

From Swelling to Smiles: A Pediatric Burn Case Study Using Compression Wrapping and Intraoral Rehabilitation Tools to Transform Recovery

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BACKGROUND

Facial burns in pediatric patients present complex clinical challenges due to unique anatomical, functional, and psychosocial considerations. (1,2)

This case study describes the presentation, management, and outcomes of a 14-year-old child who sustained partial and full-thickness burns affecting his face and both hands.

Upon admission, the patient exhibited significant gross facial periorbital edema including areas of superficial and deep partial-thickness burns, with no evidence of inhalation injury. In addition, the patient also had bilateral hand burns.

PURPOSE

This study aims to perform a systematic review of the comprehensive rehabilitation program at UMC Lions Burn Care and its effectiveness in addressing facial burns in pediatric patient.

METHODS

In collaboration with the Burn Care Medical team, directed by Dr. Nizamani, the rehabilitation team including Occupational and Speech therapies formulated program guidelines specifically for addressing facial burns. Consistent with current research in incorporation of self-adhesive wrapping for optimizing outcomes (3,4), the program aimed at a combination of methodologies to utilize wrapping with intra oral stretching and facial oral motor muscles training.

Early wound surgical mechanical debridement and the application of advanced dressings promoted re-epithelialization while minimizing the risk of infection. Early intervention along with a consistent rehabilitation program was established, giving special attention to preserving eyelid function, minimizing edema, maintaining oral motor and facial muscle competence, and preventing hypertrophic scarring and contractures of the face and hands. The use of self-adhesive wraps emerged as a practical adjunct therapy in treating superficial and partial-thickness burns in children.



Patient has expressed relief and satisfaction about the results and of his burn recovery.
"Am I still better looking than my brother?"

Intra oral tools are provided when self adherent wrapping is initiated by OT; facial areas are targeted. Coupled with active Oral/Facial exercises



RESULTS

Over a two-week treatment period, the patient showed progressive re-epithelialization, reduced dressing-related pain, and no evidence of maceration, compromised circulation, or secondary infection, resulting in improved overall healing and facial contouring. (see images)

This case emphasizes the importance of early assessment, coordinated multidisciplinary care, and individualized treatment strategies to optimize outcomes for pediatric facial hand burns.

The patient demonstrated a remarkable reduction in edema, significant functional outcomes and noticeable facial contouring without need for surgical STSG autograft. The range of motion for the face was within functional limits, and the patient & family reported increased satisfaction with the results.

This study presents that highly structured, early intervention and early collaboration between Occupational and Speech Therapy yielded optimal results; This is now the established standard of care for all facial burns in UMC Lions Burn Center both in pediatrics and adults.



UMC Trauma Burn Survivors luncheon at Caesar's Palace 2026

CONCLUSIONS

Self-adhesive wraps are an effective adjunct modality to occupational therapy OT. Collaboration with speech-language pathology for intraoral stretching exercises is crucial to the success of the facial burn treatment guidelines. This is now the established standard of care for all facial burns in UMC Lions Burn Center both in pediatrics and adults

REFERENCES

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