A randomised controlled trial of ablative fractional CO2 laser and medical needling in children with burn scars

ACTRN12621000288820

Status	RECRUITING
Sponsor	The University of Queensland
Enrollment	70 participants

Plain Language Summary

Scarring from burns can cause lasting physical and emotional difficulties, particularly for children. Hypertrophic burn scars are thick, raised, and can restrict movement — affecting everyday activities and self-image. Two minimally invasive treatments have shown promise in improving scar tissue: ablative fractional CO2 laser therapy, which uses a laser to create tiny channels in the scar, and medical needling, which uses fine needles to create a similar effect. Both are thought to trigger the body's natural healing response and help remodel the scar tissue.

This study is the first rigorous clinical trial comparing these two treatments directly in children. Participants will be randomly assigned to receive either laser therapy or medical needling. To be eligible, children must be 18 or younger, have hypertrophic (raised, firm) burn scarring at least 6 months after the burn, and be able to attend treatment sessions at the study site. Children who have previously received laser or needling treatment, or who have active skin conditions like eczema, are not eligible.

The primary measure of success is the change in scar thickness as measured by ultrasound. The results of this trial will help burn care specialists and families choose the most effective treatment for children living with the long-term effects of burns.

Key Eligibility Criteria

Inclusion (3)

- Participants will be aged 18 years or younger at the time of recruitment and have:
- •Hypertrophic burn scarring of any size at 6-months or more post-burn with functional and/or cosmetic implications determined by patient-report on the Brisbane Burn Scar Impact Profile.
- •Able to attend the study sites for treatment and follow-up.

Exclusion (4)

- Participants will not be included if they have:
- •Previously received laser therapy or medical needling as part of treatment for their burn scars
- •Hypersensitivity to light/laser treatments as laser therapy would be contraindicated;
- •Co-morbid skin disorders (i.e., current eczema, dermatitis, skin cancer) as these could confound wound healing and scarring post-intervention.

Locations (1 total)

Queensland Children's Hospital - South Brisbane, QLD, Australia