



Zinc for the Generation 'Z'

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Zinc is a fundamental mineral that is normally present in certain food sources and can also be accessible as a dietary enhancement. Zinc is engaged with various parts of cellular metabolism and catabolism. It is a vital component for the activation of nearly a hundred types of enzymes in the body [1,2] and it assumes a part in immunity [3,4], protein amalgamation [4], wound mending [5], DNA production [2,4], mitosis and meiosis [4]. Zinc likewise upholds archetypal development of the fetus throughout pregnancy, juvenile phase, and pre-adulthood [6-8] and is needed for appropriate feeling of taste and smell [9]. A day by day admission of zinc is needed to keep a consistent state in light of the fact that the body has no specific zinc stockpiling framework [10].

Recommended intakes

| Age | Male | Female | Pregnancy | Lactation |
|-------------|-------|--------|-----------|-----------|
| 0-6 months | 2 mg* | 2 mg* | | |
| 7-12 months | 3 mg | 3 mg | | |
| 1-3 years | 3 mg | 3 mg | | |
| 4-8 years | 5 mg | 5 mg | | |
| 9-13 years | 8 mg | 8 mg | | |
| 14-18 years | 11 mg | 9 mg | 12 mg | 13 mg |
| 19+ years | 11 mg | 8 mg | 11 mg | 12 mg |

Table 1: Recommended Dietary Allowances (RDAs) for Zinc [2].

* Adequate Intake (AI).

Sources of zinc

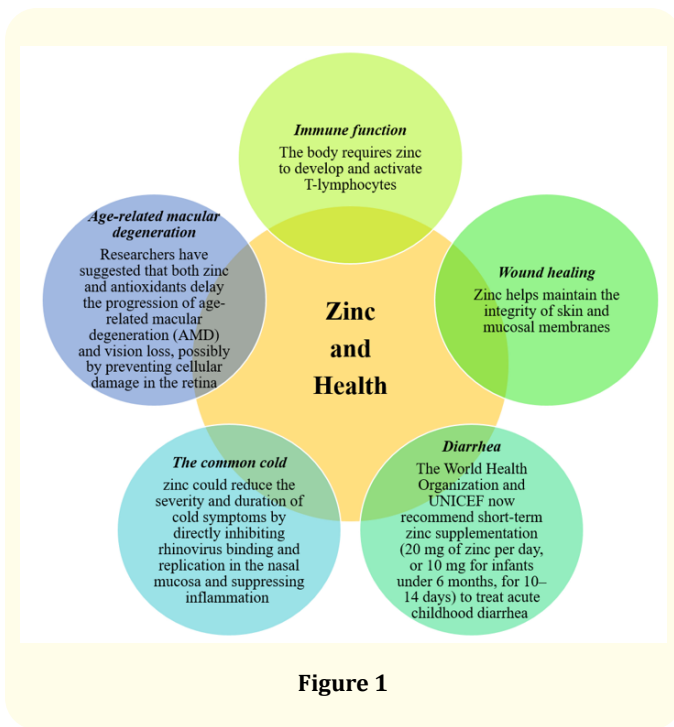
| Food | Milligrams (mg) per serving | Percent DV* |
|--|-----------------------------|-------------|
| Oysters, cooked, breaded and fried, 3 ounces | 74.0 | 673 |
| Beef chuck roast, braised, 3 ounces | 7.0 | 64 |

| | | |
|--|-----|----|
| Crab, Alaska king, cooked, 3 ounces | 6.5 | 59 |
| Beef patty, broiled, 3 ounces | 5.3 | 48 |
| Lobster, cooked, 3 ounces | 3.4 | 31 |
| Pork chop, loin, cooked, 3 ounces | 2.9 | 26 |
| Baked beans, canned, plain or vegetarian, ½ cup | 2.9 | 26 |
| Breakfast cereal, fortified with 25% of the DV for zinc, 1 serving | 2.8 | 25 |
| Chicken, dark meat, cooked, 3 ounces | 2.4 | 22 |
| Pumpkin seeds, dried, 1 ounce | 2.2 | 20 |
| Yogurt, fruit, low fat, 8 ounces | 1.7 | 15 |
| Cashews, dry roasted, 1 ounce | 1.6 | 15 |
| Chickpeas, cooked, ½ cup | 1.3 | 12 |
| Cheese, Swiss, 1 ounce | 1.2 | 11 |
| Oatmeal, instant, plain, prepared with water, 1 packet | 1.1 | 10 |
| Milk, low-fat or non fat, 1 cup | 1.0 | 9 |
| Almonds, dry roasted, 1 ounce | 0.9 | 8 |
| Kidney beans, cooked, ½ cup | 0.9 | 8 |
| Chicken breast, roasted, skin removed, ½ breast | 0.9 | 8 |
| Cheese, cheddar or mozzarella, 1 ounce | 0.9 | 8 |
| Peas, green, frozen, cooked, ½ cup | 0.5 | 5 |
| Flounder or sole, cooked, 3 ounces | 0.3 | 3 |

