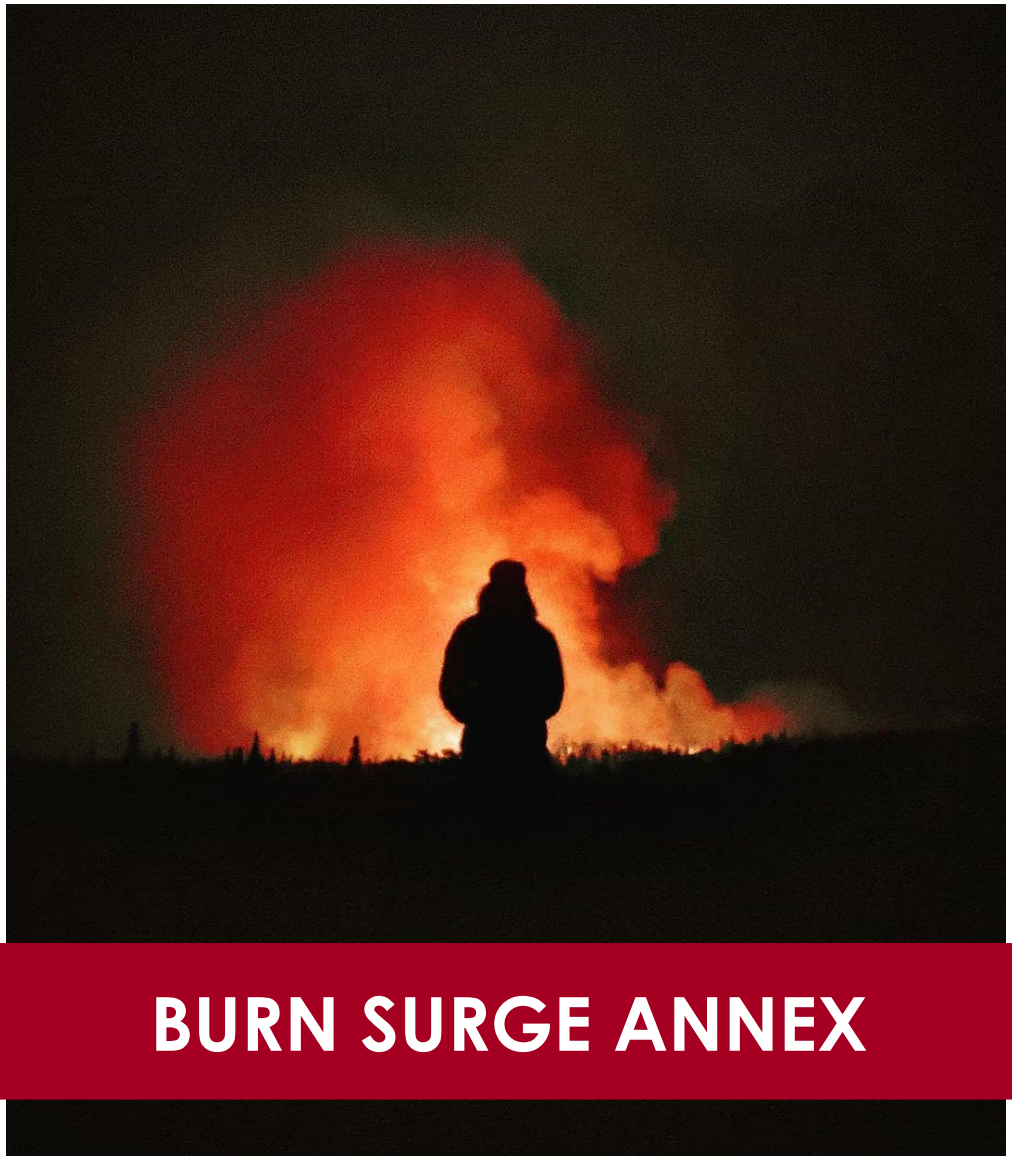
FINAL DRAFT

Updated: June 25th 2021

Southwest Utah Healthcare Preparedness Coalition



BURN SURGE ANNEX

Produced in cooperation with:

SOUTHWEST UTAH HEALTHCARE PREPAREDNESS COALITION
BURN SURGE ANNEX

Plan Date: June 25, 2021
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1. INTRODUCTION

A burn mass casualty incident, or BMCI, is defined as any incident where capacity and capability significantly compromises patient care, in accordance with individual Burn Center, local, state, regional or federal disaster response plans. Additionally, several smaller incidents within a locality or region may also amount to a burn mass casualty incident, if taxing on burn staff, facilities or resources. Burn care is limited, and in many cases only one Burn Center exists in a state or covering a large geographical area. In the state of Utah, only ONE burn center exists. A BMCI, therefore, is likely to exceed the resources of a single jurisdiction and will require surge measures in non-burn facilities and possibly engage a broad array of state, regional and national stakeholders, depending on the scope of the incident.

This plan is intended to be flexible to fit the needs of the response, covering all aspects of a tiered approach to response from the local level up to federal assistance as necessary. It contains guidelines for burn surge in the SWUHP coalition facilities, including resources for staff training and augmentation, supplies and equipment, and special considerations. The plan is created in accordance with federal guidance and requirements for all healthcare coalitions, and in alignment with the Western Region Burn Disaster Consortium Burn Mass Casualty Incident Concept of Operations Plan.

Federal guidance dictating the requirement for this Burn Surge Annex provides more detail on the need for the plan and what content should be included. The 2019-2023 HPP Funding Opportunity Announcement (FOA) requires Healthcare Coalitions (HCCs) to develop a complementary coalition-level Burn Annex to its base medical surge/trauma mass casualty response plan to improve capacity and capabilities to manage a large number of casualties. According to the 2017-2022 Health Care Preparedness and Response Capabilities, "All hospitals should be prepared to receive, stabilize, and manage burn patients. However, given the limited number of burn specialty hospitals, an emergency resulting in large numbers of burn patients may require HCC and ESF-8 lead agency involvement to ensure those patients who can most benefit from burn specialty services receive priority for transfer. Additionally, burn surgeons may be able to help identify patients who do not require burn center care and who are appropriate for transfer to other health care facilities" (Capability 4, Objective 2, Activity 6).

1.1 Purpose

This annex provides guidance to support a burn mass casualty incident (BMCI) in which the number and severity of burn patients exceeds the capability of SWUHP Coalition. The annex will identify the experts and specialized resources that exist within and external to the HCC that must be engaged in a mass burn response, and the mechanisms/processes that will be used to determine burn patient transfer to burn facilities when possible.
The goal is to ensure the highest standard of care possible for the greatest number of patients during an extreme burn surge event, with the following objectives:

- Plan and coordinate activations, notifications, logistics, and resources

- Recognize roles, responsibilities and organizational structure
- Solidify operations, including triage, treatment and transfer flow and support

1.2 Scope

This annex is intended for use by the SWUHP coalition to assist in providing coordination during a burn mass casualty incident. Resources for local and regional coordination, as well as non-burn facility support as they care for burn patients prior to transfer, is the primary focus.

This document is intended to support, not replace, existing policies and plans by providing uniform response considerations in the case of a BMCI. This plan will utilize existing command structures and communication protocols. Internal documents and policies that address specific organizational responses impacting BMCI will be provided to participating parties.

The response strategies and processes described herein do not supersede the authority of participating entities. The use of a coordination body is outlined in order to assist healthcare systems when overwhelmed, by leveraging resources and supplies to assist in caring for patients or transferring patients to other systems with specialty services.

1.3 Legal Authorities

The response strategies and processes described herein are not legally binding, and there is no legal obligation to participate. However, participation by hospitals, healthcare systems and their partners is encouraged to ensure the best possible patient outcomes for all those treated in the jurisdiction. Where possible, the plan leaves the majority of the decisions and processes up to the healthcare systems and transfer centers.

In addition to coalition level resources and response, the use of Utah MOCC or UDOH assets and the Western Region Burn Coordination Center is outlined in order to assist healthcare systems when overwhelmed, by leveraging state and/or regional resources and supplies to assist in caring for patients or transferring patients to other systems with excess capacity. The processes outlined for these entities do not supersede local or state protocols, and will be activated only as requested or required by the response.

1.4 Overview/Background of HCC and Situation

HCC Overview

The Southwest Utah Healthcare Preparedness Coalition (SWUHP) encompasses all healthcare organizations and facilities in Beaver, Kane, Garfield, Iron, and Washington counties. Total population of these five counties is about 256,000.

The SWUHP coalition includes the following member facilities and organizations:
Long-term care, skilled nursing, hospitals, county/city emergency management, health department, emergency medical services, and behavioral health.

In a Burn Mass Casualty Incident, the SWUHP Coalition would fulfill a supportive role. We will provide resources, supplies, and personnel as requested by coalition agencies.

Jurisdictional Risks for a Burn Mass Casualty Incident
The HCC's Hazard Vulnerability Analysis (HVA) and the local public health department's Jurisdictional Risk Assessment (JRA) notes the following fire-related incidents as possible or likely in our jurisdiction:
-earthquake
-bomb explosion
-drought
-wildfire
-gas leak
-wildfire
-temperature extremes (hot weather)
-hazmat
-transportation failure

Of these events, the most likely to occur are earthquakes with a risk of 50%, and hazmat incidents with a risk of 44% on the HVA. The potential impact of these events on the community and healthcare facilities is fairly high involving human impact and a possibility of death or injury.

HCC Burn Resources and Capabilities
Hospital beds
Transport capabilities (air & ground)

Refer to EEI for specific counts

Partners
Western Burn Coordination Center
U of U Burn center – Telemedicine Capable
Sunrise Hospital and Medical Center (Las Vegas)
Lions UMC Burn Center (Las Vegas)
Intermountain Telemedicine Services

1.5 Assumptions

The following assumptions provide the basis for the emergency response procedures outlined within this plan. It is expected that all participating facilities and supporting agencies are aware of and agree to the following:

- All hospitals providing emergency care may receive burn patients and should be able to provide initial assessment and stabilization.
- Due to rural geographic location hospitals may be expected to care for patients beyond initial stabilization and should have plans and resources for extended patient care.
- Care of critical burns is extremely resource intensive and requires specialized staff, expert advice, and critical care transportation assets.

- Severe burn patients often become clinically unstable within 24 hours of injury, complicating transfer plans after this time frame.
- It may be necessary to implement a Medical Operations Coordination Cell (MOCC) at the sub-state and/or state level in order to ensure contingency care strategies are utilized evenly by all healthcare facilities.
- The Western Region Burn Coordination Center will activate and operate as a regional-level MOCC in collaboration with applicable partners if local/state capabilities are overwhelmed and require assistance.
- Federal resources (e.g., ambulance contracts, National Disaster Medical Systems teams), though potentially available to assist, cannot be relied upon to mobilize and deploy for the first 72 hours.
- The American College of Surgeons Committee on Trauma (ACS-COT) Guidelines for the transfer of patients to a burn center may need to be modified in order to do the greatest good for the greatest number of patients (Guidelines can be found online here: Resources for the Optimal Care of a Burn Patient).

2. CONCEPT OF OPERATIONS

Medical Operations Coordination

Federal guidance advocates the use of one or more Medical Operations Coordination Cells (MOCC) to assist in an incident that overwhelms the capacity of hospitals in a given area. The following description of how a MOCC may provide needed coordination during an incident is from the Establishing Medical Operations Coordination Cells webinar, provided by the Assistant Secretary of Preparedness and Response's Technical Resources, Assistance Center, and Information Exchange (https://files.asprtracie.hhs.gov/documents/aspr-tracie-mocc-webinar--4-24-20-final-slides.pdf, pages 7-8):

- Some hospitals are overwhelmed with {burn} patients, while successful mitigation has created excess capacity in nearby hospitals, creating an opportunity to transfer patients
- MOCCs are a strategy to optimize patient distribution by augmenting EOCs with clinical experts that synthesize and coordinate healthcare capacity
- The MOCC strategy can be implemented nationwide (at sub-state, state-, and regional levels), permitting flexibility for states while optimizing patient distribution

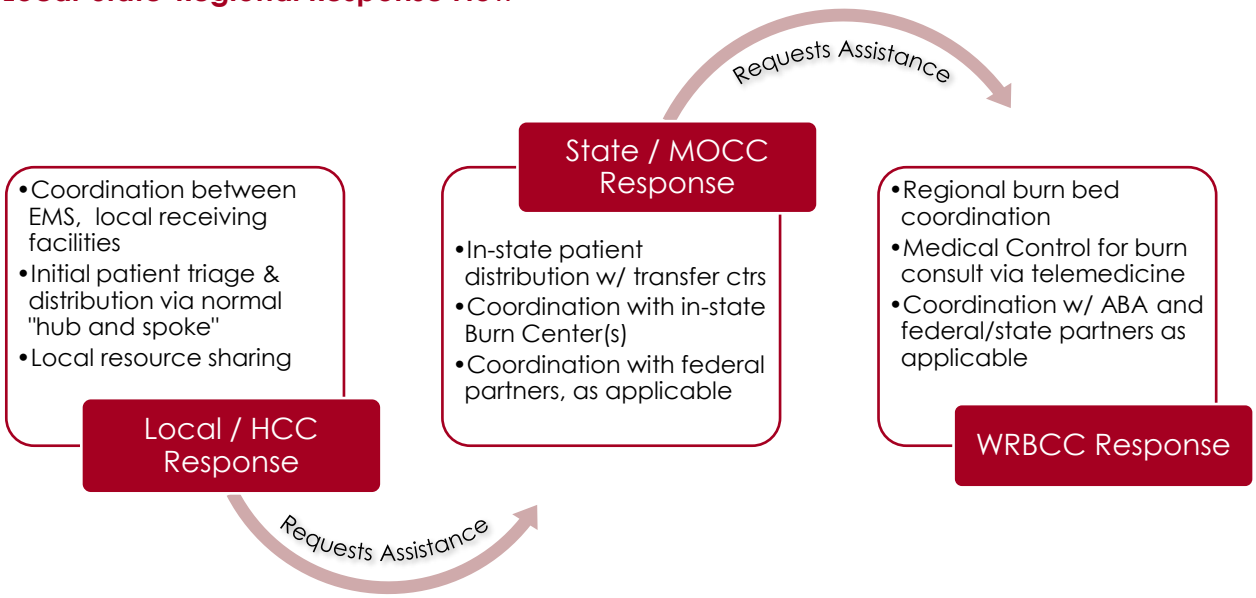
In order to meet the goal of best possible patient outcomes after a burn mass casualty incident, the SWUHP coalition, if overwhelmed and requiring assistance outside of the jurisdiction, will request state health representatives authorized to establish a Utah MOCC to help coordinate patient transfer and resource sharing. In turn, if assistance is required beyond the state level, the Western Region Burn Coordination Center (WRBCC) will be activated to provide regional-level response assistance. The following steps outline the potential flow of activations and response for a large burn mass casualty incident, in accordance with state laws governing response:

1. Mass casualty incident involving burns occurs, local 911 notified
2. Local EMS begins notifications, patient triage and distribution from incident scene per existing protocols and typical "hub and spoke" procedures. Local receiving

facilities notify HCC to assist with coordination and resource sharing as needed. Local emergency management would stand up EOC as needed.

