

Zinc, Benefits and Dangers

by Ann Gerhardt, MD

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I last wrote about zinc in September 2009, in DrG'sMediSense Volume 4-3. That was when the FDA advised people not to use Zicam intranasal products that contain zinc, because of the risk of permanently damaging nasal cells crucial for smell. The company discontinued the nasal products, but continues to sell lozenges, oral mist and tablets.

We now have new reports about zinc, one extolling zinc's benefits and the other warning of zinc's dangers. So which is it? It's both – we need zinc, but not too much.

Almost every cell in the body contains zinc, a ubiquitous mineral in nature that is essential for health. It acts as a helper for hundreds of enzymes, the worker-bees of our physiology and metabolism. **We need it for optimal immune function, skin integrity, wound healing, clotting, vision, smell, taste, appetite and tissue turnover.**

A recent paper about using zinc for colds arrived at the same positive conclusions that I did in my September 2009 article – **Certain zinc lozenges and syrups reduce cold severity and/or duration, but only if started within 24 hours of symptom onset and used regularly every two hours.**

Previous analysis had produced mixed results, probably because the specific zinc formulation has a huge effect on whether it works or not. Zinc gluconate or acetate, as a quickly dissolving lozenge or spray, working best. Zinc seems to block a virus' ability to attach to and reproduce in nasal and respiratory tract cells, hence the necessity of using a form that coats the nose, mouth and throat.

The other recent study involved denture adhesives, which contain zinc as an odor blocker and bonding agent. Patients with ill-fitting dentures often use excessive glue to keep their dentures in place, increasing their zinc exposure. Dentists at the University of Maryland Dental School cited **dangers to patients exposed to excessive denture glue zinc absorbed through the gums or swallowed and absorbed through the intestine.**

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Short term zinc supplements or cold remedies use usually cause no side effects. With a high dose, mouth irritation, metallic taste and nausea may occur, but usually subside quickly after stopping the zinc product. **Taking supplements infrequently and for no more than 10 days at a time should be safe.** Don't use side effects to tell you when to stop, since that may be too late.

Major signs of zinc toxicity appear after weeks of overdose, and include nausea, weakness, numbness, tingling, poor immune function and balance problems. Most of these are actually due to low copper levels, since zinc blocks copper absorption. Other findings may include iron deficiency anemia and high cholesterol levels, both of which result from copper deficiency.

People filed more than 130 Food and Drug Administration reports of smell and taste problems with Zicam nasal spray. Now lawyers are cashing in on denture adhesive toxicity cases. **Toxic zinc levels might also come from occupational exposure, poorly treated water from galvanized pipes and supplement over-use.**

Zinc comes in other products also. Zinc oxide is a white powder that poorly dissolves in water. We have used calamine lotion, a mixture of zinc and iron oxides, since the 1830s for skin irritations. The heavy white cream that lifeguards use to protect their skin from sun contains zinc oxide. Calamine lotion, baby powder, barrier creams, anti-dandruff shampoos and antiseptic ointments contain zinc that is presumably not absorbed through the skin.

Lately many products use nano-zinc oxide which does pass through the skin unless coated with dimethicone. It's not clear how you can tell which cream is perfectly safe and which is not.

Measuring zinc plasma levels is not a good way to judge safety and adequacy, since levels are expensive and problematic. Zinc is everywhere and can contaminate the blood sample. Interpreting the result is iffy, since the level varies with amount of protein in blood and does not really represent the body's true zinc load, because most zinc is sequestered in red blood cells.

Shellfish, organ and red meats, nuts, seeds, cereal bran, wheat germ, Brewers yeast, beans, milk, cheese and

oatmeal are good dietary sources. Eat those and you won't need supplements. The recommended daily allowance for zinc is 11 mg/day for men and 8 mg/day for women.