A comparison of interface pressures of three compression bandage systems

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Message:

A well designed multilayered compression system must provide **Consistent** levels of therapeutic compression, **Continuously** (day and night), with a high degree of **Comfort**. When these three elements (the three C's principle) converge in one well designed, easy to apply and wear product, the compression bandage can demonstrate high degree of patient compliance/concordance and thus desired clinical results. The use of a Dual Compression System (DCS) UrgoK2 two layer bandage, which contains two proprietary layers (K Tech and K Press), designed with the 3 C's requirement in mind, leads to consistent levels of pressure as gauged with accurate pressure measuring instruments. The study described herein focuses on proving that indeed, consistent therapeutic pressure is achievable with UrgoK2 when applied by clinicians used to applying compression wraps. **Consistency** is important.

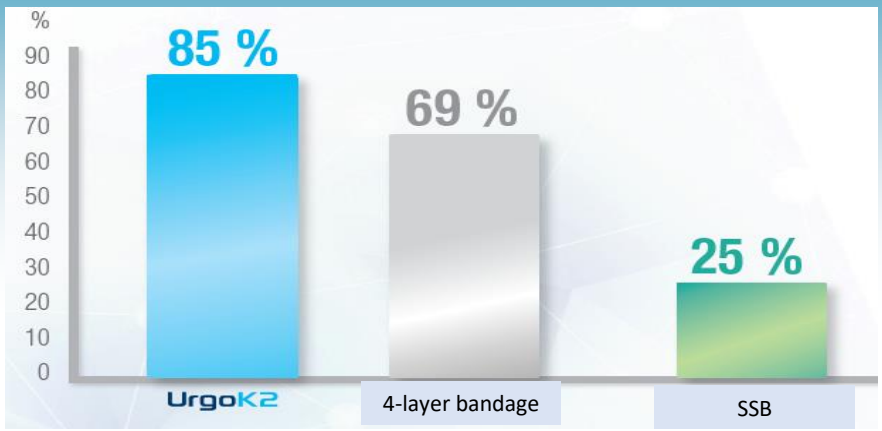
Methods:

32 nurses with experience of using compression bandages applied each of the three systems, a short stretch bandage (SSB) Actico®, a 4 layer bandage (4LB) Profore ®, or the new UrgoK2® which has only two engineered layers (2LB), to a healthy female volunteer in a sitting position. The interface pressures and time taken to apply the systems were measured using accurate bandage pressure measurement devices. A questionnaire regarding the concept of the new UrgoK2 system and its application in comparison to the existing two systems was then completed by the nurses.

Results:

The interface pressures achieved show that many nurses applied undesirably high pressures with the 4LB Profore (25% achieving pressures > 50 mmHg). In contrast, the therapeutically desired pressure of around 40 mmHg was consistently achieved with the new 2LB. A high percentage, 85%, of the nurses using the two-layer bandage (2LB) system achieved the required therapeutic pressure (30–50 mmHg) with a mean of 39.8 mmHg on first application, despite no prior experience with this particular UrgoK2 system. **The 4LB Profore took the longest time to apply (mean: 3 minutes 46 seconds). In contrast, a mean time of only 2 minutes 35 seconds was taken to apply the UrgoK2 2LB. Over 63% of the nurses felt the UrgoK2 was very easy to apply.**

% of nurses achieving the recommended therapeutic pressure (30-50mmHg) with compression bandage :



Results of clinician surveys in the study

	UrgoK2	Profore	Actico
Ease of use	63%	47%	22%
Lower bulk	72%	3%	47%
Comfort	69%	13%	31%
Best compliance expected	63%	13%	31%
Best holding position expected	56%	56%	25%
Average time of application	2.30 min	3.46 min	1.50 min

Conclusion:

These results suggest that the UrgoK2 achieves, **consistently**, the required therapeutic pressure of close to 40 mm Hg necessary for the management of venous leg ulcers, is easy to apply, and may provide a suitable alternative to other more bulky, multi-layer bandage systems that clinicians are not able to apply with the right therapeutic pressure levels consistently. In fact the 4 layer bandages, applied with higher than necessary pressure, can potentially lead to discomfort, noncompliance, and skin damage if allowed to remain in place with higher than required pressure. The printed pressure indicators on the UrgoK2 aids the application of correct compression, therefore reducing the potential risk of pressure damage, or worse, applying subtherapeutic pressure and potentially delaying wound healing.

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