3. If local response agencies and the HCC is overwhelmed, UDOH assistance is requested and a Utah MOCC or EOC or equivalent is activated to work with Transfer Centers to help inform in-state patient distribution and resource coordination. Use of in-state Burn Center(s) may be coordinated through this level of response, if not already involved.
4. If out of state assistance for patient care, burn bed availability, and/or resources is required, the Western Region Burn Coordination Center (WRBCC) may be activated. The WRBCC will work with the Utah MOC or equivalent for situational awareness, existing burn center telemedicine programs and appropriate patient transfer agencies in order to help facilitate appropriate transfer to regional burn beds for definitive care.

Local-State-Regional Response Flow



Additional details for activation, notification and roles and responsibilities of each level of the response are provided in the sections below.

2.1 Activation & Notifications

HCC Activation and Notifications

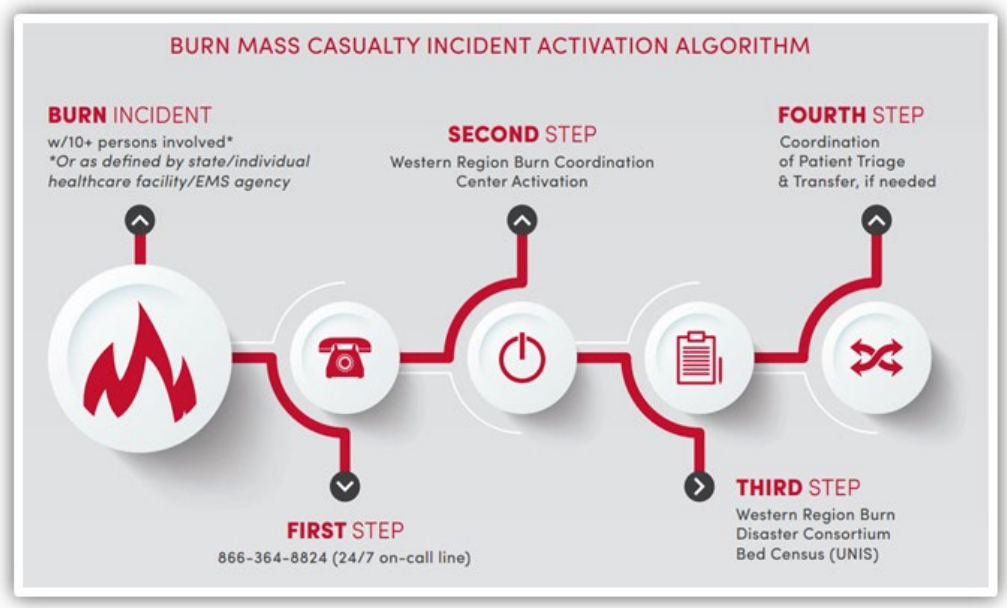
The Healthcare Coalition is notified of a Burn Mass Casualty incident by hospital or local emergency management. The HCC Burn Surge Annex is activated by following the activation and notification protocols listed in the General HCC Response Plan.

State Activation and Notifications

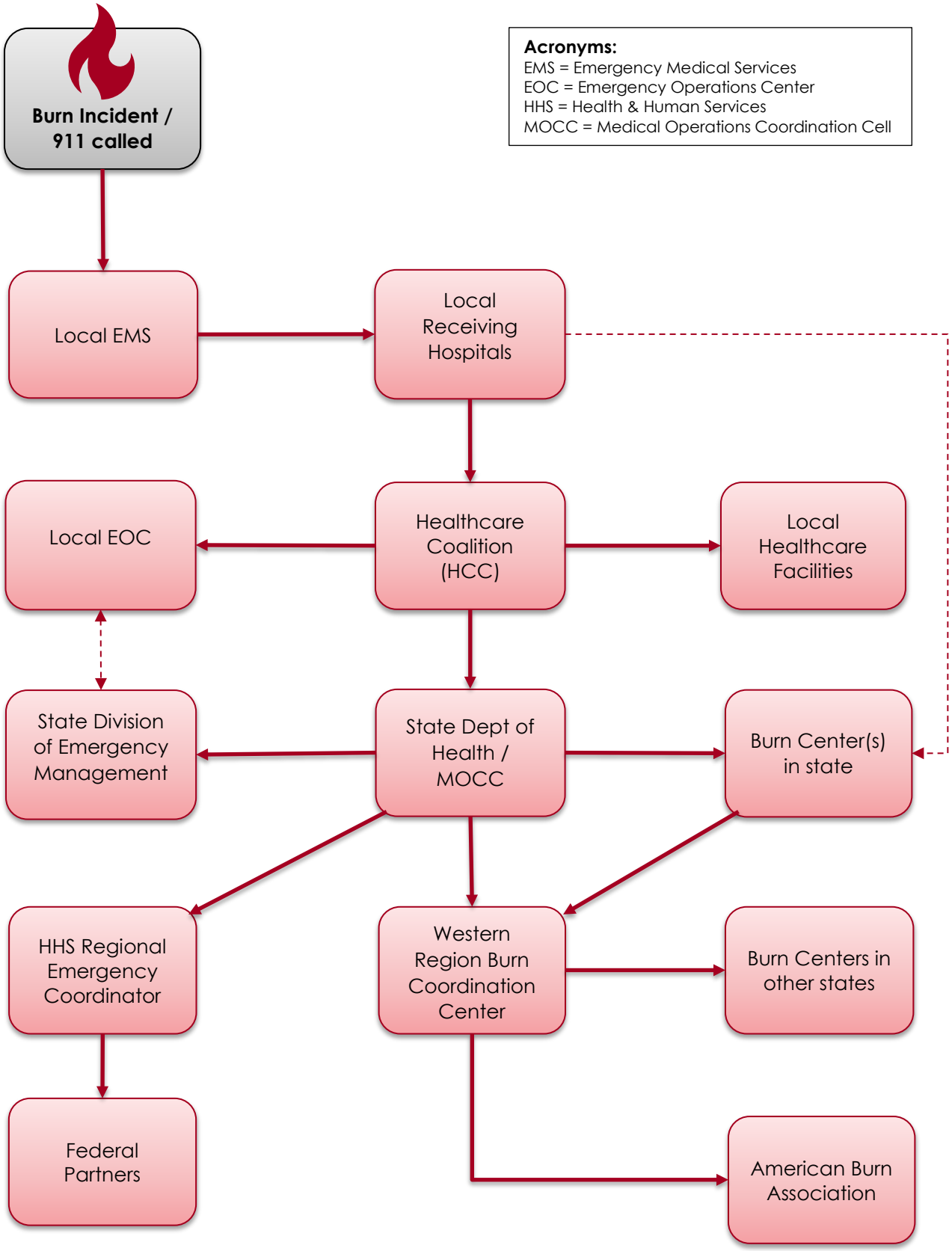
SWUHP coalition may notify UDOH operations center at 801-535-0113 or the disaster line 866-364-8824 to request state resources.

Regional Activation and Notifications

When a medical surge beyond local capacity is anticipated, the HCC or Burn Center will call the **Western Region Burn Disaster 24/7 Hotline at 866-364-8824**. Activating the WRBCC will immediately initiate a burn bed census for all Western Region Burn Centers to identify possible patient transfer destinations. The WRBCC also provides the opportunity for consultation with burn physicians via telemedicine, and other assistance as needed. The WRBDC Burn Mass Casualty Incident Operations Plan provides more details on the assistance that can be provided at the regional level. Below is the Activation Algorithm for the Western Burn Coordination Center.



Burn Incident Notification Flowchart



2.2 Roles and Responsibilities

Local organizations and agencies within the impacted jurisdiction will have primary responsibility for response, including initial triage and casualty distribution. Suggested response roles for local, state and national stakeholders and partner agencies are summarized in the following table. These roles were adapted from the ASPR TRACIE Mass Burn Event Overview.

Local / State / Regional / Federal Partners & Response Roles

PARTNER	RESPONSE ROLES
EMS Local Healthcare Coalition Healthcare Facilities Emergency Management (EM)	• Rescue, transport, and distribute casualties to appropriate local facilities in accordance with established • Request/mobilize any coalition/regional caches of burn supplies. • Activate coalition coordination mechanisms and any burn-specific plans. • Coordinate local lists of casualties and clinical information. • Triage/prioritize patients for forward movement to specialty centers in accordance with established BMCI protocols and /or expert input. • Coordinate with burn experts to determine appropriate destinations for patients that cannot be accommodated in the local healthcare system with assistance from state and ABA. • Assure that appropriate clinical information is relayed between the referring and receiving facilities during the transfer process. *Secondary Roles:* • Coordinate information with state/federal ABA partners.
Closest ABA Burn Center	• Provide patient care. • Activate facility and regional surge capacity plans to accommodate multiple patients. • Liaison between local response and regional ABA coordinating center. *Secondary Roles:* • Assist with patient triage for forward movement. • Support facilities providing care for burn patients in the area via telephone or telemedicine and/or request support from WRBDC coordination center. • Ensure burn surge facilities use existing resources (96 Hour Plan).
State PH/EM	• Support local jurisdiction with state-level coordination and requests for assistance (e.g., state and federal declarations). • Assure that patient triage, tracking, and transport needs are addressed. • Make requests for burn care assets, including dressings and other materials from the Strategic National Stockpile (SNS). • Engage Emergency Management Assistance Compact (EMAC) assets to provide inter-state support for transportation, staff, or other logistics. *Secondary Roles:* • Liaison between local, state and federal resources.

	● Support bed polling and matching functions as required in coordination with ABA regional center.
Sub-state/State MOCC or equivalent	● Optimize burn patient distribution and healthcare capacity by augmenting EOCs with clinical experts that assist with coordination ● Coordinate burn resource and supply needs between healthcare systems
Western Region Burn Coordination Center	As warranted and requested by the local response: ● Serve as the point of contact (POC) for the ABA system. ● Conduct bed polling initially and as needed within ABA region (and request assistance from adjacent regions as required). ● Assist the affected local burn center and state PH in determining appropriate patient destinations and transportations. ● Assist with the tracking of patient movement including arrival to destination centers. Provide updates as requested. ● Facilitate requests for tissue bank products, as well as graft equipment and other specialized supplies. ● In collaboration with state and regional partners, establish when the BMCI has concluded. ● Establish any post-incident system needs and initiate the AAR process. *Secondary Roles:* ● Assist with bed matching (right patient to right bed/facility, while being mindful of family units). ● Facilitate exchange of patient transfer information between referring and receiving facilities once patients are matched to destinations. ● Assist the affected local burn center and/or burn surge facility by providing expert advice or telemedicine as requested. Engagement of other WRBDC facilities will be imperative. ● Circulate / facilitate additional staff and supply needs as possible (e.g., notify regional facilities of specialized resource / staff requests that they may be able to assist with) in conjunction with affected communities and ASPR Regional Emergency Coordinator (REC). ● Provide situational awareness to all appropriate agencies.
ABA National Headquarters	● Provide expertise and advice on request from a member center. *Secondary Roles:* ● Provide expertise and advice to inform the federal response.
Health & Human Services / Assistant Secretary for Preparedness & Response (HHS/ASPR)	● Provide federal support to local and state activities as requested/ authorized under the National Response Framework including supplies, staff, and transportation assistance through the Federal Coordinating Officer (FCO) appointed to the State for the incident. ● Coordinate approved use of National Disaster Medical System (NDMS) personnel or transportation assets. *Secondary Roles:* ● Coordinate information and access to burn expertise during BMCI. ● Support/assist states and ABA information and system needs (e.g., bed polling/data management).

2.3 Logistics

Refer to the SWUHP Coalition General Response Plan.

2.3.1 Space

Refer to the SWUHP Coalition General Response Plan.
Current burn bed count availability can be requested from the WRBDC.

2.3.2 Staff

Burn Care Training Resources

Prior to a BMCI, the SWUHP coalition will ensure that all member facilities have access to training for staff on The *Prolonged Care of the Burn Patient in a Non-Burn Facility Following a Mass Casualty Incident* (also known as the 96 *Hour Plan*). This collection of training modules and quick-reference response guides was created in response to ASPR's mandate that all HPP funded facilities are required to be able to provide care to a burn patient for up to 96 hours. The E-learning Modules and Quick Reference Guides include Initial Assessment and Management, Patient Care during 0-48 and 48-96 hour intervals, and Transfer and Transport of patients. (Guidelines found in the WRBDC Burn Mass Casualty Operations Plan, page 44-60). If just in time training is required, the Burn Crisis Standards of Care Guidelines, Hospital Burn Management Algorithm (Appendix F) and Burn Injury Guidelines for Care Second Addition (Appendix G) can be used. Additional resources are found on the Burn Resources Table in the Appendix of this document.

ICU Augmentation

Immediately following a BMCI, HCC leadership and members should develop strategies for ICU augmentation in the region, such as the following:

- All hospitals should redeploy staff into emergency room, ICU and transport roles and utilize existing resources and just in time training to assist with patient management.
- All non-burn-receiving facilities should begin to enact alternative ICU strategies contained in their emergency operations plans to expand ICU capacity and capabilities.
- Remote training and outreach resources should maintain focus on supporting mass burn casualties across the state in expanding ICU capacity and capability and preparing staff to function in critical care roles.

Rural Clinical Care Strategies

The Utah MOCC or equivalent and/or WRBCC can provide support to rural healthcare providers to increase their ability to care for burn victims by:

- Maximizing existing real-time telehealth-based provider support for critical care,
- Providing healthcare providers with clinical support and training on key considerations in burn care, and
- Assisting with discharge criteria, outpatient management and after care programming.

2.3.3 Supplies

Burn Supplies

The SWUHP coalition will work with all non-burn facilities to ensure they are aware of and assist with access to the supplies and equipment necessary for the treatment of a burn patient, as found in the Wound Care Supply Guideline for Burns (p. 43) and the Pediatric Equipment and Supplies list (p. 61). Please note that these lists are not exhaustive and are meant to be a supplement to standard supply cart items and personal protective equipment a facility would typically provide.

Resource Request Coordination

Hospitals encountering a need for burn care resources will first attempt to acquire the needed item(s) using their normal or emergency procurement methods. This can be done in collaboration with state, regional, and federal partners and in accordance with existing MOUs. The WRBCC may assist in acquiring scarce or specialized resources when necessary. The following process will be followed to ensure a locally-driven response, with support as needed in a tiered approach.

Tiered Resource Request Process:

1. *Healthcare Facility / System* – when an unmet resource need exists, the facility will first utilize existing channels within its hospital system to acquire the needed item(s). If the system cannot meet the request, the local jurisdiction ESF 8 desk and/or regional healthcare coalition coordinator (HCC) should be notified.

2. *Local ESF 8 / State ESF 8* – Local ESF 8/HCC will initiate efforts to obtain the needed item(s) by contacting facilities in their jurisdiction. If unmet, the request is then sent to the State ESF 8. ESF 8 and/or healthcare coalition coordinators will make arrangements for any available resources to be sent to the requesting facility. Note that scarcity of resources may prompt prioritization recommendations to be established by local and state health officials, shared with hospitals through disaster communication channels.

