

**Results:** There was no difference in compliance with walking instructions between interventions ( $P=0.08$ ) with 45% of the 30-min walks and 52% of the 10-min walks undertaken. Fifty-nine percent of participants expressed preference for a 30-min walk; 32% favored three 10-min walks; and 9% had no preference. A significant improvement in enthusiasm for physical activity occurred after the 30-min walks when comparing between walking regimens ( $P=0.03$ ). Participants' ratings of energy levels and mood were not different between interventions. When comparing baseline to end-of-intervention, there were improvements in energy level ( $P=0.01$ ) and mood ( $P=0.03$ ) whilst undertaking the 30-min walk.

**Conclusions:** Encouraging people with T2DM to undertake physical activity was partially successful. Personal preference for one approach over the other is likely to predispose to long-term compliance. Self-reported improvements in energy level, mood and enthusiasm for physical activity from taking a 30-minute walk each day are encouraging.

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## 7. Effect of Spinach, a High Dietary Nitrate Source, on Arterial Stiffness and Related Hemodynamic Measures: A Randomized, Controlled Trial in Healthy Adults (Elena Jovanovski)

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**Objective:** Diets rich in fruits and vegetables reduce risk of adverse cardiovascular events. However, the constituents responsible for this effect have not been well established. Lately, the attention has been brought to vegetables with high nitrate content with evidence that this might represent a source of vasoprotective nitric oxide. We hypothesized that short-term consumption of spinach, a vegetable having high dietary nitrate content, can affect the arterial waveform indicative of arterial stiffness, as well as central and peripheral blood pressure (BP).

**Methods:** Using a placebo-controlled, crossover design, 27 healthy participants were randomly assigned to receive either a high-nitrate (spinach; 845mg nitrate/day) or low-nitrate soup (asparagus; 0.6mg nitrate/day) for 7 days with a 1-week washout period. On days 1 and 7, profiles of augmentation index, central, and brachial BP were obtained over 180min post-consumption in 4 fasted visits.

**Results:** A postprandial reduction in augmentation index was observed at 180min on high-nitrate compared to low-nitrate intervention ( $-6.54\pm9.7\%$  vs.  $-0.82\pm8.0\%$ ,  $p=0.01$ ) on Day 1, and from baseline on Day 7 ( $-6.93\pm8.7\%$ ,  $p<0.001$ ; high vs. low:  $-2.28\pm12.5\%$ ,  $p=0.35$ ), suggesting that the nitrate intervention is not associated with the development of tolerance for at least 7 days of continued supplementation. High vs. low-nitrate intervention also reduced central systolic ( $-3.39\pm5.6\text{mmHg}$ ,  $p=0.004$ ) and diastolic BP ( $-2.60\pm5.8\text{mmHg}$ ,  $p=0.028$ ) and brachial systolic BP ( $-3.48\pm7.4\text{mmHg}$ ,  $p=0.022$ ) at 180min following 7-day supplementation only.

**Conclusions:** These findings suggest that dietary nitrate from spinach may contribute to beneficial hemodynamic effects of vegetable-rich diets and highlights the potential of developing a targeted dietary approach in the management of elevated BP.

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