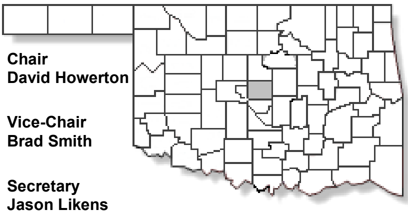


Oklahoma City Area (8) Regional Trauma Advisory Board
REGULAR MEETING
Tuesday, April 13, 2021 – 1:00 p.m.

Location of Meeting: Microsoft Teams
https://teams.microsoft.com/l/meetup-join/19%3ameeting_OTM2NWFmYzEtMWRmZC00MWRmLWE5MTgtYmUwOTAzMTdhZTIw%40thread.v2/0?context=%7b%22Tid%22%3a%229a307864-3e98-4f08-b90a-728b62cf32c5%22%2c%22Oid%22%3a%22463c8334-e408-4d1d-b4eb-52f4b934efe4%22%7d
Join by Phone: +1 405-898-0717 United States, Oklahoma City (Toll)
Conference ID: 108 085 925#

There is no physical meeting location. All Advisory Council Members are participating remotely via the Microsoft Teams platform shown above. Advisory Council Members are:

David Howerton, Chair/Medical Control Board, Jason Likens, Secretary/Samaritan EMS – Tinker AFB, AllianceHealth Midwest/Meghan Ayotte, Cedar Ridge/Heather Jospeh, Community Hospital/Brad Smith, CuraHealth Oklahoma City/Stephanie Tsonetokoy, Edmond - AMG Specialty Hospital/Erick Heflin, Emergency Physicians of Midwest City, LLC/Michael Kalcich, EMS for Children/Delores Welch, EMSA - West Division/David Gooshaw, Inspire Specialty Hospital/Keith Kalinich, INTEGRIS Baptist Medical Center, Inc./Janice Statzer, INTEGRIS Baptist Physicians Group/David W. Smith, MD, INTEGRIS Community Hospital - Council Crossing/Samantha K. Mitchell, INTEGRIS Health Edmond, Inc./Angie Heigle, INTEGRIS Southwest Medical Center/Jacob Lovell, Lakeside Women's Hospital/Garret Graziano, McBride Orthopedic Hospital/Jeremy Podany, Mercy ER Physicians/Juan Nalagan, Mercy Hospital Oklahoma City, Inc./Holli Howard RN, Mercy Rehabilitation Hospital Oklahoma City/Sharon Smeltzer, Midwest Regional EMS/Maxine Council, Northwest Surgical Hospital/Dusty Ervin, Oakwood Springs, LLC/Karen Walker, OKC-AMG Specialty Hospital/Eric Heflin, Oklahoma Center for Orthopaedic & Multi-Specialty Surgery/Jo Wyer, Oklahoma ER & Hospital/Tom Vo, MD, Oklahoma Heart Hospital South, LLC/Devin Hamilton, Oklahoma Heart Hospital, LLC/Sarah Hering, Oklahoma Spine Hospital/Aaron Burns, OneCore Health/Valerie Henry, OU Medicine/Lindsey Henson, Samaritan EMS (Bethany/Warr Acres)/Jason Likens, Select Specialty Hospital - Oklahoma City, Inc./John Yakel, SSM Health St. Anthony Hospital - Oklahoma City EMS/George Benard, SSM Health St. Anthony Hospital - Oklahoma City/George Benard, Summit Medical Center/Curtis Summers, Surgical Hospital of Oklahoma/Mindy Burkhart, Team Health Physicians Southwest/Mark Keuchel, The Children's Center, Inc./Amy Clevenger, Valir Rehabilitation Hospital of OKC, LLC/Ginger Castleberry

AGENDA

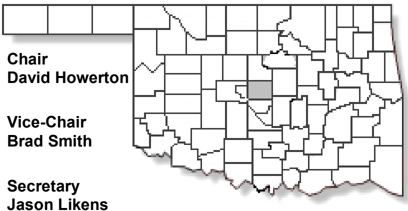
I. Call to Order…………………………………………………………….………David Howerton, Chair

II. Roll Call……………………………………………………..…………….Jason Likens, Secretary

III. Introductions and Announcements...……………………………………………David Howerton, Chair

IV. Approval of Minutes – October 13, 2020……………………………………David Howerton, Chair

V. Reports/Updates
   A. Emergency Systems………………………..…………………………………..Jennifer Woodrow
   B. Oklahoma Trauma and Emergency Response Advisory Council……………………Eddie Sims
   C. Quality Improvement Committee……………………….……….Eddie Sims, Committee Chair
   D. Trauma Rotation Committee………………………….……Dr. David Smith, Committee Chair
   E. Regional Planning Committee………………………….…...…..Brad Smith, Committee Chair
   F. Regional Medical Response System………………………..……….....…..Heather Yazdanipour
   G. EMS for Children…………………………..…………………………………..Delores Welch
   H. OU Medicine Community Outreach……………………….…………...……....Lindsay Lindsey
   I. Strategic Goal Work Group……………………….……….…………………....George Benard
   J. Region 8 prehospital trauma transports……………………………...…David Howerton, Chair



VI. Business

A. Discussion, consideration, possible action and vote to approve amendments to the Region 8 Trauma Plan pending review of the approved Letter Schedule of Escalation and placement within the Region 8 Trauma Plan………………………………..………David Howerton, Chair

VII. Presentation

A. Non-Accidental Trauma…………………………………………………………Dr. Larissa Hines

VIII. New Business (For matters not reasonably anticipated 48 hours prior to the meeting)

IX. Next Meetings

A. Oklahoma Trauma and Emergency Response Advisory Council
June 2, 2021 – 1:00 p.m.

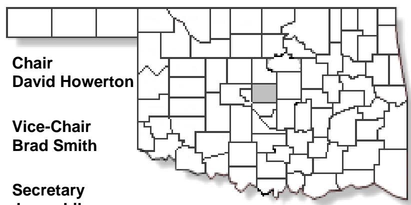
B. Combined Region 6 & 8 Quality Improvement Committee
July 13, 2021 – 10:30 a.m.

C. Region 8 Regional Trauma Advisory Board
July 13, 2021 – 1:00 p.m.

D. Regional Planning Committee
As Called

X. Closing, Adjournment, and Dismissal

**If the audio is disconnected at any point during the meeting, Board Members will attempt to rejoin. The meeting will reconvene upon reconnection using the same platform and access codes. If unable to restore connections for a maximum of 15 minutes, the meeting will be adjourned.*



Chair
David Howerton

Vice-Chair
Brad Smith

Secretary
Jason Likens

Oklahoma City Area (8) Regional Trauma Advisory Board

Microsoft Teams
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Optional Phone Number – 405-898-0717; Conference ID 965 468 332
October 13th, 2020 – 1:00 pm

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There is no physical meeting location, and the following Board Members are participating remotely using the Microsoft Teams teleconferencing platform:

AllianceHealth Midwest
Emergency Physicians of Midwest City, LLC
INTEGRIS Baptist Medical Center, Inc.
INTEGRIS Southwest Medical Center
Mercy Hospital Oklahoma City, Inc.
Oklahoma Heart Hospital, LLC
OU Medicine
Samaritan EMS (Bethany/Warr Acres)
SSM Health St. Anthony Hospital – Oklahoma City EMS
Community Hospital
EMSA – West Division
INTEGRIS Health Edmond, Inc.
Medical Control Board
Midwest Regional EMS
Oklahoma Spine Hospital
Samaritan EMS – Tinker AFB
SSM Health St. Anthony Hospital – Oklahoma City
The Children's Center

There is no physical meeting location, and the following General Members are participating remotely using the Microsoft Teams teleconferencing platform:

Cedar Ridge
Edmond – AMG Specialty Hospital
Inspire Specialty Hospital
INTEGRIS Community Hospital – Council Crossing
McBride Orthopedic Hospital
Mercy Rehabilitation Hospital Oklahoma City
Oakwood Springs, LLC
OKC – AMG Specialty Hospital
Oklahoma Heart Hospital South, LLC
Select Specialty Hospital – Oklahoma City, Inc.
Surgical Hospital of Oklahoma
Valir Rehabilitation Hospital of OKC, LLC
CuraHealth Oklahoma City
EMS for Children
INTEGRIS Baptist Physicians Group
Lakeside Women's Hospital
Mercy ER Physicians
Northwest Surgical Hospital
Oklahoma Center for Orthopedic and Multi-specialty Surgery
Oklahoma ER & Hospital
OneCore Health
Summit Medical Center
Team Health Physicians Southwest

I. Call to Order
The meeting was called to order at 1:00 pm by Chair David Howerton.

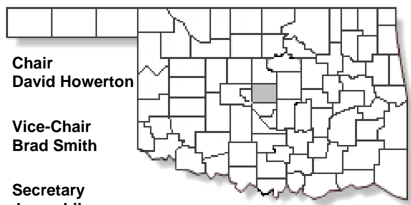
II. Welcome and Introductions – Chair David Howerton
Chair David Howerton welcomed members with no introductions made.

