

## **Improvement of the Walking Ability in Intermittent Claudication due to Superficial Femoral Artery Occlusion with Supervised Exercise and Pneumatic Foot and Calf Compression: A Randomized Controlled Trial**

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**Objective:** To compare the effect of unsupervised exercise, supervised exercise and intermittent pneumatic foot and calf compression (IPC) on the claudication distance, lower limb arterial haemodynamics and quality of life of patients with intermittent claudication.

**Methods:** Thirty-four eligible patients with stable intermittent claudication were randomized to IPC (n=13, 3 h/d for 6 months) supervised exercise (n=12, three hourly sessions/week for 6 months) or unsupervised exercise (n=9). In each patient, initial claudication distance (ICD), absolute claudication distance (ACD), resting ankle brachial pressure index (ABPI), and resting hyperaemic calf arterial inflow were measured before, 6 weeks, 6 months and 1 year after randomization. Quality of life was assessed with the short form (SF)-36, walking improvement (WIQ) and intermittent claudication questionnaires (ICQ).

**Results:** Compared with unsupervised exercise, both IPC and supervised exercise, increased ICD and ACD, up to 2.83 times. IPC increased arterial inflow ( $p < 0.05$  at 6 months). Unsupervised exercise had no effect on arterial inflow or ABPI. IPC improved significantly the ICQ score and the speed score of the WIQ, while supervised exercise improved the WIQ claudication severity score. At 1 year clinical effectiveness of supervised exercise and IPC was largely preserved.

**Conclusions:** IPC, by augmenting leg perfusion, achieved improvement in walking distance comparable with supervised exercise. Long-term results in a larger number of patients will provide valuable information of the optimal treatment modality of intermittent claudication.