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## Effects of Germinated Chickpea Flour Incorporated in Pasta on Brachial Artery Flow Mediated Dilation

Alexander L. Enrique, Joseph A. Bruno, Charles H. Feldman, Adrian L. Kerrihard, Evan L. Matthews.  
Montclair State University, Montclair, NJ

Germination can increase the antioxidant activity in legumes such as chickpeas. Foods rich in antioxidants have been shown to positively influence brachial artery flow mediated dilation (FMD), a non-invasive test of a crucial layer of the artery called the endothelium. It is not currently known what, if any, cardiovascular benefits would occur if semolina flour in pasta is partially replaced by germinated chickpea flour. **PURPOSE:** To determine if partial replacement of semolina flour with germinated chickpea flour in pasta will impact brachial artery FMD. **METHODS:** Dried store bought chickpeas were germinated, re-dried, and ground into a flour. Healthy participants underwent a screening visit and two randomized controlled meal data collection visits (experimental and control). At the data collection visits participants consumed 255g of pasta (experimental visit SCF40: 40% sprouted chickpea and 60% semolina flours; control visit SEM100: 100% semolina flour) with butter. Between 2-3hrs after consumption of the pasta brachial artery FMD was assessed. **RESULTS:** Twenty-two healthy participants (5M/17W, 26±2 years, 66.6±2.3kg, BMI 24±1kg/m<sup>2</sup>, SBP 114±3mmHg, DBP 75±2mmHg, HR 74±3BPM) were studied. There was no difference between conditions for baseline brachial artery diameter (SCF40 0.303±0.013cm, SEM100 0.305±0.015cm;  $p=0.788$ ) or shear rate (SCF40 48591±6423AUC, SEM100 53463±5425AUC;  $p=0.381$ ). FMD in the SCF40 condition (10.3±1.2%) was greater than in the SEM100 condition (7.9±0.8%,  $p=0.019$ ). **CONCLUSIONS:** This data suggests that partial substitution of germinated chickpea flour for the standard semolina flour in pasta improves post-digestion flow mediated dilation. This is a simple dietary alteration that may contribute to improved cardiovascular health.