III. Roll Call – Chair David Howerton
Roll call was taken with members present and absent reflected on the attached attendance sheet.

IV. Approval of Minutes – July 14th, 2020 – Chair David Howerton
A motion to approve the minutes as written was made by EMSA – West Division and seconded by SSM Health St. Anthony Hospital – Oklahoma City. There was no discussion, and the motion passed 15-0.

V. Reports/Updates

A. Emergency Systems quarterly activity report – Daniel Whipple
Katrina Warden was hired as the Special Projects Coordinator. Her duties will include assisting with the Trauma Care Assistance Revolving Fund and other special projects as they arise. The State of Oklahoma purchased the SandRidge Energy Tower. The building has been renamed to the Oklahoma Commons Building and the Oklahoma State Department of Health along with a few other State agencies will move into the facility in the near future. The deadline for Trauma Fund applications for



Oklahoma City Area (8) Regional Trauma Advisory Board

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Optional Phone Number – 405-898-0717; Conference ID 965 468 332
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hospitals will be November 30th, 2020 and the deadline for EMS agencies and EMS physicians and physician groups will be December 15th, 2020. No trainings are currently scheduled for Trauma Registry or OKEMSIS. The position for OKEMSIS is still vacant and posted for anyone interested. EMS regulation updates went into effect on September 11th, 2020 and are available for review on the Emergency Systems website. EMS agencies needing a new unit inspections should use the following link found on the Emergency Systems website to schedule the date/time and location of the inspection: https://www.ok.gov/health/Protective_Health/Emergency_Systems/EMS_Division/Ambulance_Services_&_EMRAs/Inspections/index.html.

B. Oklahoma Trauma and Emergency Response Advisory Council (OTERAC) report from previous meeting – Eddie Sims
The Council last met on October 7th, 2020. Points of discussion included issues regarding reporting disease and injuries to the Health Department through a new process, options for the new data registry for stroke, and OTERAC subcommittee's goals. Business conducted at the meeting included approval of proposed 2021 meeting dates and approval of stroke triage guidelines developed by the Oklahoma State Stroke System Advisory Committee (OSSSAC) for prehospital patients.

C. Quality Improvement Committee quarterly activity report – Eddie Sims
The Committee last met today before the RTAB and reviewed 10 to 12 cases and one response letter. Business conducted included approval of the Letter Schedule of Escalation Proposal approved by OTERAC. Due to a large increase in the number of Priority 1 patients delivered to a Level IV Trauma Center last quarter, the Committee will begin reviewing all of these cases individually.

D. Trauma Rotation Committee report from previous meeting – Dr. David Smith
The committee last met on September 15th, 2020; points of discussion and business conducted included the following:

- Review of the Trauma Rotation Committee Bylaws
- Facial trauma discussion regarding coverage and support of SSM Health St. Anthony Hospital – Oklahoma City. Hospital agreements for additional face coverage will end October 31st, 2021 with SSM Health St. Anthony Hospital – Oklahoma City resuming full coverage beginning November 1st, 2020.
- Receive call schedules for February through July of 2021
- Review and approval of updated language on the bottom of the Metro Call Schedule clarifying that pediatric coverage is only required of the on call hospital for hand trauma. The Trauma Rotation Schedule is available on the Oklahoma County Medical Society website for review. Anyone that has any physicians that can provide hand, face, or neuro coverage should contact Dr. Smith directly.

DI. Regional Planning Committee (RPC) report from previous meeting – Brad Smith
The RPC plans to meet soon and is currently reviewing regional plans regarding burns with the goal of identifying where to appropriately deliver adult and pediatric burn patients. The committee is also reviewing the prehospital and interfacility T3 Guidelines to identify possible needed updates to include prioritization of burn patients and identification of regional burn centers. A meeting is planned with EMSA, INTEGRIS Baptist Medical Center, and OU Medicine to begin work on recommendations for new criteria for the delivery of burn patients. OU Medicine is currently accepting patients with equal or up to 20% burns with the Medical Control Board protocol reflecting the same.

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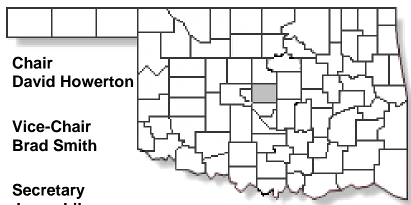

Oklahoma City Area (8) Regional Trauma Advisory Board

Microsoft Teams
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67 F. Regional Medical Response System (RMRS) quarterly activity report – Heather Yazdanipour
68 RMRS was unable to attend the July meeting due to being busy with the delivery of personal
69 protective equipment (PPE) for the COVID response with over 4.5 million pieces of PPE delivered to
70 Regions 6/8. That task has been taken over by OEM and RMRS is now currently working with OHA
71 and OSDH to develop a COVID Surge Plan. RMRS has also been given a new task of working
72 through EMResource data to identify consistent errors with hospitals reporting PPE numbers.
73 RMRS presented this morning at the Oklahoma City Council meeting regarding extension of the mask
74 mandate which was voted to be extend until December 6th, 2020.
75
76 G. EMS for Children quarterly activity report – Delores Welch
77 EMS for Children had no report.
78
79 H. OU Medicine Community Outreach quarterly activity report – Lindsay Lindsey
80 OU Medicine is currently unable to provide outside education due to COVID. With the help of
81 Delores Welch and EMS for Children, OU Medicine was able to acquire a grant that enabled the
82 purchase of Rural Trauma Team Development Course books and several Stop the Bleed kits to be
83 donated to the schools at the time of the training.
84
85 I. Strategic Goal work group quarterly activity report – George Benard
86 No representative was available for report.
87
88 **VI. Business**
89 A. Discussion, consideration, possible action, and vote to approve the Combined Region 6/8 CQI
90 Committee's Letter Schedule of Escalation Proposal – Jamie Lee
91 Jamie Lee reviewed the Region 6/8 QI Committee's Letter Schedule of Escalation Proposal noting the
92 proposal was prompted due to a 2019 state average of responding to QI letters of 50%. The proposal
93 was presented to OTERAC and approved with the goal of a 100% response rate. A motion to approve
94 the Combined Region 6/8 CQI Committee's Letter Schedule of Escalation Proposal was made by
95 Midwest Regional EMS and seconded by OU Medicine. There was no discussion and the motion
96 passed 15-0.
97
98 B. Discussion, consideration, possible action, and vote to approve the CQI Committee recommendation
99 that the RTAB and QI Committee Chairs draft and send a letter to licensed hospitals and ambulances
100 services regarding the continuous quality improvement process – Jamie Lee
101 To ensure all members are aware of the quality improvement process, every licensed hospital and
102 ambulance service will receive a letter informing them of the purpose and outline of the process. A
103 motion to approve the QI Committee recommendation that the RTAB and QI Committee Chairs draft
104 and send a letter to licensed hospitals and ambulance services regarding the continuous quality
105 improvement process was made by EMSA – West Division and seconded by Community Hospital.
106 There was no discussion and the motion passed 15-0.
107
108 C. Discussion, consideration, possible action, and vote to approve 2021 Board Meeting dates, times, and
109 venues – David Howerton
110 a. January 12th, 2021 at 1:00 pm – INTEGRIS Southwest Medical Center
111 b. April 13th, 2021 at 1:00 pm – Mercy Hospital Oklahoma City
112 c. July 13th, 2021 at 1:00 pm – INTEGRIS Baptist Medical Center
113 d. October 12th, 2021 at 1:00 pm – OU Medicine

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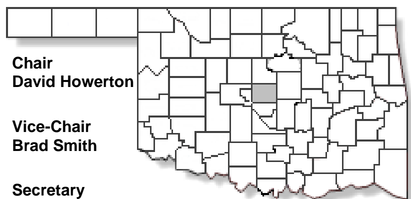

Oklahoma City Area (8) Regional Trauma Advisory Board

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October 13th, 2020 – 1:00 pm

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114 D. Discussion, consideration, possible action, and vote to approve 2021 Committee membership – David
115 Howerton
116 a. Regional Planning Committee
117 b. Quality Improvement Committee
118 David Howerton presented the proposed 2021 Board Meeting dates, times, and venues and the
119 proposed 2021 Regional Planning Committee and Quality Improvement Committee membership. A
120 motion to approve Business Items C and D was made by SSM Health St. Anthony Hospital –
121 Oklahoma City and seconded by Mercy Hospital Oklahoma City, Inc. There was no discussion and the
122 motion passed 15-0.
123
124 **VII.** **New Business** – Chair David Howerton
125 (for matters not reasonably anticipated 48 hours prior to the meeting)
126 No new business was presented.
127
128 **VIII.** **Next Meetings** – Chair David Howerton
129 A. Combined Region 6 & 8 Quality Improvement Committee
130 January 12th, 2021 – 10:00 am
131 B. Region 8 Regional Trauma Advisory Board
132 January 12th, 2021 – 1:00 pm
133 C. Regional Planning Committee
134 As Called
135 D. Oklahoma Trauma and Emergency Response Advisory Council
136 As called
137 E. OTERAC Systems Improvement and Development Work Group
138 As Called
139 F. OTERAC Medical Direction and Coordination Committee
140 As called
141 G. OTERAC Education and Training Committee
142 As called
143 H. OTERAC Regulations Work Group
144 As called
145
146 **IX.** **Adjournment** – Chair David Howerton
147 A motion to adjourn was made by SSM Health St. Anthony – Oklahoma City and seconded by EMSA-
148 West. The meeting adjourned at 1:39 pm.

