

7 Signs and Symptoms of Zinc Overdose



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Zinc is an essential mineral involved in over 100 chemical reactions in your body.

It's necessary for growth, DNA synthesis and normal taste perception. It also supports wound healing, immune function and reproductive health (1).

Health authorities have set the tolerable upper intake level (UL) for zinc at 40 mg per day for adults. The UL is the highest recommended daily amount of a nutrient. For most people, this amount is unlikely to cause negative side effects (1, 2).

Food sources high in zinc include red meat, poultry, seafood, whole grains and fortified cereals. Oysters contain the highest amount, with up to 493% of the daily value in a 3-ounce (85-gram) serving (1).

Although some foods can provide amounts well above the UL, there are no reported cases of zinc poisoning from naturally occurring zinc in food (2).

However, zinc poisoning can occur from dietary supplements, including multivitamins, or due to accidental ingestion of zinc-containing household products.

Here are the 7 most common signs and symptoms of zinc overdose.

1. Nausea and Vomiting



found that zinc may reduce the duration of a cold, but adverse effects were common. In fact, 46% of study participants reported [nausea](#) (3).

Doses greater than 225 mg are emetic, which means that vomiting is likely and can occur quickly. In one case, severe nausea and vomiting began just 30 minutes after a single zinc dose of 570 mg (4, 5).

However, vomiting can occur at lower doses as well. In one six-week study in 47 healthy people taking 150 mg of zinc per day, over half experienced nausea and vomiting (6).

Although vomiting may help rid the body of toxic amounts of zinc, it may not be enough to prevent further complications.

If you have consumed toxic amounts of zinc, seek medical help right away.

SUMMARY

Nausea and vomiting are common and often immediate reactions to ingesting toxic amounts of zinc.

2. Stomach Pain and Diarrhea

Typically, stomach pain and diarrhea occur in conjunction with nausea and vomiting.

In one review of 17 studies on zinc supplements and the common cold, approximately 40% of participants reported abdominal pain and diarrhea (3).

Although less common, gut irritation and gastrointestinal bleeding have also been reported.

In one case study, an individual experienced intestinal bleeding after taking 220 mg of zinc sulfate twice daily for the treatment of acne (7).

Furthermore, concentrations of zinc chloride greater than 20% are known to cause extensive corrosive damage to the gastrointestinal tract (8, 9).

Zinc chloride is not used in dietary supplements, but poisoning can occur from accidental ingestion of household products. Adhesives, sealants, soldering fluxes, cleaning chemicals and wood finishing products all contain zinc chloride.

SUMMARY

Stomach pain and diarrhea are common symptoms of zinc toxicity. In some cases, severe gastrointestinal damage and bleeding can occur.

3. Flu-Like Symptoms

Taking more zinc than the established UL may cause flu-like symptoms, such as fever, chills, cough, headache and fatigue (10).

These symptoms occur in many conditions, including other mineral toxicities. Thus, diagnosing zinc toxicity can be difficult.

Your doctor may need your detailed medical and dietary history, as well as blood tests, for a suspected mineral toxicity.

If you're taking supplements, be sure to disclose these to your healthcare provider.

SUMMARY

Flu-like symptoms can occur due to toxic amounts of several minerals, including zinc. Thus, it's important to disclose all supplements to your healthcare provider to ensure proper treatment.

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4. Low "Good" HDL Cholesterol

"Good" HDL cholesterol lowers your risk of heart disease by clearing cholesterol from your cells, thereby preventing the buildup of artery-clogging plaque.

For adults, health authorities recommend an HDL greater than 40 mg/dL. Lower levels put you at a higher risk of heart disease.

A review of several studies on zinc and cholesterol levels suggests that supplementing with more than 50 mg of zinc per day may lower your “good” HDL levels and not have any effect on your “bad” LDL cholesterol (11, 12, 13).

The review also states that doses of 30 mg of zinc per day — lower than the UL for zinc — had no effects on HDL when taken for up to 14 weeks (11).

While several factors affect cholesterol levels, these findings are something to consider if you take zinc supplements regularly.

SUMMARY

Regular ingestion of zinc above the recommended levels can cause a drop in “good” HDL cholesterol levels, which may put you at a higher risk of heart disease.

