaundice)

Touching large amounts of copper can cause the hair to turn a different color (green). Breathing in copper dust and fumes may cause an acute syndrome of metal fume fever (MFF). People with MFF have:

- Chest pain
- Chills
- Cough
- Fever
- General weakness
- Headache
- Metallic taste in the mouth

Long-term exposure may cause lung inflammation and permanent scarring. This can lead to decreased lung function.

Symptoms of long-term exposure include:

- Anemia (low red blood cell count)
- Burning sensation
- Chills
- Convulsions
- Dementia
- Diarrhea (often bloody and may be blue in color)
- Difficulty speaking
- Fever
- Involuntary movements
- Jaundice (yellow skin)
- Kidney failure
- Liver failure
- Metallic taste in the mouth
- Muscle aches
- Nausea
- Pain
- Shock
- Tremor (shaking)
- Vomiting
- Weakness

Home Care

Seek medical help right away. Do not make the person throw up unless poison control or a health care provider tells you to.

Before Calling Emergency

Have this information ready:

- The person's age, weight, and condition
- The name of the product (and ingredients and strength, if known)
- The time it was swallowed or inhaled
- The amount swallowed or inhaled

Poison Control

Your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States. This national hotline will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison prevention. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

What to Expect at the Emergency Room

Your provider will measure and monitor your vital signs, including temperature, pulse, breathing rate, and blood pressure.

Tests that may be done include:

- Blood and urine tests
- Chest x-ray
- Electrocardiogram (ECG)

Treatment may include:

- Activated charcoal by mouth or tube through the nose into the stomach
- Breathing support, including oxygen, tube through the mouth into the lungs, and breathing machine (ventilator)
- Dialysis (kidney machine)
- Fluids through a vein (IV)
- Medicine to treat symptoms
- Medicine to reverse the effect of copper
- Oral fluids to dilute the effect of swallowing copper, but only if the person does not have abdominal pain, vomiting, or is unable to protect their airway from aspiration (fluid entering the lungs)

Outlook (Prognosis)

Sudden (acute) copper poisoning is rare. However, serious health problems from long-term exposure to copper can occur. Severe poisoning can cause liver failure and death.

In poisonings from a long-term buildup of copper in the body, the outcome depends on how much damage there is to the body's organs.

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