

Oregon Burn Center



*The only one in Oregon.
Only at Emanuel.*

State Mass Burn Casualty Plan

www.legacyhealth.org



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Introduction

The purpose of this plan is to develop a systematic response to an event that generates a surge of burn patients requiring initial care in a hospital setting. A Burn Mass Casualty Disaster is defined as any catastrophic event in which the number of burn victims exceeds the capacity of the local burn center to provide care. Capacity includes the availability of burn beds, burn surgeons, burn nurses, support staff, operating rooms, equipment, supplies and related resources.

The American Burn Association (ABA) defines burn center surge capacity as the capacity to handle up to 50% more than normal maximum number of burn patients when there is a disaster. The Oregon Burn Center at Legacy Emanuel Medical Center is the only burn center in the state and has a capacity of 16 beds, which can be used for critical care or acute care of the burn injured. This places our current burn surge capacity at 24 patients.

The Oregon Burn Center is part of the American Burn Association Western Region Burn Mass Casualty Consortium, which serves as a communication and coordination center for burn bed census and/or patient triage and transfer.

The Burn Surge Mass Casualty Plan includes:

- Utilizing existing incident command systems within EMS (including use of Medical Resource Hospital, MRH) and hospital emergency management plans
- Likelihood of local and regional hospitals needing to care for burn patients for an extended period of time until transfer arrangements are made
- Burn unit placement may require transport outside of Oregon, depending on the size of the event; the Western Region Burn Disaster Consortium (WRBDC) will assist with the coordination of patient triage and transfer in this case.
- The Oregon Burn Center will assist hospitals with the secondary triage

*** The list of burn centers part of the Western Region Burn Disaster Consortium is in the appendix ***

Triage and Prioritization for Patient Placement

In the event of a burn mass casualty event, there may be deviation from the normal standards for referral and transfer to a burn center. It is our goal, as well as the Western Region Burn Disaster Consortium, to place patients requiring definitive inpatient burn care in a burn center within **96 hours** of the injury.

Field Triage

Triage of large incidents is an objective sorting process that considers the available resources to do the greatest good for the greatest number of people. The rapid categorization of patients combines acuity and survivability with the number of resources available. EMS will perform this function according to acceptable standards, e.g. START and color coding of patients for transport to the nearest facility or trauma center.

Burn Specific Considerations for the Field or Scene Initial First Aid

- Universal precautions
- Stop the burning process
- Remove clothing and jewelry
- If chemical agent suspected, rinse with water according to protocols
- Apply clean, dry dressing
- KEEP the patient warm

Determine the Size and Severity of the Burn

The severity of a burn is determined by the extent of body surface area involved, the depth of skin damaged, age of patient and presence of comorbidities and/or complications.

The extent of burn injury is expressed as the percentage of total body surface area (TBSA) burned. In addition to the severity of the injury, the estimated TBSA guides fluid rates during resuscitation.

It is extremely important to note that first degree or superficial burns are NOT included when estimating TBSA.

The most common and easiest guide to use during a mass casualty event is the “Rule of Nines”. When a burn injury is small or irregularly shaped, the size of the patient’s hand, including the fingers, can be used to represent 1% of the body surface area.

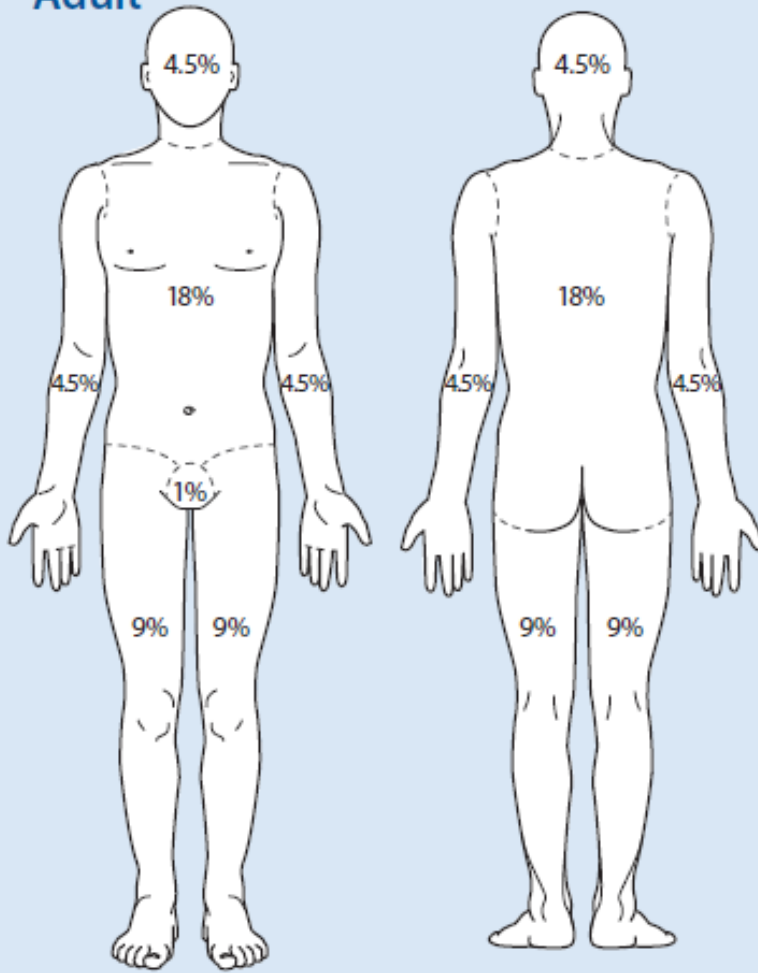
Initial Fluid Rate for burn that is suspected to be >20% TBSA

