

**ELASTIC STOCKINGS AND ULCER TREATMENT:
WHAT ABOUT PRESSURE AND STIFFNESS?**

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Aim: To assess, by in vivo measurements, the maintenance of pressure over time and elastic properties of a new compression device for the treatment of venous leg ulcers.

Methods: In 12 healthy volunteers were tested a two–stocking kit (SK), consisting of a liner (24 mm Hg) and a natural rubber stocking (23-32 mmHg). Interface pressure was measured in supine and standing position and the Static Stiffness Index (SSI) was calculated by subtracting the supine from the standing pressure. Thereafter the volunteers were asked to wear the SK for one week taking off the outer layer over night. The pressure and stiffness data were compared with those measured in 12 patients suffering from venous leg ulcers and treated by means of an inelastic bandage system** with high pressure and stiffness.

Results: The mean pressure values (mm Hg) in the supine and standing position 45.8±5.8 and 55.2±5.1 for the ulcer kit, 69.5±5.8 and 94.8±10 for the bandage system. (<.001)The corresponding SSI values were 9.3±4 and 25.3±6.1. After 48-72 hours the pressure loss in the supine and standing position was 6.1% and 5.4% with the ulcer kit, but 42.1% and 36,1% with the bandage system (p<0.001) so that the pressure range of the bandage system came close to that of the ulcer-kit.

Conclusions: The ulcer-kit achieves a standing and working pressure similar to that exerted by multilayer bandages, at least after some days when there is a considerable pressure loss of the bandage system. Since the outer layer is removed over night the resting pressure of the liner keeping the ulcer dressing in place is well tolerated.

This new stocking system can be recommended at least for “not complicated” ulcers with a surface less than 100 cm² and lasting less than 1 year.

* Ulcer Kit Pro Gloriamed

** Rosidal Sys Lohmann Raucher