

## **Clinical Protocol: Scene Transport of Severe Burn Victims from Maui County to Straub Benioff Medical Center**

**Objective:** This protocol outlines the process for aeromedical responder assessment and transport of severe burn victims directly from the **scene of injury** to the designated burn center at the **Straub Benioff Medical Center (SBMC)** on Oahu. The primary objective is to provide timely, specialized care while ensuring the patient's overall clinical needs are met. This protocol is intended for use in the pre-hospital setting and requires close coordination with hospital-based medical control.

**I. Initial Patient Assessment:** Upon arrival at the scene, the aeromedical responders will perform a rapid initial assessment of the patient to include:

- A. Age, gender, and estimated weight
- B. Mechanism injury
  - 1. Burn mechanism and circumstances (open flame, enclosed space, explosion, etc.)
  - 2. Other mechanisms of injury if present (fall from height, vehicle crash, assault, etc.)
- C. Assessment of the burn injury including:
  - 1. Burn anatomy: areas of body involved, including face, hands, feet, perineum and joints
  - 2. Burn depth estimation: superficial, partial thickness, full thickness, mixed
  - 3. Estimated total body surface area (TBSA) of burn injury using standard “rule of Nines” tool
  - 4. Presence of suspected airway burn or burn inhalation injury

**II. Medical Control Communication and Triage:** The aeromedical team’s lead responder will contact the medical control physician at the **Maui Memorial Medical Center (MMMC)** emergency department who will then triage the patient.

- A. The lead aeromedical responder will promptly communicate to the medical control physician the information listed in **Section I** above (“**Initial Patient Assessment**”).
- B. The medical control physician will determine suitability and appropriateness of direct aeromedical patient transport to the SMC versus transport to MMMC (see **Section III Burn Victim Scene Triage Criteria** below).

**III. Scene Triage Criteria and Aeromedical Transport Destinations:** Because the Straub Medical Center (SMC) is not a designated trauma center, *burn victims with significant non-burn*

*injuries should not be transferred there directly from the scene.* The criteria below will assist the medical control physician in appropriately triaging these patients to the most appropriate facility.

- A. Aeromedical transport of the patient directly from the scene to the SMC burn unit must meet all criteria below:
  - 1. The patient meets one or more American Burn Association criteria (see Appendix) for transfer to a burn center.
  - 2. The aeromedical team is able to secure a compromised airway. If the aeromedical team is not able to secure a compromised or potentially compromised airway, the patient will be transported as soon as possible to MMMC prior to transport to SBMC ED.
  - 3. The patient remains hypotensive after an initial rapid infusion of one liter of intravenous crystalloid.
  - 4. The patient was **not** subject to any additional, non-burn mechanisms of injury.
    - a. Occupant or rider of vehicular crash at any speed, or pedestrian struck by vehicle
    - b. Blunt or penetrating assault
    - c. Fall from greater than one meter
    - d. Blast / explosion mechanism
  - 5. The patient has **no** suspected or confirmed significant non-burn injuries.
    - a. Signs of facial trauma such as severe bruising, deep facial or scalp lacerations
    - b. Pupillary asymmetry or alteration in mental status not explainable by airway or lung burn injury
    - c. Extremity paralysis or weakness not explainable by burn
    - d. Suspected chest injuries including rib fractures or absent breath sounds
    - e. Suspected intra-abdominal injuries (e.g., abdominal distention, guarding).
    - f. Obvious fractures of the long bones (humerus, forearm, femur, tibia/fibula)
    - g. Skin lacerations with significant bleeding requiring either direct pressure or tourniquet control

B. Patients not meeting all of the above criteria should be transported to the MMMC for evaluation by the Trauma Service.

1. Subsequent transfer from MMMC to the burn unit at SMC may occur after direct communication between the MMMC trauma surgeon and the SBM burn surgeon.
2. In order to expedite high level burn care, the definitive management of non-burn injuries (e.g: some closed fractures) may be appropriately delayed until arrival at SMC but only with the expressed agreement by the SMC burn surgeon.

IV. **Approval for Burn Center Transport:** If the medical control dispatcher determines that the patient meets the inclusion criteria, they will notify SBMC ED of incident and proceed with standard burn care protocols and transport the patient via the most appropriate means to SBMC ED. Initial communication to SBMC ED to include potential number of inbound patients with estimated times of arrival.

V. **Denial of Burn Center Transport:** If the patient meets any of the exclusion criteria, the medical control dispatcher will deny the request for direct burn center transport. The dispatcher will instruct the first responders to prepare the patient for transport to the designated trauma center at MMMC. Air transport will be the preferred method for expedited transport to the trauma center, if available. The dispatcher will coordinate this air transport.

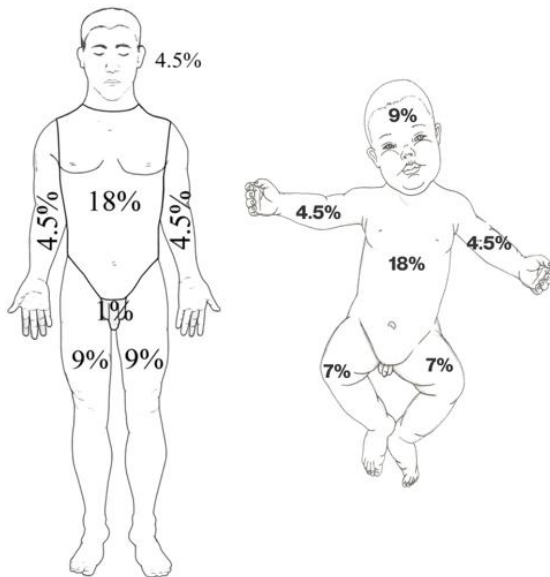
#### **Appendix 1: American Burn Association Guidelines for Patient Transfer to a Burn Center**

1. Thermal Burns
  - Full thickness burns
  - Partial thickness  $\geq 10\%$  TBSA\*
  - Any deep partial or full thickness burns involving the face, hands, genitalia, feet, perineum, or over any joints
  - Patients with burns and other comorbidities
  - Poorly controlled pain
2. Inhalation Injuries
3. Pediatrics (age < 15 yrs or weight < 30 kg)
4. Chemical Injuries
5. Electrical Injuries
  - All high voltage ( $\geq 1,000V$ ) electrical injuries
  - Lightning injury

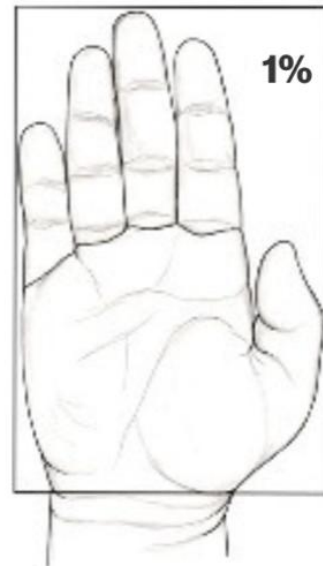
Source: <https://ameriburn.org/wp-content/uploads/2024/04/one-page-guidelines-for-burn-patient-referral-1.pdf>. accessed 9/23/2025

# Percentage Total Body Surface Area (TBSA)

## “RULE OF NINES”



## “PALMAR METHOD”



### **Appendix 2: Rule of Nines for Estimation of Total Body Surface Area**

Source: <https://ameriburn.org/resources/burnreferral/>. Accessed 09/23/2025