≤ 5 yr old: LR @125 ml/hr

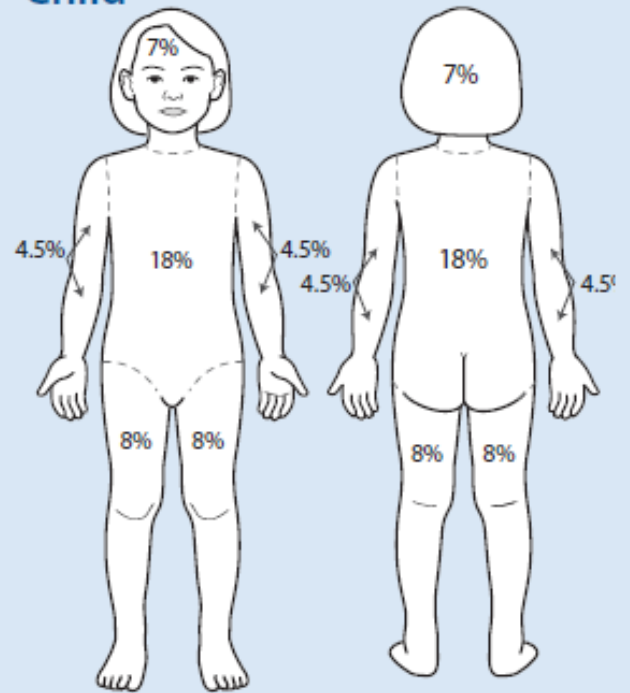
6-13 yr old: LR @ 250 ml/hr

≥14 yr old: LR @ 500 ml/hr

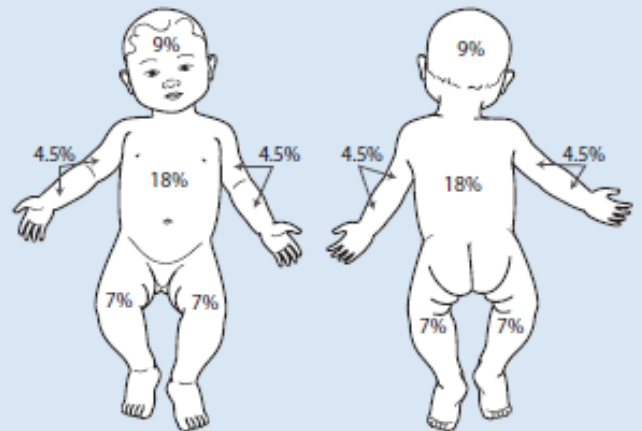
Adult



Child



Infant



Rule of Palm


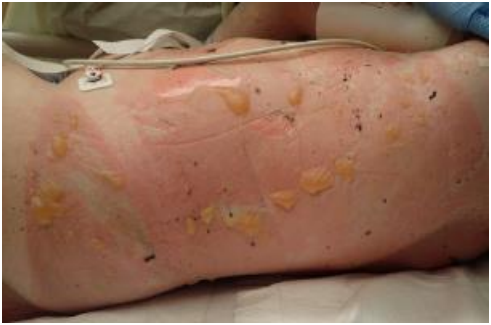

Use the size of the patient's hand, including fingers, as 1%

*** Worksheets that help with determining the size of the burn are in the appendix ***

Burn Depth

Burn injuries can change in appearance over the first several days after the injury. In a mass casualty event, it will be important to assess the size of the burn roughly every 24 hours.

Please note that first degree or superficial burn injury is not included in the calculation of total body surface area.

Burn Type	Characteristics	TBSA	Example
First Degree or <i>Superficial</i>	<ul style="list-style-type: none">• Red• Painful• Blanches• Moist or dry• May have blisters• May become edematous	DO NOT INCLUDE in the calculation of TBSA.	
Second Degree or <i>Partial Thickness</i>	<ul style="list-style-type: none">• Can be red or white• Dryer or blisters• May be moist or dry• Blanches• Not as painful	Include in calculation of TBSA	
Third Degree or <i>Full Thickness</i>	<ul style="list-style-type: none">• White, cherry red, brown or black• Hard and leathery• Painless• Does not blanch	Include in calculation of TBSA	

Hospital Triage

The following table can help receiving hospital with resource allocation and initial management treatment decisions.

Please remember that only partial and full thickness (2nd and 3rd degree) burns are calculated in the percent of Total Body Surface Area (%TBSA).

Age	Burn Size Group, % TBSA									
	0-9%	10-19%	20-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-89%	≥90%
0-1.9	Minor	Minor	Delayed	Delayed	Delayed	Delayed	Urgent	Urgent	Expectant	Expectant
2-4.9	Outpatient	Minor	Delayed	Delayed	Delayed	Delayed	Delayed	Urgent	Expectant	Expectant
5-19	Outpatient	Minor	Delayed	Delayed	Delayed	Delayed	Delayed	Urgent	Expectant	Expectant
20-29	Outpatient	Minor	Delayed	Delayed	Delayed	Urgent	Urgent	Urgent	Expectant	Expectant
30-39	Outpatient	Minor	Delayed	Delayed	Urgent	Urgent	Urgent	Urgent	Expectant	Expectant
40-49	Outpatient	Minor	Delayed	Delayed	Urgent	Urgent	Urgent	Urgent	Expectant	Expectant
50-59	Outpatient	Minor	Delayed	Urgent	Urgent	Urgent	Urgent	Expectant	Expectant	Expectant
60-69	Minor	Delayed	Urgent	Urgent	Urgent	Expectant	Expectant	Expectant	Expectant	Expectant
≥70	Minor	Urgent	Urgent	Expectant	Expectant	Expectant	Expectant	Expectant	Expectant	Expectant

To better assist with resource allocation during a disaster, the following information can be helpful:

	Mortality	Estimated Length of Stay	Surgical Procedures
Outpatient	< 10%	None	None
Minor	≤ 10%	Up to 21 days	1 -2
Delayed	≤ 10%	Up to 21 days	Multiple
Urgent	50 – 90 %	>21 days	Many
Expectant	>90%		

Oregon Burn Center 503-413-4232 or 1-888-598-4232

Burn Specific Destination Prioritization

In order to facilitate patient distribution to regional hospitals and available burn centers, multiple factors will be considered.

- All adult and pediatric patients with a burn injury greater than 90% will receive comfort and palliative care in a local or regional hospital.
- Minor burns that can be cared for on an outpatient basis, should be instructed to follow up with primary care.

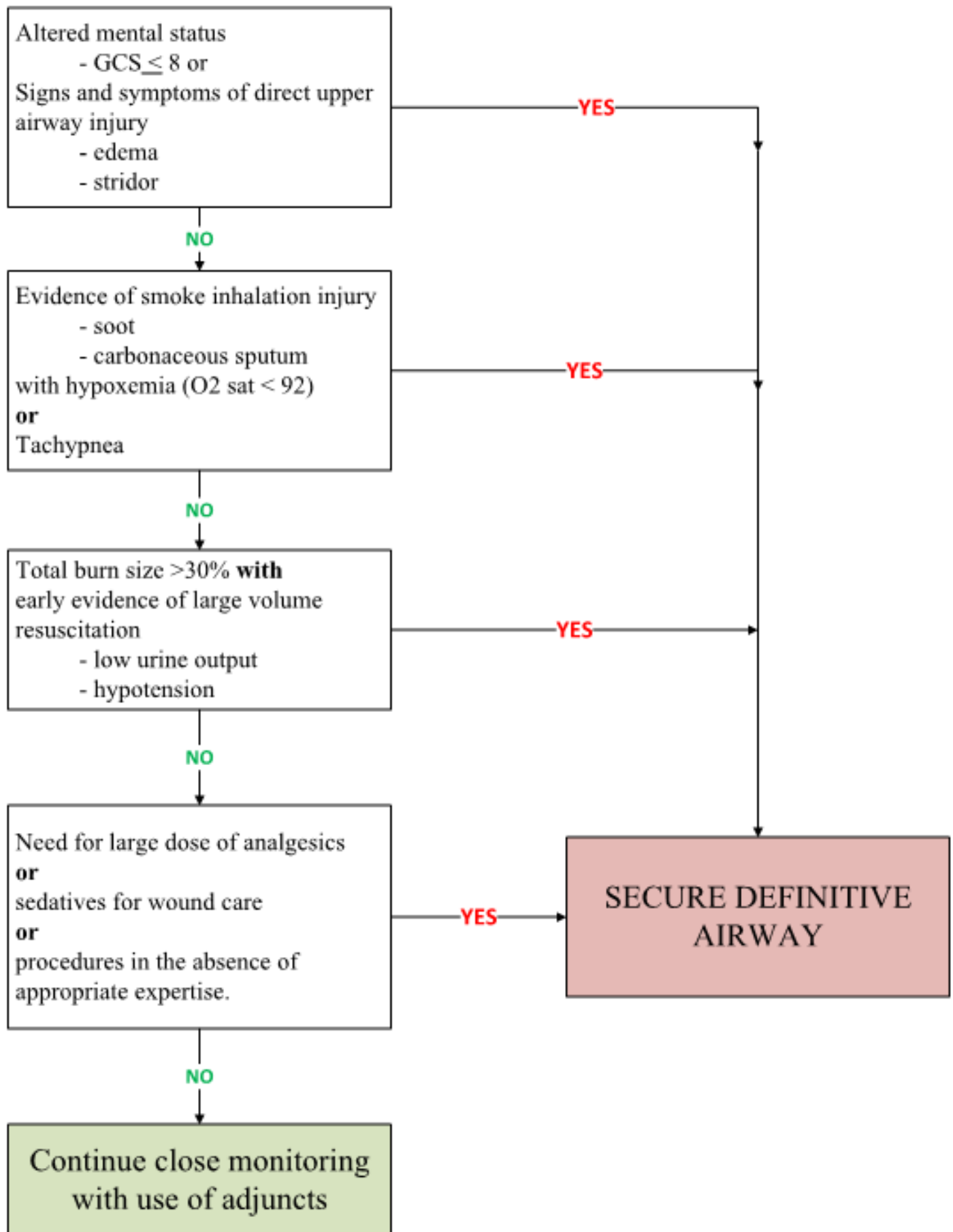
In the event of a burn mass casualty incident occurring outside the Portland Metro Area, all injured patients should be immediately transported to local and regional hospitals as determined by the incident Patient Destination Coordinator and local or regional dispatch services.