3. *Regional WRBCC* – if the resource need is unable to be met from the healthcare system or from healthcare coalitions or local and state emergency support, the facility may request resource assistance from the WRBCC. The WRBCC will assist in identifying another facility that is able to provide the resource. The requesting facility is responsible for completing any necessary paperwork, and will work with the WRBCC to coordinate transportation of the resource. In the event that region-wide resources are scarce or unavailable, including tissue bank products and specialized supplies, the WRBCC task force will

convene to discuss available options and recommendations, in conjunction with ABA personnel.

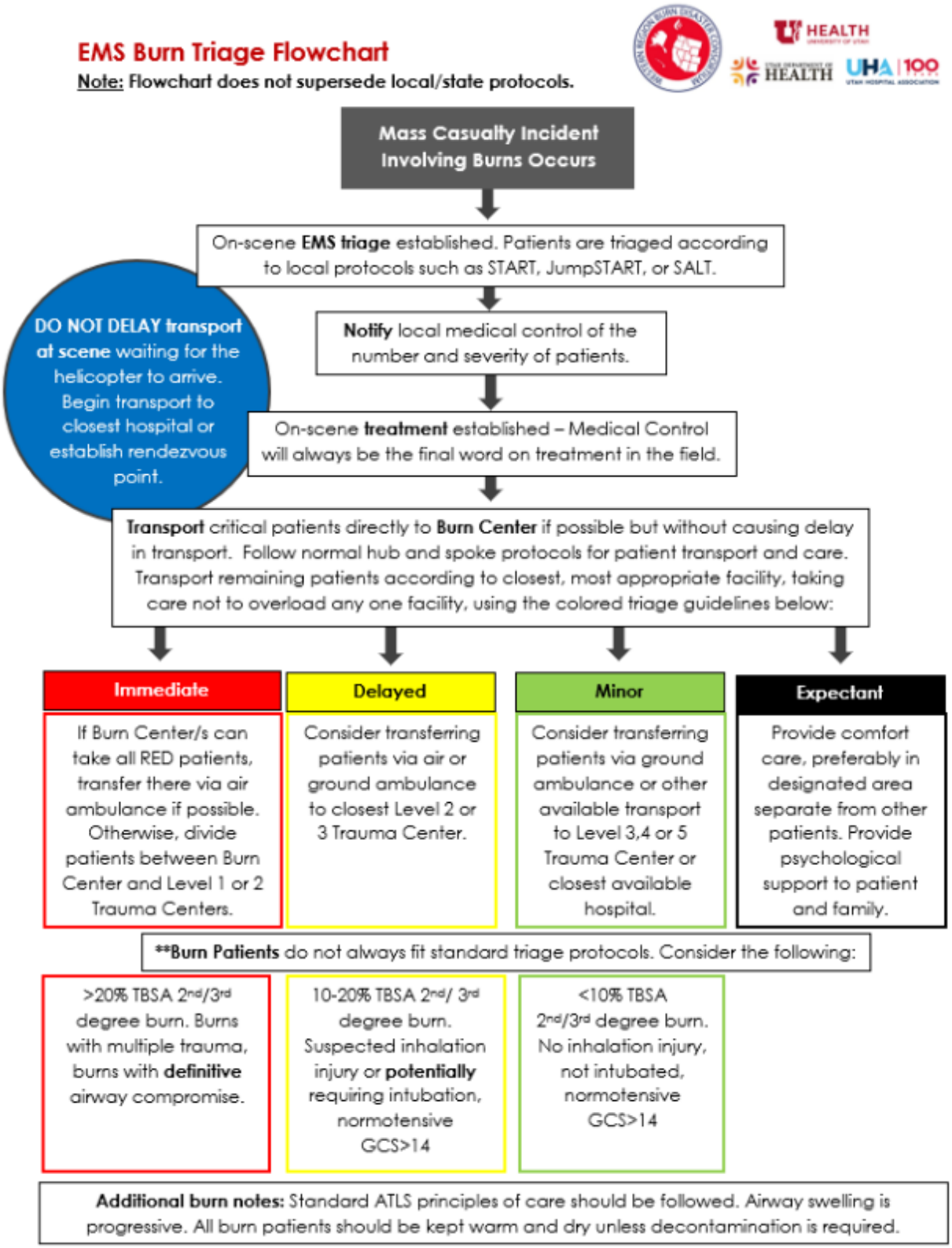
2.4 Operations - Medical Care

2.4.1 Triage & Secondary Triage

The impacted healthcare organizations will immediately begin triage and treatment according to organizational and local protocols.

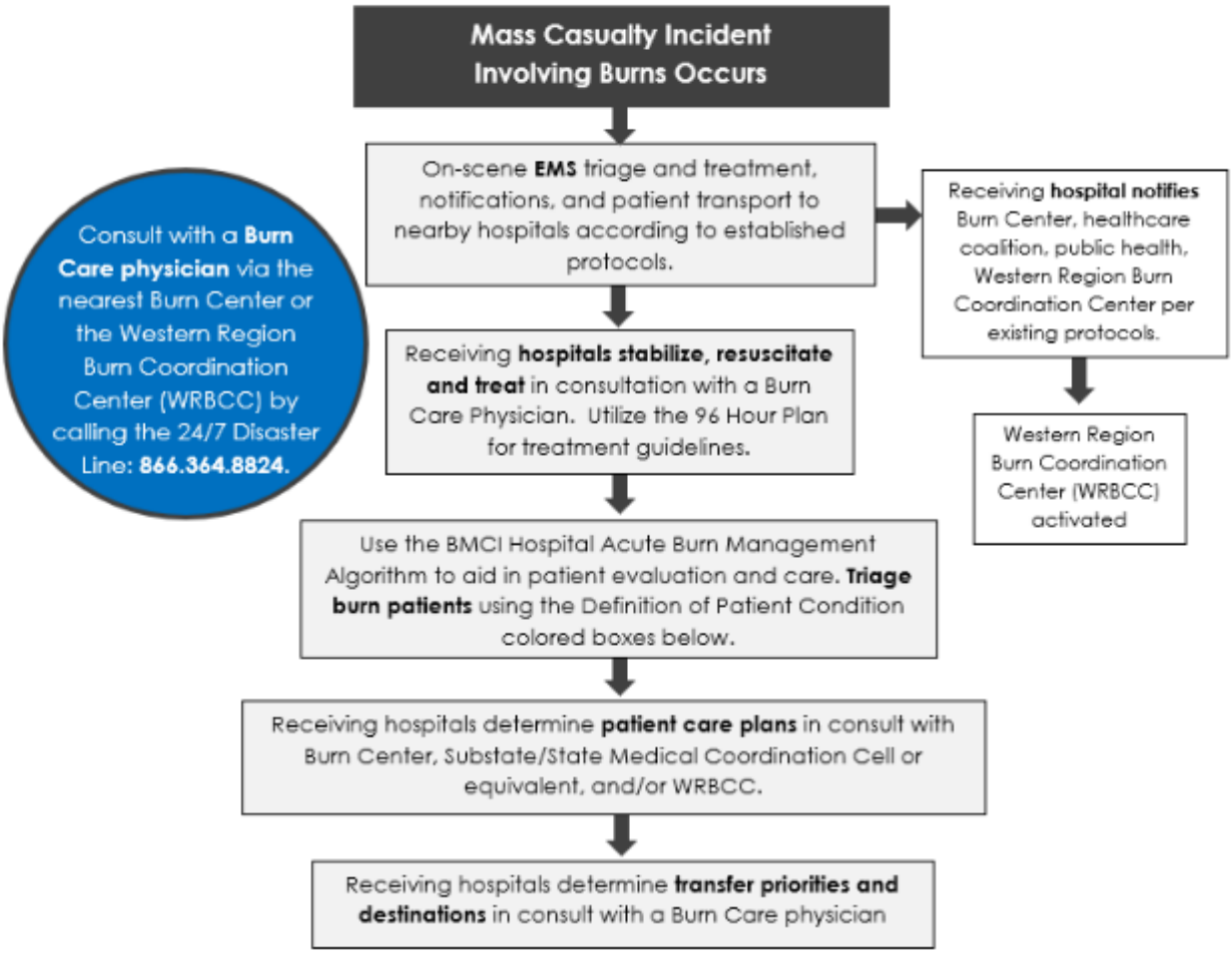
A description of the hospitals in the Southwest Utah region including their trauma level and ability to care for burn patients, is listed in the Regional Hospital Tier Designations for a BMCI table found in the Appendix.

The EMS and Hospital Triage Flowcharts on the following pages show the flow of response from initial on-scene triage to hospital re-triage, including burn specific considerations.


EMS Burn Triage Flowchart
Note: Flowchart does not supersede local/state protocols.
Mass Casualty Incident Involving Burns Occurs
On-scene EMS triage established. Patients are triaged according to local protocols such as START, JumpSTART, or SALT.
Notify local medical control of the number and severity of patients.
On-scene treatment established – Medical Control will always be the final word on treatment in the field.
DO NOT DELAY transport at scene waiting for the helicopter to arrive. Begin transport to closest hospital or establish rendezvous point.
Transport critical patients directly to Burn Center if possible but without causing delay in transport. Follow normal hub and spoke protocols for patient transport and care. Transport remaining patients according to closest, most appropriate facility, taking care not to overload any one facility, using the colored triage guidelines below:
Immediate
If Burn Center/s can take all RED patients, transfer there via air ambulance if possible. Otherwise, divide patients between Burn Center and Level 1 or 2 Trauma Centers.
Delayed
Consider transferring patients via air or ground ambulance to closest Level 2 or 3 Trauma Center.
Minor
Consider transferring patients via ground ambulance or other available transport to Level 3,4 or 5 Trauma Center or closest available hospital.
Expectant
Provide comfort care, preferably in designated area separate from other patients. Provide psychological support to patient and family.
**Burn Patients do not always fit standard triage protocols. Consider the following:
>20% TBSA 2nd/3rd degree burn. Burns with multiple trauma, burns with definitive airway compromise.
10-20% TBSA 2nd/ 3rd degree burn. Suspected inhalation injury or potentially requiring intubation, normotensive GCS>14
<10% TBSA 2nd/3rd degree burn. No inhalation injury, not intubated, normotensive GCS>14
Additional burn notes: Standard ATLS principles of care should be followed. Airway swelling is progressive. All burn patients should be kept warm and dry unless decontamination is required.

Hospital Burn Patient Triage Flowchart

Note: Flowchart does not supersede local/state protocols



Patient Triage Definition:

Immediate/Critical	Delayed/Serious	Minor	Pediatric
>20% TBSA 2nd/3rd degree burn. Burns with multiple trauma, burns with **definitive** airway compromise.	10-20% TBSA 2nd/ 3rd degree burn. Suspected inhalation injury or **potentially** requiring intubation, normotensive GCS>14	<10% TBSA 2nd/3rd degree burn. No inhalation injury, not intubated, normotensive GCS>14	Pediatrics are defined as anyone under the age of 15 years

****Priority Patients:** Immediate/critical patients with a head injury should be transferred to a level 1 or level 2 trauma facility as soon as possible.

Burn Patient Transfer Decision

The decision to transfer a patient to another facility for definitive care is complex, and relies on consideration of a number of factors to determine which patient is transported to which facility, and when. The Burn Patient Transfer Decision Flowchart (Appendix), developed by the WRBDC with partners, can guide non-burn hospitals in making transport decisions, in collaboration with a Burn Physician from either a nearby Burn Center or the Western Region Burn Coordination Center.

If a Burn Center or non-burn facility within the jurisdiction requires patient transfer to a Burn Center with available burn beds, the Utah MOCC or WRBCC can assist with determining appropriate patient destinations, transportations and patient documentation and tracking, and coordinate these needs between the referring and receiving facilities.

Burn Center Referral Criteria

(Access the American Burn Association's document online here):

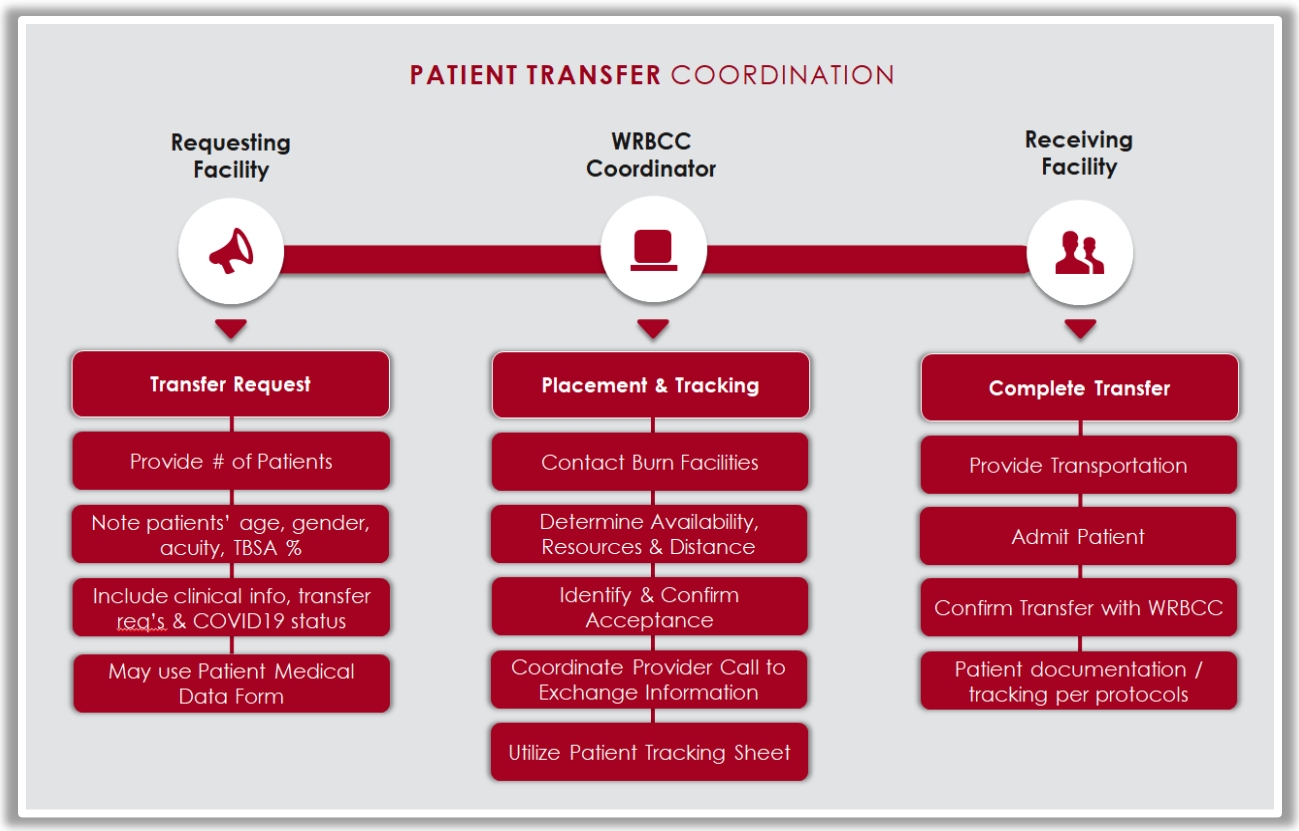
1. Partial thickness burns greater than 10% TBSA.
2. Burns that involve the face, hands, feet, genitalia, perineum, or major joints.
3. Full thickness (third degree) burns in any age group.
4. Electrical burns, including lightning injury.
5. Chemical burns.
6. Inhalation injury.
7. Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality.
8. Any patient with burns and concomitant trauma (such as fractures) in which the burn injury poses greatest risk, the patient may be initially stabilized in a trauma center before being transferred to a burn unit. Physician judgement will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols.
9. Burned children in hospital without qualified personnel or equipment for the care workers.
10. Burn injury in patient who will require special social, emotional, or rehabilitative intervention.