5. Changes in Your Taste

Zinc is important for your sense of taste. In fact, zinc deficiency can result in a condition called hypogeusia, a dysfunction in your ability to taste (1).

Interestingly, zinc in excess of the recommended levels may also cause taste alterations, including a bad or metallic taste in your mouth.

Typically, this symptom is reported in studies investigating zinc lozenges (cough drops) or liquid supplements for treating the common cold.

While some studies report beneficial results, the doses used are often well above the UL of 40 mg per day, and adverse effects are common (3).

For example, 14% of participants in a one-week study complained of taste distortion after dissolving 25-mg zinc tablets in their mouths every two hours while awake (14).

In another study using a liquid supplement, 53% of participants reported a metallic taste. However, it's unclear how long these symptoms last (15).

If you're using zinc lozenges or liquid supplements, be aware that these symptoms may occur even if the product is taken as directed (16).

SUMMARY

Zinc plays a role in taste perception. Excess zinc may cause a metallic taste in your mouth, particularly if taken as a lozenge or liquid supplement.

6. Copper Deficiency

Zinc and copper compete for absorption in your small intestine.

Doses of zinc above the established UL can interfere with your body's ability to absorb copper. Over time, this can cause [copper deficiency](#) (2).

Like zinc, copper is an essential mineral. It aids in iron absorption and metabolism, making it necessary for red blood cell formation. It also plays a role in white blood cell formation (17).

Red blood cells transport oxygen through your body, while white blood cells are key players in your immune function.

Zinc-induced copper deficiency is associated with several blood disorders (17, 18, 19):

- **Iron deficiency anemia:** A lack of healthy red blood cells due to [insufficient amounts of iron](#) in your body.
- **Sideroblastic anemia:** A lack of healthy red blood cells due to an inability to metabolize iron properly.

- **Neutropenia:** A lack of healthy white blood cells due to a disruption in their formation.

If you have copper deficiency, do not mix your copper supplements with zinc.

SUMMARY

Regular doses of zinc above 40 mg per day can hinder copper absorption. This can result in copper deficiency, which is associated with several blood disorders.

7. Frequent Infections

Although zinc plays an important role in immune system function, too much zinc can suppress your immune response (17).

This is usually a side effect of anemias and neutropenia, but it has also been shown to occur outside of zinc-induced blood disorders.

In test-tube studies, excess zinc reduced the function of T cells, a type of a white blood cell. T cells play a central role in your immune response by attaching to and destroying harmful pathogens (17, 20, 21).

Human studies also support this, but the results are less consistent.

A small study in 11 healthy men found a reduced immune response after they ingested 150 mg of zinc twice a day for six weeks (22).

However, supplementing with 110 mg of zinc three times a day for one month had mixed effects on older adults. Some experienced a reduced immune response, while others had an enhanced response (23).

SUMMARY

Taking zinc supplements in doses above the UL may suppress your immune response, leaving you more susceptible to illness and infections.

Treatment Options

If you believe you may be experiencing zinc poisoning, contact your local poison control center immediately.

Zinc poisoning is potentially life-threatening. Therefore, it's important to seek medical help right away.

You may be advised to [drink milk](#), as the high amounts of calcium and phosphorus in it can help inhibit zinc absorption in the gastrointestinal tract. [Activated charcoal](#) has a similar effect (24).

Chelating agents have also been used in severe poisoning cases. These help rid the body of excess zinc by binding to it in the blood. It's then expelled in your urine, rather than absorbed into your cells.

SUMMARY

Zinc poisoning is a potentially life-threatening condition. It's important to seek medical help immediately.

The Bottom Line

Although some [foods contain zinc](#) well above the UL of 40 mg per day, no cases of zinc poisoning from naturally occurring zinc in food have been reported.

However, zinc overdose can occur from dietary supplements or due to accidental excess ingestion.

Zinc toxicity can have both acute and chronic effects. The severity of your symptoms largely depends on the dose and duration of intake.

With acute ingestion of high doses of zinc, gastrointestinal symptoms are likely. In severe cases, such as with accidental ingestion of zinc-containing household products, gastrointestinal corrosion and bleeding can occur.

Long-term use may cause less immediate but serious side effects, such as low “good” HDL cholesterol, copper deficiency and a suppressed immune system.

Overall, you should only exceed the established UL under the supervision of a medical professional.