Hospitals who have received burn injured patients should call the burn center after the initial evaluation. Calls from hospitals will be directed to the Burn Clinical Information Nurse who will take incoming information and coordinate communication for ongoing care and final receiving burn facility.

After evaluation at an initial hospital, receiving facility and timing of transfer will be determined based on location and available resources. **Local and regional facilities may be required to care for the burn injured patient for up to 96 hours.** Burn injured patients may be transported to burn centers throughout or beyond the western region, and will be determined with the help of the Western Region Burn Disaster Consortium.

Within the Portland Metro Area			Outside of Metro Area OR if Significant Disruption to Transportation Infrastructure		
	Destination	Communications		Initial Destination	Definitive Facility
Adult + Peds 40-90% TBSA	Legacy Emanuel	MRH, OBC and Incident Commander to coordinate	Adult + Peds 40-90% TBSA	Closest Trauma Center or area hospital with Critical Care capabilities as determined by Incident Commander	Contact Oregon Burn Center for Coordination of care and accepting Burn Center 503-413-4232 OR 1-888-598-4232
Adult + Peds Intubated and >20% TBSA	Legacy Emanuel		Adult + Peds Intubated and >20% TBSA		
Adults <40% or >90% TBSA	As assigned by MRH - preferably local Trauma Centers		Adults <40% or >90% TBSA		
Peds <20% or >90% TBSA	Hospitals able to provide qualified personnel and equipment for care of children – As assigned by MRH		Peds <20% or >90% TBSA	Hospitals able to provide qualified personnel and equipment for care of children	

Decision Matrix for Intubation for Burn Injury



Burn Specific Considerations added to the

Primary Assessment

Airway	<ul style="list-style-type: none"> If concern for inhalation injury or prolonged exposure to smoke, check Carboxyhemoglobin Consider associated trauma related to C-Spine needs 	<ul style="list-style-type: none"> Please see decision matrix for intubation
Breathing	<ul style="list-style-type: none"> Adequate and equal chest expansion High flow O2 for patients with altered level of consciousness 	<ul style="list-style-type: none"> Burn involving large areas of upper torso may require Escharotomies for adequate chest expansion
Circulation	<ul style="list-style-type: none"> Burn injuries require large amounts of PO and/or IV fluid replacement Alert patients with <20% TBSA, can use oral fluid for resuscitation FREE WATER IS TOXIC – causes hyponatremia, cerebral edema and death 	<p>Initial Fluid Rates for >20% TBSA</p> <p>≤ 5 yr old: LR @ 125 ml/hr 6-13 yr old: LR @ 250 ml/hr ≥14 yr old: LR @ 500 ml/hr</p> <p>LR or Plasmalyte for IV Fluid NS can cause acidosis when used in large volumes</p>
Disability	<ul style="list-style-type: none"> For ALOC – consider associate trauma, Carbon Monoxide toxicity or Cyanide toxicity <p>Carbon Monoxide Toxicity</p> <ul style="list-style-type: none"> Mild=headache, lethargy, dizziness Moderate=sedation, vomiting, syncope, chest pain Severe=coma, seizures, focal neurologic deficits, acidosis <p>Cyanide Toxicity</p> <ul style="list-style-type: none"> Mild=dizziness, headache, vomiting Moderate or Severe = lactic acidosis, tachycardia, depressed mental status progressing to coma, apnea, hypotension, seizures, cardiac arrest 	<p>Carbon Monoxide Toxicity</p> <ul style="list-style-type: none"> Mild = Room air or low flow O2 for up to 5 hours Moderate and Severe = high flow O2 for 6 hours post normalization <p>Cyanide Toxicity</p> <ul style="list-style-type: none"> Mild = Oxygen Moderate and Severe = Oxygen plus hydroxocobalamin
Exposure	<p>Keeping patients warm is CRITICALLY important</p>	<p>Remove clothing and jewelry Cover with clean, dry dressing or sheet</p>

Burn Specific Considerations added to the Secondary Assessment

Airway	Burns >30% may need intubation secondary to how the fluid resuscitation is going or the degree of oral and facial edema	Be mindful of supplemental oxygen and ventilator resources. <ul style="list-style-type: none"> • If able, raise head to 30° to reduce facial and oral edema
Breathing	Assess need for chest or abdominal compartment syndrome effecting adequate chest expansion	<ul style="list-style-type: none"> • May need to reduce acceptable pulse oximeter thresholds to 90 or 92% based on available resources
Circulation	<p>Calculate adjusted IV fluid rates when weight and TBSA have been estimated</p> <ul style="list-style-type: none"> • The adjusted rates are estimates • Ideally, fluid is titrated based on Urine output <p>Maintain Goal Urine Output of: Adult = 30-50 ml/hr Child = 1 ml/kg/hr Infant = 2 ml/kg/hr</p> <p>With ability to monitor Urine Output: If urine output is OVER goal – decrease resuscitation fluid rate by 10-20% If urine output is UNDER goal – increase resuscitation fluid rate by 10-20%</p> <p>Oral Fluid Resuscitation (see pg 13 for ingredients)</p> <ul style="list-style-type: none"> • <20% TBSA – Oral hydration can be used • 20-40% TBSA – Oral hydration can be used in conjunction with IV fluids • >40% TBSA require IV fluids <p>Frequently check all areas for compartment syndrome including the abdomen, chest, distal pulses, capillary refill and sensation</p>	<p>Adjusted Resuscitation Fluid Rates Give ½ of total in first 8 hours Give the other half over next 16 hours</p> <p>Flame or Scald <14 yr old = 3 ml LR x kg x %TBSA ≥14 yr old = 2 ml LR x kg x %TBSA</p> <p>Electrical Injury All ages = 4 ml LR x kg x %TBSA</p> <p style="background-color: yellow;">Pediatrics <30 kg ADD Maintenance using 4-2-1 Formula</p> <p style="color: red;">Maintenance fluid does NOT get titrated – stays constant</p> <p style="text-align: center;">Use D5LR</p> <ul style="list-style-type: none"> • 4 ml/hr for each kg up to 10 kg • 2 ml/hr for each kg from 11-20 kg • 1 ml/hr for each kg from 20-30 kg <p>Oral Hydration MUST contain glucose and electrolytes (pg 13) – free water is TOXIC in quantities required for burn resuscitation <2 yr old – 1 teaspoon q 1-2 mins >2 yr old – 8-10 ounces q 10-15 mins Adjust based on urine output - Occasional nausea and vomiting is inevitable, but not a reason to discontinue oral resuscitation</p> <p>Elevate injured extremities above the heart to help with edema</p>
Disability	Assess for new or continuing ALOC and possible causes	When resources are available consider: <ul style="list-style-type: none"> • Head CT and associated Trauma • Blood Gas • Carboxyhemoglobin • Chemistries • Hematocrit • Chest Xray
Exposure	Every effort should be made to keep patients warm and dry	<p>Cool the burned area with clean water for not more than 10 mins Application of a petroleum-based ointment can greatly reduce pain</p> <ul style="list-style-type: none"> • Bacitracin • Petroleum jelly • Burn creams

