What is Zinc?

Zinc is the second most abundant trace mineral in the body.

Why is Zinc important and what does it do in the body?

Zinc is a very important mineral. Its most important role is in the formation of the nucleic acids, DNA and RNA, which carry our genetic code. It is also used in over 300 enzyme reactions and is in one of our main antioxidant enzymes: super oxide dismutase. An enzyme is a catalyst that speeds up a chemical reaction. It requires a specific nutrient in order to provide the “spark” that makes it work. Zinc is also required for the immune system. The thymus is a gland that matures the white cells of the immune system and zinc supports this process. These thymus white cells are called “T” cells. Zinc helps with wound healing and collagen formation. It supports the prostate gland and sexual function, especially in males, as it plays a part in the manufacture of sex hormones and also increases sperm formation and motility. Zinc is necessary for proper growth and is therefore required in preconception and in pregnancy. It reduces the risk of congenital birth defects. Good skin health needs zinc and it has been used to support individuals with acne. It has been shown to help individuals with rheumatoid arthritis as it removes excess copper, one of the causes of arthritis. Studies have shown that individuals with Alzheimer’s disease have low brain zinc levels, which means that zinc supplementation may benefit them. Metal transporting proteins called metallothioneins assist in the excretion of toxic metals by attaching to them and zinc is used in their formation. It can also help individuals with elevated cadmium (commonly from cigarette smoke) or elevated copper, such as in Wilson’s disease, as zinc reduces copper absorption. Zinc supports the production of insulin and prolongs its effect. It is therefore beneficial in diabetes. Zinc is also required to support the breakdown of alcohol.

What amount of Zinc do you need each day?

Zinc is best provided in the diet. Specific dietary supplements are also available and include: Zinc acetate, gluconate, picolinate and sulphate forms. For maximum absorption, zinc should be taken, by itself, before bedtime.

The DRI (Daily Recommended Intake) /RDA (Recommended Daily Allowance) of dietary Zinc are listed on the next page:

Please Note: By definition, the DRI/RDA recommendations apply only to 98% of healthy individuals and are not sufficient for those with higher nutrient requirements based upon their biochemical individuality, genetics, health status, medications, deficiencies, lifestyle, and toxic exposures.
Daily intake of dietary zinc (according to the National Academy of Sciences) are listed below:

**Adult**
- Men 19 years and older: 11 mg (RDA)
- Women 19 years and older: 8 mg (RDA)
- Pregnant women 14 - 18 years: 12 mg (RDA)
- Pregnant women 19 years and older: 11 mg (RDA)
- Breastfeeding women 14 - 18 years: 13 mg (RDA)
- Breastfeeding women 19 years and older: 12 mg (RDA)

**Pediatric**
- Infants birth - 6 months: 2 mg (AI)
- Infants 7 - 12 months: 3 mg (RDA)
- Children 1 - 3 years: 3 mg (RDA)
- Children 4 - 8 years: 5 mg (RDA)
- Children 9 - 13 years: 8 mg (RDA)
- Boys 14 - 18 years: 11 mg (RDA)
- Girls 14 - 18 years: 9 mg (RDA)

Talk to your doctor before taking more than 40 mg of zinc per day as you should not take high doses of zinc without medical advice.

**Recommended Daily Allowance**
- 15mg/Day

**Optimal Daily Allowance**
- 20mg/Day

**NUTRIENT DEFICIENCY SYMPTOMS AND CONDITIONS**

What are possible Zinc deficiency conditions and symptoms?
- Acne
- Arteriosclerosis
- Depression
- Diabetes
- Eczema
- Fatigue
- Frequent cold or infection
- Greasy skin
- Loss of appetite
- Loss of taste and smell
- Low sperm count
- Menstrual irregularities
- Night blindness
- Offensive perspiration
- Peeling, thin or white spots on nails
- Prostate problems
- Psoriasis
- Schizophrenia
- Slow wound healing
- Stretch marks
- Wilson’s disease
What are possible Zinc excess symptoms?

Excess zinc, especially zinc sulphate, can cause gastrointestinal discomfort and nausea. It can produce a deficiency of copper if not balanced in a 10:1 ratio of zinc to copper. Long term use of excessive zinc (over 150mg/day) may suppress immunity.

What steals Zinc from the body?

