

SIMPLE WELLNESS TIPS

From Mark Hyman, MD

Suggestions for improving your overall physical and mental health during COVID-19 shared by Dr. Hyman during an Evening Beyond Celiac.

- Eat whole foods & cook when you can
- Meditate
- Get enough sleep
- Use a sauna

If you don't have access to a sauna, a steam bath or bath works too! Saunas can aid in relaxation and have been shown to reduce inflammation.

- Keep in touch with friends and family

Stay connected in COVID-19 responsible ways.

- Prioritize exercise & self care
- Incorporate pre- & probiotic foods into your diet

They promote gut health and support the immune system. Examples of pre- and probiotic foods include:

- Flavonoid-rich spices: ginger, garlic, turmeric, rosemary, oregano
- Kaempferol-rich foods: spinach, cabbage, dill
- Quercetin-rich foods: onions, apples, oregano, leafy greens
- Hesperetin-rich foods: oranges, grapefruit, lemons, tangerines
- Oleuropein-rich foods: olives, extra virgin olive oil
- Catechins in green tea
- Hyaluronic acid: unrefined coconut milk
- Adequate amount of nutrients, especially vitamin D, zinc, selenium and Omega-3 fatty acids

References: Sleep 1, 2 | Sauna use 3, 4 | Proper diet 5, 6, 7 | Meditation 8 | Exercise 9 | Gut-Brain Psychology review 10 | Celiac disease and gut permeability (review) 11 | Probiotics and depression 12, 13 | Anti-inflammatory foods: Ginger 14 Garlic 15 Curcumin 16 Quercetin 17 | Phytochemicals and tight junction integrity (review) 18 | Impact of fatty acids on gut health (review) 19, 20 | Immune-boosting effects of probiotics/prebiotics (review) 21, 22 | Selenium and Covid-19 23, 24