Special Care Topics for Burn Patients

<p>Blast Injury</p>	<ul style="list-style-type: none"> • Lungs are very susceptible to injury • Must balance between over resuscitation, which will worsen pulmonary contusions and under resuscitation. • Lung and GI tract injuries may have delayed presentation 	<ul style="list-style-type: none"> • Trauma trumps burn <ul style="list-style-type: none"> - Priority should be damage control resuscitation and surgery as needed - CT scans are invaluable 			
<p>Radiation Injury</p>	<ul style="list-style-type: none"> • Radiation Burns can have a delayed onset • Treat radiation burns as thermal burns • Patients with signs and symptoms of radiation exposure in the first 4 hours, check CBC with Diff every 6-8 hours for first 24-48 hours; supportive care • Oregon Radiation Treatment Injury Network (RITN) Hospital is located at OHSU 503-494-8311 	<p>Follow Decontamination Protocols After decontamination, it is safe to care for patients with standard PPE</p> <ul style="list-style-type: none"> • Vomiting <1 hour post exposure <ul style="list-style-type: none"> - Severe Exposure, likely > 4 Gy - Watch for hypotension, hyperthermia, CNS symptoms • Vomiting 1-4 hours post exposure <ul style="list-style-type: none"> - Exposure likely 1-4 Gy - Watch for Acute Radiation Syndrome 			
<p>Hypermetabolic State</p>	<p>The hypermetabolic state of burn patients</p> <ul style="list-style-type: none"> • Elevated heart rate • Elevated temperature <ul style="list-style-type: none"> - In the first week post injury mildly elevated temperatures 38-39 are expected and NOT a sign of infection - DO NOT give prophylactic antibiotics 	<p>Tachycardia is >130 in Adult</p> <ul style="list-style-type: none"> • During the first 24 hours of fluid resuscitation, if the urine output is adequate – consider pain or sedation as cause • Post fluid resuscitation (usually >48 hours) consider Propanolol for sustained heart rate >125 • Treat arrhythmias as indicated • Monitor electrolytes Temperature • For the first week after injury - do not consider febrile unless >38.9 			
<p>Pain Management</p>	<ul style="list-style-type: none"> • Resources regarding pain management will be limited. • Consider using inhaled Nitrous Oxide during procedures and/or dressing changes (contraindicated with some traumatic injuries) • Protecting wounds from exposure to the air and environment helps to reduce pain and risk of infection. • Elevating burned extremities decreases swelling and pain. • Application of a petroleum-based ointment (polysporin) with an occlusive dressing can reduce pain in first and second degree burns. • Antianxiolytics should be used liberally in the burn injured patient. • Medications appropriate for pain management of burn injured patients: <table border="1" data-bbox="431 1898 1016 1982"> <tr> <td data-bbox="431 1898 1016 1982"> <p>Acute/Procedural</p> <ul style="list-style-type: none"> • Ketamine IV, IM, Infusion </td> <td data-bbox="1016 1898 1502 1982"> <p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral </td> </tr> </table>	<p>Acute/Procedural</p> <ul style="list-style-type: none"> • Ketamine IV, IM, Infusion 	<p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral 	<table border="1" data-bbox="1016 1898 1502 1982"> <tr> <td data-bbox="1016 1898 1502 1982"> <p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral </td> </tr> </table>	<p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral
<p>Acute/Procedural</p> <ul style="list-style-type: none"> • Ketamine IV, IM, Infusion 	<p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral 				
<p>Other Long Acting</p> <ul style="list-style-type: none"> • Methadone PO, Enteral 					

	<ul style="list-style-type: none"> • Fentanyl IV, Infusion, PO, Intranasal, Enteral • Morphine IV, Infusion, IM, PO, Enteral • Hydrocodone IV, Infusion, PO, Enteral • Oxycodone PO, Enteral <p>Less Potential for Respiratory Depression:</p> <ul style="list-style-type: none"> • Butorphanol IV, IM, Intranasal • Nalbuphine IV, IM • Buprenorphine SL, TD, IV 	<p>Neuropathic Pain</p> <ul style="list-style-type: none"> • Gabapentin PO, Enteral -Decreases narcotic requirement <p>Anti-anxiolytics</p> <ul style="list-style-type: none"> • Lorazepam IV, PO, Enteral • Clonidine PO, Enteral • Amitriptyline PO, Enteral
Wound Care	<ul style="list-style-type: none"> • Identify and train a wound-care team • Prepare a venue for wound care <ul style="list-style-type: none"> - Even in austere environments, basic infection control concepts can and must be pursued - Dedicated wound care area would ideally allow patient bathing, privacy, and hand-washing - Dressing Supply Cart • Establish a process for daily wound care and inspection <ul style="list-style-type: none"> - “Durable” dressings, such as silver impregnated dressings, do not need to be changed daily • Determine availability of topical antimicrobials and plan their rational use • Provide adequate analgesia and anxiolysis • Decrease inpatient workload by doing early surgery and outpatient follow-up 	<ul style="list-style-type: none"> • Wound care should include washing the wounds with mild soap and warm tap water with a wash cloth and patting dry • Burned scalp and faces should be shaved daily during wound care • Lotion for all superficial (1st degree) burns • Polysporin (Bacitracin) and petroleum based dressings for mild 2nd degree • Mafenide and silver sulfadiazine creams should be used when available for deeper wounds • Alternatives include silver-based dressings and aqueous mafenide acetate solution • Alternative durable dressings that are not changed daily: <ul style="list-style-type: none"> - Acticoat - Aquacel - Mepilex
Nutrition	<p>Start feeding as soon as possible</p> <p>Pediatric and Obese patients will require special considerations</p> <ul style="list-style-type: none"> - For obese patient use ideal body weight 	<p>Burn >20% TBSA will require enteral feeding supplementation (Non-Obese, Adults only)</p> <p>30-35 kcal per kg every 24 hours</p> <p>Patients who are intubated or unable to take in required nutritional needs, place an oral or nasogastric feeding tube in order to supplement needs</p>
Positioning	<p>Positioning, splinting and exercise of extremities and joints is crucial to maintaining as much function as possible as well as facilitating circulation. Stretching and range of motion should be done twice daily.</p>	<ul style="list-style-type: none"> • Socks or washcloth, rolled in hand to avoid fisting • Elbows extended • Wrist neutral • Knees straight • Ankles at a right angle

Common Supplies for Burn Patients

Wound Care	<ul style="list-style-type: none"> - Kerlix (6 inch rolls easiest to work with) - 4x4's - Scissors or Trauma Sheers - Xeroform. Petroleum based dressing or Non-stick dressing - Hibiclens or Mild Soap - Water Basins - Washcloths and Towels - Tape
Pharmacy	<ul style="list-style-type: none"> - Ringers Lactate - PlasmaLyte (if available) - Pain Medications - Albumin - Silvadene (Silver Sulfadiazine) - Polysporin (Bacitracin)
General Care	<ul style="list-style-type: none"> - Fluid warmers - Bear Huggers - Blankets - Indwelling or external catheters, Urinals (Equipment for accurate Output measurement) - Extra pillows to elevate extremities - Extra Chucks - Isolation Gowns (if possible)
Oral Rehydration Solutions	<ul style="list-style-type: none"> - 1 liter of water with 1 teaspoon of table salt (3g) and 3 tablespoons of sugar (36g) - A worldwide list of manufacturers and distributors of ORS products can be found at http://rehydrate.org/resources/suppliers.htm