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8 REGIONAL TRAUMA ADVISORY BOARD

BOARD MEMBER ATTENDANCE

BOARD MEMBER	REPRESENTATIVE	1Q	2Q	3Q	4Q	YTD
ALLIANCEHEALTH MIDWEST	Meghan Ayotte	X		X	A	67%
COMMUNITY HOSPITAL	Brad Smith Terra Collie	X		X	X	100%
EMERGENCY PHYSICIANS OF MIDWEST CITY, LLC	Michael Kalcich Michael Padgham	X		X	X	100%
EMSA - WEST DIVISION	David Gooshaw Zack Sinsheimer	X		A	X	67%
INTEGRIS BAPTIST MEDICAL CENTER, INC.	Janice Statzer Marla Lincecum	A		X	A	33%
INTEGRIS HEALTH EDMOND, INC.	Angie Heigle Angie Kamermayer	X		X	X	100%
INTEGRIS SOUTHWEST MEDICAL CENTER	Jacob Lovell Sonia Reeves	X		X	X	100%
MEDICAL CONTROL BOARD	David Howerton Jeff Reames	X		X	X	100%
MERCY HOSPITAL OKLAHOMA CITY, INC.	Holli Howard RN Jennifer Bramlett	X		X	X	100%
MIDWEST REGIONAL EMS	Maxine Council	X		X	X	100%
OKLAHOMA HEART HOSPITAL, LLC	Sarah Hering Devin Hamilton	X		X	X	100%
OKLAHOMA SPINE HOSPITAL	Aaron Burns	X		A	A	33%
OU MEDICINE	Lindsey Henson Lindsey Lindsay	X		X	X	100%
SAMARITAN EMS - TINKER AFB	Jason Likens Chris Prutzman	X		X	X	100%
SAMARITAN EMS (BETHANY/WARR ACRES)	Jason Likens Chris Prutzman	X		X	X	100%
SSM HEALTH ST. ANTHONY HOSPITAL - OKLAHOMA CITY	George Benard Michelle Faulkner	X		X	X	100%
SSM HEALTH ST. ANTHONY HOSPITAL - OKLAHOMA CITY EMS		X		X	X	100%
THE CHILDREN'S CENTER, INC.	Amy Clevenger	X		X	X	100%

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REGIONAL TRAUMA ADVISORY BOARD

GENERAL MEMBER ATTENDANCE

GENERAL MEMBER	REPRESENTATIVE	1Q	2Q	3Q	4Q	YTD
CEDAR RIDGE	Heather Jospeh	A		A	A	0%
CURAHEALTH OKLAHOMA CITY	Stephanie Tsonetokoy	A		A	A	0%
EDMOND - AMG SPECIALTY HOSPITAL	Erick Heflin Shana Branum	A		A	A	0%
EMS FOR CHILDREN	Delores Welch Caitlin Holland	X		A	X	67%
INSPIRE SPECIALTY HOSPITAL	Keith Kalinich Amy Clark	A		A	A	0%
INTEGRIS BAPTIST PHYSICIANS GROUP	David W. Smith, MD Jeffrey Sparkman, MD	X		X	X	100%
INTEGRIS COMMUNITY HOSPITAL - COUNCIL CROSSING	Smantha K. Mitchell Chris McAuliffe	X		A	A	33%
LAKESIDE WOMEN'S HOSPITAL	Alexandra Hensley Stacey Decker	X		X	X	100%
MCBRIDE ORTHOPEDIC HOSPITAL	Jeremy Podany Courtney Breckenridge	X		A	A	33%
MERCY ER PHYSICIANS	Juan Nalagan Lance Watson	X		X	A	67%
MERCY REHABILITATION HOSPITAL OKLAHOMA CITY	Sharon Smeltzer	A		A	A	0%
NORTHWEST SURGICAL HOSPITAL	Dusty Ervin Christina Mueller	X		A	A	33%
OAKWOOD SPRINGS, LLC		A		A	A	0%
OK CTR FOR ORTHO & MULTI-SPEC. SURG.	Jo Wyer Stacy Sargent	A		A	A	0%
OKC-AMG SPECIALTY HOSPITAL		A		A	A	0%
OKLAHOMA ER & HOSPITAL		A		A	A	0%
OKLAHOMA HEART HOSPITAL SOUTH, LLC	Devin Hamilton	X		X	X	100%
ONECORE HEALTH	Valerie Henry Stacy Sargent	X		X	A	67%
SELECT SPECIALTY HOSPITAL - OKLAHOMA CITY, INC.	John Yakel Michelle Belote	A		A	A	0%
SUMMIT MEDICAL CENTER	Curtis Summers	A		A	A	0%
SURGICAL HOSPITAL OF OKLAHOMA	Mindy Burkhart Kacy Pinnick	X		A	A	33%

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TEAM HEALTH PHYSICIANS SOUTHWEST	Mark Keuchel	A		A	A	0%
VALIR REHABILITATION HOSPITAL OF OKC, LLC	Ginger Castleberry Susan Huffstutler	A		A	A	0%

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Oklahoma City Regional Trauma Plan

Region 8

Developed by the Regional Planning Committee

Approved by RPC: 03/07/2007, 05/23/2018, 08/19/2019
Approved by RTAB: 03/13/2007, 07/10/2018, 10/08/2019, 04/13/2021
Amended and consolidated: 03/2008, 05/2011, 04/2014, 01/2015
Approved by OTSIDAC: 08/02/2006
Approved by OTERAC: 06/04/2014

Region 8 Trauma Plan

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Appendix A	Oklahoma Model Trauma Triage Algorithm
Appendix B	Trauma Transfer and Referral Center (TReC)
Appendix C	Hospital Standards Oklahoma Administrative Code
Appendix D	EMResource™ Usage
Appendix E	Advanced Life Support Assistance Protocol
Appendix F	Letter Schedule of Escalation

Approved by RPC: 03/07/2007, 05/23/2018, 08/19/2019
Approved by RTAB: 03/13/2007, 07/10/2018, 10/08/2019, 04/13/2021
Amended and consolidated: 03/2008, 05/2011, 04/2014, 01/2015
Approved by OTSIDAC: 08/02/2006
Approved by OTERAC: 06/04/2014

OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

I. GOALS / PURPOSE

A. Assure trauma patients are stabilized and transported to the closest, appropriate hospital facility with the available resources and capacity to provide definitive care in a timely fashion.

B. Support the Trauma Triage and Transport Guidelines to effectively reduce trauma morbidity and mortality.

C. Match a facility's resource with each trauma patients needs to ensure optimal and cost effective care is achieved.

D. This plan will not conflict with any rules and/or regulations that are in place now or may be written or changed in the future.

II. MISSION STATEMENT

In support of the statewide system, create a regional system of optimal care for all trauma patients, to ensure the right patient goes to the right place, receiving the right treatment, in the right amount of time.

III. REGION DESCRIPTION

Region 8 consists of Oklahoma County and its contiguous communities.

IV. 911 CAPABILITIES

Enhanced 911 serves region 8. Infrastructure is now in place for Wireless E-911 to incorporate E-911 to cell phones. Wireless E-911 is currently being implemented.

V. TRAUMA PRIORITY CATEGORIZATION

All injured patients must be identified and transported/transferred to the facility that provides the appropriate care based on the clinical needs of the patient. This should be done in a timely fashion with specific attention focused on preserving the highest level of care for major trauma patients. A three-tiered system designed to determine the appropriate hospital destination for all injured patients considers injury severity, severity risk, time and distance from injury to definitive care, and available resources to meet the region's specific needs.

