# Impacting the Length of Stay of Burn Patients In the Emergency Department

## CONCLUSION

GUIDELINES AND ONGOING EDUCATION, IN CONJUCTION WITH EMPHASIZING THE IMPORTANCE OF HAVING AVAILABLE BEDS IN THE BURN UNIT, HAVE LED TO A DECREASE IN EMERGENCY DEPARTMENT LENGTH OF STAY (LOS) FOR BURN PATIENTS.

## RESULTS

### Trauma Team Activations with Burns

**Goal**: No more than 60 minutes in the ER for TTAs with associated burns in an attempt to decrease insensible losses, facilitate wound cares, begin resuscitation, and admit to BICU.

**Trauma Team Activations are required for Burns**:

I. Pre-hospital intubation or significant concerns for airway involvement.
II. Partial thickness burns >20% TBSA.
III. Concomitant trauma meeting Trauma Team Activation criteria.

- MICN/Transfer Center will notify Burn Unit with TTA suspected of or having burn involvement.
- Burn charge nurse to facilitate accommodations for BICU bed.
  - Assume all TTAs with burn involvement to require BICU status; warm room, dressings supplies gathered, etc.
- Trauma resident to notify Burn MD of patient after primary and secondary survey is complete to help facilitate triage.
- CT scans and emergent imaging completed prior to transfer to BICU. Imaging modalities are only needed for burns suspected of concomitant trauma in patients suspected of a fall/assault, involved in an explosion, high speed MVC, etc.
  - Implement warming measures, PIVs, and tube insertion.
  - DO NOT proceed with dressing cares or central line access while in ED.
  - Cover the patient with a dry warm sheet/bear hugger.
- Based on patients' hemodynamic stability patient transported directly to BICU room vs. shower cart vs. operating room.
- Burn resident to assess patient, write initial orders, fill out burn diagram, and contact on-call Burn MD.

### Burn Team Consult

**Goal:** Triage of burn patients in a timely manner, provide appropriate wound care, provide adequate pain control, provide education on therapy needs, and provide appropriate follow-up instructions.

**Burn Consult**: is determine by the EM resident or EM attending physician. The bedside nurse will be notified by the EM resident or EM attending physician to initiate a burn consult. The bedside RN will facilitate communication with the trauma team via the quick page unit in the emergency department. The burn team is required to respond within 60 minutes of notification.

- During the day (0730-1700) the patient will be evaluated by the burn team.
- During the night (1700-0730) and on weekends (Friday 1700- Monday 0730) the patient will be evaluated by the trauma team.

**Burn injury includes: thermal, chemical, electrical, inhalation injury, and/or friction injury from treadmill, conveyer belt, etc.**

- Burn resident evaluates patient and staff with Burn/Trauma attending.
- Burn resident identifies early patients that meet admission criteria and call the Burn Unit to prepare a bed.
- Burn resident or Burn charge nurse will apply/provide appropriate dressings for those patients appropriate for discharge.
- Burn team to write prescription for appropriate pain control on d/c.
- Burn clinic referral placed along with phone number to clinic provided.
- Patient to call Burn clinic the day after d/c to make appointment based on recs, usually within the next 5-7 days.

### Burn Team Response

**Goal:** Triage of burn patients in a timely manner in an attempt to decrease insensible losses, facilitate wound cares, provide adequate pain control, and admit to Burn Unit.

**Burn Response**: is used for any burn patient meeting ABA criteria for referral to a burn center. The bedside nurse will be notified by the EM resident or EM attending physician to initiate a burn response. The bedside RN will facilitate communication with the trauma team via the quick page unit in the emergency department. The burn team is required to respond within 30 minutes of notification.

- During the day (0730-1700) the patient will be evaluated by the burn team.
- During the night (1700-0730) and on weekends (Friday 1700- Monday 0730) the patient will be evaluated by the trauma team.

**ABA Burn Center Referral Guidelines:**

I. Partial thickness burns >10% total body surface area (TBSA).
II. Burns that involve the face, hands, feet, genitalia, perineum, or major joints.
III. Third degree burns in any age group.
IV. Electrical burns, including lightning injury.
V. Chemical burns.
VI. Inhalation injury/airway involvement.
VII. Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality.
VIII. Burn injury in patients who will require special social, emotional, or rehabilitative intervention. (i.e. potential non-accident trauma case)

## SIGNIFICANCE STATEMENT

Burn patients represent a challenging patient population and require early interventions. In the emergency department (ED) patients may experience hypothermia, delayed resuscitation, inadequate pain control, and delayed wound cares.

## DATA SOURCE/POPULATION

- Retrospective chart review of 144 patients who met trauma activation criteria from 2013-2019.
- ED LOS was 5.4 hours for burn stepdown, 4.3 hours for BICU, and 3.7 hours for those who went directly to the burn OR.
- In 2019, guidelines for burn activations, responses, and consultations were developed to mirror the activation criteria for a Level 1 trauma institution.
- ED nurses and physicians were educated on burn assessment, wound care, and the new triage guidelines with emphasis on the importance of early transfer out of the ED.

## LESSONS LEARNED

Several barriers to early transfer out of the ED were identified including:

- Lack of burn bed availability
- Lack of hospital cleaning staff on nights and weekends
- Difficult lateral transfers of non-burn patients out of the burn unit
- Lack of education on the importance of early interventions by nursing staff

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