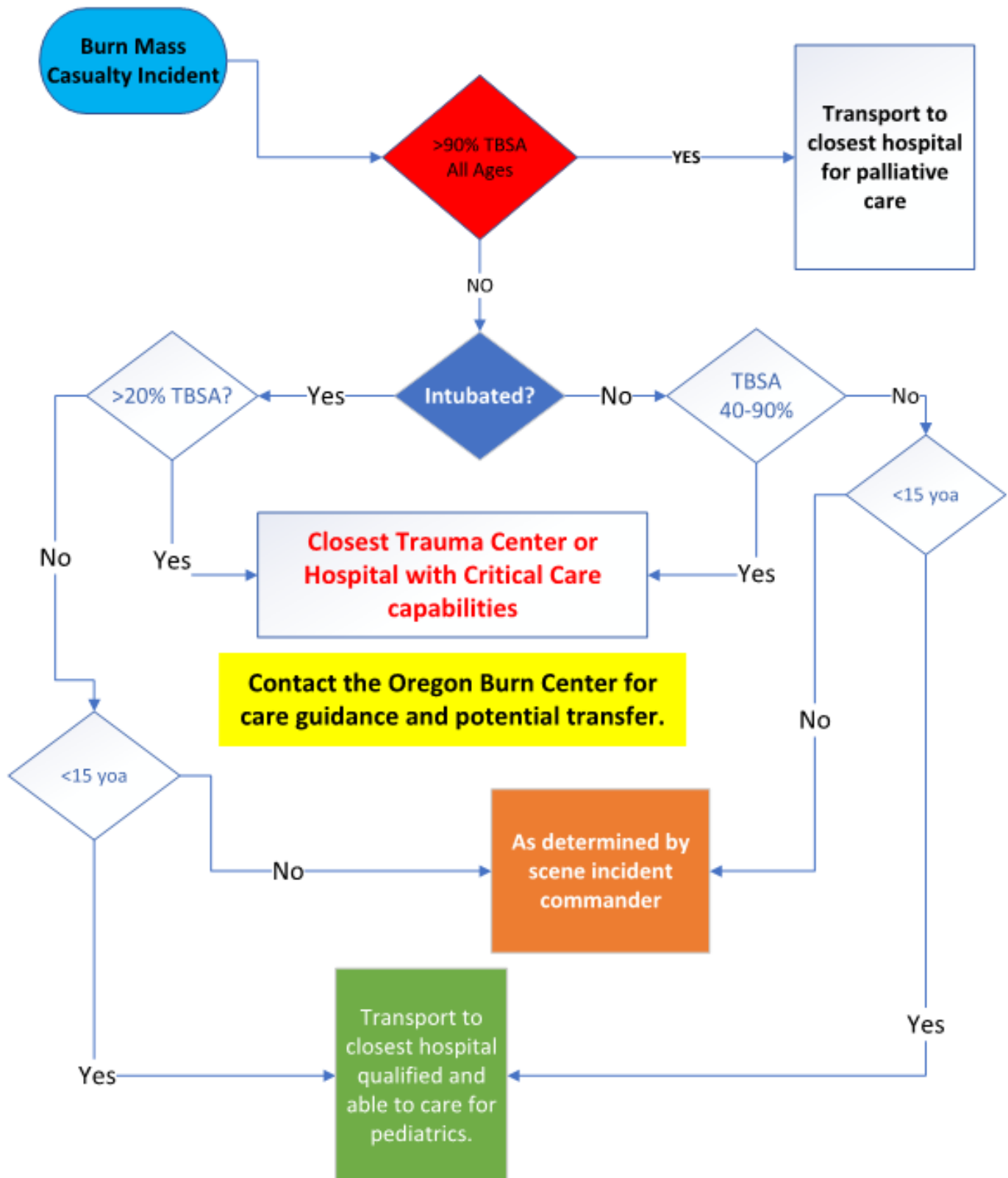
Solution	Na ⁺	K ⁺	Cl ⁻	Base	Glucose	Osmolality
Rehydration						
WHO-UNICEF ORS salts	90	20	80	10 (citrate)	111 (20g/L)	310
WHO-UNICEF reduced osmolarity ORS salts	75	20	65	10 (citrate)	75 mmol/L	245
Meyer's solution	85	0	63	29 (citrate)	0	160
Rehydralyte [®]	75	20	65	30	139 (25g/L)	325
Infalyte [®] or Ricelyte [®] liquid, oral	50	25	45	36 (citrate)	30 g/L as rice syrup solids	270
Lytren [®]	50	25	45	10 (citrate)	111 (20g/L)	290
Pedialyte [®]	45	20	35	10 (citrate)	140 (25g/L)	250
Resol [®]	50	20	50	11 (citrate)	111 (20g/L)	270
Gatorade [®]	20	3	20	3	250 (35g/L)	280
Cola	2	0.1	2	13 (HCO ₃)	730	750
Ginger ale	3	1	2	4 (HCO ₃)	500	540
Apple juice	3	28	30	0	690	730
Chicken broth	250	8	250	0	0	450
Tea	0	0	0	0	0	5

ORS, oral rehydration solution. Manufacturer information: Rehydralyte: Abbott Pharmaceutical Company, Abbott Park, IL; Infalyte: Mead Johnson and Company, Glenview IL; Ricelyte: Mead Johnson and Company, Glenview, IL; Lytren: Mead Johnson and Company, Glenview, IL; Pedialyte: Abbott Pharmaceutical Company, Abbott Park, IL; Gatorade: Gatorade Company, Chicago, IL.

