

Simplified Compression Therapy for Lymphedema: Evaluation of Compression Levels and Time required for Application

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Aim

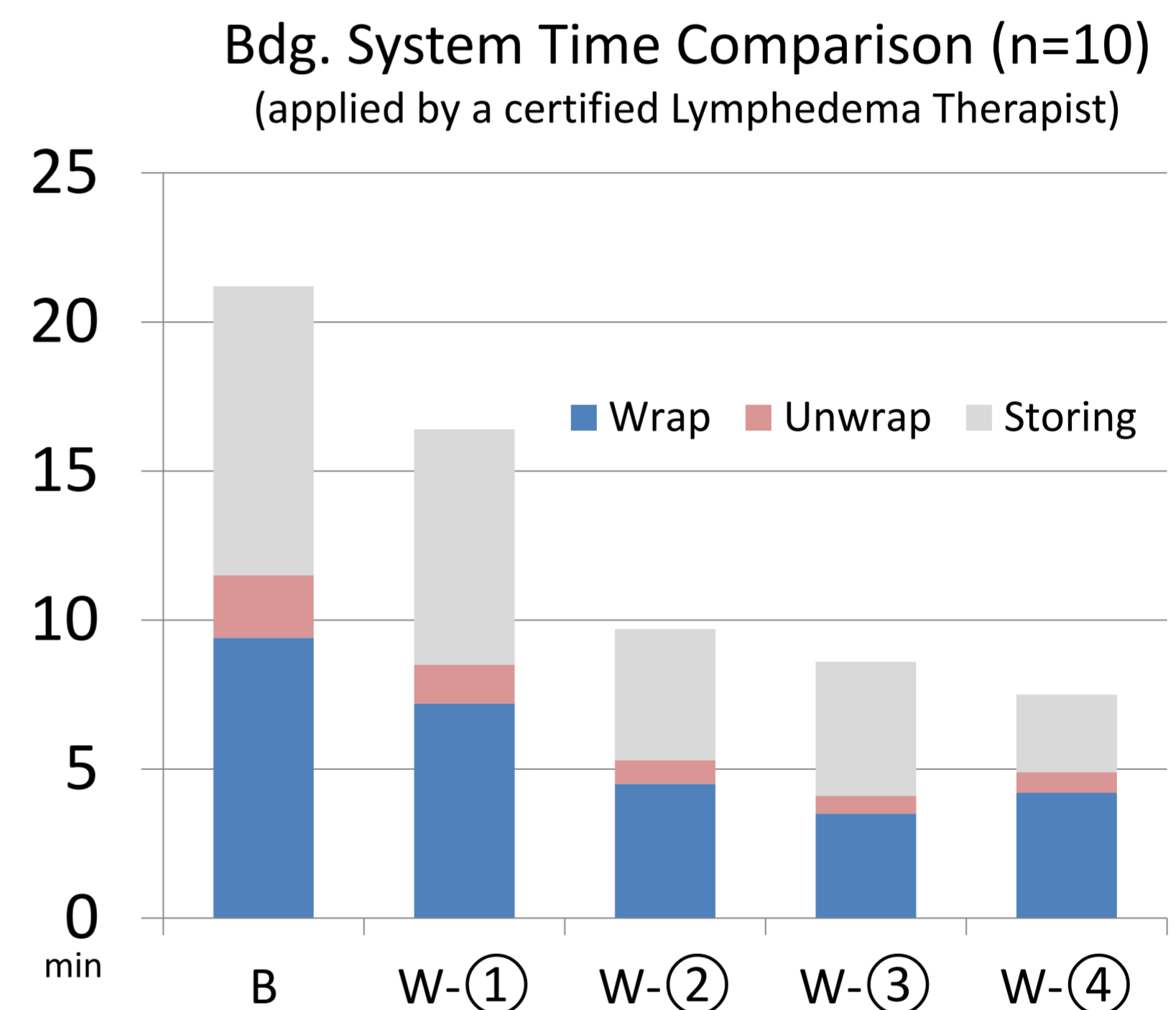
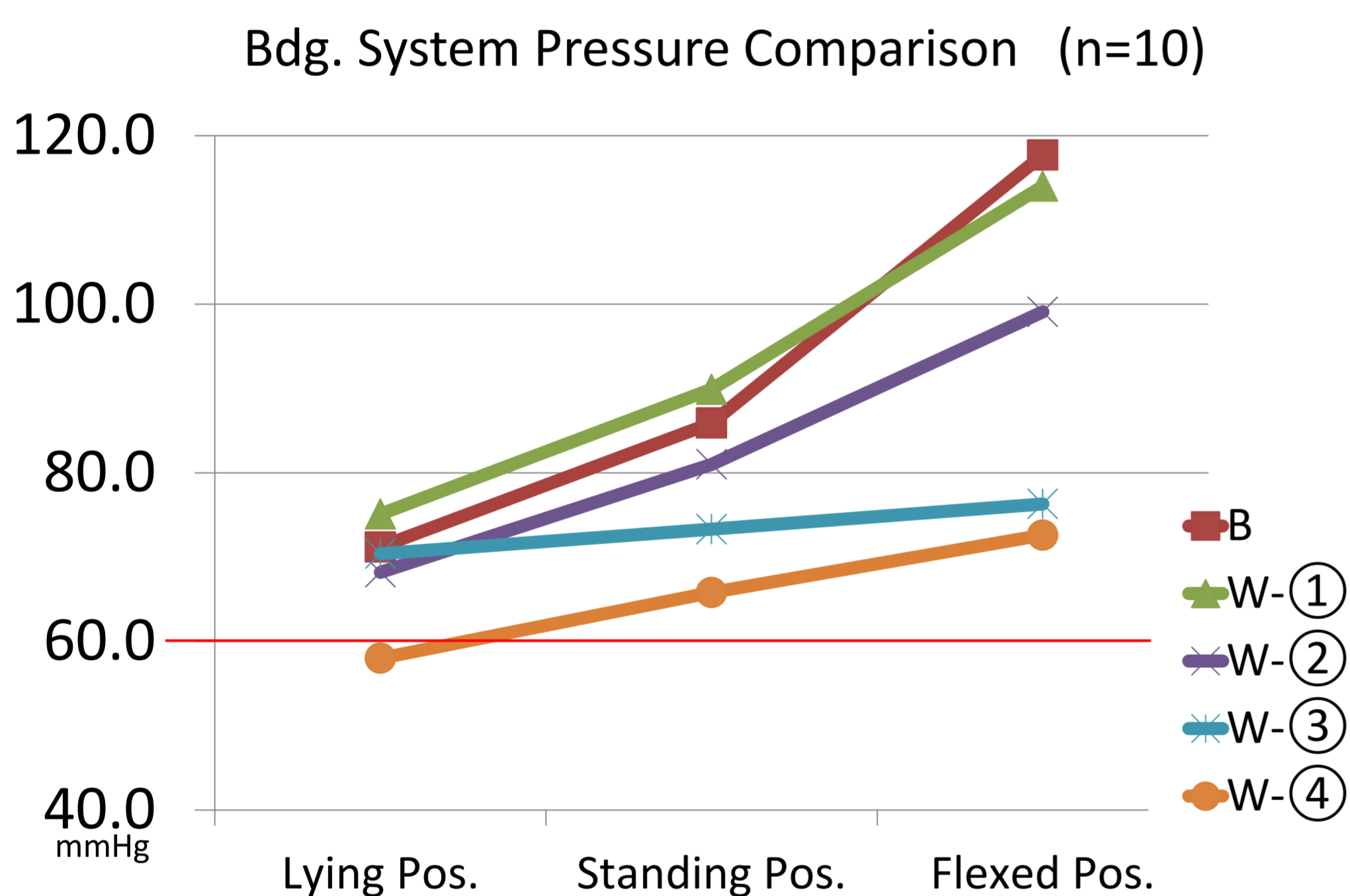
To evaluate if the Usage of a new Compression Material “Wave Garment” (WG) in Combination with different Bandage Systems exerts enough Pressure ($\geq 60\text{mmHg}$ at the Calf (B1) in Standing Position) on Stage 2b Lower Extremity Lymphedema and to evaluate if Time and Burden in Compression Therapy can be reduced with the Usage of WG.