Three trauma triage priorities are used in determining the appropriate destination for patients.

A. **Priority I Trauma Patients:**

These are patients with blunt or penetrating injury causing physiological abnormalities or significant anatomical injuries. These patients have time sensitive injuries requiring the resources of a Level I or "On-Call Facility". These patients should be directly transported to a Level I or "On-Call Facility" for treatment but may be stabilized at a Level III or Level IV facility, if needed, depending on location of occurrence and time and distance to the higher- level trauma center. If needed these patients may be cared for in a Level III facility if the appropriate services and resources are available.

B. **Priority II Trauma Patients:**

These patients are those that have potentially time sensitive injuries because of a high-energy event or single system injury. These patients do not have physiological abnormalities or significant anatomical injuries and can be transported to a trauma facility with the resources to perform a complete trauma evaluation and medical screening and can care for their injuries. Patients >20 weeks pregnant will also be considered Priority 2 trauma patients.

C. **Priority III Trauma Patients:**

These patients are without physiological instability, altered mentation, neurological deficit, or significant anatomical or single system injury that has been involved in a low energy event. These patients should be treated at the nearest treating facility or the patient's hospital of choice.

VI. CATEGORIZATION OF HOSPITALS

A. Hospital Providers in Region 8 include:

1. Level I: OU Medicine (OUM)
2. Level II: None
3. By Levels:

   <u>Level III:</u>

   a. INTEGRIS Baptist Medical Center
   b. INTEGRIS Health Edmond
   c. INTEGRIS Southwest Medical Center
   d. Mercy Hospital Oklahoma City
   e. AllianceHealth Midwest
   f. SSM Health St. Anthony Hospital – Oklahoma City

   <u>Level IV:</u>

   a. Community Hospital
4. Rehabilitation Hospitals:
   a. Edmond Specialty Hospital
   b. Inspire Specialty Hospital
   c. Valir Rehabilitation Hospital of OKC
   d. J.D. McCarty Center for Children with Developmental Disabilities
5. General Medical Surgical Hospitals that are Not Trauma Classified:
   a. McBride Clinic Orthopedic Hospital, LLC
   b. Oklahoma Center for Orthopedic & Multi-specialty Surgery
   c. Oklahoma Spine Hospital, LLC
   d. Orthopedic Hospital
   e. The Children's Center
   f. Kindred Hospital – Oklahoma City
   g. Lakeside Women's Hospital
   h. Northwest Surgical Hospital
   i. Oklahoma Heart Hospital

j. Renaissance Women's Center of Edmond
k. Select Specialty Hospital - Oklahoma City
l. Select Specialty Hospital – Oklahoma City, East Campus
m. Surgical Hospital of Oklahoma, LLC
n. Summit Medical Center, LLC

6. Psychiatric Hospitals
   Cedar Ridge Hospital (Psychiatric) in OKC

B. Region 8 Trauma Rotation On-Call Facility System
   1. Hospitals participating in the Region 8 Trauma Rotation On-Call Facility System are:
      a. Integris Baptist Medical Center, Inc.
      b. Integris Southwest Medical Center
      c. Mercy Hospital – Oklahoma City
      d. OU Medicine
      e. SSM Health St. Anthony Hospital – Oklahoma City

   The On-Call schedule is posted daily to the EMResource™ computer as a document. Additionally the EMResource™ computer posts the On-Call hospital as an FYI alert daily at the top of the Oklahoma West screen.

   2. On Call Facility Requirements: (Refer to Call Schedule)
      a. When "on call", each hospital will provide neurosurgery, facial trauma, and hand trauma (both adult and pediatric)….or arrange coverage through hospital transfer agreements.
      b. This schedule is for unassigned, Priority 2 patients with single-system injury, or at risk for injury that at least include neurosurgery, facial trauma, or hand trauma but currently stable, picked up by EMSA in its service area or transported into the metropolitan area from other regions of the State. As of September 1, 2013, isolated Priority 1 neurologically-injured patients transported directly by EMS within or into the OKC region will go to OUMC. All other patients will be transported to the closest, most appropriate facility.
      c. In order to maintain accurate statistics for patient transfers into Region 8 and to comply with interfacility triage and transfer criteria, all requests to the on-call hospital or physicians for the transfer of unassigned injured patients should be referred and managed through TReC.
      d. Each hospital will provide care for established patients, stable patients that have requested the facility, or patients arriving to their ED even on the date they are not the designated on-call hospital if they have the capability to do so.
      e. It is understood that the other hospitals may have to provide back-up coverage for a designated hospital.
      f. The On Call Facility will serve as a backup should the Level I Facility become overwhelmed or incapacitated.

VII. TRAUMA CENTER PROGRAM

Each hospital shall provide the level of Trauma Services for which the facility is licensed in accordance with the Hospital Standards Oklahoma Administrative Code (OAC) 310:667 (See Appendix C). It is important to incorporate all facilities in trauma planning and implementation, as well as, in the planning of transfer protocols.

VIII. TRAUMA TEAM

The team approach is optimal in the care of the multi- injured patient. The trauma center must have a written policy for notification and mobilization of an organized trauma team (in a Level I, "On-Call" Facility, or Level III facility) or to the extent that one is available (Level IV facility). The Trauma Team may vary in size and composition when responding to trauma activation. The physician leader or the advanced practice clinician on the trauma team will have preferably completed ATLS certification and is responsible for directing all phases of the resuscitation in compliance with ATLS protocol. Suggested composition of the trauma team can be found in the current version of "Resources for Optimal Care of the Injured Patient by the Committee on Trauma, American College of Surgeons".

The required Trauma Physician Specialties are defined in the Hospital Standards Oklahoma Administrative Code (OAC) 310:667 (See Appendix C).

IX. CRITERIA FOR ACTIVATION OF THE TRAUMA TEAM

Activation of the trauma system per hospital operations should occur for Priority I and Priority II patients in accordance with the Oklahoma Triage and Transport Algorithm (See Appendix A).

X. INTER-FACILITY TRANSFERS

In an effort to optimize patient care and deliver the trauma patient to the most appropriate destination, rapid assessment of the patient is imperative. When a trauma patient arrives at a destination hospital the trauma team will be activated in accordance with the hospital operating procedures for Priority I and Priority II patients and the patient will have an immediate medical screening completed. Depending upon the screening and the needs of the patient any of the following may occur:

A. The Priority I patient will be stabilized, admitted if appropriate, or transferred to the designated Trauma Center.
B. The Priority II patient will be stabilized and then admitted to that facility, or transferred to the Level II rotation, or other facility of choice.

C. The Priority III patient will be stabilized and treated, then transferred if necessary to the facility of choice, or discharged to home with appropriate follow-up instructions.

It is the expectation that facilities with the capability and capacity to treat patients at their facility will not initiate a transfer.

XI. DESCRIPTION OF EMERGENCY MEDICAL SERVICE (EMS)

A. EMS Providers within Region 8 include:

1. EMSA - EMSA Western Division is the largest EMS provider in the State of Oklahoma, covering Oklahoma County and small portions of Logan and Canadian Counties, EMSA provides exclusive paramedic ambulance service to Oklahoma City and surrounding cities. The service area is approximately 900 square miles.
2. Midwest Regional Medical Center EMS - Midwest Regional Emergency Medical Service (EMS) is the oldest and largest hospital-based ambulance service in Oklahoma. It is a paramedic level service, providing emergency response to Midwest City, Del City, Choctaw, Nicoma Park, Luther, Spencer, Hickory Hills, Harrah, Jones, Newalla, Moore, Forest Park, and Southwest Lincoln County. The service area is approximately 240 square miles.
3. Samaritan EMS serving on Tinker Air Force Base

XII. TRAUMA REFERRAL CENTER (TReC)

The Trauma Transfer and Referral Centers were created by statute (Senate Bill 1554, 2004) and they were implemented on July 1, 2005. The purpose of TReC is to ensure that trauma patients transported or transferred to facilities in Region 7 or 8 are transported to the facility that provides the appropriate level of care based on the clinical needs of the patient. This should be done in a timely fashion with specific attention focused on preserving the highest level of care for major trauma patients. Contact information for TReC (Appendix B).

Statewide training sessions were held throughout June 2005 to orient all providers to the use of TReC.

Ambulances entering Region 8 are required to call into TReC prior to entering Region 8 in order to ensure appropriate destination. Likewise, hospitals may call TReC for assistance in identifying the appropriate destination for their trauma patients. TReC will provide information on resource utilization to the OSDH that will be available to the Region 8 RTAB for Quality Improvement purposes.

