Current Clinician Opinions on the Management of Hypertrophic and Keloid Scars with Pressure Modulation

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Current Burn Clinician Opinions on the Management of Hypertrophic and Keloid Scars with Pressure Modulation. ¹

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Burn Clinicians (specifically Occupational Therapists, Physiotherapists and Specialist Nurses) have long been involved in the determining the most appropriate intervention to manage hypertrophic and keloid scars. Pressure Garments have been the mainstay in the therapist’s choice in treatment options since the early 1970’s and continues to be the standard therapy and first line treatment for almost all aspects of problem hypertrophic scarring and burn injury. Silicones have also been used since the early 1990’s and continue to be a useful mechanism in the effective management of problem scars and a prominent choice among all clinical disciplines to manage scars. Advancements in both the manufacturing and technology industries have been able to provide clinicians with unique combinations of garment materials with a silicone bonded textile as well as specific gradient pressure garments that accommodate the unique needs of the patient in order to achieve an optimum aesthetic and functional outcome. These advancements have also provided more durable and long lasting treatment options to manage patients’ scars. However, a review of the most common treatment interventions and consensus among clinicians preference was lacking in the literature.

A brief questionnaire was piloted in 2007 among two Occupational Therapists within UK Plastics / Burns units to determine the most current trends in the choices of hypertrophic and keloid scar management for burns and a subsequent mail survey was conducted among 69 identified Regional Plastics / Burns Units in the UK and a response rate of 65% was attained. Of that group of designated scar management professionals, 96% reported that they used some type of silicone sheeting and 93% reported using pressure garments to treat hypertrophic burn scars.

The data finding supports the hypothesis that the most common option in the management of hypertrophic and keloid scars used by today’s clinicians employs combination therapy (98%) involving an adjunct in the form of silicone sheeting and pressure. This group also reported that almost half (44%) observed that patient compliance increased substantially with the use of pressure garments incorporating silicone textile. This use of combination therapy (Silon-TEX®) directly incorporated into the garment essentially eliminates many of the current difficulties associated with topical silicone gel sheets used under garments alone such as material loss, material not staying put on articulating joints and digits, and the material requiring multiple replacements prior to the replacement of the garment during a specified treatment cycle (averaging 4-6 sheets or upwards of 9-12 tubes of material per 3 month garment wear). Overall, these results demonstrate that combination therapy with a silicone textile (Silon-TEX®) incorporated into a garment is both economically advantageous and clinically effective.

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**Introduction**

Specialist Clinicians (specifically, Occupational Therapists, Physiotherapists and Specialist Nurses) have been involved in the determining the most appropriate and current interventions to manage hypertrophic and keloid scars. Pressure Garments have been the mainstay in the therapist’s choice in treatment options since the early 1980s and continues to be the standard therapy and first-line treatment for almost all aspects of problem hypertrophic scarring and burn injury. Skinfood has also been used since the early 1980s and continues to be a useful intervention in the effective management of problem scars and a prominent choice among all clinical disciplines managing scars.

Advancements in both the manufacturing and technology industries have been able to provide clinicians with unique combinations of garment materials and silicon-tinted textiles as well as specific grades of pressure and gradient pressure garments that accommodate the unique needs of the patient in order to provide optimal aesthetic and functional outcome. These advancements have also provided more durable and long-lasting treatment options to manage keloid and scar patients. However, a review of the most common treatment interventions and consensus among clinicians’ preferences was lacking in the literature.

A brief questionnaire was piloted in 2007 with two Occupational Therapists within Plastic / Burns units to determine the most common factors in the choice of hypertrophic and keloid scar management including burns and a subsequent mail survey was conducted among eight identified Plastic / Burns Unit in the UK.

A response rate of 65% was attained and related data is presented accordingly (Fig. 1).

**Demographics**

Table 1: Population Survey

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<td>Total Survey</td>
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<td>Survey Size</td>
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<td>Response Rate</td>
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Table 2:

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<td>Burns Unit</td>
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Table 3:

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Figure 1: Geographical representation of survey respondents

Figure 2: Disciplines responsible for providing scar management

Figure 3: Standardised assessment versus non-standardised

Figure 4: Primary scar treatment modalities used by clinicians

From the group of designated scar management professionals, 60% reported that they used some form of silicone sheeting and 25% reported using pressure garments to treat problem scarring. This was followed by topical silicone gel, silicone elastomer, padding and silicon tinted textiles (Fig. 4).

Clinical effectiveness with these particular treatment modalities shows the best outcomes are achieved with silicon gel sheet and pressure garments with all clinicians reporting having used this treatment modality. The use of silicon tinted insert material (Silic-TEX) in pressure garments was marginal at 25%, however, more than half of the Clinicians (64%) could not recall if they had used it in their clinical treatment or were unaware of it (Fig. 5).

Figure 5: Clinical effectiveness with different treatment modalities

Figure 6: Familiar manufacturer of pressure garments

Figure 7: Other scar modalities used by clinicians

Figure 8: Overall clinical treatment options on combination therapy for scar management

Figure 9: Do silicone textile inserts incorporated into pressure garments improve patient compliance and treatment outcomes?

**Conclusions**

The data foundings support the hypothesis that the most common option in the management of hypertrophic and keloid scars used by today’s clinicians employ combination therapy (85%) using an adjustable form of silicone sheeting and pressure garments. Interestingly notes that less than half of the clinicians polled used silicone insertable sheet (15%) in their pressure garments to achieve their optimal combination therapy treatment (Fig. 6). However, this group also reported that almost half (44%) observed that patient compliance increased with the use of pressure garments incorporating silicon tissue in comparison to other combination treatments (Fig. 6).

The use of combination therapy directly incorporated into the garment is recommended for many of the current difficulties associated with topically applied silicone gel. Several attempts to use gel or padding were used and found to be effective in improving patient compliance and scar management efficacy.

Further investigation is warranted to advance standardised treatment options for problem scarring and to examine the impact of combination therapy employing pressure garments with silicon textiles on patient compliance and scar management efficacy.

**Acknowledgements**

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**References**


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