Burns

History
• Type of exposure (heat, gas or chemical)
• Inhalation injury
• Time of injury
• Other trauma
• Past medical history
• Medications

Signs and Symptoms
• Burns, pain, or swelling
• Dizziness
• Loss of consciousness
• Hypotension/shock
• Airway compromise or distress could be presented as hoarseness or wheezing

Differential
• Superficial – red and painful (do not include in TBSA)
• Partial thickness – blistering
• Full thickness – painless with charred or leathery skin
• Chemical injury
• Thermal injury
• Radiation injury
• Blast injury

Assess burn injury severity

Minor

< 20% TBSA partial or full thickness burns
No inhalation injury
GCS > 13

Remove rings, bracelets, and constricting items
Apply clean dressing to burn area
Consider, IV
Cardiac monitor
Normal Saline bolus
≤ 5 years – 125ml
6-13 years – 250ml
≥ 14 years – 500ml
For pain consider, Fentanyl
Trauma Triage if indicated
Transport to facility of choice. Consider transporting to Burn Center for burns to the face, hands, perineum, or feet and circumferential burns

Major

≥ 20% TBSA partial or full thickness burns, burns with suspected inhalation injury or high voltage electrical burns

Remove rings, bracelets, and constricting items
Apply clean dressing to burn area
Establish IV/IO
Consider, one large bore IV in each AC
Cardiac monitor
EtCO₂ monitoring
Normal Saline bolus
≤ 5 years – 125ml
6-13 years – 250ml
≥ 14 years – 500ml
For pain consider, Fentanyl
Trauma Triage if indicated
Transport to appropriate facility
Burns with trauma to Trauma Center
Burns only to Burn Center

Inhalation Injury if indicated

Approved Burn Receiving Centers
St. Francis – San Francisco
Valley Med. Center – San Jose
UC Davis – Sacramento

Normal Saline bolus
≤ 5 years – 125ml
6-13 years – 250ml
≥ 14 years – 500ml

For any burn injury to skin. For inhalation injury, use primary impression Inhalation Injury. Use with primary impression Traumatic Injury if other trauma present

For pain consider, Fentanyl

Effective April 2023

Treatment Protocol T06
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**Pearls**

- Airway burns may lead to rapid compromise of the airway and can be identified by soot around the nares or mouth or visible burns or edematous mucosa in the mouth.
- Early intubation is required when the patient experiences significant inhalation injuries. If the patient requires advanced airway management that cannot be quickly achieved in the field, transport to the nearest facility for stabilization prior to transfer to the Burn Center. Do not wait for a helicopter if airway patency is a critical concern.
- Contact Burn Center prior to transport to confirm bed availability.
- For major burns, do not apply wet dressings, liquids or gels to burns unless it is to remove whatever caused the burn (i.e. dry chemical agent, etc.). Cooling large burns may lead to hypothermia.
- Burn patients are often trauma patients. If burns are evident in the presence of trauma, follow trauma triage guidelines and transport to trauma center if activation criteria is met.
- Circumferential burns to extremities are dangerous due to potential vascular compromise secondary to soft tissue swelling.
- Never administer IM pain medication into a burned area.
- IV/IOs may be placed through burns as a last resort.

**Rule of Nines**

- Seldom will you find a complete isolated body part that is injured as described in the Rule of Nines. More likely, it will be portions of one area, portions of another, and an approximation will be needed.
- For the purpose of determining the extent of serious injury, differentiate the area with minimal (superficial) burn from those of partial or full thickness burns.
- When calculating TBSA of burns, include only partial and full thickness burns; do not include superficial burns in the calculation.

**Burn Assessment Terminology**

<table>
<thead>
<tr>
<th>Approved Terminology</th>
<th>Old Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial</td>
<td>1st degree</td>
</tr>
<tr>
<td>Partial thickness</td>
<td>2nd degree</td>
</tr>
<tr>
<td>Full thickness</td>
<td>3rd degree</td>
</tr>
</tbody>
</table>

Burn assessment should be documented and reported using only approved terminology.