XIII. PROCEDURE FOR SELECTION OF HOSPITAL DESTINATION

It is recognized that some patients have needs that can only be met at specific destination hospitals. Thus, a trauma patient will often benefit from transfer directly to an appropriate hospital with the capabilities and capacity to provide

definitive trauma care. This care may not necessarily be at the closest or patient preferred facility and this must be taken into account when treating the patient.

Rapid pre-hospital recognition and appropriate triage of trauma patients using the Oklahoma Model Trauma Triage and Transport Guidelines is essential in determining the appropriate selection of Priority I, II, and III trauma patient hospital destination (Appendix A).

These Destinations are:

A. Within the EMSA service area:
1. Priority I adult and pediatric patient trauma destination = OUMC.
2. Priority II unassigned adult trauma destination = communitywide on call facility.
3. Priority II pediatric patient (≤16 years of age) trauma destination = The Children's Hospital at OUMC
4. Priority III adult and pediatric trauma destination = facility of patient preference or closest appropriate facility.
5. Pediatric (≤16 years of age) and adult single system **<u>hand injuries</u>** will be transported to the on call facility as assigned by the trauma call rotation committee.

B. Within Midwest Regional EMS service area:
1. Priority I adult and pediatric trauma destination = OUM.
2. Priority II unassigned adult destination = AllianceHealth Midwest or community wide on call facility based on time/distance constraints.
3. Priority II unassigned pediatric trauma patient destination = The Children's Hospital at OUMC
4. Priority III adult and pediatric trauma destination = facility of patient preference or closest appropriate facility.
5. Pediatric (≤16 years of age) and adult single system **<u>hand injuries</u>** will be transported to the on call facility as assigned by the trauma call rotation committee.

C. Burn Patients

Refer to Triage & Transport Guidelines – Oklahoma Model Trauma Triage Algorithm.

D. Discretionary Patients

Adult trauma patients may be determined to be priority I or priority II if clinical suspicion of significant injury <u>and</u> heightened by any single or particularly a combination of the following patient attributes:
1. Age >55;
2. Anticoagulation and bleeding disorders;
3. Time Sensitive extremity injury;
4. Pregnancy > 20 weeks.

XIV. PROCEDURE FOR MONITORING HOSPITAL STATUS AND CAPABILITY

A. EMResource

The EMResource Administrator at the Oklahoma State Department of Health will generate reports from the EMResource™ for use in monitoring hospital status related to destination. These reports will be made available to the Region 8 CQI Committee as requested. Any problems and/or trends identified through review of this data will be addressed by the CQI committee directly with the provider and if necessary through referral to the appropriate state level committee. (Appendix D)

B. QI Indicators

A set of QI Indicators has been developed for use in monitoring hospital status and appropriateness of destination. The Region 8 CQI Committee will monitor these indicators. Any problems and/or trends through review of the indicators will be addressed by the CQI committee directly with the provider and if necessary through referral to the appropriate state level committee.

XV. HELICOPTER UTILIZATION PROTOCOL

Purpose - Appropriate utilization of air ambulance resources by Region 8 providers.

Medical literature to date demonstrates no significant survival benefit utilizing medical helicopter transport for patients in densely populated, urban settings. The Oklahoma State Department of Health and the University Of Oklahoma Department Of Emergency Medicine EMS Section provide the following information regarding the clinically appropriate utilization of medical helicopters to maximize patient benefit and protect the safety of patients, aeromedical professionals, and ground EMS professionals.

A. "No Fly" Patient Conditions

Medical helicopter utilization rarely affects outcome in already moribund patients or in the converse, stable patients without apparent serious illness/injury. A medical helicopter should NOT be utilized for the following patients:

1. Medical or Traumatic Cardiac Arrest without Return of Spontaneous Circulation;
2. Trauma Patients with minimal traumatic injury, without apparent risk of life/limb loss;
3. Patients with stable vital signs and without signs of serious illness/injury.

B. "No Fly" Zones

Medical helicopter utilization is very rarely indicated within an approximate 30 minute radius of an appropriate destination hospital unless there are extenuating circumstances. These extenuating circumstances include the following:

1. Hazardous or impassible road conditions resulting in significant ground transport delays for seriously injured or ill patients;
2. Multiple casualty incidents with high numbers of red/priority 1 patients, overwhelming available ground EMS units;
3. A combination of lengthy extrication and extended ground transportation (traffic conditions, weather conditions) of a priority 1 or priority 2 patient at the lead EMS professional's careful discretion.

PROTOCOL 14F: Helicopter EMS (HEMS) Considerations, cont. Medical Helicopter Utilization:

At incidents greater than 30 minutes from the appropriate destination hospital, the decision to activate a medical helicopter response should be based upon an EMS professional's assessment of the patient's clinical condition, factoring in apparent and/or suspected illness or injury, mechanisms of injury – if applicable, anticipated scene time, and anticipated ground transport time to an appropriate destination hospital (eg. cardiac catheterization capable hospital or trauma center). Medical helicopters should not be activated until an EMS professional or medically-trained law enforcement officer has assessed the patient.

C. Further utilization concepts include:

1. EMS professionals on scene may elect to activate a medical helicopter if flight time to the incident, flight scene time, and return flight time would still allow a critical patient to arrive at an appropriate destination hospital significantly faster by air.
2. If ground EMS transport capability is not on scene and a decision is being factored as to ground or air transport, the on scene EMS professionals should first request an ETA for the ground transport unit. If the on scene EMS professionals then judge transport time by ground will be detrimental to the patient clinical condition, a medical helicopter response can be activated. This decision should be communicated to ground EMS agency to keep all responding apparatus crews aware of scene and patient dynamics.
3. If uncertain whether medical helicopter activation is in the best interest of the patient, contact online medical control, (OLMC) at the anticipated destination hospital for consultation and determination of transport mode and destination.
4. The primary determinant of helicopter transport mode is to achieve getting the critical patient to the most appropriate definitive care hospital in the shortest amount of time. The medical helicopter to be utilized is the medical helicopter appropriate for the patient's needs and closest to the incident location.

D. Cancellation of Medical Helicopter Activation:

An EMS professional may cancel a medical helicopter response after being activated if patient condition significantly improves or deteriorates to meet —no fly criteria. Keep in mind, though, that once a medical helicopter is responding to the scene, it is generally unwise to cancel that response. EMS professionals should avoid requesting a medical helicopter

response, canceling the response, and then having to request the helicopter again. Such a situation prolongs scene time and helicopter response time in addition to conveying indecisive patient care.

E. Landing Zone:
Appropriate fire or law enforcement personnel will be responsible for establishing and maintaining a safe landing zone.

XVI. DIVERSION

In the event OUM is on divert for Priority I trauma patients, the "On Call" Facility will be the adult Priority I trauma patient destination.

In the event the "On Call" Facility is on diversion, the resources of the metropolitan area Level III facilities as identified on EMResource™ will determine appropriate Priority II patient destination.

XVII. REGIONAL QUALITY IMPROVEMENT ACTIVITIES

Every licensed hospital and ambulance service is to participate with the Continuous Quality Improvement process. Participation in the process will be demonstrated by meaningful responses to committee correspondence, and with respectful consideration being given to the recommendations made by the committee. Those who do not participate with the CQI committee process will be subject to the schedule of escalation outlined in Appendix F.

Appendix A

Oklahoma Trauma Triage Algorithm

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

TRAUMA PATIENT
TRIAGE DEFINITIONS

Trauma Triage

Since patients differ in their initial response to injury, trauma triage is an inexact science. Current patient identification criteria does not provide 100% percent sensitivity and specificity for detecting injury. As a result, trauma systems are designed to over-triage patients in order not to miss a potentially serious injury. Under-triage of patients should be avoided since a potentially seriously injured patient could be delivered to a facility not prepared to manage their injury. Large amounts of over-triage is not in the best interest of the Trauma System since it will potentially overwhelm the resources of the facilities essential for the management of severely injured patients.

Priority 1 Trauma Patients

These are patients with high energy blunt or penetrating injury causing physiological abnormalities or significant single or multisystem anatomical injuries. These patients have time sensitive injuries requiring the resources of a designated Level I, Level II, or Regional Level III Trauma Center. These patients should be directly transported to a Designated Level I, Level II, or Regional Level III facility for treatment but may be stabilized at a Level III or Level IV facility, if needed, depending on location of occurrence and time and distance to the higher level trauma center. If needed these patients may be cared for in a Level III facility if the appropriate services and resources are available.

