

## Therapeutic effects of silicone cushions on hypertrophic scars and keloids in Oriental

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Hypertrophic scars and keloids are elevated skin lesions that are caused by trauma, burns, or surgery, although the underlying pathogenic mechanisms remain to be fully elucidated. It is difficult to achieve a complete response with a single therapy: therefore, pathological scar treatment relies on combinations of multiple therapies, including topical administration of steroids, application of silicone material, oral tranilast, compression therapy, surgical treatment, and electron beam radiation therapy.

We describe the effects of treatment with silicone cushions for patients with hypertrophic scars and keloids. Silicone cushions consist of closed sheet packages made by bonding two 0.75 mm-thick silicone sheets that are filled with a silicone oil with a polymerization degree of 30,000 cP. Its terms of use include obtaining good contact with the affected area and application for as long as possible.

We observed that all patients with hypertrophic scars and keloids who were treated with silicone cushion exhibited improvement.

Notably, Perkins *et al.* showed in 1983 that silicone gel sheet applications improved a case of hypertrophic scar after burn injury. Somewhat later, Hirshowitz *et al.* showed in 1998 that silicone cushions effectively improved the clinical symptoms of hypertrophic scars and keloids. Interestingly, they also suggested that these effects are due to the negative charges generated on the cushion. When we measured the negative charge generated on silicone cushions and gel sheets, we found that the cushions have larger negative charges that reflect their greater clinical effects. Thus, negative charges may help reduce hypertrophic scars and keloids.