1. Besedovsky, L., Lange, T., & Haack, M. (2019). The Sleep-Immune Crosstalk in Health and Disease. *Physiological reviews*, 99(3), 1325–1380. <https://doi.org/10.1152/physrev.00010.2018>
2. Irwin, M. R., & Opp, M. R. (2017). Sleep Health: Reciprocal Regulation of Sleep and Innate Immunity. *Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology*, 42(1), 129–155. <https://doi.org/10.1038/npp.2016.148>
3. Laukkanen, J. A., & Laukkanen, T. (2018). Sauna bathing and systemic inflammation. *European journal of epidemiology*, 33(3), 351–353. <https://doi.org/10.1007/s10654-017-0335-y>
4. Żychowska, M., Nowak-Zaleska, A., Chruściński, G., Zaleski, R., Mieszkowski, J., Niespodziński, B., Tymański, R., & Kochanowicz, A. (2018). Association of High Cardiovascular Fitness and the Rate of Adaptation to Heat Stress. *BioMed research international*, 2018, 1685368. <https://doi.org/10.1155/2018/1685368>
5. Nantz, M. P., Rowe, C. A., Muller, C., Creasy, R., Colee, J., Khoo, C., & Percival, S. S. (2013). Consumption of cranberry polyphenols enhances human $\gamma\delta$ -T cell proliferation and reduces the number of symptoms associated with colds and influenza: a randomized, placebo-controlled intervention study. *Nutrition journal*, 12, 161. <https://doi.org/10.1186/1475-2891-12-161>
6. Grudzien, M., & Rapak, A. (2018). Effect of Natural Compounds on NK Cell Activation. *Journal of immunology research*, 2018, 4868417. <https://doi.org/10.1155/2018/4868417>
7. Lee, A., Lee, Y. J., Yoo, H. J., Kim, M., Chang, Y., Lee, D. S., & Lee, J. H. (2017). Consumption of Dairy Yogurt Containing *Lactobacillus paracasei* ssp. *paracasei*, *Bifidobacterium animalis* ssp. *lactis* and Heat-Treated *Lactobacillus plantarum* Improves Immune Function Including Natural Killer Cell Activity. *Nutrients*, 9(6), 558. <https://doi.org/10.3390/nu9060558>
8. Black, D. S., & Slavich, G. M. (2016). Mindfulness meditation and the immune system: a systematic review of randomized controlled trials. *Annals of the New York Academy of Sciences*, 1373(1), 13–24. <https://doi.org/10.1111/nyas.12998>
9. Cerqueira, É., Marinho, D. A., Neiva, H. P., & Lourenço, O. (2020). Inflammatory Effects of High and Moderate Intensity Exercise-A Systematic Review. *Frontiers in physiology*, 10, 1550. <https://doi.org/10.3389/fphys.2019.01550>
10. Liang, S., Wu, X., & Jin, F. (2018). Gut-Brain Psychology: Rethinking Psychology From the Microbiota-Gut-Brain Axis. *Frontiers in integrative neuroscience*, 12, 33. <https://doi.org/10.3389/fnint.2018.00033>
11. Pinto-Sanchez, M. I., Hall, G. B., Ghajar, K., Nardelli, A., Bolino, C., Lau, J. T., Martin, F. P., Cominetti, O., Welsh, C., Rieder, A., Traynor, J., Gregory, C., De Palma, G., Pigrau, M., Ford, A. C., Macri, J., Berger, B., Bergonzelli, G., Surette, M. G., Collins, S. M., ... Bercik, P. (2017). Probiotic *Bifidobacterium longum* NCC3001 Reduces Depression Scores and Alters Brain Activity: A Pilot Study in Patients With Irritable Bowel Syndrome. *Gastroenterology*, 153(2), 448–459.e8. <https://doi.org/10.1053/j.gastro.2017.05.003>
12. Chahwan, B., Kwan, S., Isik, A., van Hemert, S., Burke, C., & Roberts, L. (2019). Gut feelings: A randomised, triple-blind, placebo-controlled trial of probiotics for depressive symptoms. *Journal of affective disorders*, 253, 317–326. <https://doi.org/10.1016/j.jad.2019.04.097>
13. Pinto-Sanchez, M. I., Hall, G. B., Ghajar, K., Nardelli, A., Bolino, C., Lau, J. T., Martin, F. P., Cominetti, O., Welsh, C., Rieder, A., Traynor, J., Gregory, C., De Palma, G., Pigrau, M., Ford, A. C., Macri, J., Berger, B., Bergonzelli, G., Surette, M. G., Collins, S. M., ... Bercik, P. (2017). Probiotic *Bifidobacterium longum* NCC3001 Reduces Depression Scores and Alters Brain Activity: A Pilot Study in Patients With Irritable Bowel Syndrome. *Gastroenterology*, 153(2), 448–459.e8. <https://doi.org/10.1053/j.gastro.2017.05.003>
14. Nikkha, B., Maleki, I., & Hekmatdoost, A. (2018). Ginger in gastrointestinal disorders: A systematic review of clinical trials. *Food science & nutrition*, 7(1), 96–108. <https://doi.org/10.1002/fsn3.807>
15. Arreola, R., Quintero-Fabián, S., López-Roa, R. I., Flores-Gutiérrez, E. O., Reyes-Grajeda, J. P., Carrera-Quintanar, L., & Ortuño-Sahagún, D. (2015). Immunomodulation and anti-inflammatory effects of garlic compounds. *Journal of immunology research*, 2015, 401630. <https://doi.org/10.1155/2015/401630>
16. Kunnumakkara, A. B., Bordoloi, D., Padmavathi, G., Monisha, J., Roy, N. K., Prasad, S., & Aggarwal, B. B. (2017). Curcumin, the golden nutraceutical: multitargeting for multiple chronic diseases. *British journal of pharmacology*, 174(11), 1325–1348. <https://doi.org/10.1111/bph.13621>
17. Li, Y., Yao, J., Han, C., Yang, J., Chaudhry, M. T., Wang, S., Liu, H., & Yin, Y. (2016). Quercetin, Inflammation and Immunity. *Nutrients*, 8(3), 167. <https://doi.org/10.3390/nu8030167>
18. Lee, B., Moon, K. M., & Kim, C. Y. (2018). Tight Junction in the Intestinal Epithelium: Its Association with Diseases and Regulation by Phytochemicals. *Journal of immunology research*, 2018, 2645465. <https://doi.org/10.1155/2018/2645465>
19. Costantini, L., Molinari, R., Farinon, B., & Merendino, N. (2017). Impact of Omega-3 Fatty Acids on the Gut Microbiota. *International journal of molecular sciences*, 18(12), 2645. <https://doi.org/10.3390/ijms18122645>
20. Parolini C. (2019). Effects of Fish n-3 PUFAs on Intestinal Microbiota and Immune System. *Marine drugs*, 17(6), 374. <https://doi.org/10.3390/md17060374>
21. Ashaolu T. J. (2020). Immune boosting functional foods and their mechanisms: A critical evaluation of probiotics and prebiotics. *Biomedicine & pharmacotherapy = Biomedicine & pharmacotherapy*, 130, 110625. Advance online publication. <https://doi.org/10.1016/j.biopha.2020.110625>
22. Rezac, S., Kok, C. R., Heermann, M., & Hutkins, R. (2018). Fermented Foods as a Dietary Source of Live Organisms. *Frontiers in microbiology*, 9, 1785. <https://doi.org/10.3389/fmicb.2018.01785>
23. Zhang, J., Taylor, E. W., Bennett, K., Saad, R., & Rayman, M. P. (2020). Association between regional selenium status and reported outcome of COVID-19 cases in China. *The American journal of clinical nutrition*, 111(6), 1297–1299. <https://doi.org/10.1093/ajcn/nqaa095>
24. Zhang, J., Saad, R., Taylor, E. W., & Rayman, M. P. (2020). Selenium and selenoproteins in viral infection with potential relevance to COVID-19. *Redox biology*, 37, 101715. Advance online publication. <https://doi.org/10.1016/j.redox.2020.101715>