Physiological Compromise Criteria:

- Hemodynamic Compromise-Systolic BP <90 mmHg
  Other signs that should be considered include:
  - Sustained Tachycardia
  - Cool diaphoretic Skin
- Respiratory Compromise-RR<10 or >29 Breaths/Minutes
  Or <20 in infant <1 year
- Altered Mentation- of trauma etiology- GCS <14

Anatomical Injury Criteria

- Penetrating injury of head, neck, chest/abdomen, or extremities proximal to elbow or knee.
- Amputation above wrist or ankle.
- Paralysis or suspected spinal fracture with neurological deficit.
- Flail chest.
- Two or more obvious proximal long bone fractures (upper arm or thigh).
- Open or suspected depressed skull fracture.
- Unstable pelvis or suspected pelvic fracture.
- Tender and/or distended abdomen.
- Burns associated with Priority I Trauma
- Crushed, degloved, or mangled extremity

Priority 2 Trauma Patients

These are patients with potentially time sensitive injuries due to a high energy event (positive mechanism of injury) or with a less severe single system injury but currently with no physiological abnormalities or significant anatomical injury.

I. Significant Single System Injuries

- Neurology: Isolated head trauma with transient loss of consciousness or altered mental status but currently alert and oriented.
- Orthopedic: Single proximal and distal extremity fractures (including open) from high energy event, isolated joint dislocations-knee, hip, elbow, shoulder without neurovascular deficits, and unstable joint (ligament) injuries without neurovascular deficits.
- Maxillofacial trauma: Facial lacerations; such as those requiring surgical repair, isolated open facial fractures or isolated orbit trauma with or without entrapments, or avulsed teeth.

TRAUMA PATIENT
TRIAGE DEFINITIONS

High Energy Event

Patient involved in rapid acceleration deceleration events absorb large amounts of energy and are at an increased risk for severe injury despite normal vital signs on their initial assessment. Five to fifteen percent of these patients, despite normal vital signs and no apparent anatomical injury on initial evaluation, will have a significant injury discovered after a full trauma evaluation with serial observations. Determinates to be considered are direction and velocity of impact and the use of personal protection devices. Motor vehicle crashes when occupants are using personal safety restraint devices may not be considered a high-energy event. Personal safety devices will often protect the occupant from absorbing high amounts of energy even when the vehicle shows significant damage. High Energy Events:

- Ejection of the patient from an enclosed vehicle
- Auto/pedestrian or auto/bike or motorcycle crash with significant impact (> 20 mph) impact with the patient thrown or run over by a vehicle.
- Falls greater than 20 feet for adult, >10 feet for pediatric or distance 2-3 times height of patient
- Significant assault or altercations
- High risk auto crash
  - The following motor vehicle crashes particularly when the patient has not used personal safety restraint devices:
    - Death in the same passenger compartment
    - Rollover
    - High speed auto crash
    - Compartment intrusion greater than 12 inches at occupant site or >18 inches at any site
    - Vehicle telemetry data consistent with high risk injury.

Medic Discretion

Since trauma triage is an inexact science and patients differ in their response to injury, clinical judgment by the medic at the scene is an extremely important element in determining the destination of all patients. If the medic is concerned that a patient may have a severe injury which is not yet obvious, the patient may be upgraded in order to deliver that patient to the appropriate level Trauma Center. Paramedic suspicion for a severe injury may be raised by but not limited to the following factors:

- Age greater than 55
- Age less than 5
- Extremes of environment
- Patient’s previous medical history such as:
  - Anticoagulation or bleeding disorders
  - End stage renal disease on dialysis
- Pregnancy (>20 weeks)

Priority 3 Trauma Patients

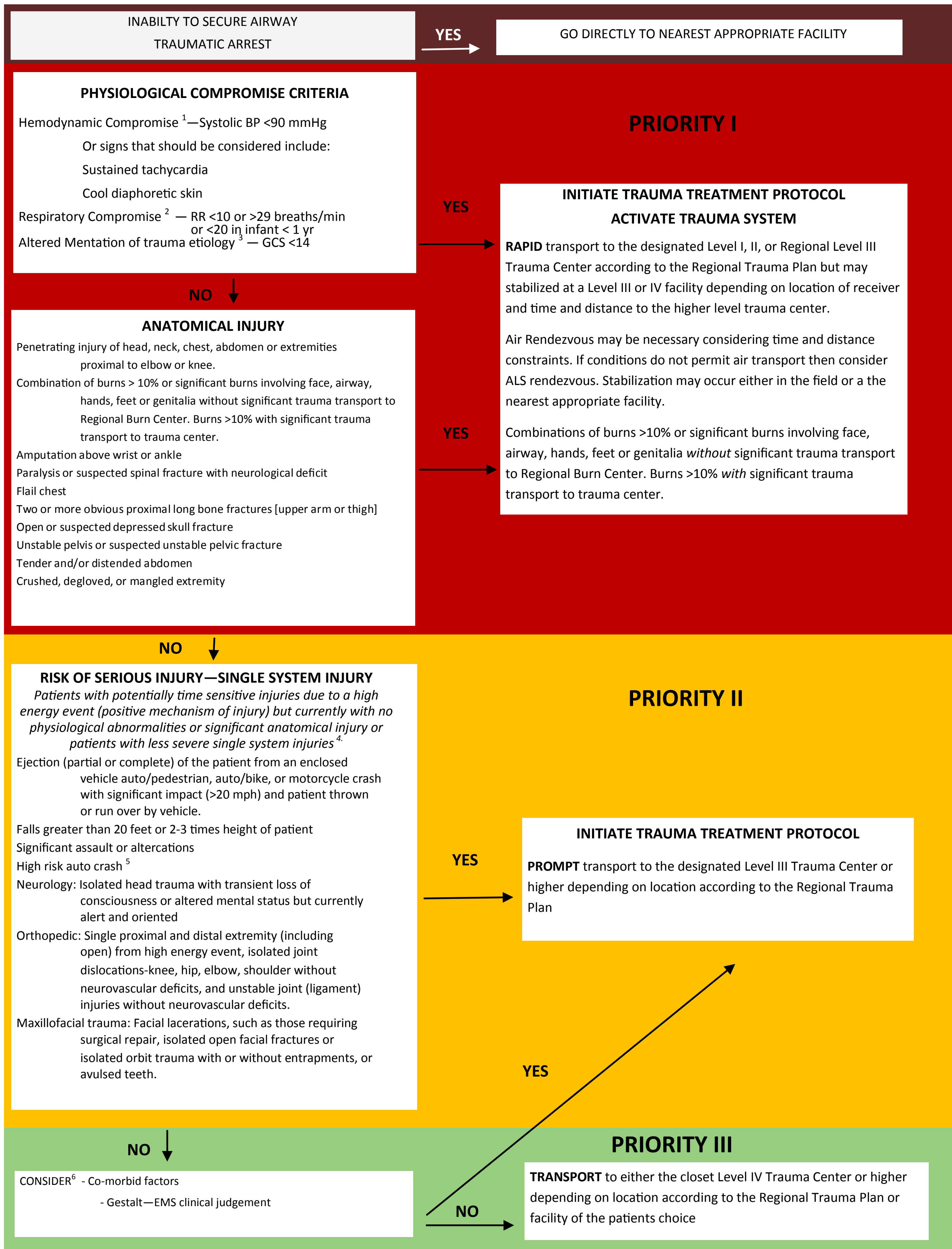
These patients are without physiological abnormalities, altered mentation, neurological deficit, or a significant single system injury that has been involved in a low energy event. These patients should be treated at the nearest treating facility or the patient’s hospital of choice.

- Example: Same level fall with extremity or hip fracture.

