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## Cobalt poisoning

Cobalt is a naturally occurring element in the earth's crust. It is a very small part of our environment. Cobalt is a component of vitamin B12, which supports the production of red blood cells. Very small amounts are needed for animals and humans to stay healthy. Cobalt poisoning can occur when you are exposed to large amounts of it. There are three ways that cobalt can cause poisoning. You can swallow it, breathe it into your lungs, or have it come in prolonged contact with your skin.

Cobalt poisoning can also occur from the wear and tear of some cobalt/chromium metal-on-metal hip implants. This type of implant is an artificial hip socket that is created by fitting a metal ball into a metal cup. Sometimes, metal particles (cobalt) are released as the metal ball grinds against the metal cup when you walk. These metal particles can get released into the hip socket and sometimes the bloodstream, causing cobalt toxicity.

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 the local emergency number (such as 911), or the 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

Cobalt

### Where Found

Cobalt is a component of vitamin B12, an essential vitamin that is not associated with cobalt poisoning.

Cobalt is also found in:

- Alloys
- Batteries
- Chemistry/crystal sets
- Drill bits, saw blades, and other machine tools
- Dyes and pigments (cobalt blue)
- Magnets
- Some metal-on-metal hip implants

- Tires

Cobalt was once used as a stabilizer in beer foam. It caused a condition called beer-drinker's heart, which resulted in heart muscle weakness.

This list may not be all inclusive.

## Symptoms

Usually you have to be exposed to high levels of cobalt for weeks to months to have symptoms. However, it is possible to have some symptoms if you swallow a large amount of cobalt at one time.

The most worrisome form of cobalt poisoning occurs when you breathe it into your lungs. This usually will only happen in industrial settings where large amounts of drilling, polishing, or other processes release fine particles containing cobalt into the air. Breathing in this cobalt dust can lead to chronic lung problems. If you breathe in this substance for long periods, you will likely develop breathing problems that are similar to asthma or pulmonary fibrosis, such as shortness of breath and decreased exercise tolerance.

Cobalt poisoning that occurs from prolonged contact with your skin will likely cause irritation and rashes that go away slowly.

Swallowing a large amount of absorbable cobalt at one time is very rare and is likely not very dangerous. It may cause nausea and vomiting. However, absorbing a large amount of cobalt over longer periods of time can lead to serious health problems, such as:

- Cardiomyopathy (a problem where your heart becomes big and floppy and has problems pumping blood)
- Deafness
- Nerve problems
- Ringing in the ears (tinnitus)
- Thickening of the blood
- Thyroid problems
- Vision problems

## Home Care

If you or someone you know has been exposed to cobalt, the first step is to leave the area and get fresh air. If cobalt came in contact with the skin, wash the area thoroughly.

## Before Calling Emergency

If possible, determine the following information:

- Person's age, weight, and condition (for example, is the person awake or alert?)
- Name of the product (ingredients and strength, if known)
- Time it was swallowed
- Amount swallowed

However, DO NOT delay calling for help if this information is not immediately available.

# Poison Control

The 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 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.

You can also get online poison help now at [Poisonhelp.org](https://www.poisonhelp.org/help/) [<https://www.poisonhelp.org/help/>] . Just enter the product, poison, or medicine to get expert help.

## What to Expect at the Emergency Room

If you go to the emergency room, take the container for the poison with you to the hospital, if possible.

If you swallowed a large amount of cobalt, or you are starting to feel sick from long-term exposure, you should go to an emergency room.

**Treatment for skin contact:** Since these rashes are rarely serious, very little will be done. The area will be washed and a skin cream may be prescribed.

**Treatment for lung involvement:** Breathing problems will be treated based on your symptoms. Breathing treatments and medicines to treat swelling and inflammation in your lungs may be prescribed. Blood and urine tests, x-rays and electrocardiogram (ECG) may be done.

**Treatment for swallowed cobalt:** Your health care team will treat your symptoms and order some blood tests. Blood and urine tests, x-rays and electrocardiogram (ECG) may be performed. In the rare case that you have a high level of cobalt in your blood, you may need hemodialysis (kidney machine) and get medicines (antidotes) to reverse the effects of the poison.

Treatment for signs of cobalt toxicity from a metal-on-metal hip implant may include removing the implant and replacing it with a traditional hip implant.

## Outlook (Prognosis)

People who get sick from being exposed to large amounts of cobalt on one single occasion usually recover and have no long-term complications.

The symptoms and problems associated with long-term cobalt poisoning are rarely reversible. People who have such poisoning will likely have to take medicine for the rest of their life to control the symptoms.

## Alternative Names

Cobalt chloride; Cobalt oxide; Cobalt sulfate

# References

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