

## **INTERMITTENT PNEUMATIC COMPRESSION THERAPY IN PATIENTS WITH LEG ISCHEMIA**

J.D. Banga, H.H.D. Idzerda, J.G. Schuurman, B.C. Eikelboom  
Vascular Center, Academic Hospital, Utrecht, The Netherlands

Presented at the 17<sup>th</sup> World Congress International Union of Angiology  
*London, April 3-7, 1995*

Intermittent compression of the calf and foot to enhance the circulation in ischaemic limbs is a hitherto poorly evaluated method. It is now possible to apply controlled compression therapy using mechanical devices. In a pilot study with a prototype device, 8 patients Fontaine stage III-IV were treated in sessions using an ArtAssist<sup>®</sup>, model AA-1000 S/N3 (ACI-Medical) pneumatic compression device, consisting of a cuff around the foot and ankle. Pneumatic compression of 100 mmHg for 3 sec per 20 sec cycle was applied for 15-90 min, with patients in supine position and legs 15° dependent. Treatment effect was measured with air plethysmography (APG<sup>®</sup>) (APG<sup>®</sup>-1000, ACI Medical), transcutaneous oxygen pressure recovery time (TORT) and visual analogue scale (VAS).

Calf blood flow increased from 39.9 (26.5) to 50.5 (32.4) ml/min (sd),  $p=0.0218$  (Wilcoxon), TORT diminished from 4.1 (1.6) to 2.9 (0.7) min,  $p=0.063$  (Wilcoxon), VAS indicated subjective improvement after 6/17 sessions. Best results were obtained with sessions <30 min. Longer sessions were poorly tolerated.

These results show that intermittent pneumatic compression may acutely improve the circulation in ischaemic limbs. Its long-term effect remains to be established. The clinical value is currently being assessed in a randomized placebo-treatment-controlled blinded trail.