THE INSTITUTE FOR FUNCTIONAL MEDICINE®

Food Sources:

Zinc

The Recommended Dietary Allowances (RDAs) for zinc are as follows:[19-21]

- **Females, ages 19+:** 8 milligrams (mg) per day
- **Females (pregnant), ages 19+:** 11 mg per day
- **Females (lactating), ages 19+:** 12 mg per day
- **Males, ages 19+:** 11 mg per day

Zinc is an essential trace mineral. It must be obtained through diet and is required by the body in specific amounts.[1,2] Zinc is found in shellfish, beef and other red meats, as well as nuts, legumes, some dairy products, and fortified breakfast cereals. The bioavailability of zinc, or the amount retained and used by the body, may be lower in grains and plant proteins because these foods also contain phytates, which bind to zinc and inhibit its absorption.[3,4]

Zinc plays an important role in several body systems – over 100 enzymes in the body require zinc to function.[5,6] Zinc is necessary for normal growth and development,[7,8] immune and neurological function,[9,10] proper sense of taste and smell,[11-13] blood sugar regulation,[14] cell membrane maintenance,[15,16] and management of oxidative stress.[17,18]

Food, Standard Serving Size	Average Zinc Content (in milligrams)
Eastern oysters (steamed), 3 ounces/6 medium	45
Eastern oysters (raw), 3 ounces/ 6 medium	35
Game meat, bison/deer (braised), 3 ounces	7.3
Beef chuck roast (braised), 3 ounces	7.0
Alaska king crab (cooked), 3 ounces	6.5
Ground beef (cooked), 3 ounces	5.3
Lamb shoulder (braised), 3 ounces	5.2
Pork shoulder (braised), 3 ounces	4.1
Lobster (cooked), 3 ounces	3.4
Breakfast cereal (fortified), ½ cup	2.5
Baked beans (canned), ½ cup	2.9
Pork loin (braised), 3 ounces	2.9
Chicken, dark meat (roasted), 3 ounces	2.4
Cheddar cheese, 1 ounce	1.5
Swiss cheese, 1 ounce	1.3
Pumpkin seeds (dried), 1 tablespoon	0.55
Cashews (dry roasted), ~6 nuts	0.53
Sunflower seeds (raw), 1 tablespoon	0.40

REFERENCES

1. Patil R, Sontakke T, Biradar A, Nalage D. Zinc: an essential trace element for human health and beyond. *Food Health*. 2023;5(3):13. doi:10.53388/FH2023013
2. Roohani N, Hurrell R, Kelishadi R, Schulin R. Zinc and its importance for human health: An integrative review. *J Res Med Sci Off J Isfahan Univ Med Sci*. 2013;18(2):144-157.
3. Lönnerdal B. Dietary factors influencing zinc absorption. *J Nutr*. 2000;130(5):1378S-1383S. doi:10.1093/jn/130.5.1378S
4. Sandstead HH, Freeland-Graves JH. Dietary phytate, zinc and hidden zinc deficiency. *J Trace Elem Med Biol Organ Soc Miner Trace Elem GMS*. 2014;28(4):414-417. doi:10.1016/j.jtemb.2014.08.011
5. Maret W. Zinc Biochemistry: from a single zinc enzyme to a key element of life. *Adv Nutr*. 2013;4(1):82-91. doi:10.3945/an.112.003038
6. Maywald M, Rink L. Zinc in human health and infectious diseases. *Biomolecules*. 2022;12(12):1748. doi:10.3390/biom12121748
7. Hussain A, Jiang W, Wang X, et al. Mechanistic impact of zinc deficiency in human development. *Front Nutr*. 2022;9:717064. doi:10.3389/fnut.2022.717064
8. Prasad AS. Zinc deficiency. *BMJ*. 2003;326(7386):409-410. doi:10.1136/bmj.326.7386.409
9. Wessels I, Maywald M, Rink L. Zinc as a gatekeeper of immune function. *Nutrients*. 2017;9(12):1286. doi:10.3390/nu9121286
10. Li Z, Liu Y, Wei R, Yong VW, Xue M. The important role of zinc in neurological diseases. *Biomolecules*. 2022;13(1):28. doi:10.3390/biom13010028
11. Russell RM, Cox ME, Solomons N. Zinc and the special senses. *Ann Intern Med*. 1983;99(2):227-239. doi:10.7326/0003-4819-99-2-227
12. Tanaka H, Mori E, Yonezawa N, et al. Efficacy of normalising serum zinc level for patients with olfactory dysfunction and zinc deficiency. *ORL*. 2024;86(2):73-81. doi:10.1159/000538594
13. Younes S. The impact of micronutrients on the sense of taste. *Hum Nutr Metab*. 2024;35:200231. doi:10.1016/j.hnm.2023.200231
14. Wang X, Wu W, Zheng W, et al. Zinc supplementation improves glycemic control for diabetes prevention and management: a systematic review and meta-analysis of randomized controlled trials. *Am J Clin Nutr*. 2019;110(1):76-90. doi:10.1093/ajcn/nqz041
15. O'Dell BL. Role of zinc in plasma membrane function. *J Nutr*. 2000;130(5):1432S-1436S. doi:10.1093/jn/130.5.1432S
16. Chen B, Yu P, Chan WN, et al. Cellular zinc metabolism and zinc signaling: from biological functions to diseases and therapeutic targets. *Signal Transduct Target Ther*. 2024;9(1):6. doi:10.1038/s41392-023-01679-y
17. Marreiro D, Cruz K, Morais J, Beserra J, Severo J, De Oliveira A. Zinc and oxidative stress: current mechanisms. *Antioxidants*. 2017;6(2):24. doi:10.3390/antiox6020024
18. Olechnowicz J, Tinkov A, Skalny A, Suliburska J. Zinc status is associated with inflammation, oxidative stress, lipid, and glucose metabolism. *J Physiol Sci*. 2018;68(1):19-31. doi:10.1007/s12576-017-0571-7
19. U.S. Department of Health and Human Services, National Institutes of Health, Office of Dietary Supplements. Zinc. Updated September 28, 2022. October 27, 2025. https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/#h3.
20. U.S. Department of Agriculture, Agricultural Research Service, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference, Legacy. Version Current: October 31, 2024 Accessed October 27, 2025. Internet: https://https://fdc.nal.usda.gov/food-search?query=NUTS&type=Foundation
21. Oregon State University, Linus Pauling Institute, Micronutrient Information Center. Zinc. Updated May 2019. Accessed October 27, 2025. https://lpi.oregonstate.edu/mic/minerals/zinc.