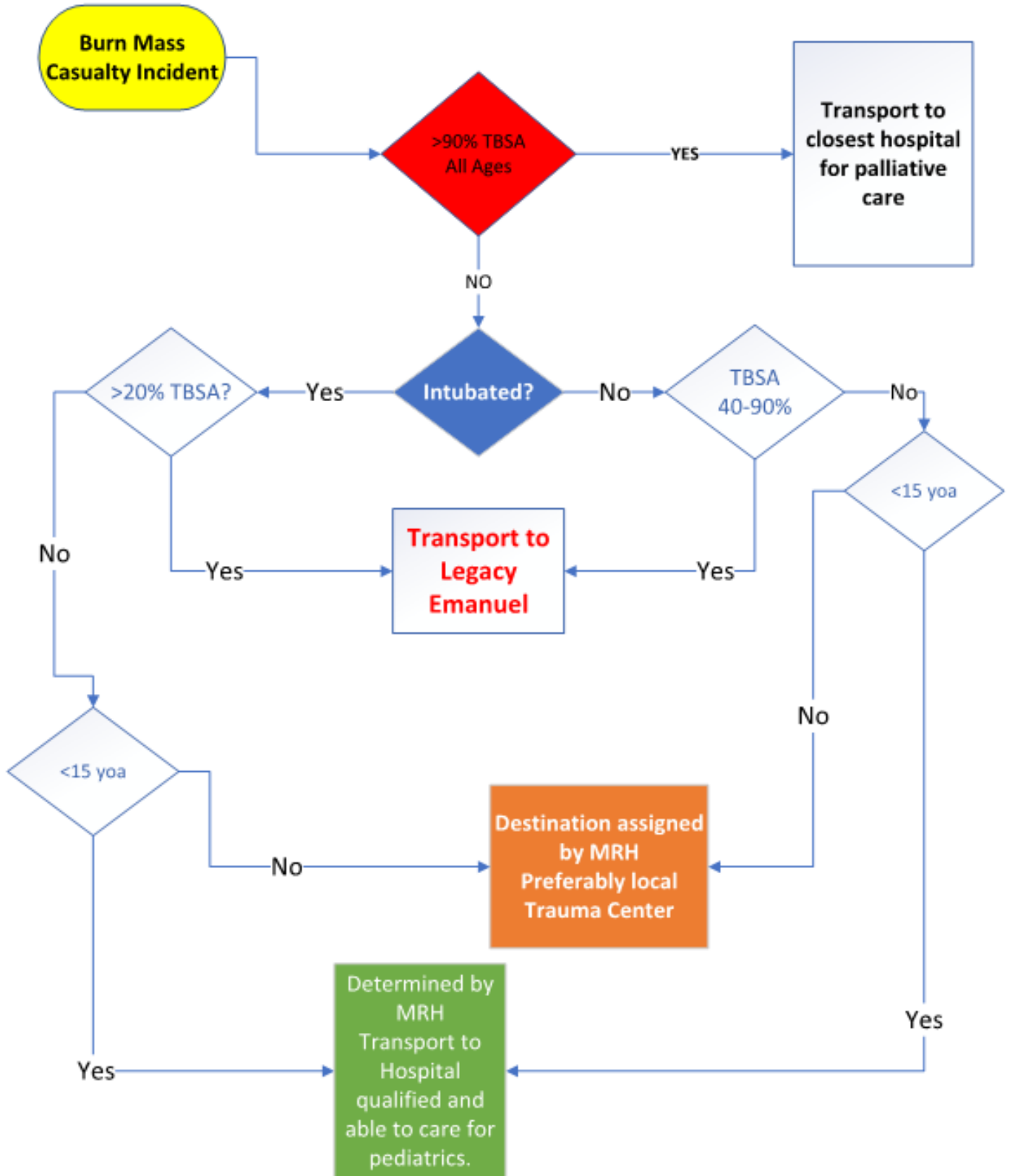
Western Region Burn Disaster Consortium Mass Casualty Incident Data Sheets

Facility Name	Helipad	Total Unit Beds	Adult	Peds	Facility Phone Number
Arizona					
Arizona Burn Center at Maricopa Medical Center	YES	44	x	x	602-344-5726
Banner University Medical Center Tucson	yes	34	x	x	520-694- 0111
California					
Bakersfield Memorial Hospital	Yes	7	x	x	661-323-2876
The Edward G. Hirschman Burn Center at Arrowhead Regional Medical Center	Yes	14	x	x	909-580-2100
Community Regional Leon S. Peters Burn Center	Yes	10	x	x	559-459-4220
Southern California Regional Burn Center at LAC & USC Medical Center		20	x	x	323-409-7991
UCI Regional Burn Center		8	x	x	714-456-5304
Firefighters Burn Institute Regional Burn Center UC Davis Medical Center	YES	12	x		916-734-3636
Shriners Hospitals for Children - Northern California		25		x	916-453-2111
UCSD Regional Burn Center	YES	18	x	x	619-543-6502
Bothin Burn Center at Saint Francis Memorial Hospital	NO	16	x	x	415-353-6255
Santa Clara Valley Medical Center Regional Burn Center	YES	8	x	x	408-885-6666
Orange County Global Medical Center	Yes	7	x	x	714-953-2377
Torrance Memorial Medical Center		12	x	x	310-517-4622
The Grossman Burn Center-West Hills	YES	32	x	x	818-676-4177
Colorado					
University of Colorado Hospital Burn Center	YES	19	x		720-848-7583
Children's Hospital Colorado	YES	12		x	303-549-4636
Burn and Reconstructive Centers of Colorado	YES	14	X	X	855-863-9595
Western States Burn Center	YES	10	x		970-810-6099
Hawaii					
Straub Clinic and Hospital Burn Unit	No	7	x	x	808-522-3731
Idaho					
Eastern Idaho Regional Medical Center Burn and Reconstructive Centers of Idaho	YES	16	x	x	208.529.7855
Nevada					
Lions Burn Center-UMC	YES	16	x	x	702-383-2268
Sunrise Hospital and Medical Center					855 863-9595
New Mexico					
New Mexico Regional Burn Center	YES	6	x	X	505-272-2721
Oregon					
Oregon Burn Center	YES	16	x	x	503-413-4232
Utah					
University of Utah Burn Center	YES	15	x	x	801-581-2700
Washington					
University of Washington Regional Burn Center	YES	40	x	x	206-744-3140

Outside of Portland Metro area **OR** Significant disruption to transportation infrastructure



Incident in Portland Metro Area **AND** all transportation routes open





BMCI Patient Medical Data Form

MRN: _____

Date & Time: _____ Mode of Transport & ETA: _____

Patient Identification	<p>Name: _____ DOB: _____ AGE: _____ SEX: M/F Weight: _____ kg/lb</p> <p>Burn Date: _____ Burn Type: _____ TBSA: _____</p> <p>Mechanism of Injury: _____ Inhalation injury: Y/N Intubated: Y/N</p> <p>Fluid Resuscitated: Y/N Peripheral IV: <input type="checkbox"/> Central Line <input type="checkbox"/> A-Line Escharotomy: <input type="checkbox"/> Fasciotomy: <input type="checkbox"/></p>
Contact Information	<p>Referring Hospital: _____ Referring Physician: _____</p> <p>Contact Number: _____</p> <p>Accepting Hospital: _____ Accepting Physician: _____</p> <p>Contact Number: _____ Telemedicine Completed: Y/N</p> <p>Notification: <input type="checkbox"/> Spouse/S.O. <input type="checkbox"/> Parent <input type="checkbox"/> Other: _____ Name: _____</p> <p>Contact Number: _____</p>
Patient Information	<p>Code Status: Full code/No code: <input type="checkbox"/> DNR <input type="checkbox"/> DNI <input type="checkbox"/> Advanced directives: Is Document Present: Y/N</p> <p>Traumatic Injuries: Y/N Type: _____</p> <p>Last Vital Signs: HR: _____ RR: _____ B/P: _____ Temp: _____ O2 sat: _____</p> <p>Diabetic: Y/N last meal: _____ Insulin Drip: Y/N Last Blood Sugar (date, time and value): _____</p> <p>Tetanus Booster: Y/N (Last Date of Tetanus): _____</p> <p>Critical Meds- MAR Attached: Y/N (if not attached: include medication, dose, route and time given): _____</p> <p>_____</p> <p>Critical Labs: _____</p> <p>Pertinent DX Exams: _____</p> <p>_____</p>
Organ Systems	<p>Neuro: Dx: _____ GCS: _____ PERRLA: _____</p> <p>Pulmonary: Dx: _____ ETT Size: _____ Depth: _____ FiO2: _____</p> <p>Vent Settings: _____ Chest tube: _____ ABG: _____</p> <p>Cardiovascular: Dx: _____ Rhythm/ Ectopy: _____</p> <p>Vasoactive Drips: _____</p> <p>Renal: Dx: _____ Foley: Y/N Volume last hour _____ ml Dialysis: Y/N</p> <p>Last Dialysis (Date/Time): _____</p> <p>GI: Dx: _____ NPO: Y/N Reason: _____ Feeding Tube: Y/N</p>
Sending Facility	<p>Time & Date departed: _____</p> <p>Equipment Sent with Patient: <input type="checkbox"/> IV Pumps: _____ <input type="checkbox"/> Monitor: _____ <input type="checkbox"/> Pulse Oximeter: _____</p> <p>Ventilator/CPAP/BIPAP: _____ Other: _____</p> <p>Items Sent with the Patient: _____</p>
Receiving Facility	<p>Time & Date Arrived: _____ Received by: _____</p> <p>Receiving Facility MR#: _____</p> <p>Equipment Received with Patient: _____</p> <p>Items Received with patient: _____</p>