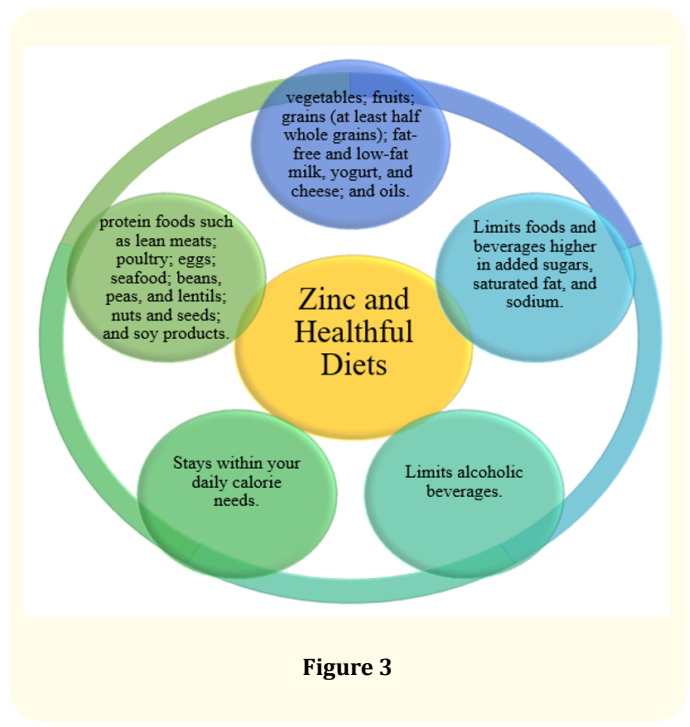
Table 2: Zinc Content of Selected Foods [11].

* DV = Daily Value. The U.S. Food and Drug Administration (FDA) developed The DV for zinc is 11 mg for adults and children aged 4 years and older [14].

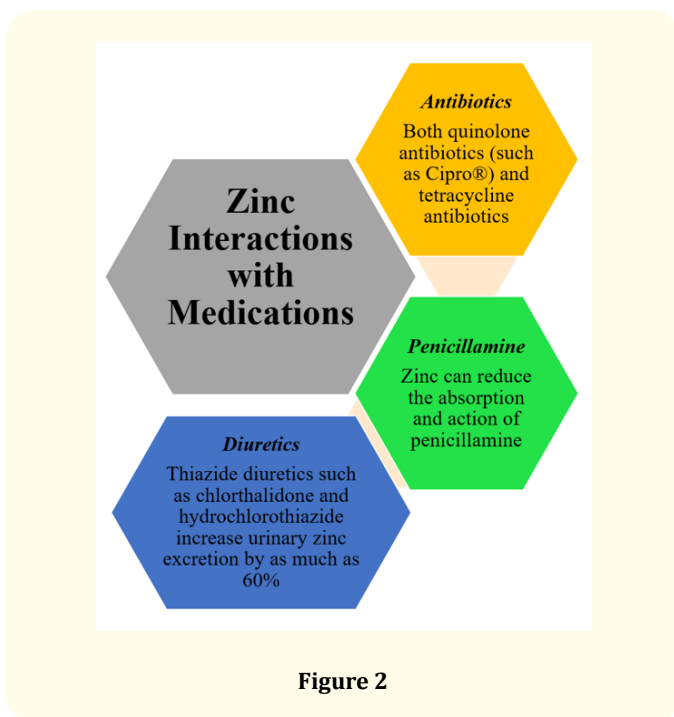
Zinc and health



Zinc and healthful diets



Zinc interactions with medications



Bibliography

- Sandstead HH. "Understanding zinc: recent observations and interpretations". *Journal of Laboratory and Clinical Medicine* 124 (1994): 322-327.
- Institute of Medicine, Food and Nutrition Board. "Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc". Washington, DC: National Academy Press (2001).
- Solomons NW. "Mild human zinc deficiency produces an imbalance between cell-mediated and humoral immunity". *Nutrition Review* 56 (1998): 27-28.
- Prasad AS. "Zinc: an overview". *Nutrition* 11 (1995): 93-99.
- Heyneman CA. "Zinc deficiency and taste disorders". *Annals of Pharmacotherapy* 30 (1996): 186-187.
- Simmer K and Thompson RP. "Zinc in the fetus and newborn". *Acta Paediatrica Scandinavica* 319 (1985): 158-163.
- Fabris N and Mocchegiani E. "Zinc, human diseases and aging". *Aging (Milano)* 7 (1995): 77-93.

8. Maret W and Sandstead HH. "Zinc requirements and the risks and benefits of zinc supplementation". *Journal of Trace Elements in Medicine and Biology* 20 (2006): 3-18.
9. Prasad AS., *et al.* "Zinc deficiency: changes in cytokine production and T-cell subpopulations in patients with head and neck cancer and in noncancer subjects". *Proceedings of the Association of American Physicians* 109 (1997): 68-77.
10. Rink L and Gabriel P. "Zinc and the immune system". *Proceedings of the Nutrition Society* 59 (2000): 541-552.

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