Patient Transfer Checklist

Use the *Burn Patient Transfer Checklist* included in the Appendix to prepare, package and transport patients who have been identified for transfer to a Burn or Trauma Center.

Patient Transfer Coordination

The Patient Transfer Coordination chart following depicts how the WRBCC can be activated to assist in patient transfer to definitive care.



2.4.2 Treatment

The Appendix includes the BMCI Hospital Acute Burn Management Algorithm that outlines the process for intial treatment and care of a burn patient with detailed care instructions. Also included on the algorithm is contact information for the U of U Burn Center, Lions UMC Burn Center, and Sunrise Burn Center to use for burn care consult and possible patient transfer.

2.5 Special Considerations

The following section contains considerations for special populations and special situations, including behavioral health concerns, pediatric patients, combined injuries, and crisis standards of care.

2.5.1 Behavioral Health

Burn Survivor Mental Health

Given the nature and scope of a burn mass casualty incident, it can be expected that a number of those who witnessed, were injured by, or responded to the event will experience some mental trauma in relation to the incident. Research about trauma in burn survivors indicates that "experiencing some post-traumatic stress symptoms immediately following a burn trauma is normal." "According to the literature, 3%-58% of burns survivors develop PTSD symptoms and about 50% of them report suffering from at least one of the items on the [Post-Traumatic Stress Disorder Checklist]". *(Reference: Ehde, D.M., Patterson, D.R., Wiechman, S.A., Wilson, L.G. Post-Traumatic stress symptoms and distress following acute burn injury. Burns. 1999;25:587-592.)*

The National Institute for Mental Health strongly recommends a thorough psychosocial screen following trauma exposure to help identify individuals at risk for PTSD. Clinicians need to be aware of and utilize a trauma-informed approach, beginning with creating a sense of safety through education about what to expect, orientation to their care team and unit, and reconnection to known coping tools and support systems. It is also important to note that in addition to traumatic stress, many burn victims also deal with grief from loss (of a home, a loved one, a limb, etc.) and fear that something like this may happen again, and that they have little ability to predict or prevent it.

Mental Health Screening and Treatment. The SWUHP coalition will follow psychological first aid protocols and request additional help from the mental health response team and/or Southwest Behavioral Health Center. The Southwest Behavioral Health Center may work with member facilities to be prepared to identify and appropriately respond to potential mental health concerns in their patients, patients' families, and their staff.

Resources and/or training in Psychological First Aid by HCC member facilities is advocated to help clinicians and emergency response workers understand the victim's world view, project a sense of calm, normalize feelings and reactions, provide information needed to de-escalate acute distress and provide information on "next steps" to take. The WRBDC CONOPS Plan includes Behavioral Health Tips & Resources (page 63), containing brief suggestions and several resources for Psychological First Aid and Aftercare Support.

SWUHP coalition facilities will support burn victims treated in the jurisdiction receive mental health screening and treatment in accordance with these recommendations, and will provide information for available burn survivor support and after care programming in the Southwest Utah region. National-level burn survivor support resources through the American Burn Association may also be provided, accessed online at: ABA Burn Survivor Resources.

2.5.2 Pediatric

It is critical that healthcare facilities, including burn and non-burn centers, have the education and resources necessary to assess and treat pediatric patients. A general planning figure is to assume that a minimum of 25% of victims from any mass casualty incident will be children.

The SWUHP Coalition Pediatric Annex includes detailed information on pediatric care and planning at the coalition level, and can be accessed here.

General Planning Aides. The Appendix includes guidelines for Helping Children and Adolescents During a Disaster. Accessible online for HCC member facilities is the PedsReady Emergency Department Checklist, with a goal to ensure emergency departments are set up to appropriately care for the pediatric patient. It is additionally recommended that HCC members take the online FEMA Independent Study course, IS-366: Planning for the Needs of Children in Disasters.

Pediatric Burn Treatment & Supplies. The Appendix contains an excerpt of the Burn Crisis Standards of Care that includes useful information in treating pediatric and adult burn patients. The Burn Crisis Standards of Care is a comprehensive resource for pediatric and adult burn patients that includes initial care and management across a range of available resources and conditions. These resources are accessed online under the "Burn Guidelines" tab.

The Western Region Burn Coordination Center will be available to assist in coordinating real-time telemedicine support from pediatric and burn specialty physicians. Where telemedicine is not available, image sharing, and provider-to-provider discussions can be used to assist in caring for a pediatric burn patient. The Western Region Burn Mass Casualty Operations Plan includes the following resources:

- Pediatric burn patient considerations (page 17)
- Pediatric Rule of Nines for calculation of total burn surface area (page 47)
- Pediatric Planning Recommendations (page 60)
- Pediatric Equipment and Supplies (page 61)
- Pediatric Psychological First Aid (page 65)

Additionally, the Western Regional Alliance for Pediatric Emergency Management (WRAP-EM) has an extensive collection of pediatric resources available online. Among these is a new resource for pediatric behavioral health, Psychological Simple Treatment and Rapid Triage (PsyStart). This system offers real-time triage and case management for children affected by disaster. Contact Dr. Merritt Schreiber at m.schreiber@ucla.edu to access the system.

2.5.3 Combined Injury

Combined injuries will be addressed and treated according to facility and agency protocols. Specialty resources will be requested as needed.

2.5.4 Crisis Standards of Care (CSC)

An overwhelming public health emergency, such as a burn mass casualty incident, may greatly impact the availability of appropriate hospital beds, staff and resources. Providers may not be able to provide the same level of care that they otherwise would like to, given shortages or other difficulties resulting from the disaster. The Burn Disaster Crisis Standards of Care Guidelines were created to guide the allocation of patient care resources and assist with patient care priorities during such an event. Guidelines are available for both the adult and pediatric patient, and can be found online under the "Burn Guidelines" tab. Application of these resources and guidelines will depend on physician judgment at the point of patient care or regional CSC decision-making bodies if activated.

2.6 Transportation

A significant limiting factor in a regional response may be the availability of emergency medical services transport (ambulances). EMS support and coordination is essential to the logistical goals of this effort. Note that patient transfer coordination will include step-down transfers and assistance to local authorities as needed for family reunification

efforts. Patient movement will occur in accordance with local protocols and in collaboration with appropriate state, national, and federal agencies. To expedite safe, efficient and appropriate transfer of burn patients, the local transport agencies should consider the following guidelines.

Burn Patient Transportation Guidelines

- Whenever possible an Advanced Life Support (ALS)/critical care capable vehicle shall be used to transport a critical burn patient.
- Hospitals needing to transfer patients to a local Burn or Trauma Center should employ their normal EMS transport contracts.
- An individual facility may make arrangements directly or request assistance from local ESF 8, regional Healthcare Coalition (HCC), according to local emergency management plans and protocols.
- The SWUHP Coalition in collaboration with the local emergency operations center (EOC) where applicable will utilize internal policies and procedures to solicit assistance from private sector EMS, and public safety Fire and EMS for immediate help.
- If local transport resources have been exhausted, and/or if patient(s) need to be transported to another state within or outside of the region, transport requests can be made directly to the Utah MOCC or WRBCC.
- Prior to transporting any patients, facility acceptance for the patient(s) should be confirmed by the Utah MOCC or WRBCC.
- The requesting facility will notify the Utah MOCC or WRBCC of what transportation arrangements have been made.
- Aeromedical transports from facilities or scenes will be used when available, applicable and as weather permits. Local processes will be followed.

2.7 Tracking

Healthcare facilities should follow local routine and/or disaster protocols for tracking patient movement within their hospital system.

More uncommon patient movement, including transfers from a facility to a destination facility outside of the hospital system or state, may be facilitated by the Utah MOCC or WRBCC in collaboration with state and regional partners. If the WRBDC is activated, it will utilize the BMCI Patient Tracking Sheet (page 82). Referring facilities are encouraged to use the WRBDC BMCI Patient Medical Data Form (page 31) or similar documentation – this sheet records important patient data needed for transfer, as well as receiving facility information, and should accompany the patient to the receiving facility.

2.8 Rehabilitation and Outpatient Follow Up Services

Healthcare facilities will coordinate rehab and outpatient follow-up services according to treatment protocols as determined by their attending physician.

Consider using the following resources:

- Silver sulfadiazine (SSD) dressing video

- Baci/Non-adherent dressing video
- Mepilex dressing video
- Stat wrap video
- Blister removal video

2.9 Deactivation and Recovery

The healthcare coalition may assist in establishing when a Burn Mass Casualty Incident has concluded, in collaboration with other local, state, regional and federal partners such as the Utah MOCC or WRBCC. Triggers for incident conclusion include decreased patient volumes and near-normal levels of hospital staffing and supplies. The healthcare coalition emergency response personnel will demobilize when these triggers occur, and when there is no longer a need for coordinated burn-specific activities.

The healthcare coalition might initiate the local After-Action process, soliciting and compiling analysis feedback from all responding HCC member agencies. Identified gaps and areas of strengths will be noted in an After-Action Report, distributed to all pertinent agencies and partners. Changes to plans and procedures, including this document, will be based on identified gaps.

3. RESOURCES

3.1 Websites and Contact Information

Local Resources:

- SWUHP Coalition Website
- SWUHP Coalition General Response Plan
- Refer to local protocols and processes

Regional Resources:

- **24/7 Disaster Line: 866.364.8824**
- All Western Region Burn Disaster Consortium plans, training modules and guidelines, including Initial Management Guidelines for the Pediatric Burn Patient, Prolonged Care of the Burn Patient in a Non-Burn Facility Following a Mass Casualty Incident (96 Hour Plan), Burn Crisis Standards of Care Guidelines, Crisis Triage Officer and Triage Officer Team Training, and more can be found online and on smart phones and other devices (see box below). An additional quick link has been created for the Western Region Burn Mass Casualty Operations Plan.

http://crisisstandardsofcare.utah.edu
Search for the "Burn CSC App" on smart devices

Federal Resources

- American Burn Association resources, including Guidelines for Burn Care Under Austere Conditions, Mass Casualty, and Triage Decision Tables
- ASPR TRACIE Healthcare Emergency Preparedness Information Gateway

- Resources for the Optimal Care of the Burn Patient, and Clarification Document from the American College of Surgeons Committee on Trauma

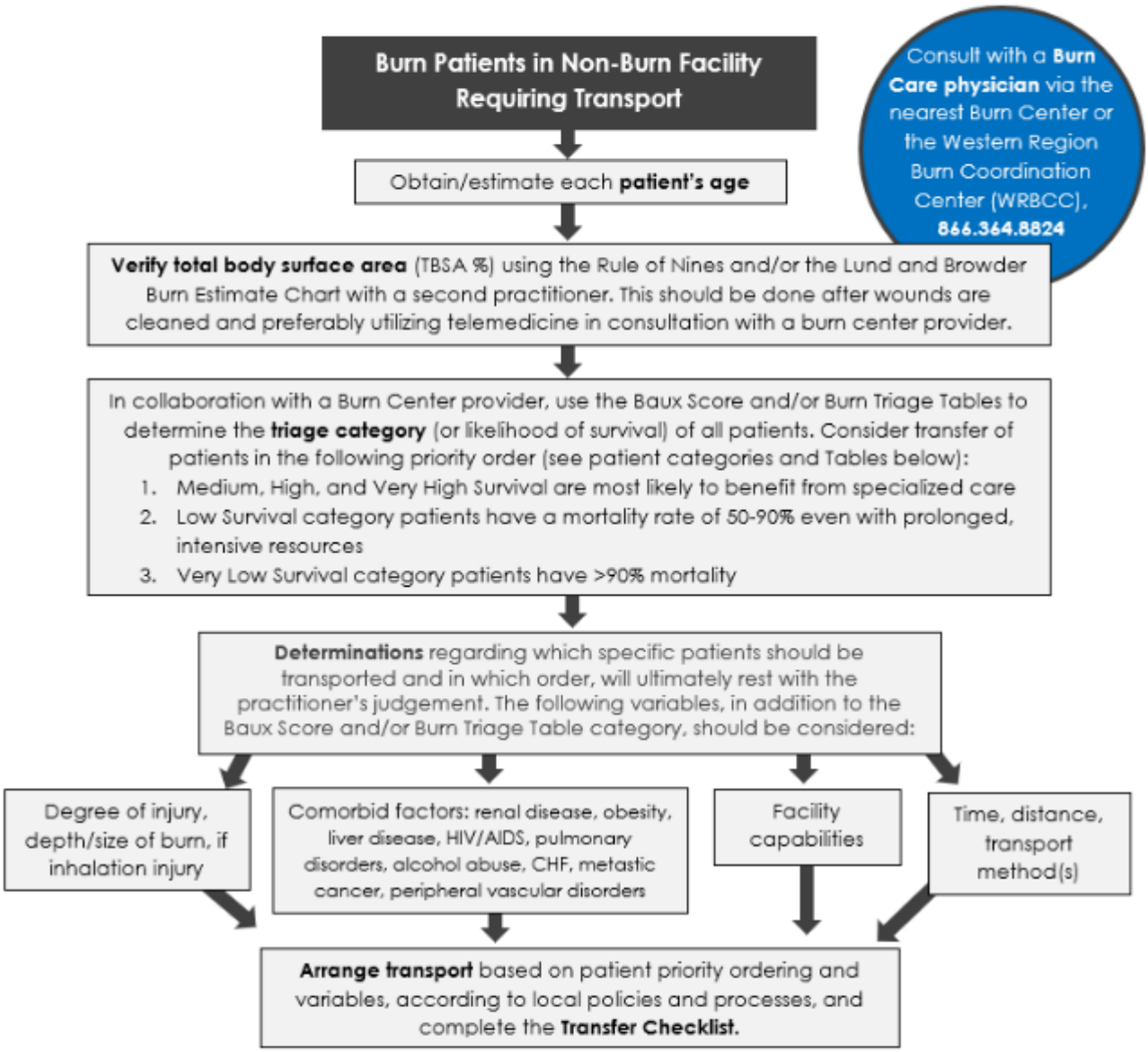
3.2 Acronyms

ACRONYM	MEANING
AAR	After Action Report
ABA	American Burn Association
ALS	Advanced Life Support
ACS-COT	American College of Surgeons Committee on Trauma
ASPR	Assistant Secretary for Preparedness and Response
ATLS	Advanced Trauma Life Support
BMCI	Burn Mass Casualty Incident
CSC	Crisis Standards of Care
DHHS/HHS	Department of Health and Human Services
DOH	Department of Health
EM	Emergency Management
EMAC	Emergency Management Assistance Compact
EMRC	Emergency Medical Resource Center
EMS	Emergency Medical Services
EMTALA	Emergency Medical Treatment and Active Labor Act
ESF#8	Emergency Support Function – Health & Medical
FEMA	Federal Emergency Management Agency
HCC	Healthcare Coalition Coordinator
HICS	Hospital Incident Command System (HICS)
ICS	Incident Command System
ICU	Intensive Care Unit
MAA	Mutual Aid Agreement
MCI	Mass Casualty Incident
MOCC	Medical Operations Coordination Cell
MOU/MOA	Memorandums of Understanding/Agreement
NBF	Non-Burn Facility
NDMS	National Disaster Medical System
PH	Public Health
PHI	Protected Health Information
POC	Point of contact
PPE	Personal Protective Equipment
REC	Regional Emergency Coordinator
TBSA	Total Body Surface Area
TRACIE	Technical Resources, Assistance Center, & Information Exchange
UNIS	Utah Notification and Information System
WRBCC	Western Region Burn Coordination Center
WRBDC	Western Region Burn Disaster Consortium

