

## Newly Designed Garment Fabric to Prevent Hypertrophic Scar

Written by Tzu Chi Foundation

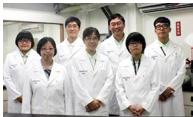
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To better treat burn survivor with hypertrophic scars, DA.AI research department trained over 100 Tzu Chi volunteers to participate in the “Pressure Garments Rehabilitation Project.” According to the Annals of Burns and Fire Disasters in December 2013, some authors noted the benefits of pressure garment with 5-15 mm Hg of pressure, while others claimed that pressure higher than 15 mm Hg is more effective. According to further research, a unified 20 to 30 mmHg pressure is recommended; this is above normal capillary pressure but less than that would compress peripheral blood circulation. With research data in hand and tools to measure pressure in between 5 ~ 25 mmHg, DA.AI worked with Tzu Chi volunteers to execute this project.

DA.AI conducted experiment on burn patients in 4 control/test groups, applying with a low 10-18 mmHg and a high 20-30 mmHg pressure on arms and legs. All volunteers were first trained to measure limb circumference, scar color, thickness, and other clinical appearances, then to obtain and calibrate pressure measurement in between scar and garment interface to see if fits consistently and perfectly on each individual. Spectrocolorimeter were used to measure scar redness, together with photo taking, to document scar color throughout recovery process. The main goal of this project is to determine the effectiveness of how pressure garments control burn patient’s hypertrophic scar recovery, and all data recorded not only helps patients participated throughout the experiment, but also benefits future ones as well.



Throughout careful and vigorous tests, DA.AI developed nine generations of functional fabric to Sunshine Rehabilitation Centers to be made into pressure garments. The final version not only provides a cool and ventilating feeling, but is also durable and flexible in maintaining consistent and perfect pressure value throughout different limb section. Hope DA.AI’s companionship and newly developed pressure fabric with heart can accompany these burn patients to overcome their long and difficult rehabilitation process.

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