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Golden Anniversary



**Employing A Cost Effective, Long Term
Solution To Scar Management and Splinting
Utilizing A Novel Silicone Impregnated
Splinting Material**

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Employing a Cost Effective, Long Term Solution to Scar Management and Splinting Utilizing a Novel Silicone Impregnated Splinting Material.¹

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Introduction: Effective burn scar management and splinting involves the use of pressure, silicone therapy and stretching. It is often a challenge for the burn therapist to employ these treatments in unison on difficult to manage anatomic locations and achieve good results. Additionally, applying the principles of splinting, pressure and silicone therapies separately can be very costly and difficult for the patient to comply with, resulting in poor compliance and outcomes.

Methods: At the 15th congress of the International Society for Burn Injuries, a poster was presented on a new splinting material has been developed that combines a low temperature, silicone impregnated thermoplastic (Silon-LTS[®]) which can be easily heated and formed over any body surface to address scar management and stretching. This material can be heated with both dry and wet heat and has a good thermoplastic memory ensuring that one piece can be almost entirely re-used to accommodate any ROM change over time. The translucent property of this material during the molding process provides clear visualization of the scar providing the clinician with direct scar treatment and measurement. The material was graded by experienced burn clinicians on a graphic scale representing 16 different contracture types where this material can be employed. Comparison was made to conventional silicone and thermoplastic materials commonly used in practice. A cost savings comparison of Silon-LTS[®] to similar materials demonstrating a cost/value analysis will be presented.

Results: The Silon-LTS[®] material performed as effectively or more effective in all 16 instances – the greater percentage of which showed that this material was actually more effective than the conventional treatment in providing continuous combination therapy. Even though the Silon-LTS[®] may have had a higher initial cost of use, over the entire scar treatment continuum the material was significantly more cost effective due to its outstanding strength and durability.

Conclusion: The Silon-LTS[®] demonstrates enhanced durability and performance in comparison to current scar management treatments. Although this material may have a higher initial cost, the overall cost per treatment is significantly less and should be considered as an alternative therapeutic intervention in managing difficult scar contractures. In addition, its unique characteristic of combining the effects of pressure, silicone therapy and stretching may be an adjunct in achieving the best outcomes in rehabilitation. The material should be considered a “value” when placing a long-term investment in rehabilitation outcomes.

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EMPLOYING A COST EFFECTIVE, LONG TERM SOLUTION TO SCAR MANAGEMENT AND SPLINTING UTILIZING A NOVEL SILICONE IMPREGNATED SPLINTING MATERIAL



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| Region of Contracture Potential | Approximate Materials Cost (USD) |
|---|----------------------------------|
| Face | |
| Lone Ranger Mask Silon-LTS – (4" x 6" Sheet) | \$ 22.00 |
| Elastomer | \$ 32.00 x 4 = \$ 120.00 |
| 1/6 Face Mask | |
| LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |
| Chin Cup Splint | |
| LTS – (4" x 6" Sheet) | \$ 22.00 |
| Splint material – 1 (4" x 6" sheet) | \$ 21.31 |
| Silicone sheet – 4" x 6" area | \$ 70.50 x 12 = \$ 846.00 |
| Mouth | |
| Cone Mouth Splint LTS – (4x6" Sheet) | \$ 22.00 |
| Splint material – 1 (4" x 6" sheet) | \$ 21.31 |
| Silicone sheet – 4" x 6" area | \$ 70.50 x 12 = \$ 846.00 |
| Neck | |
| Anterior Neck Splint LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |
| Elbow | |
| Elbow Extension Splint LTS – (4" x 6" Sheet) | \$ 22.00 |
| Splint material – 1 (4" x 6" sheet) | \$ 21.31 |
| Silicone sheet – 4" x 6" area | \$ 70.50 x 12 = \$ 846.00 |
| Wrist | |
| Wrist Extension Splint LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |
| Hand | |
| MCP Dorsal Blocking Splint LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |
| PIP Extension / Gutter Splint LTS – 1 (1" x 3" sheet) | \$ 1.74 |
| Splint material – 1 (1" x 3" sheet) | \$ 1.38 |
| Silicone sheet 1" x 3" area | \$ 32.25 x 12 = \$ 432.00 |
| Palmer Extension Splint LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |
| 1 st & 5 th Finger Palmar Contracture Splint LTS – (4" x 6" Sheet) | \$ 22.00 |
| Splint material – 1 (4" x 6" sheet) | \$ 21.31 |
| Silicone sheet – 4" x 6" area | \$ 70.50 x 12 = \$ 846.00 |
| 5 th Finger Anti-Deformity Splint LTS – (4" x 6" Sheet) | \$ 22.00 |
| Splint material – 1 (4" x 6" sheet) | \$ 21.31 |
| Silicone sheet – 4" x 6" area | \$ 70.50 x 12 = \$ 846.00 |
| Knee | |
| Anterior/Posterior Knee Extension Conformer LTS – 1 (9" x 12" sheet) | \$ 83.00 |
| Splint material – 1 (9" x 12" sheet) | \$ 33.47 |
| Silicone sheet – 9" x 12" area | \$ 140.00 x 12 = \$ 1680.00 |

Calculations based upon an average of 16 months of conventional therapy using silicone gel sheeting and/or splinting versus Silon-LTS®. Costs were averaged in USD according to published clinical pricing and product duration specified in the manufacturer's instructions for use.

Introduction:

Effective burn scar management and splinting involves the use of pressure, silicone therapy and stretching. It is often a challenge for the burn therapist to employ these treatments in unison on difficult to manage anatomic locations and achieve good results. Additionally, applying the principles of splinting, pressure and silicone therapies separately can be very costly and difficult for the patient to comply with, resulting in poor compliance and outcomes.

Methods:

A new splinting material has been developed that combines a low temperature, silicone impregnated thermoplastic (Silon-LTS®) which can be easily heated and formed over any body surface to address scar management and stretching. This material can be heated with both dry and wet heat and has a good thermoplastic memory ensuring that one piece can be almost entirely re-used to accommodate any ROM change over time. The translucent property of this material during the molding process allows a clear visualization of the scar providing the clinician with direct scar assessment. The material was graded by experienced burn clinicians on a graphic scale representing 16 different contracture types where this material can be employed. Comparison was made to conventional silicone and thermoplastic materials commonly used in practice. A cost savings comparison of Silon-LTS® to similar materials demonstrating a cost/value analysis was developed based on these clinical evaluations.

Results:

The Silon-LTS® material performed as effectively or more effective in all 16 instances – the greater percentage of which showed that this material was actually more effective than the conventional treatment in providing continuous combination therapy. Even though the Silon-LTS® may have had a higher initial cost of use, over the entire scar treatment continuum the material was significantly more cost effective due to its outstanding strength and durability.



Silon-LTS® Lone Ranger Mask; chin cup, and mouth splint



Comparison of treatment - pressure garment + silicone gel sheet vs. Silon-LTS® Dorsal wrist extension splint.



Silon-LTS® modified palmer extension splint

Conclusions:

The Silon-LTS® demonstrates enhanced durability and performance in comparison to current scar management treatments. Although this material may have a higher initial cost, the overall cost per treatment is significantly less and should be considered as an alternative therapeutic intervention in managing difficult scar contractures. In addition, its unique characteristic of combining the effects of pressure, silicone therapy and stretching may be an adjunct in achieving effective outcomes in rehabilitation. The material should be considered a "value" when placing a long-term investment in burn rehabilitation treatment.