

## Case Study: Silicone Gel Sheeting After Hand Burn

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**ABSTRACT:** Silicone gel sheeting has been used for some time to manage scars, including scars resulting from burns. This study was done to determine if silicone gel sheeting would affect the healing of a scar after deep first and deep second degree burns involving the left hand and forearm. Early results demonstrate improvement in healing of the second degree burn with no evidence of any contracture or hypertrophic scarring, good color matching of the skin and improved patient satisfaction.

**PROTOCOL:** This study was done as a pilot study to qualitatively determine if the application of silicone gel sheeting using the NewGel+ product can affect scar appearance after standard burn treatment and burn management. The 20-year-old female patient presented with a campfire injury and burns to her left hand with no other significant medical problems and no contraindications to the use of silicone gel with no previous sensitivity documented.

**PROCEDURE:** The first photo (Fig. 1), taken after the initial standard burn treatment and burn management, depicts a left hand and forearm with deep first and deep second degree burns involving the dorsum of the hand and forearm, the first webspace and the palmer surface of the hand. Also noticeable are several spots of third degree burns on the forearm. At this point, silicone gel sheeting was provided (NewGel+) and applied to the burn site. The patient was instructed to wear the silicone gel sheeting daily for a minimum of 8 hours per day.

**RESULTS:** After treatment of the hand and forearm for ten days with NewGel+, the patient was re-assessed with photos (See Fig.2) and clinical assessment. There was significant acceleration of healing. The third photo (See Fig. 3) was taken two months post NewGel+ application showing complete healing of the second degree burn with no evidence of any contracture or hypertrophic scarring over the dorsal surface of the hand and the first webspace with good color matching of the skin. Also noted was resolution of the third degree burn spots on the forearm.

**DISCUSSION:** Normal burn scars take an average of six to nine months to mature and blend with the adjacent skin. Also, deep second degree burns usually heal with scar contracture and hypertrophy, especially when it involves the dorsal surface of the hand, forearm and the first webspace. Silicone gel sheeting has had a beneficial effect on the cosmetic appearance of a post-burn scar in a patient with deep first degree and deep second degree burns involving the dorsum of the hand, forearm, first webspace and the palmer surface of the hand. This patient had no risk factors for abnormal healing and was otherwise healthy. The results seen at ten days post-treatment are somewhat surprising since one would not expect a dramatic change this early in the healing phase. Results seen after two months treatment show no evidence of scar contracture or hypertrophy, indicating a clinically significant effect from the application of silicone gel sheeting. Although the mechanism of action of silicone gel sheeting has yet to be determined, this pilot study clearly has demonstrated an improvement in scar appearance and patient satisfaction. This case study is encouraging and suggests that silicone gel sheeting can improve outcomes and patient satisfaction.

**CONCLUSION:** This case study has demonstrated significant improvement in the cosmetic outcome and the prevention of contracture often seen in scars resulting from deep first and deep second degree burns. Patient satisfaction has also been improved. Consideration may be given to the use of silicone gel sheeting in the treatment of scars resulting from such burns.



Fig1- March 26, 2009  
Before initiating scar treatment



Fig 2- April 5, 2009  
After 10 days of using 5"x6"  
silicone gel sheeting  
(Newmedical Technology)



Fig 3- June 2, 2009  
After 2 months of using  
the sheeting daily for a  
minimum of 8 hours