

zinc sulfate (zink sul-fate)

Orazinc, ❄ PMS Egozinc, Verazinc, Zinc 220, Zincate, Zinkaps

Classification**Therapeutic:** mineral and electrolyte replacements/supplements**Pharmacologic:** trace metals**Pregnancy Category C (parenteral)****Indications**

Replacement and supplementation therapy in patients who are at risk for zinc deficiency, including patients on long-term parenteral nutrition. **Unlabeled Use:** Management of impaired wound healing due to zinc deficiency.

Action

Serves as a cofactor for many enzymatic reactions. Required for normal growth and tissue repair, wound healing, and senses of taste and smell. **Therapeutic Effects:** Replacement in deficiency states.

Pharmacokinetics**Absorption:** Poorly absorbed from the GI tract (20–30%).**Distribution:** Widely distributed. Concentrates in muscle, bone, skin, kidney, liver, pancreas, retina, prostate, RBCs, and WBCs.**Metabolism and Excretion:** 90% excreted in feces, remainder lost in urine and sweat.**Half-life:** Unknown.**TIME/ACTION PROFILE (blood levels)**

ROUTE	ONSET	PEAK	DURATION
PO	unknown	2 hr	unknown
IV	unknown	unknown	unknown

Contraindications/Precautions

Contraindicated in: Hypersensitivity or allergy to any components in formulation; Pregnancy or lactation (supplemental amounts >RDA for pregnant or lactating patients); Preparations containing benzyl alcohol should not be used in neonates.

Use Cautiously in: Renal failure.

❄ = Canadian drug name.

⚡ = Genetic Implication.

CAPITALS indicate life-threatening, underscores indicate most frequent.~~Strikethrough~~ = Discontinued.**Adverse Reactions/Side Effects****GI:** gastric irritation (oral use only), nausea, vomiting.**Interactions****Drug-Drug:** Oral zinc may ↓ absorption of **tetracyclines** or **fluoroquinolones**.**Drug-Food:** **Caffeine, dairy products, and bran** may ↓ absorption of orally administered zinc.**Route/Dosage**

RDA = 15 mg. Doses expressed in mg of elemental zinc unless otherwise noted. Zinc sulfate contains 23% zinc.

Deficiency**PO (Adults):** *Prevention of deficiency*—15–19 mg/day; *treatment of deficiency*—must be individualized; based on degree of deficiency.**IV Nutritional Supplementation—Metabolically Stable Patients****IV (Adults):** 2.5–4 mg/day; up to 12 mg/day in patients with excessive losses.**IV (Infants and Children ≤5 yr):** 100 mcg/kg/day.**IV (Infants up to 3 kg):** 300 mcg/kg/day.**NURSING IMPLICATIONS****Assessment**

- Monitor progression of zinc deficiency symptoms (impaired wound healing, growth retardation, decreased sense of taste, decreased sense of smell) during therapy.
- **Lab Test Considerations:** Serum zinc levels may not accurately reflect zinc deficiency.
- Long-term high-dose zinc therapy may cause ↓ serum copper concentrations.
- Monitor serum alkaline phosphatase concentrations monthly; may ↑ with zinc therapy.
- Monitor HDL concentrations monthly in patients on long-term high-dose zinc therapy. Serum concentrations may be ↓.

Potential Nursing Diagnoses

Imbalanced nutrition: less than body requirements (Indications)

Implementation

- **PO:** Administer oral doses with food to decrease gastric irritation. Administration with caffeine, dairy products, or bran may impair absorption.
- **IV:** Zinc is often included as a trace mineral in total parenteral nutrition solution prepared by pharmacist.

Patient/Family Teaching

- Encourage patient to comply with diet recommendations of health care professional. Explain that the best source of vitamins is a well-balanced diet with foods from the four basic food groups. Foods high in zinc include seafood, organ meats, and wheat germ.
- Patients self-medicating with vitamin supplements should be cautioned not to exceed RDA. The effectiveness of megadoses for treatment of various medical conditions is unproved and may cause side effects.
- Instruct patients receiving oral zinc to notify health care professional if severe nausea or vomiting, abdominal pain, or tarry stools occur.
- Emphasize the importance of follow-up exams to evaluate progress.

Evaluation/Desired Outcomes

- Improved wound healing.
- Improved senses of taste or smell. 6–8 wk of therapy may be required before full effect is seen.

Why was this drug prescribed for your patient?