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Ginger and Testosterone

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Abstract: Enhancing and protecting testosterone production is one target for many scientists because of its crucial role as a primary sex hormone in males. Several in vivo trials have utilized different dietary supplements and medicinal plants to enhance testosterone production in males. Since 1991, various in-vivo, as well as basic research studies, have discovered a link between ginger (*Zingiber officinale*) and testosterone. However, such a link has not yet been collectively reviewed. This review systematically discusses and summarizes the effect of ginger and ginger extracts on testosterone. To achieve this contribution, we searched the PubMed, Scopus, and Web of Science databases for English language articles (full texts or abstracts) from November 1991 through August 2018 using the keywords ?ginger? and ?Zingiber officinale? versus ?testosterone?. Additionally, the references from related published articles were also reviewed, only if relevant. In conclusion, the mainstream of research that links ginger to testosterone demonstrated that ginger supplementation, particularly in oxidative stress conditions, enhances testosterone production in males. The mechanisms by which this occurs mainly by enhancing luteinizing hormone (LH) production, increasing the level of cholesterol in the testes, reducing oxidative stress and lipid peroxidation in the testes, enhancing the activity of the antioxidant enzymes, normalizing blood glucose, increasing blood flow in the testes, increasing testicular weight, and recycling testosterone receptors. However, the effect of ginger on testosterone is not yet confirmed in humans. Therefore, clinical studies in this context of research are imperative.