

Hair Tissue Mineral Analysis / Nutritional, Herbal and Natural Medicine / Practitioner Education



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## RESEARCH ARTICLE

### **Magnesium's Effect On Physical Performance**

Magnesium has a diverse range of benefits. This month we explore its effect on improving physical performance in healthy elderly women.



Magnesium is involved in many processes that affect muscle performance including oxygen uptake, energy production and electrolyte balance. Given these multiple roles, researchers wondered whether magnesium supplementation could impact positively on a decline in physical performance commonly associated with the aging process.

In a single blinded randomised controlled trial researchers sought to investigate the effect of three months' oral magnesium supplementation on physical performance parameters in elderly women. After excluding those who did not meet the study criteria, 139 healthy elderly women were randomly allocated to either the intervention or the control group. Anthropomorphic and physical performance measures were assessed at baseline and after 12 weeks using a Short Physical Performance Battery (*SPPB*) test. The intervention group received 300 mg per day of magnesium oxide and the control group received neither placebo or intervention.<sup>(1)</sup> The researchers were blinded as to group allocation.

Participants were instructed not to modify their diet throughout the study's duration. Compliance was high, attrition rates were low and side effects were mild, reversible, transient, and experienced by only 2% of participants. <sup>(1)</sup>

At study completion the intervention group had significant improvements in total fitness scores on the *SPPB* inventory compared with the control group

( $P = 0.03$ ). This was especially noted in those with a magnesium dietary intake below the Recommended Dietary Allowance (RDA). <sup>(1)</sup>

The most notable improvements were in gait speed and chair stand times. Participants average walking time improved from 1.16 to 1.37 metres per second ( $P = 0.01$ ) and the average length of time the participants were able to stand out of their chairs improved from 2.29 seconds to 2.84 seconds

( $P < 0.0001$ ). (1)

This study provides encouraging evidence that a daily dose of 300 mg of magnesium over twelve weeks may be effective in enhancing overall physical performance in older populations.(1)

## References

1. Veronese N, Berton L, Carraro S, Bolzetta F, De Rui M, Perissinotto E, Toffanello ED, Bano G, Pizzato S, Miotto F, Coin A. Effect of oral magnesium supplementation on physical performance in healthy elderly women involved in a weekly exercise program: a randomized controlled trial. *AJCN*. 2014 Sep 1;100(3):974-81.



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