



2019 Novel Coronavirus [COVID-19]

phd3.idaho.gov/coronavirus

Zinc Supplementation and COVID-19

Recommendations

There are insufficient data to recommend either for or against the use of zinc for the treatment of COVID-19.

SWDH, in alignment with the National Institutes of Health (“NIH”) COVID-19 Treatment Guidelines Panel, recommends against using zinc supplementation above the recommended dietary allowance for the prevention of COVID-19, except in a clinical trial.

Rationale

Research has shown increased zinc concentrations in the body can impair the reproduction (replication) of a number of RNA viruses.¹ Zinc may also be effective at combating COVID-19 (also an RNA virus), but an optimal dose of zinc for the treatment of COVID-19 is not established. The recommended dietary allowance for elemental zinc is 11 mg daily for men and 8 mg for nonpregnant women.² The doses used in registered clinical trials for COVID-19 vary between studies, with a maximum dose of zinc sulfate 220 mg (50 mg of elemental zinc) twice daily.

Long-term zinc supplementation can cause serious side effects, notably copper deficiency with reversible anemia and low white blood cells.³ Zinc supplementation for a duration as short as 10 months has been associated with copper deficiency.⁴ Zinc supplementation can also potentially cause irreversible neurologic manifestations (i.e. muscle pain, balance problems, weakness, etc.).^{5,6} In addition, oral zinc can decrease the levels of several medications that bind with the zinc cation.²

Because zinc has not been shown to have a clinical benefit and may be harmful, presently zinc supplementation above the recommended dietary allowance is not recommended for the prevention of COVID-19, except in a clinical trial.



2019 Novel Coronavirus [COVID-19]

phd3.idaho.gov/coronavirus

References

1. te Velhuis AJ, van den Worm SH, Sims AC, Baric RS, Snijder EJ, van Hemert MJ. Zn(2+) inhibits coronavirus and arterivirus RNA polymerase activity in vitro and zinc ionophores block the replication of these viruses in cell culture. *PLoS Pathog.* 2010;6(11):e1001176. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/21079686>.
2. National Institutes of Health. Office of Dietary Supplements. Zinc fact sheet for health professionals. 2020. Available at: <https://ods.od.nih.gov/factsheets/Zinc-HealthProfessional/>. Accessed June 26, 2020.
3. Myint ZW, Oo TH, Thein KZ, Tun AM, Saeed H. Copper deficiency anemia: review article. *Ann Hematol.* 2018;97(9):1527-1534. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/29959467>.
4. Hoffman HN, 2nd, Phyliky RL, Fleming CR. Zinc-induced copper deficiency. *Gastroenterology.* 1988;94(2):508-512. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/3335323>.
5. Kumar N. Copper deficiency myelopathy (human swayback). *Mayo Clin Proc.* 2006;81(10):1371-1384. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/17036563>.
6. Hoffman HN, 2nd, Phyliky RL, Fleming CR. Zinc-induced copper deficiency. *Gastroenterology.* 1988;94(2):508-512. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/3335323>.



SERVING ADAMS - CANYON - GEM - OWYHEE - PAYETTE - WASHINGTON COUNTIES

For current COVID-19 information visit <https://phd3.idaho.gov/coronavirus/>. The COVID-19 Hotline is available Monday-Friday 8:00 AM-5:00 PM (208) 455-5411

This document was created 08/13/2020 using information and guidance available to-date and is subject to change per emerging guidance.