APPENDIX A: Transfer Decision Flowchart & Triage Tables

Hospital Burn Patient Transfer Decision Flowchart

Note: Flowchart does not supersede local/state protocols



Burn Triage Table Patient Categories *Very high, high, and medium survival patients are more likely to benefit from specialized burn care.	
Outpatient	Survival and good outcome expected without requiring initial admission
Very High Survival	Mortality ≤10%, anticipated stay ≤14-21 days, 1-2 surgical procedures
High Survival	Mortality ≤10%, anticipated stay ≥14-21 days, multiple surgical procedures
Medium Survival	Mortality 10-50%, with provision of aggressive treatment which may require prolonged hospitalization and multiple surgical procedures
Low Survival	Mortality 50-90%, even with provision of prolonged, intensive resources
Very Low Survival	Mortality ≥90%, even with prolonged aggressive care

Crisis Standards of Care Burn Triage Tables

The following crisis standards of care guidelines are to be implemented only when numbers of seriously ill patients greatly surpass the capability of available care and normal standards of care can no longer be maintained. Application of these guidelines will require physician judgement at point of care. Use of these guidelines may require governor approval, depending on state protocols. These tables do not account for other coexisting conditions or concomitant trauma, which should also be considered in transfer or triage decisions. *This information was adapted from the WRBDC 96 Hour Plan - Transfer & Transport module https://crisisstandardsofcare.utah.edu

	Burn Size Group, %TBSA All									
Age	0–9.9	10–19.9	20–29.9	30–39.9	40–49.9	50–59.9	60–69.9	70–79.9	80–89.9	≥ 90
0–1.99	Very High	Very High	High	High	High	Medium	Medium	Medium	Low	Low
2–4.99	Outpatient	Very High	High	High	High	Medium	Medium	Medium	Low	Low
5–19.99	Outpatient	Very High	High	High	High	High	Medium	Medium	Low	Low
20–29.99	Outpatient	Very High	High	High	High	Medium	Medium	Medium	Low	Low
30–39.99	Outpatient	Very High	High	High	Medium	Medium	Medium	Low	Low	Expectant
40–49.99	Outpatient	Very High	High	Medium	Medium	Medium	Medium	Low	Low	Expectant
50–59.99	Outpatient	Very High	High	Medium	Medium	Low	Low	Expectant	Expectant	Expectant
60–69.99	Outpatient	High	Medium	Medium	Low	Low	Low	Expectant	Expectant	Expectant
≥ 70	Very High	Medium	Low	Low	Low	Expectant	Expectant	Expectant	Expectant	Expectant

	Burn Size Group, %TBSA NO Inhalation Injury									
Age	0–9.9	10–19.9	20–29.9	30–39.9	40–49.9	50–59.9	60–69.9	70–79.9	80–89.9	≥ 90
0–1.99	Very High	Very High	High	High	High	High	Medium	Medium	Medium	Medium
2–4.99	Outpatient	Very High	High	High	High	High	High	Medium	Medium	Medium
5–19.99	Outpatient	Very High	High	High	High	High	High	Medium	Medium	Low
20–29.99	Outpatient	Very High	High	High	High	Medium	Medium	Medium	Medium	Low
30–39.99	Outpatient	Very High	High	High	Medium	Medium	Medium	Low	Low	Expectant
40–49.99	Outpatient	Very High	High	High	Medium	Medium	Medium	Low	Low	Expectant
50–59.99	Outpatient	Very High	High	Medium	Medium	Low	Low	Expectant	Expectant	Expectant
60–69.99	Very High	High	Medium	Medium	Low	Low	Expectant	Expectant	Expectant	Expectant
≥ 70	High	Medium	Medium	Low	Low	Expectant	Expectant	Expectant	Expectant	Expectant

	Burn Size Group, %TBSA WITH Inhalation Injury									
Age	0–9.9	10–19.9	20–29.9	30–39.9	40–49.9	50–59.9	60–69.9	70–79.9	80–89.9	≥ 90
0–1.99	High	Medium	Medium	Medium	Medium	Medium	Low	Low	Medium	Medium
2–4.99	High	High	High	High	High	Medium	Medium	Medium	Low	Low
5–19.99	High	High	High	High	Medium	Medium	Medium	Medium	Low	Low
20–29.99	Very High	High	High	Medium	Medium	Medium	Medium	Low	Low	Expectant
30–39.99	Very High	High	High	Medium	Medium	Medium	Medium	Low	Low	Expectant
40–49.99	Very High	High	Medium	Medium	Medium	Low	Low	Low	Low	Expectant
50–59.99	High	Medium	Medium	Medium	Medium	Low	Low	Expectant	Expectant	Expectant
60–69.99	Medium	Medium	Medium	Low	Low	Low	Expectant	Expectant	Expectant	Expectant
≥ 70	Medium	Medium	Low	Low	Expectant	Expectant	Expectant	Expectant	Expectant	Expectant

APPENDIX B: Burn Patient Transfer Checklist

*This information was adapted from the WRBDC 96 Hour Plan - Transfer & Transport module, https://crisisstandardsofcare.utah.edu

Use the following checklist to prepare, package and transport patients who have been identified for transfer to a Burn or Trauma Center. Use the Hospital Burn Patient Transfer Flowchart to identify which patients should be transported and in which order.

Patient Movement and Handover Communication

- ❑ Utilize the Western Region Burn Coordination Center (WRBCC) to identify and match appropriate burn bed(s)
- ❑ Ensure receiving facility agrees to accept the patient
    - In the event of a national emergency or crisis, a community-wide written protocol designating specific entities (i.e., trauma destination policy) may be relied on for pre-established referrals
- ❑ Consider the distance and time of transport when making transport decisions
    - For a very high-risk, potentially unstable patient, shorter transport times will likely lead to better outcomes.
    - Consider air transport if ground transport would take longer than 60 minutes.
- ❑ All potential air ambulance transports need to be communicated to the Western Region Burn Coordination Center and other applicable agencies.
- ❑ Coordinate transfer times once a transport decision is made to eliminate a transporting agency having to wait for extended periods of time.
- ❑ Ensure patient(s) handoff communication tool has a unique identifier, pre-burn estimate of weight, estimation of % TBSA and the name of accepting hospital and physician
    - This may be provided via triage tag, hospital cover sheet, and summary sheet or provider notes. Consider using the BMCI Patient Medical Data Form.
- ❑ Ensure verbal report is given from referring physician to receiving physician
- ❑ Ensure essential elements of patient care are recorded on a standardized, pre-printed handoff communication tool (such as the BMCI Patient Medical Data Form)
- ❑ Ensure verbal report is given to the transport team consisting of:
    - A summary of patient's initial condition
    - Medical treatments and therapies administered
    - Patients' response to the medical care provided
- ❑ Package all medical records, lab results and x-rays available at the time of transport, and send with patient(s) to the receiving hospital
- ❑ Ensure any medical equipment accompanying the patient (IV pumps, ventilators, monitors, etc.) are noted on patient chart by item, brand, BMET service tag number and serial number.
- ❑ Receive communication from the receiving facility verifying receipt of the patient(s)

- Ensure communication with next of kin, state family reunification center or others of the transfer and new location of the patient.
- Confirm transfer with the Western Region Burn Coordination Center

Patient care

- ❑ Ensure all patient(s) receive a medical screening exam, appropriate triage and stabilization within the capability and capacity of the facility
  - Primary goal is to minimize the risk of patient(s) deterioration during transport
- ❑ If advanced airway is required or anticipated, secure the airway prior to transferring the patient
  - Avoid having to place an advanced airway in the confined space of an ambulance or air ambulance.
- ❑ Ensure the Endotracheal Tube (ETT) is secure
  - ETT securement device
  - Tape (non-burned face only, if no other options)
  - Twill tape (burned face)
  - Hold ETT when moving the patient
  - Note depth of tube and verify unchanged after movement
- ❑ Elevate burned extremities where possible
- ❑ Do not use excessive pressure when handling wounds
  - Support burned extremities from underneath rather than gripping
  - Use flat surface of hands / forearms rather than fingertips
- ❑ Measure patient temperature in preparation for transport and every 2 hours if possible
  - If < 36 c (96.8 F) minimize exposure time, warm transport vehicle, use heating blankets and warm IV fluids if available and avoid cold surfaces
- ❑ Keep the patient warm and dry
  - Cover with two blankets or improvised cover such as plastic wrap/aluminum foil / plastic bag if unable to measure temperature during transport

APPENDIX C: Helping Children & Adolescents During Disaster

Intermountain Primary Children's Hospital
The Child First and Always®

BE CALM • PRACTICE THE HEALING COMMITMENTS • ASK FOR HELP

Considerations for attending to the emotional needs of children and adolescents during a disaster – Do's and Don'ts

Do

1. Protect children from:
   - Further harm.
   - Traumatic sights and sounds.
   - Onlookers and Media.
2. Be kind, but firm in directing children away from:
   - The event site.
   - Views of damage or destruction.
   - The proximity of injured survivors.
3. Keep children together with family and friends as feasible.
4. Identify children in acute distress:
   - They may tremble.
   - They may ramble.
   - They may become mute or distant.
   - They may cry loudly.
   - They may exhibit erratic behavior or rage.
   - They may sit completely still or frozen.
5. Be tolerant of difficult behavior and strong emotions.
6. Help children feel in control:
   - Let them choose meals, if possible.
   - Let them pick out clothes, if possible.
   - Let them make some decisions for themselves, when possible.

NOTE: As much as possible, stay with a child in acute distress until they are calm.

- Create a Sense of Safety.
- Be Hopeful.
- Be Friendly.
- Communicate Reassurance.
- Introduce another caregiver early-on in case you must leave the child.

Do Not

1. Expect children to be brave or tough.
2. Force them to tell their stories or discuss the event before they are ready.
3. Probe for personal details.

4. Get angry if children show strong emotions.
5. Get upset if they begin:
   - Bed-wetting
   - Acting out
   - Thumb-sucking
6. Make promises that you cannot keep (e.g., "You will go home soon").

Do Not Tell Them:

- "Everything will be OK."
- "At least you survived."
- What you think they should feel.
- How they should have acted.
- They are suffering for their personal behaviors or beliefs.
- Negative things about available help.

Common Reactions for Children and Adolescents

1. **Young Children (< 5 Years)**
   - Reactions are strongly influenced by parent reactions to the event.
   - May return to behaviors common to being younger.
2. **Children Between 6 and 11 Years**
   - Become quiet, even around familiar people (e.g., friends, family, and teachers).
   - Have outbursts of anger.
   - Develop unfounded fears.
3. **Adolescents**
   - "Survivor's Guilt" – feeling guilt about the event or about not preventing injury or deaths.
   - Thoughts of revenge.

For More Information Go To

http://www.nimh.nih.gov: Click on Publications link for information on Coping with Traumatic Events
http://emergency.cdc.gov: Under the Preparedness heading, click on Coping with Disasters
http://www.samhsa.gov: For Suicide Prevention and Disaster Distress helplines

APPENDIX D: Burn Resource Table

Burn Training/Resources	Source	Target Audience	Type	Weblink
Hospital Clinical Resources				
Extensive Clinical Care & Response Resources	University of Utah Health	Response, Clinical	Guidance/ Videos	https://crisisstandardsofcare.utah.edu
Burn Wound Care & Outpatient Videos	University of Utah Burn Center	Clinical	Videos	https://www.facebook.com/UofUBurnCenter/
ABA Burn Center Referral Criteria	American Burn Association	Response, Clinical	Guidance	http://ameriburn.org/wp-content/uploads/2017/05/burncenterreferralcriteria.pdf
Burn E-learning	OPEN Pediatrics	Clinical	Video	https://learn.openpediatrics.org/learn/global-search/burns
Burn Nurse Competencies	American Burn Association	Clinical	Guidance	http://ameriburn.org/wp-content/uploads/2017/05/bnci-competency-document-february-2017-final.pdf
Burn Care for Children	American Academy of Pediatrics	Clinical	Guidance	https://pedsinreview.aappublications.org/content/39/6/273
Burns 101 Initial Management	UW Medicine	Clinical	Video	https://www.uwmedicine.org/provider-resource/videos/burns-101-initial-management
Burn Surge Video Series	Minnesota Dept of Health	Clinical	Video	https://www.health.state.mn.us/communities/ep/surge/burn/video.html
Burn Surge Module 4: Advance Special Treatment Considerations	Minnesota Dept of Health	Clinical	Video	https://www.health.state.mn.us/communities/ep/surge/burn/module4advanced.html
Determining Burn Depth	Minnesota Dept of Health	Clinical	Guidance	https://www.health.state.mn.us/communities/ep/surge/burn/burndepth.html
Determining Total Body Surface Area	Minnesota Dept of Health	Clinical	Guidance	https://www.health.state.mn.us/communities/ep/surge/burn/tbsa.html
96-Hour Care Guidelines for Pediatric Burns	Illinois Dept of Public Health	Clinical	Guidance	https://www.luriechildrens.org/globalassets/documents/emsc/disaster/state-plans/burncareguidelinesjune2017.pdf
Triage of Patients with Cutaneous Burns Only During Mass Casualty Incidents	Minnesota Dept of Health	Clinical	Guidance	https://www.health.state.mn.us/communities/ep/surge/burn/triageburns.html