Interpreter: Y/N

Language:

Sign Language: Y/N

Past Medical History:

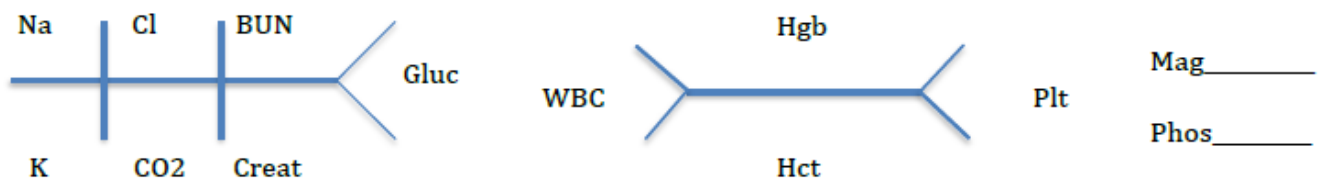
Allergies:

Medications (include dose, route, time given) :

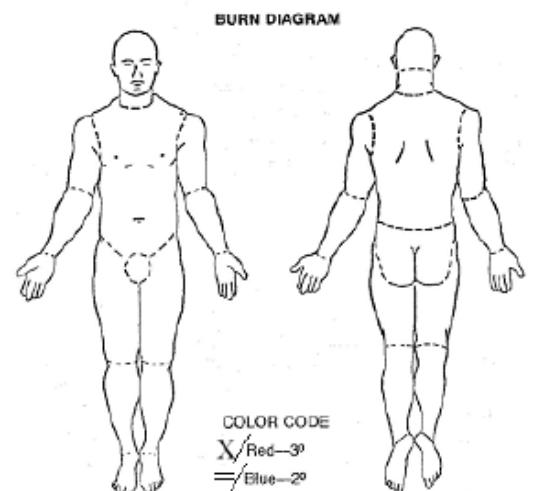
All Continuous IV infusions including rate & dose:

Feeding Tube: Formula Type and Rate:

Labs:



Narrative Summary of Care:



Referring Facility _____
 Referring Physician _____
 Date of Injury _____ Approximate Time of Injury _____
 Age _____ Sex _____
 Cause of Burn _____

SEVERITY DETERMINATION

Second Degree (Partial Thickness)

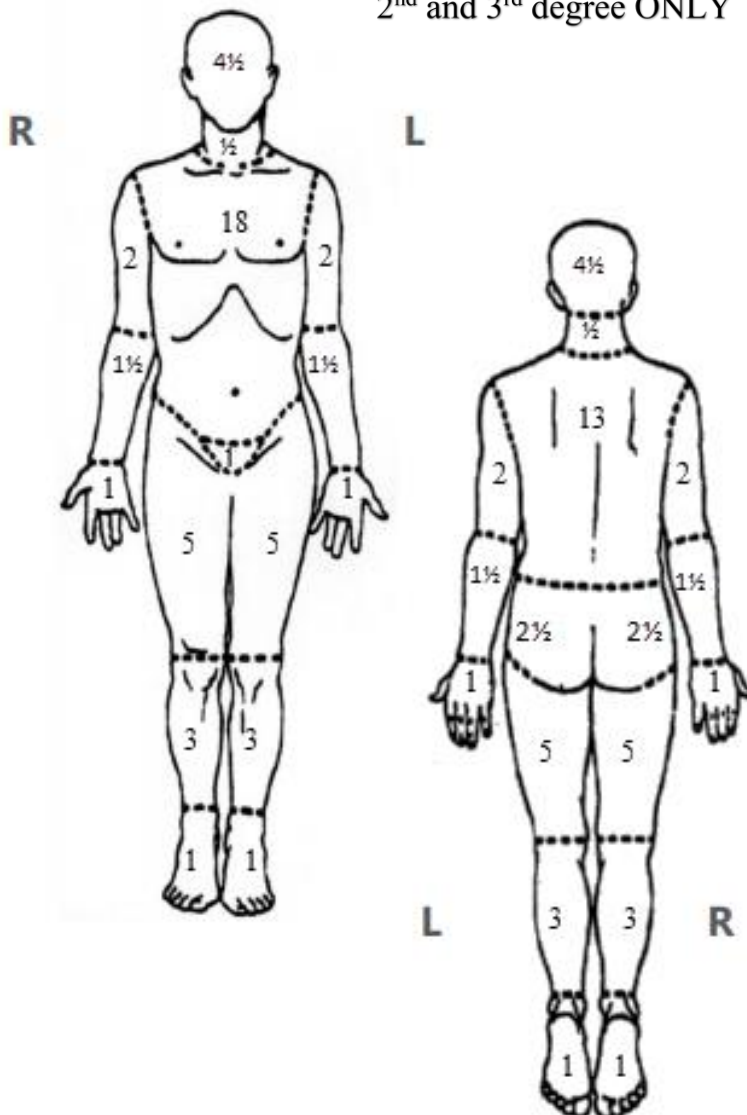
Skin may be red, blistered, swollen, wet

Third Degree (Full Thickness)

*Skin may be white (non-blanching),
cherry red or charred*

Burn Size Estimation by Percent

Color in areas that are burned
2nd and 3rd degree ONLY



	Anterior	Posterior
Head		
Neck		
R Upper Arm		
R Forearm		
R Hand		
L Upper Arm		
L Forearm		
L Hand		
Trunk		
Buttock		
Perineum		
R Thigh		
R Lower Leg		
R Foot		
L Thigh		
L Lower Leg		
L Foot		
% Total Area Burned		

Patient Sticker

Referring Facility _____
 Referring Physician _____
 Date of Injury _____ Approximate Time of Injury _____
 Age _____ Sex _____
 Cause of Burn _____

