

## **Clinical benefits of lightweight compression: reduction of venous-related symptoms by ready-to-wear lightweight gradient compression hosiery.**

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Weiss RA, Duffy D.

Johns Hopkins University School of Medicine, Baltimore, MD, USA.

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- BACKGROUND:** Medical-grade compression of class I (20-30 mmHg) and class II (30-40 mmHg) have been shown to be beneficial against venous hypertension or congestion. Relatively few studies address the effects of ready-to-wear (RTW) lightweight gradient compression pantyhose on venous symptoms.
- OBJECTIVE:** To perform a study comparing the effects of two different compression RTW lightweight gradient compression stockings (8-15 mmHg and 15-20 mmHg) on the venous symptoms of flight attendants.
- METHOD:** A prospective crossover trial of symptom evaluation in 19 flight attendants was performed in which participants rated their symptoms on a visual analog scale. During the initial phase, participants wore no compression for 2 weeks. They then wore 8-15 mmHg and 15-20 mmHg gradient compression support hose while flying over a 4-week period. Symptoms before and after wearing the gradient compression stockings were compared and statistically analyzed.
- RESULTS:** Wearing of 8-15 mmHg gradient hose resulted in statistically significant improvement of discomfort ( $P < 0.01$ ). Swelling, fatigue, aching, and tightness of the leg were all improved to a statistically significant degree ( $P < 0.01$ ). For 15-20 mmHg gradient hosiery, symptoms were improved to a statistically significant or almost significant level. The difference between the 8-15 mmHg and 15-20

mmHg compression was not statistically significant.

**CONCLUSIONS:** Use of lightweight (low compression) RTW gradient compression hosiery is very effective in improving symptoms of discomfort ( $P < 0.01$ ), swelling (almost  $P < 0.05$ ), fatigue ( $P < 0.05$ ), aching ( $P < 0.01$ ), as well as leg tightness. Improvement of symptoms is statistically significant compared to no compression when hosiery was worn regularly during waking hours for 4 weeks.

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