- Zinc competes for absorption with manganese, phosphate salts, calcium, copper and iron. These should therefore be taken separately at different times of the day.
- Phytates and oxalates - from grains and legumes - can bind to zinc and reduce its absorption.
- Prolonged periods of diarrhea
- Stress
- Inositol hexaphosphate- may inhibit zinc absorption
- High fiber diet - binds to zinc as it travels through the gut.
- Alcohol -reduces absorption and increases excretion of zinc.
- Caffeine and tannins in tea and coffee - can decrease zinc absorption.

Analgesic drugs: Asprin and Salicylates.

Oral contraceptives.

Diuretic drugs such as loop diuretics: Furosemide (Lasix), Bumetamide (Bumex), Torsemide (Demadex) and Ethacrynic acid (Edecrin).

Thiazide diuretics: Hydrochlorothiazide (Esidrix, Hydrodiuril), Indapamide (Lozol) and Metolazone (Zaroxolyn)

Potassium-Sparing diuretics: Amiloride (Midamor, Moduretic), Triamterene (Dyazide, Dyrenium, Maxzide) and Spironolactone (Aldactazide, Aldactone).

Anti-rheumatic drugs: Penicillamine.

Anti-biotics: tetracycline antibiotics - Demeclocycline, Doxycycline, Methacycline and Fluoroquinolones

Ciprofloxacin, Levofloxacin and Lomefloxacin.

Antacid drugs such as aluminum-containing antacids: Gaviscon, Maalox, Mylanta

Calcium containing antacids: Mylanta, Rolaids, Tums

Magnesium containing antacids: Gaviscon, Maalox and Mylanta and Alka Seltzer.

H-2-Receptor antagonists: Cimetidine (Tagamet), Famotidine (Pepcid, Nizatidine (Axid) and Ranitidine (Zantac).

Anti viral drugs: Zidovadine, Retrovir (AZT)

Anti Bone resorptive drugs: Bisphosphonates, Etidronate (Didronel), Pamidronate (Aredia), Alendronate (Fosamax), Risedronate (Actonel) and Tiludronate (Skelid).

What tests can be used to assess Zinc levels?

- One of the simplest tests for zinc deficiency is to put it in the mouth. If it makes you feel nauseous then it is likely that you are not deficient.
- Delta 6 desaturase activity (LA:GLA)
- Zinc -metallothionein
What foods contain the highest amounts of Zinc

**TOP 10 ZINC RICH FOODS ARE:**

1. **Oysters**
   78.6mg/100g
2. **Crab**
   14.2mg/100g
3. **Beef**
   12.3mg/100g
4. **Lobster**
   12.1mg/100g
5. **Lamb (Shoulder)**
   11.4mg/100g
6. **Pumpkin seeds**
   10.3mg/100g
7. **Cocoa and dark chocolate**
   6.8mg/100g
8. **Cashew nuts**
   5.6mg/100g
9. **Spinach (cooked)**
   0.8mg/100g
10. **Chicken**
    0.5mg/100g

What are the best Zinc products?
Zinc acetate, gluconate, picolinate and sulphate forms.

**REFERENCES**

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All the statements, including product labels, supporting literature and/or product manufacturers websites have not been evaluated by FDA. These products are not intended to diagnose, treat, cure or prevent any disease.
What are the very best Zinc products to buy?

**PRL Liquid Zinc**
Dietary Supplement
Highly Absorbable Liquid Zinc
Whole Body Mineral Support
As an essential mineral for life, zinc plays a key role in many important physiological functions ...

**ProThera MultiThera 3**
Iron- and copper-free multiple formula.
Both iron and copper have been eliminated from this version of MultiThera® to address the needs of patients who may have elevated tissue identical in all other respects to MultiThera® 1 ...

**Klaire VitaSpectrum**
Powdered multiple vitamin/mineral supplement for children with Autism Spectrum Disorders.
Natural berry-pomegranate flavor.
This comprehensive multiple vitamin/mineral supplement contains 28 highly bioavailable ...

**Pure Caps Womens Pure Pack**
Women's Supplement to Support Bone and Heart Health. Now With Metafolin® L-5-MTHF. Sizes Available 30 packets. Each packet contains 6 different supplements, including ...

**Pure Caps Mens Pure Pack**
Regardless of your walk of life, all men need to ensure that they get enough of an array of important nutrients. However, who wants to spend their time picking out supplements for a daily …