



# Prunes and Bone Health: Research Summary

A growing body of evidence suggests that prunes can have a positive impact on bone health. Not only do prunes contain a variety of nutrients that play a role in bone building, structure, maintenance and breakdown—like vitamin K, phosphorus, boron and potassium—but research continues to show that prunes help support healthy bones. Read on for an overview of various studies looking at the connection between prunes and better bones.

**NEW:** A 2022 study in the American Journal of Clinical Nutrition found that eating 5-6 prunes a day (50 grams) over twelve months **preserved bone hip mineral density, reduced hip fracture risk** and **reduced inflammatory mediators** in postmenopausal women.<sup>1</sup> This study was twice as long as a previous clinical trial that looked at osteopenic, postmenopausal women who ate 5-6 prunes per day for six months, and found that **one serving of prunes was effective in preventing bone loss.**<sup>2</sup>

Previous research also found that eating 10-12 prunes per day (100 grams) for one year was associated with **increased bone mineral density and improved indicators of bone turnover** in postmenopausal women.<sup>3</sup>

**NEW:** A first-of-its kind study saw **positive effects on markers of bone health** after **men** ate 10-12 prunes per day for one year.<sup>4</sup>

Interesting animal research suggests that **prunes may help prevent bone loss in people exposed to radiation**, such as astronauts in space. Researchers compared prune powder to different antioxidant and anti-inflammatory interventions and found that mice on the prune diet **did not have bone volume loss after exposure to radiation**, and the prune diet was the most effective in reducing the undesired responses to radiation seen in bone cells.<sup>5</sup>

Emerging animal research looked at the effect of prunes on growing mice to determine whether or not prunes may have an effect on peak bone mass (the amount of bone present at the point of maximum strength and density). In growing and young adult mice, those who were given prunes saw **an increase in bone volume.**<sup>6</sup>

Additional animal research looked at the effect of prunes on preventing bone loss after spinal cord injury. Researchers found that dietary supplementation with prune was effective at **preventing spinal cord injury-related bone loss.** Additionally, prune consumption was associated with a slight restoration of bone loss, while also helping to lessen loss of bone strength after spinal cord injury.<sup>7</sup>



1 De Souza MJ, Strock NCA, Williams NI, Lee H, Koltun KJ, Rogers C, Ferruzzi MG, Nakatsu CH, Weaver C. Prunes preserve hip bone mineral density in a 12-month randomized controlled trial in postmenopausal women: the Prune Study. *Am J Clin Nutr.* 2022 Jul 7:nqac189. doi: 10.1093/ajcn/nqac189. Epub ahead of print. PMID: 35798020.  
2 Hooshmand S, et al. (2016) The effect of two doses of dried plum on bone density and bone biomarkers in osteopenic postmenopausal women: a randomized, controlled trial. *Osteoporos Int.* 27(7):2271-2279. doi: 10.1007/s00198-016-3524-8.  
3 Hooshmand S, et al. (2011) Comparative effects of dried plum and dried apple on bone in postmenopausal women. *Br J Nutr.* 106(6):923-30. doi: 10.1017/S000711451100119X.  
4 Hooshmand, et al. Effects of 12 Months Consumption of 100 g Dried Plum (Prunes) on Bone Biomarkers, Density, and Strength in Men. *Journal of Medicinal Food.* 2022 25:1, 40-47.  
5 Schreurs A-S, et al. (2016) Dried plum diet protects from bone loss caused by ionizing radiation. *Sci Rep.* 6:213-43. doi: 10.1038.  
6 Shahnazari M, et al. (2016) Dietary dried plum increases bone mass, suppresses proinflammatory cytokines and promotes attainment of peak bone mass in male mice. *J Nutr Biochem.* 34:73-82. doi: 10.1016/j.jnutbio.2016.04.007.  
7 Liu X, et al. (2020) Dried plum mitigates spinal cord injury-induced bone loss in mice. *JOR Spine.* DOI: 10.1002/jsp2.1113.