Pediatric Response Resources for Burn Surge Facilities	Minnesota Dept of Health	Clinical	Guidance	https://www.health.state.mn.us/communities/ep/surge/burn/pedsorders.pdf
Management of severe thermal burns in the acute phase in adults and children	Anesthesia Critical Care & Pain Medicine	Clinical	Guidance	https://www.sciencedirect.com/science/article/pii/S2352556820300382
Pediatric Burn Care	State of Michigan	Clinical	Video	http://www.michiganburn.org/pediatric_burn_care.html
Pain and Sedation for Pediatric Burn Care	State of Michigan	Clinical	Video	http://www.michiganburn.org/peds_pain_management.html
Pediatric Burn Resuscitation	State of Michigan	Clinical	Guidance	http://www.michiganburn.org/images/PedsGuidelinesforBurnResuscitation.pdf
The Rule of Nines and Lund-Browder Charts	State of Michigan	Clinical	Guidance	http://www.michiganburn.org/images/Rule_9s_Lund_Browder.jpg
Topic Collection: Burns (Extensive Resources & Best Practices)	ASPR TRACIE	Clinical	Guidance	https://asprtracie.hhs.gov/MasterSearch?qt=burns&limit=20&page=1
Pre-Hospital Clinical Resources				
Pre-hospital Care for Burn Patients	Integris Paul Silverstein Burn Center	Prehospital	Guidance	https://integrisok.com/locations/specialty-clinic/integris-burn-center/patients-and-visitors/pre-hospital-care-for-burn-patients
Pre-hospital Management of Burns	DSHS Texas	Prehospital	Guidance	https://www.dshs.texas.gov/emstraumasystems/JA10CEArticle.pdf
Emergency Management & Response Resources				
Burn Mass Casualty Incident Operations Plan	Western Region Burn Disaster Consortium	Response, Clinical	Guidance	https://crisisstandardsofcare.utah.edu/opendocs/WRBDC%20BMCI%20Operations%20Plan.pdf
Burn Surge Annex	Ann & Robert H Lurie Children's Hospital of Chicago	Response, Clinical	Guidance	https://www.luriechildrens.org/en/emergency-medical-services-for-children/disaster/state-plans/burn-surge-annex/
Extensive Pediatric Response Resources	Western Regional Alliance for Pediatric Emergency Management	Response, Public, Clinical	Guidance, videos, disaster helpline	https://wrap-em.org/
PsySTART	Western Regional Alliance for Pediatric Emergency Management	Response, Clinical	Guidance	https://www.calhospitalprepare.org/sites/main/files/file-attachments/psystart_fact_sheet_wrapem_jit.pdf

Healthcare Coalition Burn Surge Annex Template	ASPR TRACIE	Response	Guidance	https://files.asprtracie.hhs.gov/documents/aspr-tracie-hcc-burn-surge-annex-template-final.pdf
Pediatric Annex for Burn Surge	State of Michigan	Response, Clinical	Guidance	http://www.michiganburn.org/images/content/PedAnnexVer5.pdf
Burn Triage and Treatment of Thermal Injuries in a Radiation Emergency	Radiation Emergency Medical Management (REMM)	Response, Clinical	Guidance	https://www.remm.nlm.gov/burns.htm
Extensive Clinical Care & Response Resources	Western Region Burn Disaster Consortium	Response, Clinical	Guidance/ Videos	https://crisisstandardsofcare.utah.edu
Strategies for Scarce Resource Situations	Minnesota Dept of Health	Response	Guidance	https://www.health.state.mn.us/communities/ep/surge/burn/index.html
Burn Prevention & Safety Public Resources				
It Can Happen in a Flash	National Scald Burn Campaign	Public	Guidance	http://flashsplash.org/
COVID-19 Public Resources	American Burn Association	Public	Guidance	http://ameriburn.org/public-resources/covid-19-public-resources/
Burn Prevention	CDC	Public	Guidance	https://www.cdc.gov/safechild/burns/index.html
Burns Facts & Prevention	World Health Organization	Response	Guidance	https://www.who.int/news-room/fact-sheets/detail/burns
Fire & Burn Safety	Children's Safety Network	Public	Guidance	https://www.childrenssafetynetwork.org/injury-topics/fire-burn-safety
Burn Survivor Public Resources				
Burn Survivor & Prevention Resources	Alisa Ann Ruch Burn Foundation	Public	Guidance & Videos	https://www.aarbf.org/survivor-services/ https://www.aarbf.org/burn-prevention/
Wildfire Preparedness Resources	Alisa Ann Ruch Foundation	Public	Guidance & Videos	https://www.aarbf.org/wildfirepreparedness/
Extensive Resources for Burn Survivors	Phoenix Society for Burn Survivors	Public	Guidance & Videos	https://www.phoenix-society.org/resources
Extensive Resources for Burn Survivors	Arizona Burn Foundation	Public	Guidance & Videos	https://azburn.org/

Trauma and Burn Series: What Parents Need to Know	Children's National	Public	Guidance	https://childrensnational.org/news-and-events/video-gallery?series={9FDB9207-19A4-44A7-9C5C-E7DFCEB593E7}#Results
Preparing Children After a Wildfire Damages Your Community	The National Child Traumatic Stress Network	Public	Guidance	https://www.nctsn.org/resources/preparing-children-after-a-wildfire-damages-your-community

APPENDIX E: Regional Hospital Tiers for a Burn Mass Casualty Incident (BMCI)

See Trauma Level descriptions on the following page, per the American Trauma Society

Facility Name & Address	Adult Trauma Level*	Pediatric Trauma Level	Intensive Care Units (ICU)	Burn Capability	Pediatric Capability	Telemedicine Capability
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing
	☐ Level I ☐ Level II ☐ Level III ☐ Level IV ☐ Level V	☐ Level I ☐ Level II	☐ Adult ICU ☐ Pediatric ICU (PICU) ☐ Neonatal ICU (NICU)	☐ ABA Verified Burn Center ☐ Hospital w/ Burn Unit ☐ Burn Specialty Care Training	☐ Pediatric Hospital ☐ PedsReady / Pediatric Specialty Care Training	☐ Telemedicine ☐ Secure image sharing

***Trauma Level Designations,** per the American Trauma Society

Level I: Level I Trauma Center is a comprehensive regional resource that is a tertiary care facility central to the trauma system. A Level I Trauma Center is capable of providing total care for every aspect of injury – from prevention through rehabilitation. Elements of Level I Trauma Centers Include:

- 24-hour in-house coverage by general surgeons, and prompt availability of care in specialties such as orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology, internal medicine, plastic surgery, oral and maxillofacial, pediatric and critical care.
- Referral resource for communities in nearby regions.
- Provides leadership in prevention, public education to surrounding communities.
- Provides continuing education of the trauma team members.
- Incorporates a comprehensive quality assessment program.
- Operates an organized teaching and research effort to help direct new innovations in trauma care.
- Program for substance abuse screening and patient intervention.
- Meets minimum requirement for annual volume of severely injured patients.

Level II: A Level II Trauma Center is able to initiate definitive care for all injured patients. Elements of Level II Trauma Centers Include:

- 24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology and critical care.
- Tertiary care needs such as cardiac surgery, hemodialysis and microvascular surgery may be referred to a Level I Trauma Center.
- Provides trauma prevention and continuing education programs for staff.
- Incorporates a comprehensive quality assessment program.

Level III: A Level III Trauma Center has demonstrated an ability to provide prompt assessment, resuscitation, surgery, intensive care and stabilization of injured patients and emergency operations. Elements of Level III Trauma Centers Include:

- 24-hour immediate coverage by emergency medicine physicians and the prompt availability of general surgeons and anesthesiologists.
- Incorporates a comprehensive quality assessment program.
- Has developed transfer agreements for patients requiring more comprehensive care at a Level I or Level II Trauma Center.
- Provides back-up care for rural and community hospitals.
- Offers continued education of the nursing and allied health personnel or the trauma team.
- Involved with prevention efforts and must have an active outreach program for its referring communities.

Level IV: A Level IV Trauma Center has demonstrated an ability to provide advanced trauma life support (ATLS) prior to transfer of patients to a higher level trauma center. It provides evaluation, stabilization, and diagnostic capabilities for injured patients. Elements of Level IV Trauma Centers Include:

- Basic emergency department facilities to implement ATLS protocols and 24-hour laboratory coverage. Available trauma nurse(s) and physicians available upon patient arrival.
- May provide surgery and critical-care services if available.
- Has developed transfer agreements for patients requiring more comprehensive care at a Level I or Level II Trauma Center.
- Incorporates a comprehensive quality assessment program.
- Involved with prevention efforts and must have an active outreach program for its referring communities.

Level V: A Level V Trauma Center provides initial evaluation, stabilization and diagnostic capabilities and prepares patients for transfer to higher levels of care. Elements of Level V Trauma Centers Include:

- Basic emergency department facilities to implement ATLS protocols.
- Available trauma nurse(s) and physicians available upon patient arrival.
- After-hours activation protocols if facility is not open 24-hours a day.
- May provide surgery and critical-care services if available.
- Has developed transfer agreements for patients requiring more comprehensive care at a Level I through III Trauma Centers.

APPENDIX F: BMCI Hospital Acute Burn Management Algorithm

Note: Algorithm does not supersede local/state protocols

Mass Casualty Incident Involving Burns

- Protect caregivers
- Remove patient clothing, jewelry
- Hazmat/Chemical: decontaminate with copious amounts of water, ensuring patient is kept warm. Consult Poison Control if indicated.

Would assistance from the WRBDC be helpful?

NO

Follow local burn surge plans

YES

Call the WRBDC (Western Region Burn Disaster Consortium) for assistance and situational awareness on the 24/7 Disaster Line: **1.866.364.8824**

Assess & Manage Trauma in Keeping with ATLS Guidelines

- Associated Trauma in addition to the burn injury always takes precedence

Conduct Primary Survey

- Use Burn Considerations* (next page)

Conduct Secondary Survey & Evaluate Burn Wound

- Use Burn Considerations* (next page)
- Consult with Burn Center as applicable using national referral criteria guidelines:
  - 2nd degree burns >10% TBSA
  - Burns to face, hands, feet, genitalia, perineum, or major joints
  - 3rd degree burns / chemical burns / inhalation injuries
  - Electrical injury (including lightning)
  - Burns with pre-existing medical conditions or concomitant trauma
  - Burns to children
  - Burn injury requiring special social, emotional or rehabilitative needs

Does Patient Meet Referral Criteria?

NO

Manage Burn Locally

- Consider Burn Center consult for wound care or other needs, such as aftercare programs, survivor group resources, referral to burn camp and psychosocial programs
- If patient does not meet admission criteria, ensure clear outpatient treatment & return criteria are communicated

YES

Contact Burn Center

- <<Insert contact info for telemedicine or other burn center consult>>
- <<Second/backup burn center's contact>>
- <<Insert process / instructions for telemedicine or secure image sharing>>

Transfer Patient to Burn Center?

NO

Prepare Patient for Transfer

- Treat wounds as directed
- Determine mode of transport (consider air /ALS crew)
- Ensure airway is secure, check patient's temperature, keep patient warm and dry, ensure fluid formulas are adhered to
- Provide hand-off report to receiving facility

YES

BMCI Hospital Acute Burn Management Algorithm: Evaluation Considerations & Ongoing Management

PRIMARY SURVEY

Airway
- 100% O2 via NRB
- Pulse oximeter and ABG
- Consider airway involvement:
  - Early intubation typically with burns >20% TBSA
  - Upper airway edema may make intubation impossible as symptoms progress
  - Secure ETT with ties passed around head; no tape (it does not stick to burned tissue)
  - NG/OG should be inserted on all intubated patients
  - Consider early intubation in patients with larger burns, burns to the head, those receiving large volumes of fluid resuscitation and in younger children
  - Consider monitoring patients with a possible inhalation injury for 24 hours

Breathing
- Monitor chest expansion in circumferential torso burns

Circulation
- Large bore IV or I/O (priority >20% TBSA)
- Elevate burned extremities and ensure adequate pulses
- Administer IV fluid (LR) at **Initial Fluid Rate if burn >20% TBSA**:
  - ≤5 years: 125 mL/hr
  - 6-13 years: 250 mL/hr
  - ≥14 years: 500 mL/hr

Disability
- Monitor GCS – typically A&O (awake, alert & oriented)

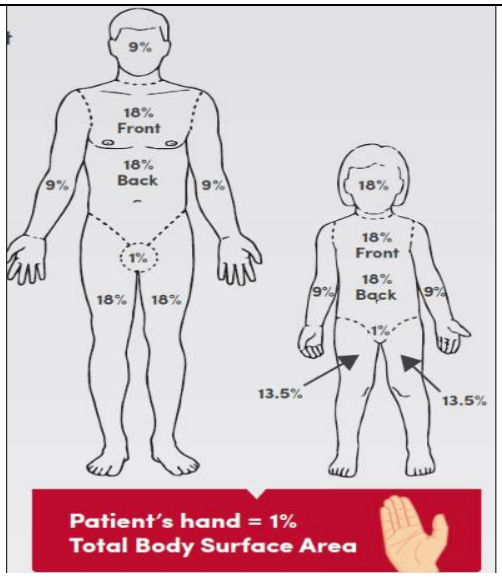
Environment
- Expose / keep warm & dry
- Do not use wet dressings / blankets

BURN WOUND EVALUATION

It is not always possible to know burn depths for days, as appearance may be deceiving and injury may deepen.	Depth of injury	Wound properties
Superficial (1st degree) *These wounds are not included in the % TBSA*	Limited damage to epidermis, skin contact	• Painful • Red • No blister formation immediately
Superficial/partial thickness (2nd degree)	Epidermis destroyed, minimal damage to superficial layers or dermis	• Pink or red • Moist • Weepy • Blanching • Blisters • Painful
Deeper (2nd degree)	Epidermis and dermis involved	• May be red or pearly white • Drier than superficial injury • Painful
Full thickness (3rd degree)	All epidermis and dermis destroyed	• White, cherry red, brown or black • Hard and leathery • Insensitive to pin prick

SECONDARY SURVEY

- Evaluate wound & calculate TBSA (use burn diagram and burn descriptions below) – consider consult with a Burn Center through use of telemedicine
  - Superficial (1st degree) burns are not included in the % TBSA
- Check tetanus status
- Pain management – small, frequent doses with reassessment
- Calculate **Burn Fluid Resuscitation Rate** based on age, TBSA% and weight (LR is fluid of choice, but NS can be used if LR not available)-
  - **Scald/Flame:**
  - Adults (≥14 yrs): 2 mL x kg x TBSA%
  - Children (<14 yrs): 3 mL x kg x TBSA%
  - Infants/Children <30kg: 3mL x kg x TBSA% plus D5LR at maintenance rate using 4/2/1 rule:
    - <10 kg – 4 mL/kg/hr
    - 10-20 kg – 40 mL + 2 mL/kg for every kg >10 kg
    - >20 kg – 60 mL + 1 mL/kg for every kg ≥20kg
  - **Electrical/Deep Tissue:**
  - 4 mL x kg x TBSA%
  - **Infuse total volume LR over 24 hours: ½ in first 8 hours** (for hourly rate, divide by 8), ½ next 16 hours