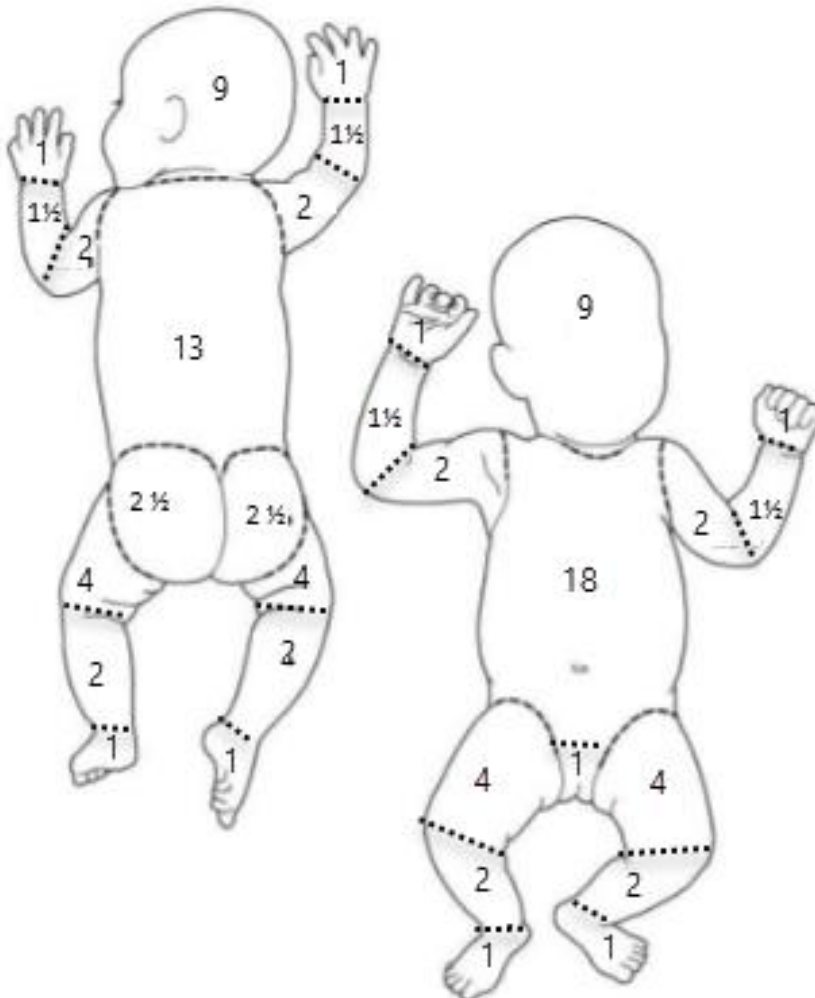
SEVERITY DETERMINATION
Second Degree (Partial Thickness)
 Skin may be red, blistered, swollen, wet

Third Degree (Full Thickness)
 Skin may be white (non-blanching),
 cherry red, or charred

Burn Size Estimation by Percent

The patient's palm represents 1% TBSA and can be used to help measure total TBSA

Color in areas that are burned
 2nd and 3rd degree ONLY



	Anterior	Posterior
Head		
Neck		
R Upper Arm		
R Forearm		
R Hand		
L Upper Arm		
L Forearm		
L Hand		
Trunk		
Buttock		
Perineum		
R Thigh		
R Lower Leg		
R Foot		
L Thigh		
L Lower Leg		
L Foot		
% Total Area Burned		

Referring Facility _____
 Referring Physician _____
 Date of Injury _____ Approximate Time of Injury _____
 Age _____ Sex _____
 Cause of Burn _____

SEVERITY DETERMINATION

Second Degree (Partial Thickness)

Skin may be red, blistered, swollen, wet

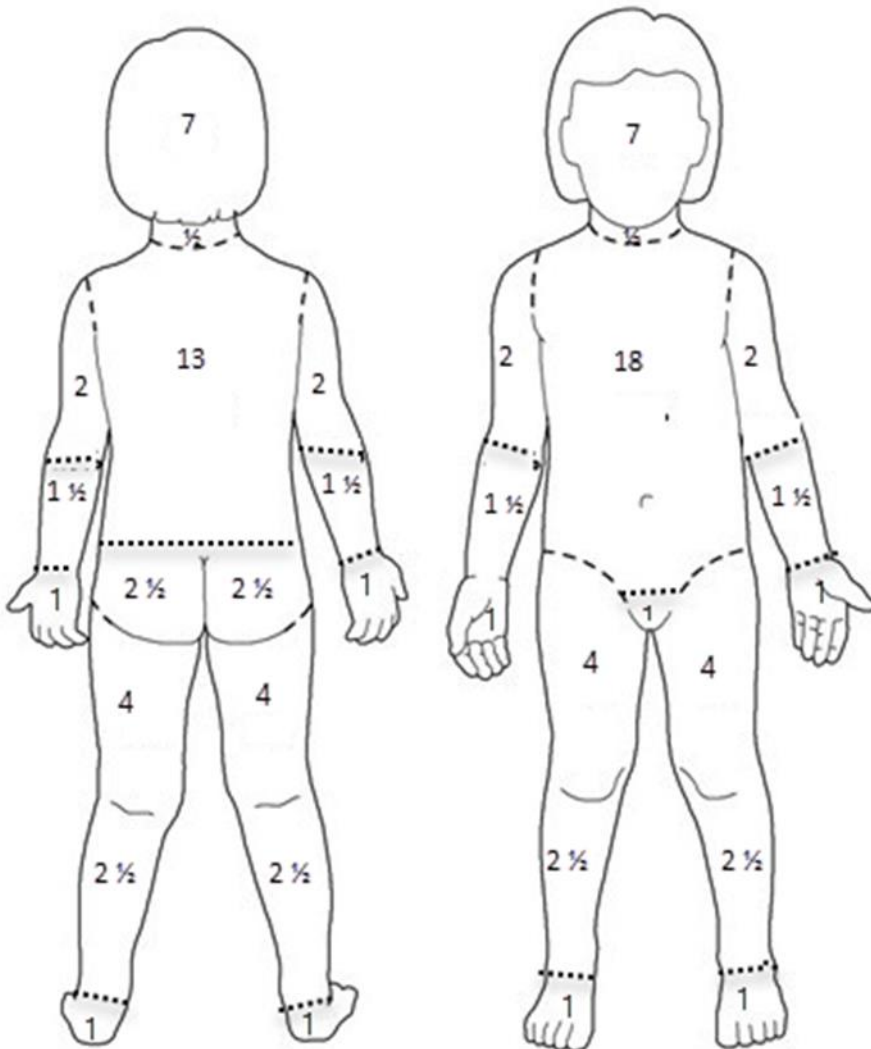
Third Degree (Full Thickness)

Skin may be white (non-blanching), cherry red, or charred

Burn Size Estimation by Percent

The patient's palm represents 1% TBSA and can be used to help measure total TBSA

Color in areas that are burned
 2nd and 3rd degree ONLY



	Anterior	Posterior
Head		
Neck		
R Upper Arm		
R Forearm		
R Hand		
L Upper Arm		
L Forearm		
L Hand		
Trunk		
Buttock		
Perineum		
R Thigh		
R Lower Leg		
R Foot		
L Thigh		
L Lower Leg		
L Foot		
% Total Area Burned		

Resources

- Cancio, L. C., Barillo, D. J., Kearns, R. D., Holmes IV, J. H., Conlon, K. M., Matherly, A. F., ... Holmes, J. H. 4th. (2017). Guidelines for Burn Care Under Austere Conditions: Surgical and Nonsurgical Wound Management. *Journal of Burn Care & Research*, 38(4), 203–214. <https://doi.org/10.1097/BCR.0000000000000368>
- Cancio, L. C., Sheridan, R. L., Dent, R., Hjalmarson, S. G., Gardner, E., Matherly, A. F., ... Palmieri, T. (2017). Guidelines for Burn Care Under Austere Conditions: Special Etiologies: Blast, Radiation, and Chemical Injuries. *Journal of Burn Care & Research*, 38(1), e482–e496. <https://doi.org/10.1097/BCR.0000000000000367>
- Kearns, R. D., Conlon, K. M., Matherly, A. F., Chung, K. K., Bebart, V. S., Hansen, J. J., ... Palmieri, T. L. (2016). Guidelines for Burn Care Under Austere Conditions: Introduction to Burn Disaster, Airway and Ventilator Management, and Fluid Resuscitation. *Journal of Burn Care & Research*, 37(5), e427–e439. <https://doi.org/10.1097/BCR.0000000000000304>
- Young, A. W., Graves, C., Kowalske, K. J., Perry, D. A., Ryan, C. M., Sheridan, R. L., ... Palmieri, T. (2017). Guideline for Burn Care Under Austere Conditions: Special Care Topics. *Journal of Burn Care & Research*, 38(2), e497–e509. <https://doi.org/10.1097/BCR.0000000000000369>