Methods

On ten Patients Pressure of a conventional Multilayer Bandage System (B) and WG Bandage Combinations (W-① to ④) were measured with an Air Pack Type Pressure Analyzer (AMI3037) and compared with each other. In Addition, Time necessary for applying the different Bandage Systems were measured and 112 Patients were asked to answer to a Questionnaire about whether using the WG made Self-bandaging easier or not.

Summary of the 5 different Bandage Systems

- B: 5 Short Stretch Bdgs., BSN-Jobst Comprilan 6, 8, 10, 10, 12cm, Idealbinde + Padding Material
- W-①: 5 Short Stretch Bdgs., BSN-Jobst Comprilan 6, 8, 10, 10, 12cm, Idealbinde + WG
- W-②: 2 Short Stretch Bdgs., Alcare Elascot Tension Guide 7.5cmx6.75m + WG
- W-③: 1 Middle Stretch Bdg., Thuasne Biflex 16+ 10cmx5m + WG
- W-④: 1 Inelastic Velcro System, Medi Juxtafit Upper and Lower Leg, Interlocking Ankle Foot Wrap + WG



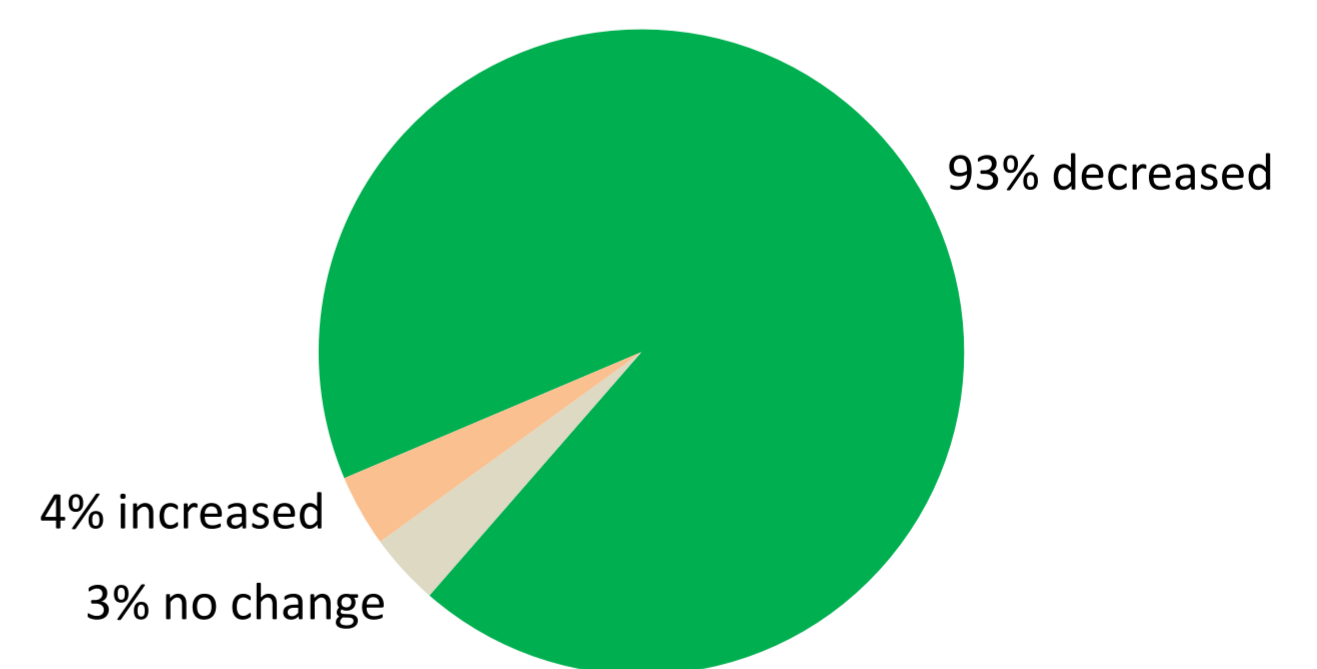
WG



WG on the affected Limb

The uneven Surface of the WG adjusts itself to the Shape of the affected Limb, softens indurated Skin and increases Range of Motion. (Results from a previous study presented at the Japanese Society of Phlebology Conference 2014).

“Burden” Questionnaire (n=55/112)



Results

All Bandage Systems showed sufficient Pressure ($\geq 60\text{mmHg}$) Levels when applied by a certified Lymphedema Therapist. Time for Application decreased with the Usage of WG between 23 to 65% when compared to conventional Bandaging. Self-Bandaging became easier in 93% of all cases.

Conclusion

This study shows that WG in Combination with different Bandage Systems exerts enough Pressure on Stage 2b Lower Extremity Lymphedema and also decreases Time and Burden for Compression Therapy for Therapists and Patients.