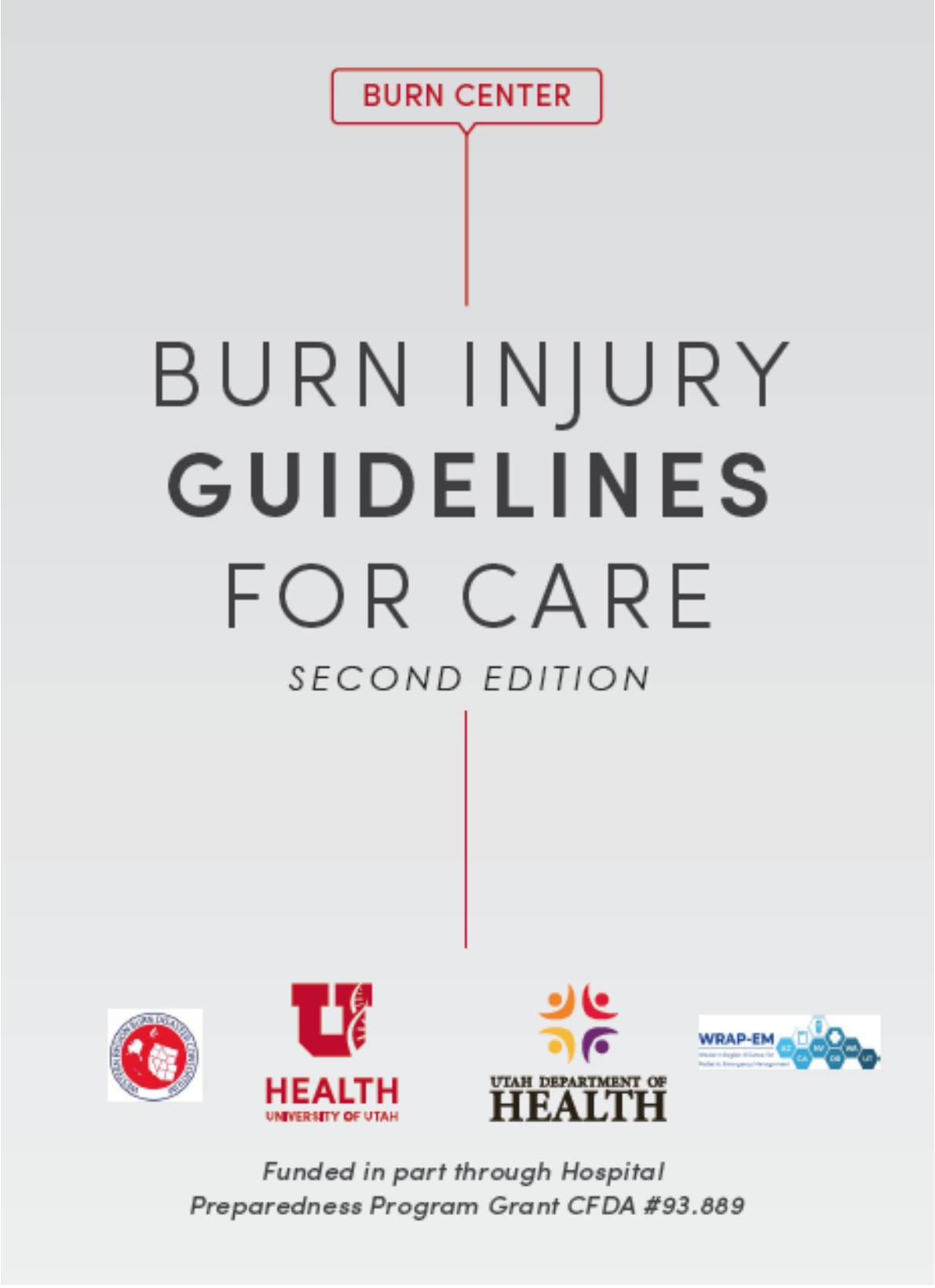


ONGOING BURN MANAGEMENT

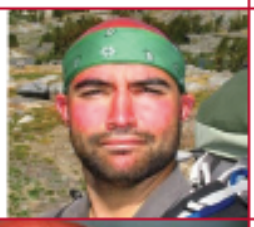
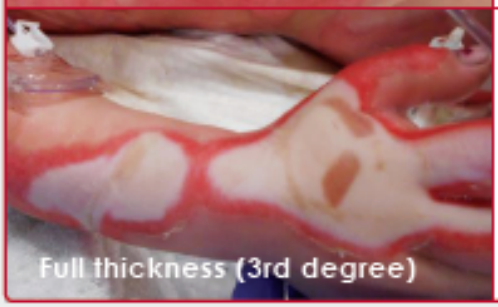
- Continue trauma resuscitation and burn care in collaboration with Burn Center as needed
- Prophylactic antibiotics are not indicated for burns
- 12 lead EKG for electrical injury
- Circumferential burns/electrical contact sites: hourly pulse checks to affected extremity
- Continue with fluid resuscitation – associated trauma or inhalation injuries may require additional fluid
- Monitor urine output – slowly adjust fluid based on target goals (below) & clinical response
  - **Scald/Flame:**
  - Adults = 0.5 mL/kg/hr (30-50 mL/hr) of urine
  - Pediatrics = 1 mL/kg/hr of urine
  - **Electrical injury/red pigment** (myoglobinuria)
  - Adults = 75-100 mL/hr of urine
  - Pediatrics = 2 mL/kg/hr of urine

APPENDIX G: Burn Injury Guidelines for Care, Second Edition

Note: this resource is also available as a pocket-sized PDF file for printing.



WOUND EVALUATION

It is not always possible to know burn depths for days, as appearance may be deceiving and injury may deepen.	**Depth of injury**	**Wound properties**
Superficial (1st degree) **These wounds are <u>not</u> included in the % TBSA* 	Limited damage to epidermis, skin contact	• Painful • Red • No blister formation immediately
	Epidermis destroyed, minimal damage to superficial layers or dermis	• Pink or red • Moist • Weepy • Blanching • Blisters • Painful
	Epidermis and dermis involved	• May be red or pearly white • Drier than superficial injury • Painful
	All epidermis and dermis destroyed	• White, cherry red, brown or black • Hard and leathery • Insensitive to pin prick

PRIMARY SURVEY

Airway and breathing

100% O2 via non-rebreather. Watch breathing effort closely especially in circumferential torso burns, chest escharotomy if indicated. If intubation is necessary, ensure the ETT is secured well. NG/OG tube recommended for burns > 20% TBSA, if patient is intubated and per protocol.

Circulation

- Circulatory compromise – indicated by progressive pain, pallor, pulselessness, paresthesia, paralysis and coolness of the extremities
- IV/IO line may be placed through burned skin if necessary. Secure in place with Kerlix or Coban, monitor for swelling.
- Consider oral re-hydration therapy in burns <15% TBSA
- Starting points for fluid resuscitation rates in the primary survey for burn TBSA >20%:

5 years or younger:	**125 ml LR/NS/hr**
6-13 years:	**250 ml LR/NS/hr**
14 years or older:	**500 ml LR/NS/hr**

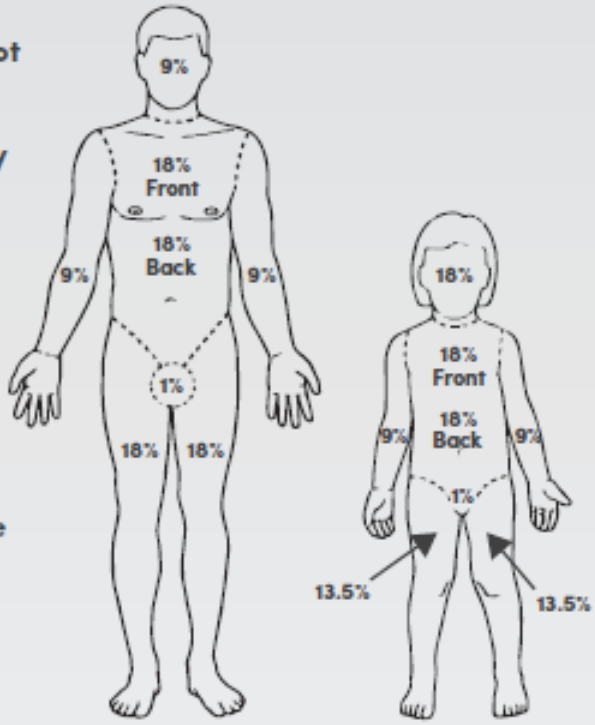
Disability

Monitor GCS, AVPU – burn patients are typically alert and oriented, if deficits exist, consider CO, hx of anoxia, chemical exposure or traumatic injury.

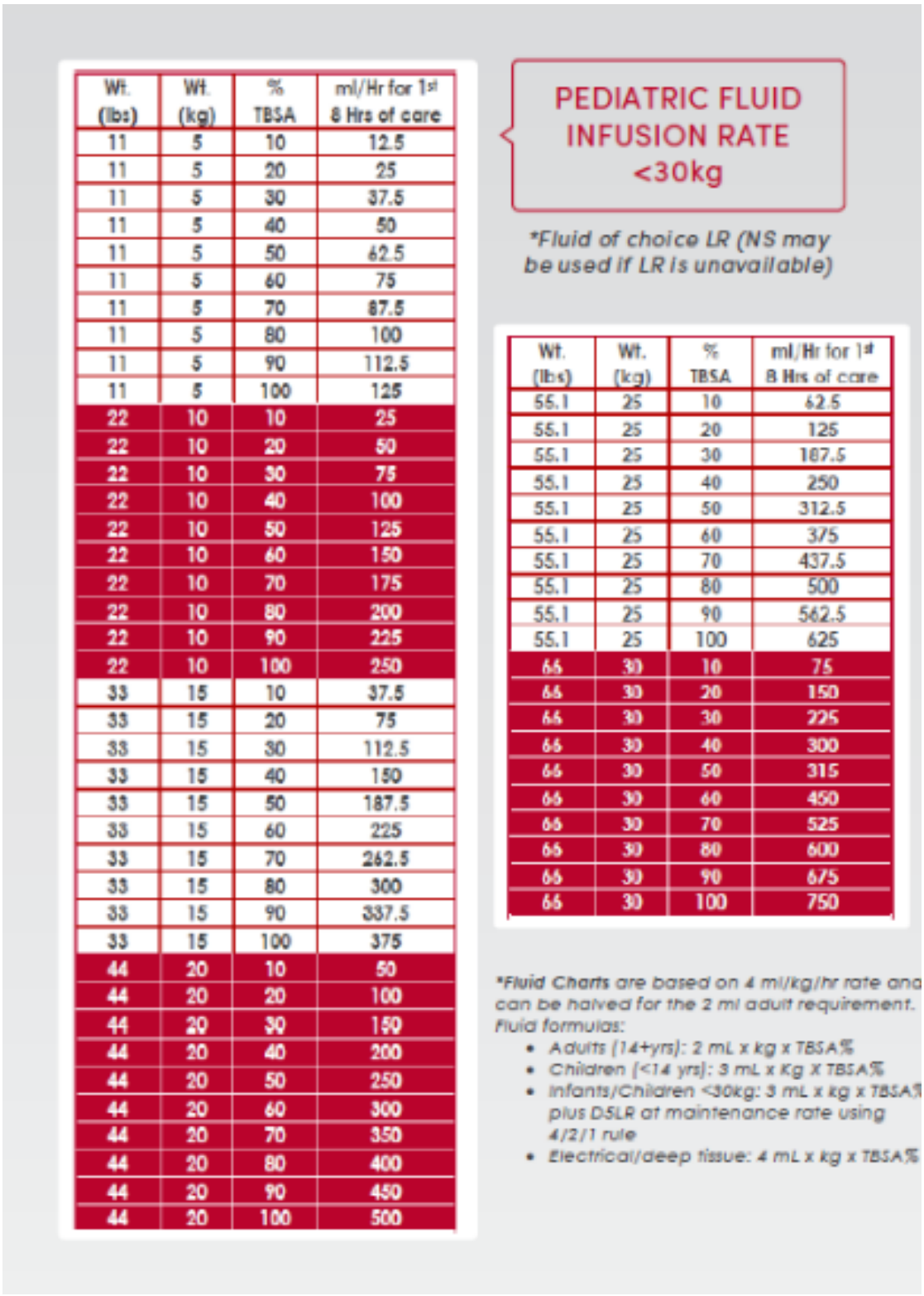
Exposure/environment

- Remove all clothing and jewelry
- Keep patient warm, covered and dry
- Do not use wet dressings or blankets

- **Patients with burn injuries do not typically develop shock within 60 minutes from time of injury if left untreated, unless there are associated injuries or medical conditions in addition to the burn.**
- **Usually, burns do not bleed. If there is bleeding, there may be an associated injury.**
- **Patients with traumatic injuries or inhalation injuries may require additional fluid.**
- **Brush powdered chemicals off skin, then flush with copious amounts of fluid.**



Patient's hand = 1% Total Body Surface Area



Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
11	5	10	12.5
11	5	20	25
11	5	30	37.5
11	5	40	50
11	5	50	62.5
11	5	60	75
11	5	70	87.5
11	5	80	100
11	5	90	112.5
11	5	100	125
22	10	10	25
22	10	20	50
22	10	30	75
22	10	40	100
22	10	50	125
22	10	60	150
22	10	70	175
22	10	80	200
22	10	90	225
22	10	100	250
33	15	10	37.5
33	15	20	75
33	15	30	112.5
33	15	40	150
33	15	50	187.5
33	15	60	225
33	15	70	262.5
33	15	80	300
33	15	90	337.5
33	15	100	375
44	20	10	50
44	20	20	100
44	20	30	150
44	20	40	200
44	20	50	250
44	20	60	300
44	20	70	350
44	20	80	400
44	20	90	450
44	20	100	500

PEDIATRIC FLUID INFUSION RATE <30kg

**Fluid of choice LR (NS may be used if LR is unavailable)*

Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
55.1	25	10	62.5
55.1	25	20	125
55.1	25	30	187.5
55.1	25	40	250
55.1	25	50	312.5
55.1	25	60	375
55.1	25	70	437.5
55.1	25	80	500
55.1	25	90	562.5
55.1	25	100	625
66	30	10	75
66	30	20	150
66	30	30	225
66	30	40	300
66	30	50	315
66	30	60	450
66	30	70	525
66	30	80	600
66	30	90	675
66	30	100	750

**Fluid Charts are based on 4 ml/kg/hr rate and can be halved for the 2 ml adult requirement.*

Fluid formulas:

- *Adults (14+yrs): 2 mL x kg x TBSA%*
- *Children (<14 yrs): 3 mL x Kg X TBSA%*
- *Infants/Children <30kg: 3 mL x kg x TBSA% plus D5LR at maintenance rate using 4/2/1 rule*
- *Electrical/deep tissue: 4 mL x kg x TBSA%*

Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
66	30	10	75
66	30	20	150
66	30	30	225
66	30	40	300
66	30	50	375
66	30	60	450
66	30	70	525
66	30	80	600
66	30	90	675
66	30	100	750
88	40	10	100
88	40	20	200
88	40	30	300
88	40	40	400
88	40	50	500
88	40	60	600
88	40	70	700
88	40	80	800
88	40	90	900
88	40	100	1000
110	50	10	125
110	50	20	250
110	50	30	375
110	50	40	500
110	50	50	625
110	50	60	750
110	50	70	875
110	50	80	1000
110	50	90	1125
110	50	100	1250
132	60	10	150
132	60	20	300
132	60	30	450
132	60	40	600
132	60	50	750
132	60	60	900
132	60	70	1050
132	60	80	1200
132	60	90	1350
132	60	100	1500
154	70	10	175
154	70	20	350
154	70	30	525
154	70	40	700
154	70	50	875
154	70	60	1050
154	70	70	1225
154	70	80	1400
154	70	90	1575
154	70	100	1750
176	80	10	200
176	80	20	400
176	80	30	600
176	80	40	800
176	80	50	1000
176	80	60	1200
176	80	70	1400
176	80	80	1600
176	80	90	1800
176	80	100	2000

