

Zinc

Essential trace mineral — supplemented as gluconate, picolinate, citrate, acetate, sulfate, bisglycinate or oxide

Zinc is a genuine essential nutrient with a narrow therapeutic window, unusual among popular supplements in that both too little and too much cause identifiable harm. The 2024 Cochrane review substantially cooled the cold-remedy claim, a September 2026 meta-analysis complicates the metabolic picture, and the mineral's real value — correcting a deficiency more common than most people assume — remains solid and underappreciated.

SUMMARY TABLE

Attribute	Summary
Primary uses	Correcting deficiency; supporting immune function, wound healing, taste/smell and testosterone synthesis; shortening common-cold duration; adjunct in acne and AREDS2-formulation macular degeneration.
Evidence strength	Strong for deficiency correction. Low-certainty for shortening cold duration (2024 Cochrane); little/no benefit for prevention. A September 2026 meta-analysis found zinc improves insulin resistance and inflammatory markers but not fasting glucose or HbA1c in diabetes.
Effective dose	RDA 11 mg/day (men), 8 mg/day (women). Supplemental doses of 15–30 mg elemental daily are common and reasonable. Cold-duration protocols used 75 mg+/day of lozenges for under two weeks only.
How to take	Capsules with water, away from iron, calcium or magnesium by ≥ 2 hours (competing absorption pathway). Lozenges must dissolve slowly in the mouth, not be swallowed.
Time to effect	Deficiency symptoms improve over 2–8 weeks. Cold lozenges must start within 24 hours of first symptom to have any chance of working.
Serious risks	Copper deficiency from chronic intake above 40 mg/day, which can progress to anemia and myelopathy. The 2024 Cochrane review found non-serious adverse events 34% more likely on zinc than placebo (RR 1.34).
Who should avoid it	Anyone already taking a multivitamin plus a separate zinc product without totaling elemental dose; Wilson disease (specialist supervision only); do not exceed 40 mg/day without medical oversight.
Quality markers	Elemental zinc clearly stated per serving (not compound weight); USP/NSF/ConsumerLab verification; named chelate form; an accompanying copper dose for products above 30 mg.

THE COMMON COLD: WHAT THE 2024 COCHRANE REVIEW CHANGED

Across 34 studies (8,526 participants), the reviewers found zinc produced little or no reduction in the risk of developing a cold or in symptom severity; a modest duration benefit survived (~2.37 days, 95% CI –4.21 to –0.53) but was rated low-certainty, against moderate-certainty evidence of more frequent non-serious side effects (bowel upset, nausea, unpleasant taste). The lead author framed it as a personal trade-off, not a recommendation.

A SEPTEMBER 2026 COMPLICATION FOR THE METABOLIC CLAIM

A meta-analysis of 18 RCTs (1,023 participants), published September 4, 2026, found zinc supplementation improved insulin resistance, reduced CRP and oxidative-stress markers, and increased antioxidant capacity — but produced no significant improvement in fasting glucose or HbA1c, and LDL rose slightly even as total cholesterol fell. The authors' conclusion is consistent with the pattern seen throughout zinc's literature: repletion helps identifiable biomarkers, but a single nutrient does not resolve a multifactorial condition like diabetes on its own.

THE ELEMENTAL-WEIGHT TRAP AND THE COPPER PROBLEM

The number on the front of a zinc bottle is often the weight of the whole compound, not the zinc inside it — "zinc gluconate 50 mg" delivers about 7 mg of usable zinc. Chronic intake above 40 mg/day induces intestinal metallothionein, which binds and

depletes copper, producing anemia and, if unrecognized, a partially irreversible spinal-cord syndrome; pairing high-dose zinc with copper at roughly a 10:1 to 15:1 ratio is the standard mitigation.

BOTTOM LINE

Zinc is worth taking if you have a plausible reason to be low: a plant-based diet, older age, gut disease, heavy alcohol use, or a thiazide prescription — 15–30 mg of elemental zinc daily is inexpensive and well-tolerated. It is not worth taking as a routine cold preventive, and not worth taking at high doses indefinitely for testosterone or immunity, where the return is nil and the copper risk is real. Add up elemental zinc across every product in the cabinet and keep the total under 40 mg a day.

SOURCES

1. Nault D, et al. "Zinc for prevention and treatment of the common cold." Cochrane Database Syst. Rev., May 2024.
2. NIH Office of Dietary Supplements. "Zinc — Fact Sheet for Health Professionals."
3. "Zinc and Diabetes: New Study Shows Why Single Nutrient Approach Is Not Enough." Dr. Rath Health Foundation, Sept. 4, 2026 (18-RCT meta-analysis, 1,023 participants).
4. "Shortcomings in the Cochrane review on zinc for the common cold." Frontiers in Medicine, 2024.

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