ADULT PRE-HOSPITAL

TRIAGE AND TRANSPORT GUIDELINES

Oklahoma Model Trauma Triage Algorithm



Approved: OTSIDAC 02-01-06 Revised: OTSIDAC 08-01-07; 02-06-08, 08-06-08, 02-03-10 Clarification: Revision by MAC 11-19-08

ADULT PRE-HOSPITAL
TRIAGE AND TRANSPORT GUIDELINES
Oklahoma Model Trauma Triage Algorithm

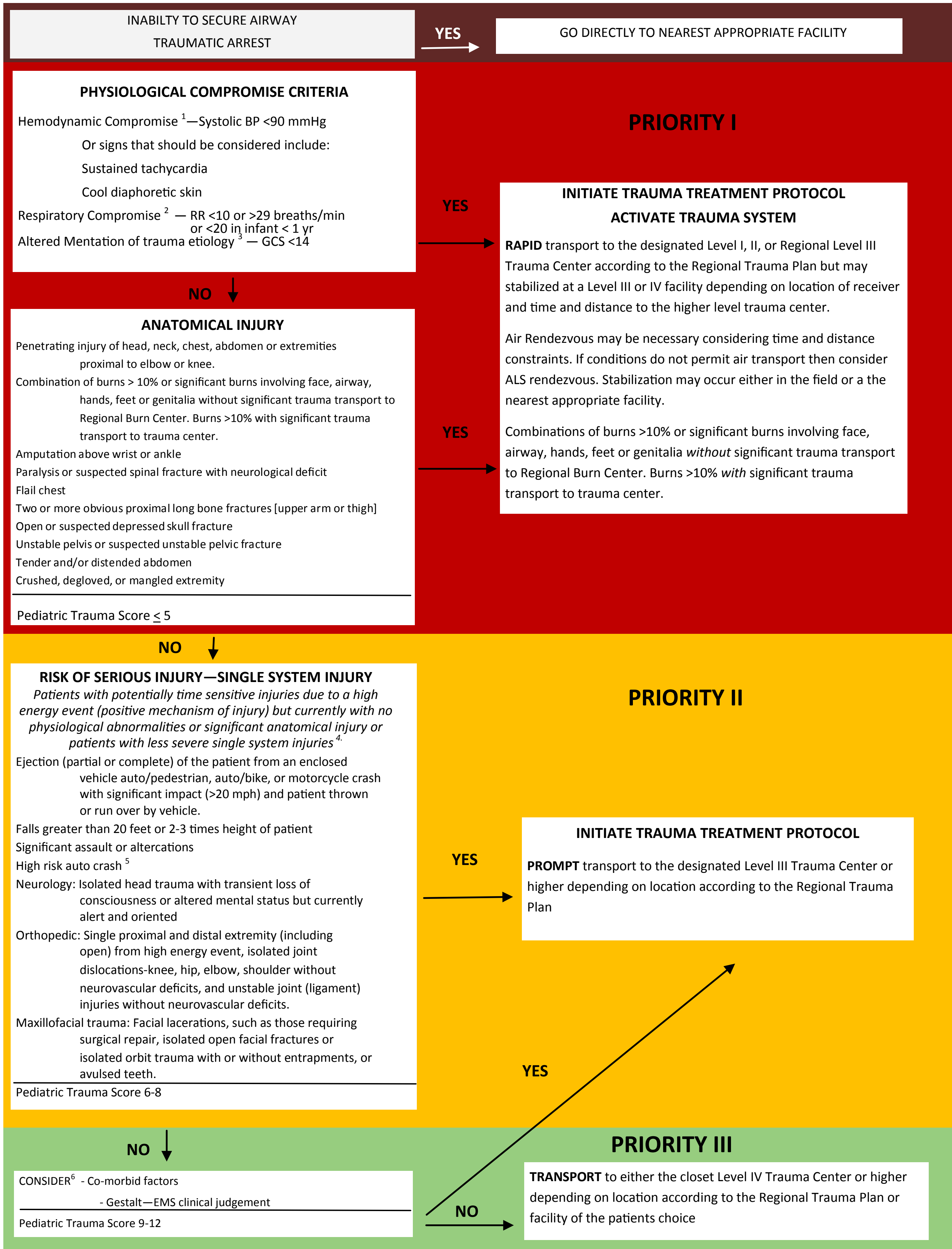
1. In addition to hypotension: pallor, tachycardia, or diaphoresis may be early signs of hypovolemia
2. Tachypnea (hyperventilation) alone will not necessarily initiate this level of response
3. Altered sensorium secondary to sedative-hypnotic will not necessarily initiate this level of response
4. High Energy Event signifies a large release of uncontrolled energy. Patient is assumed injured until proven otherwise and multisystem injuries may exist. Determinants to be considered by medical professionals are direction and velocity of impact, use of personal restraint devices, patient kinematics and physical size, and the residual signature of energy release (e.g. major vehicle damage). Motor vehicle crashes when occupants are using personal safety restraint devices may not be considered a high energy event because the personal safety restraint will often protect the occupant from absorbing high amounts of energy.
5. The following motor vehicle crashes particularly when the patient has not used personal safety restraint devices:
   a. Death in the same passenger compartment
   b. Rollover
   c. High speed auto crash
   d. Compartment intrusion greater than 12 inches at occupant site or >18 inches at any site
   e. Vehicle telemetry data consistent with high risk of injury
6. Since trauma triage is an inexact science and patients differ in their response to injury, clinical judgment by the medic at the scene is an extremely important element in determining the destination of all patients. If the medic is concerned that a patient may have a severe injury which is not yet obvious, the patient may be upgraded in order to deliver that patient to the appropriate level Trauma Center. EMS provider suspicion for a severe injury may be raised by, but not limited to, the following factors:

   Age greater than 55
   Age less than 5
   Extremes of environment
   Patient's previous medical history such as:
      Anticoagulation or bleeding disorders
      End state renal disease on dialysis
   Pregnancy (>20 weeks)

PEDIATRIC (≤16 YEARS) PRE-HOSPITAL

TRIAGE AND TRANSPORT GUIDELINES

Oklahoma Model Trauma Triage Algorithm



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PEDIATRIC (≤16 YEARS) PRE-HOSPITAL
TRIAGE AND TRANSPORT GUIDELINES
Oklahoma Model Trauma Triage Algorithm

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6. Since trauma triage is an inexact science and patients differ in their response to injury, clinical judgment by the medic at the scene is an extremely important element in determining the destination of all patients. If the medic is concerned that a patient may have a severe injury which is not yet obvious, the patient may be upgraded in order to deliver that patient to the appropriate level Trauma Center. EMS provider suspicion for a severe injury may be raised by, but not limited to, the following factors:

   Age greater than 55
   Age less than 5
   Extremes of environment
   Patient's previous medical history such as:
      Anticoagulation or bleeding disorders
      End state renal disease on dialysis
   Pregnancy (>20 weeks)

Approved: OTSIDAC 02-01-06 Revised: OTSIDAC 08-01-07; 02-06-08, 08-06-08, 02-03-10 Clarification: Revision by MAC 11-19-08

PEDIATRIC (≤16 YEARS) PRE-HOSPITAL
TRIAGE AND TRANSPORT GUIDELINES
Oklahoma Model Trauma Triage Algorithm

Pediatric Trauma Score (PTS)				
Components	+2	+1	-1	Score
Weight	>20 kg (44 lb)	10-20 kg (22-44 lb)	<10 kg (<22 lb)	
Airway	Patent *	Maintainable ^	Unmaintainable #	
Systolic (cuff) or BP (pulses)	>90 mmHg Radial	50-90 mmHg Femoral/Carotid	<50 mmHg None palpable	
CNS	Awake, no LOC	Obtunded Some LOC †	Comatose, unresponsive	
Fractures	None	Closed (or suspected)	Multiple open or closed	
Wounds	None	Minor	Major‡, Burns, or penetrating	
TOTAL			Range -6 to +12	

Score: Possible Range -6 to +12, decreasing with increasing injury severity

Generally:

9 to 12	= minor trauma
6 to 8	= potentially life threatening
0 to 5	= life threatening
<0	= usually fatal

* No assistance required
^ Protected by patient but constant observation required for position, patency, or O_2 administration
# Invasive techniques required for control (e.g. intubation)
† Responds to voice, pain, or temporary loss of consciousness
‡ Abrasions or lacerations

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ADULT INTERFACILITY

TRIAGE AND TRANSFER GUIDELINES

Oklahoma Model Trauma Triage Algorithm

Anatomy of the Injury

Penetrating injury of the head, neck, torso or groin.

Abdominal/Pelvic Injuries

- Hemodynamically unstable patient with physical evidence of abdominal or pelvic trauma
- Unstable pelvic ring disruption
- Pelvic fracture with shock or other evidence of continuing hemorrhage
- Open pelvic fracture
- Penetrating wound of abdomen with suspicion of penetration of the peritoneum
- Ruptured hollow viscous

CNS

- Penetrating Head Injury or Depressed skull fracture
- Open Head Injury
- GCS <= 10 or deterioration of 2 or more points
- Lateralizing signs
- New neurological deficits
- CSF Leak
- Spinal cord injury with neurological deficits
- Unstable spinal cord injuries

Chest

- Widened mediastinum or other signs suggesting great vessel injury Major chest wall or pulmonary injury with respiratory compromise Cardiac injury (blunt or penetrating)
- Cardiac tamponade
- Patients who may require prolonged ventilation
- Suspected tracheobronchial tree or esophageal injury

Hemodynamic Instability

- SBP consistently <90 following 20cc/kg of resuscitation fluid
- Respiratory distress with rate <10 or >29

Major Extremity Injury

- Fracture/dislocation with loss of distal pulses Amputation of extremity proximal to wrist or ankle Pelvic fractures with hemodynamic instability
- Two or more long bone fracture sites
- Major vascular injuries documented by arteriogram ***or*** loss of distal pulses
- Crush Injury or prolonged extremity ischemia

Multiple System

- Head Injury combined with face, chest, abdominal, or pelvic injury
- Significant injury to two or more body regions
- Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

Secondary Deterioration

- Prolonged mechanical ventilation
- Sepsis
- Single or multiple organ system failure (deterioration in CNS, cardiac, pulmonary, hepatic, renal or coagulation systems)
- Major tissue necrosis

PRIORITY I

YES → Initiate internal Trauma Treatment Protocol if definitive surgical care and critical care monitoring are available

If definitive surgical care or critical care monitoring are not available then immediate stabilization and transfer to appropriate designated facility according to regional plan. Stabilization may involve surgical intervention prior to transfer. Air transport may be necessary considering time and distance constraints.

