

The Report of Early Physical Therapy for Burn Victims at Taiwan Color Play Asia party – One Medical Center Experience

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Background

Four hundred and ninety nine people was injured at an explosion with fire at a water park on 27th of June 2015. At first, fifty nine patients were sent to Tamsui branch of Mackay Memorial Hospital (MMH), and twenty four patients were sent to Taipei MMH. Fifty percentage patients had above 50% injured area. Therefore, 25 patients were admitted in Taipei MMH, and 26 patients in Tamsui branch of MMH.

Methods

15 Physical therapist started early intervention to those patients after evaluated by PT of Burn Center in 2~5 days.

Mean total body surface area (TBSA) of all patients are shown in Table 1.

Programs were divided to four stages:

- Acute stage: Range of motion (ROM) exercise, Pumping exercise, Positioning, Cardiopulmonary function maintain, and Cough training.
- Pre-grafting stage: ROM exercise, Stretching exercise, Strengthening exercise, Ambulation training, and Endurance training.
- Post-grafting stage: Stretching and Strengthening exercise, Ambulation training(Fig.1), Balance training(Fig.2), and Endurance training.
- Pre-discharge stage: Stretching exercise, Flexibility exercise, Conditioning exercise, Work hardening programs, and Family education.

Table 1.	Taipei	Tamsui
Patient's number	25	26
ICU	18	16
Ward	7	10
Mean TBSA of total patients	53%	48%
ICU	64%	62%
Ward	25%	25%
Depth	2 nd ~3 rd degree	2 nd ~3 rd degree

Case Report:

A 23 year-old male patient, TBSA: 86%, II~III degree, combined inhalation injury.



Time and Events	6/29	PT intervention once a day, 5~6 days per week
	PT first evaluation and intervention	7/8 Debridement(D)+ cover by cadaver skin 7/9 Patient can functional cough and dangling 5 minutes. 7/10 Extubation 7/11 1.Patient stood with walker, 15s, 3 repetitions. 2. To start eating in dangling, 30 mins, 2 sets/day. 7/12 Patient stood with walker, 1 minute, 3 repetitions. 7/13 Patient step with walker, 20 repetitions, 4 sets. 7/14 D+ splint thickness skin graft (STSG). 7/20 Splint thickness skin graft (STSG)+Cadaver skin. *Following the contraindication of STSG, so patients can't exercise over the new skin graft area. 7/27 Remove of staples (ROS) and change dressing (CD). PT restart to improve ROM and the functional level. 7/27~8/10 Patient from walking with walker to ambulation independently 2 cycles of burn center, and 2~3 sets/day. 8/10 Debridement(D) 8/11 Patient restart to walk with quadricane. 8/12~19 walking independently and simple ADL (drinking, toileting, dressing, and eating)can by himself. 8/19 D+STSG and 8/25 ROS+CD 8/26 Restart walking with contact guard, improve/maintain ROM, and prepare for discharge
Patient's condition:	Conscious: E4M6VE, but drowsy Ventilator: Endotracheal tube Sputum: Much quantity, black color, and thick fluid Edema: Severe swelling over total body Others: Eschartomy over four limbs on 6/27 ROM/Strength: Moderate limitation/ Fair	
PT program:	1. Cough and breathing exercise 2. Cardiopulmonary function maintain 3. AAROM exercise 4. Positioning 5. Family education on 7/3	Goal: 1. Improve cough ability 2. Improve breathing efficiency 3. Improve ROM 4. Improve functional ability 8/26: Discharge preparation

Results and Follow up

Twenty five patients were discharged from our hospitals, 4 patients were referral to other hospitals, and 1 patients was expired. All discharged patients went home by walking independently, ADLs (eating, drinking, dressing, and toileting) can perform independently or by minimal assistance. Twenty three patients are follow-up in the clinic.