ADULT FLUID INFUSION RATE >30kg

**Fluid of choice LR, DO NOT use dextrose containing fluids (NS may be used if LR is unavailable)*

Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
198	90	10	225
198	90	20	450
198	90	30	675
198	90	40	900
198	90	50	1125
198	90	60	1350
198	90	70	1575
198	90	80	1800
198	90	90	2025
198	90	100	2250
220	100	10	250
220	100	20	500
220	100	30	750
220	100	40	1000
220	100	50	1250
220	100	60	1500
220	100	70	1750
220	100	80	2000
220	100	90	2250
220	100	100	2500
242	110	10	275
242	110	20	550
242	110	30	825
242	110	40	1100
242	110	50	1375
242	110	60	1650
242	110	70	1925
242	110	80	2200
242	110	90	2475
242	110	100	2750
264	120	10	300
264	120	20	600
264	120	30	900
264	120	40	1200
264	120	50	1500
264	120	60	1800
264	120	70	2100
264	120	80	2400
264	120	90	2700
264	120	100	3000

Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
287	130	10	325
287	130	20	650
287	130	30	975
287	130	40	1300
287	130	50	1625
287	130	60	1950
287	130	70	2275
287	130	80	2600
287	130	90	2925
287	130	100	3250
309	140	10	350
309	140	20	700
309	140	30	1050
309	140	40	1400
309	140	50	1750
309	140	60	2100
309	140	70	2450
309	140	80	2800
309	140	90	3150
309	140	100	3500
331	150	10	375
33	150	20	750
33	150	30	1125
331	150	40	1500
331	150	50	1875
331	150	60	2250
331	150	70	2625
331	150	80	3000
331	150	90	3375
331	150	100	3750
353	160	10	400
353	160	20	800
353	160	30	1200
353	160	40	1600
353	160	50	2000
353	160	60	2400
353	160	70	2800
353	160	80	3200
353	160	90	3600
353	160	100	4000
375	170	10	425
375	170	20	850
375	170	30	1275
375	170	40	1700
375	170	50	2125
375	170	60	2550
375	170	70	2975
375	170	80	3400
375	170	90	3825
375	170	100	4250
397	180	10	450
397	180	20	900
397	180	30	1350
397	180	40	1800
397	180	50	2250
397	180	60	2700
397	180	70	3150
397	180	80	3600
397	180	90	4050
397	180	100	4500

ADULT FLUID INFUSION RATE >30kg

**Fluid of choice LR, DO NOT use dextrose containing fluids (NS may be used if LR is unavailable)*

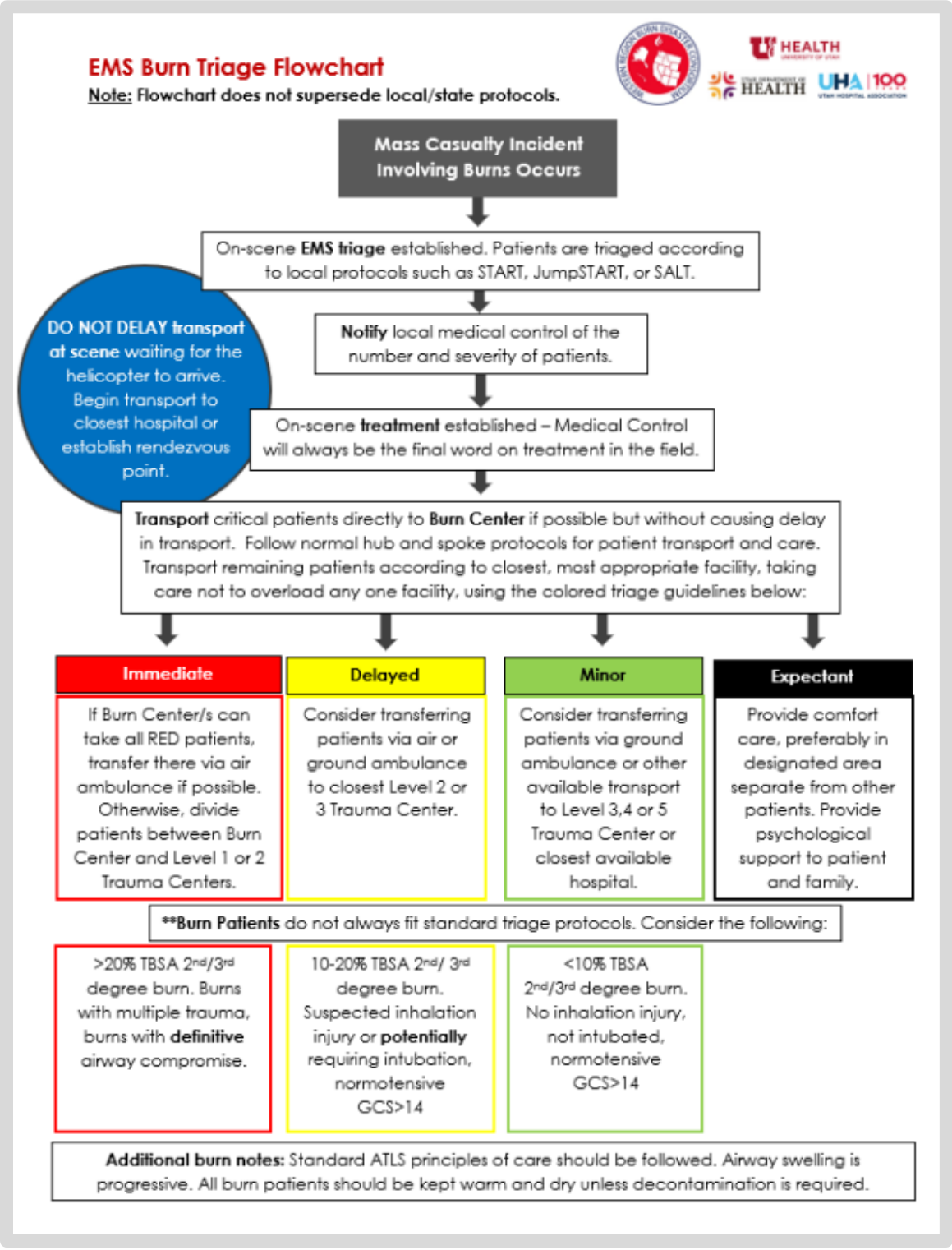
Wt. (lbs)	Wt. (kg)	% TBSA	ml/Hr for 1st 8 Hrs of care
419	190	10	475
419	190	20	950
419	190	30	1425
419	190	40	1900
419	190	50	2375
419	190	60	2850
419	190	70	3325
419	190	80	3800
419	190	90	4275
419	190	100	4750
441	200	10	500
441	200	20	1000
441	200	30	1500
441	200	40	2000
441	200	50	2500
441	200	60	3000
441	200	70	3500
441	200	80	4000
441	200	90	4500
441	200	100	5000
463	210	10	525
463	210	20	1050
463	210	30	1575
463	210	40	2100
463	210	50	2625
463	210	60	3150
463	210	70	3675
463	210	80	4200
463	210	90	4725
463	210	100	5250
485	220	10	550
485	220	20	1100
485	220	30	1650
485	220	40	2200
485	220	50	2750
485	220	60	3300
485	220	70	3850
485	220	80	4400
485	220	90	4950
485	220	100	5500

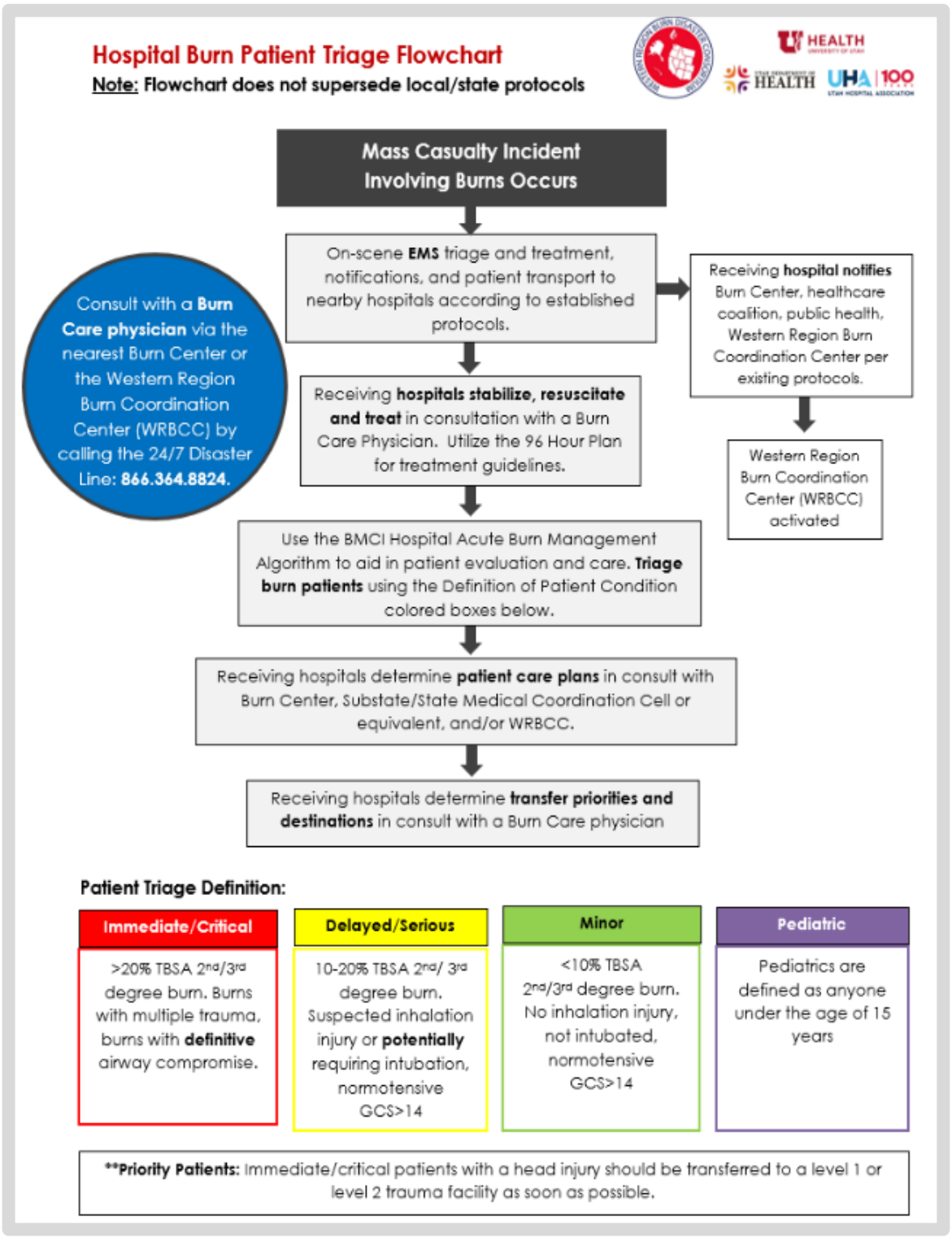
AMERICAN BURN ASSOCIATION CRITERIA FOR BURN CONSULTATION

- 2nd degree burns > 10% TBSA
- Burns to face, hands, feet, genitalia, perineum, major joints
- 3rd degree burns
- Chemical burns
- Inhalation injuries
- Electrical injury (lightning included)
- Burns accompanied by pre-existing conditions
- Burns accompanied by trauma, where burn injury poses greatest risk of morbidity or mortality
- Burns to children in hospitals without pediatric services
- Patients with special social, emotional or rehabilitative needs

For provider resources, please visit:
crisisstandardsofcare.utah.edu

Information for nearest Burn Center:


EMS Burn Triage Flowchart
Note: Flowchart does not supersede local/state protocols.
Mass Casualty Incident Involving Burns Occurs
On-scene EMS triage established. Patients are triaged according to local protocols such as START, JumpSTART, or SALT.
Notify local medical control of the number and severity of patients.
DO NOT DELAY transport at scene waiting for the helicopter to arrive. Begin transport to closest hospital or establish rendezvous point.
On-scene treatment established – Medical Control will always be the final word on treatment in the field.
Transport critical patients directly to Burn Center if possible but without causing delay in transport. Follow normal hub and spoke protocols for patient transport and care. Transport remaining patients according to closest, most appropriate facility, taking care not to overload any one facility, using the colored triage guidelines below:
Immediate
If Burn Center/s can take all RED patients, transfer there via air ambulance if possible. Otherwise, divide patients between Burn Center and Level 1 or 2 Trauma Centers.
Delayed
Consider transferring patients via air or ground ambulance to closest Level 2 or 3 Trauma Center.
Minor
Consider transferring patients via ground ambulance or other available transport to Level 3,4 or 5 Trauma Center or closest available hospital.
Expectant
Provide comfort care, preferably in designated area separate from other patients. Provide psychological support to patient and family.
**Burn Patients do not always fit standard triage protocols. Consider the following:
>20% TBSA 2nd/3rd degree burn. Burns with multiple trauma, burns with definitive airway compromise.
10-20% TBSA 2nd/ 3rd degree burn. Suspected inhalation injury or potentially requiring intubation, normotensive GCS>14
<10% TBSA 2nd/3rd degree burn. No inhalation injury, not intubated, normotensive GCS>14
Additional burn notes: Standard ATLS principles of care should be followed. Airway swelling is progressive. All burn patients should be kept warm and dry unless decontamination is required.


Hospital Burn Patient Triage Flowchart
Note: Flowchart does not supersede local/state protocols
Mass Casualty Incident Involving Burns Occurs
On-scene EMS triage and treatment, notifications, and patient transport to nearby hospitals according to established protocols.
Receiving hospital notifies Burn Center, healthcare coalition, public health, Western Region Burn Coordination Center per existing protocols.
Western Region Burn Coordination Center (WRBCC) activated
Consult with a Burn Care physician via the nearest Burn Center or the Western Region Burn Coordination Center (WRBCC) by calling the 24/7 Disaster Line: 866.364.8824.
Receiving hospitals stabilize, resuscitate and treat in consultation with a Burn Care Physician. Utilize the 96 Hour Plan for treatment guidelines.
Use the BMCI Hospital Acute Burn Management Algorithm to aid in patient evaluation and care. Triage burn patients using the Definition of Patient Condition colored boxes below.
Receiving hospitals determine patient care plans in consult with Burn Center, Substate/State Medical Coordination Cell or equivalent, and/or WRBCC.
Receiving hospitals determine transfer priorities and destinations in consult with a Burn Care physician
Patient Triage Definition:
Immediate/Critical
>20% TBSA 2nd/3rd degree burn. Burns with multiple trauma, burns with definitive airway compromise.
Delayed/Serious
10-20% TBSA 2nd/ 3rd degree burn. Suspected inhalation injury or potentially requiring intubation, normotensive GCS>14
Minor
<10% TBSA 2nd/3rd degree burn. No inhalation injury, not intubated, normotensive GCS>14
Pediatric
Pediatrics are defined as anyone under the age of 15 years
**Priority Patients: Immediate/critical patients with a head injury should be transferred to a level 1 or level 2 trauma facility as soon as possible.