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## **Comprehensive Rehabilitation of a Paediatric Patient with Burn Injuries: A Case Study**

***Sneha Hiren Bhalala (PT)***

Assistant Professor  
SPB Physiotherapy College, Surat

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### **Introduction:**

Burn injuries are a significant cause of morbidity and mortality, particularly among pediatric populations. Deepak, a 6-year-old girl, suffered from burns due to an accident involving a candle at her home. This case study provides an overview of her comprehensive rehabilitation journey following the incident.

Deepak's initial presentation to the hospital involved superficial partial-thickness burns to her face and deep partial-thickness burns to her arm and chest, with some areas of deeper burns. The interdisciplinary team, including physical therapists, plastic surgeons, and occupational therapists, played a crucial role in her management from the early stages of injury assessment to postoperative care.

Following initial wound care and burn depth assessment, it was determined that Deepak required surgical intervention for full-thickness burns on her upper right chest and arm. The plastic surgeon opted for split-thickness skin grafting using her right thigh as the donor site. Immobilization with an airplane splint post-surgery was essential to protect the graft and maintain preoperative range of motion (ROM).

Rehabilitation efforts post-surgery focused on pain management, wound healing, and functional recovery. Deepak's progress was closely monitored, and she underwent active-assisted ROM exercises once deemed appropriate. Collaboration with occupational therapy facilitated activities of daily living (ADLs) and scar management.

This case highlights the importance of a multidisciplinary approach in pediatric burn rehabilitation, emphasizing the coordination between medical, surgical, and rehabilitation teams to optimize outcomes. Through a combination of surgical intervention and comprehensive rehabilitation strategies, Deepak's functional independence and quality of life were restored.

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### **Case Description:**

Deepak is a 6-year-old girl who was admitted to her local hospital following an accident at home. Deepak was leaning over a candle in her mom's bedroom when her braids caught fire and set her shirt on fire. Her mom put out the flames with a blanket and removed her shirt immediately, calling 101 in the process. Deepak received emergency care within minutes and was transported to the hospital. She was referred to physical therapy on post-burn day 1. Upon initial examination, she appeared to have superficial partial-thickness burns to her face and deep partial-thickness burns to her arm and chest, with some questionable areas of deeper burns on her right upper chest and arm. She received local wound care and ongoing burn depth estimation as structures evolved. On post-burn day 2, the areas at the upper right chest and upper right arm appeared to have a brown colouration and no capillary refill which did not cause her pain upon palpation. It was determined at that time that these areas were full-thickness injuries, and the plastic surgeon decided upon skin grafting. On post-burn day 6, she underwent excision of the eschar and split-thickness grafting with her right thigh as the donor site. She was immobilized in the operating room with an aeroplane splint to protect the graft from shearing as well as to maintain preoperative ROM. On postoperative day 5, the dressings were taken down with 100% graft take. She was allowed to mobilize on postoperative day 5, with pain limiting her right lower extremity ROM from the donor site. She required assistance with ambulating short distances. She remained in the airplane splint until postoperative day 7 when she began gentle active-assisted ROM exercises. She was discharged on postoperative day 8 to home, with follow-up therapy for ROM and scar management. She was also seen by an occupational therapist for ROM, splinting, and ADLs as well as compression garments.

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