NO → Proceed to Priority II Interfacility Transfer Criteria

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ADULT INTERFACILITY

TRIAGE AND TRANSGER GUIDELINES

Oklahoma Model Trauma Triage Algorithm

PRIORITY II

Abdominal/Pelvic Injuries

- Stable pelvic fractures
- Hemodynamically stable isolated abdominal trauma
  - diffuse abdominal pain/tenderness
  - seat belt contusions
  - visceral injuries
- Hemodynamically stable isolated solid organ injuries

CNS

- Head Injury with GCS > 10
- Head Injury with Transient loss of consciousness < 5 min
- Head Injury with Transient neurological deficits
- Spinal cord injury without neurological deficits

Chest

- Isolated Chest Trauma- pain, mild dyspnea
- Rib fractures, sternal fractures, pneumothorax, hemothorax *without* respiratory compromise
- Unilateral pulmonary contusion without respiratory compromise

Comorbid

- Age <5 or > 55
- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosupression
- Bleeding disorder or anticoagulants

Major Extremity Injury

- Single proximal extremity fractures, including open
- Distal extremity fractures, including open
- Isolated joint dislocations-knee, hip, elbow, shoulder without neurovascular deficits
- Unstable joint (ligament) injuries without neurovascular deficits
- Degloving injuries without evidence of limb threatening injury

Mechanism

- Ejection of patient from enclosed vehicle
- Adult auto/pedestrian, auto/bike, or motorcycle crash with significant impact and patient thrown or run over by vehicle
- Falls greater than 20 feet
- Significant assault or altercations
- Other "high energy" events based on Paramedic discretion4, e.g.: patients involved in motor vehicle crashes with significant vehicular damage and not using personal safety restraint devices

Other

- Isolated open facial fractures
- Isolated orbit trauma with or without entrapments, without visual deficits

YES → Perform complete trauma evaluation and appropriate serial observation. Consider admission if condition remains stable.

↓

Deterioration of Glasgow Coma Scale, vital signs or patient's condition or significant findings on further evaluation.

YES → If definitive surgical care or critical care monitoring are not available, activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan. Stabilization may involve surgical intervention.

NO → Consider admission if condition remains stable.

PRIORITY III

NO → Perform appropriate emergency department evaluation. Consider discharge or admit if condition remains stable.

↓

Deterioration of Glasgow Coma Scale, vital signs or patient's condition or significant findings on further evaluation: Initiate Trauma Treatment Protocol—Activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan if definitive surgical care and critical care monitoring are not available.

Approved: OTSIDAC 02/01/06 Revised: OTSIDAC 08/01/07; 02/06/08, 08/06/08; 02/03/10 Clarification: Revision by MAC: 11/19/08

PEDIATRIC (≤16 YEARS) INTERFACILITY TRIAGE AND TRANSFER GUIDELINES

Oklahoma Model Trauma Triage Algorithm

Anatomy of the Injury

Penetrating injury of the head, neck, torso or groin.

<u>Abdominal/Pelvic Injuries</u>

- Hemodynamically unstable patient with physical evidence of abdominal or pelvic trauma
- Unstable pelvic ring disruption
- Pelvic fracture with shock or other evidence of continuing hemorrhage
- Open pelvic fracture
- Penetrating wound of abdomen with suspicion of penetration of the peritoneum
- Ruptured hollow viscous

<u>CNS</u>

- Penetrating Head Injury or Depressed skull fracture
- Open Head Injury
- GCS <= 10 or deterioration of 2 or more points
- Lateralizing signs
- New neurological deficits
- CSF Leak
- Spinal cord injury with neurological deficits
- Unstable spinal cord injuries

<u>Chest</u>

- Widened mediastinum or other signs suggesting great vessel injury Major chest wall or pulmonary injury with respiratory compromise Cardiac injury (blunt or penetrating)
- Cardiac tamponade
- Patients who may require prolonged ventilation
- Suspected tracheobronchial tree or esophageal injury

<u>Hemodynamic Instability</u>

- SBP consistently <90 following 20cc/kg of resuscitation fluid
- Respiratory distress with rate of:
  - Newborn <30 or >60
  - Up to 1 yr <24 or >36
  - 1-5 yr <20 or >30
  - Over 5 yr <15 or >30

<u>Major Extremity Injury</u>

- Fracture/dislocation with loss of distal pulses Amputation of extremity proximal to wrist or ankle Pelvic fractures with hemodynamic instability
- Two or more long bone fracture sites
- Major vascular injuries documented by arteriogram ***or*** loss of distal pulses
- Crush Injury or prolonged extremity ischemia

<u>Multiple System</u>

- Head Injury combined with face, chest, abdominal, or pelvic injury
- Significant injury to two or more body regions
- Combination of burns > 10% or significant burns involving face, airway, hands, feet or genitalia *without* significant trauma transport to regional Burn Center. Burns >10% *with* significant trauma transport to trauma center.

<u>Secondary Deterioration</u>

- Prolonged mechanical ventilation
- Sepsis
- Single or multiple organ system failure (deterioration in CNS, cardiac, pulmonary, hepatic, renal or coagulation systems)
- Major tissue necrosis

Pediatric Trauma Score ≤5

PRIORITY I

YES → Initiate internal Trauma Treatment Protocol if definitive surgical care and critical care monitoring are available

↓

If definitive surgical care or critical care monitoring are not available then immediate stabilization and transfer to appropriate designated facility according to regional plan. Stabilization may involve surgical intervention prior to transfer. Air transport may be necessary considering time and distance constraints.

NO → Proceed to Priority II Interfacility Transfer Criteria

Approved: OTSIDAC 02-01-06 Revised: OTSIDAC 08-01-07; 02-06-08, 08-06-08, 02-03-10 Clarification: Revision by MAC 11-19-08

PEDIATRIC (≤16 YEARS) INTERFACILITY

TRIAGE AND TRANSGER GUIDELINES

Oklahoma Model Trauma Triage Algorithm

PRIORITY II

Abdominal/Pelvic Injuries
- Stable pelvic fractures
- Hemodynamically stable isolated abdominal trauma
  - diffuse abdominal pain/tenderness
  - seat belt contusions
  - visceral injuries
- Hemodynamically stable isolated solid organ injuries

CNS
- Head Injury with GCS > 10
- Head Injury with Transient loss of consciousness < 5 min
- Head Injury with Transient neurological deficits
- Spinal cord injury without neurological deficits

Chest
- Isolated Chest Trauma- pain, mild dyspnea
- Rib fractures, sternal fractures, pneumothorax, hemothorax *without* respiratory compromise
- Unilateral pulmonary contusion without respiratory compromise

Comorbid
- Age <5 or > 55
- Known cardiac, respiratory or metabolic disease
- Pregnancy
- Immunosupression
- Bleeding disorder or anticoagulants

Major Extremity Injury
- Single proximal extremity fractures, including open
- Distal extremity fractures, including open
- Isolated joint dislocations-knee, hip, elbow, shoulder without neurovascular deficits
- Unstable joint (ligament) injuries without neurovascular deficits
- Degloving injuries without evidence of limb threatening injury

Mechanism
- Ejection of patient from enclosed vehicle
- Adult auto/pedestrian, auto/bike, or motorcycle crash with significant impact and patient thrown or run over by vehicle
- Falls greater than 20 feet
- Significant assault or altercations
- Other "high energy" events based on Paramedic discretion4, e.g.: patients involved in motor vehicle crashes with significant vehicular damage and not using personal safety restraint devices

Other
- Isolated open facial fractures
- Isolated orbit trauma with or without entrapments, without visual deficits

---

Pediatric Trauma Score 6-8

YES → Perform complete trauma evaluation and appropriate serial observation. Consider admission if condition remains stable.

↓

Deterioration of Glasgow Coma Scale, vital signs or patient's condition or significant findings on further evaluation.

YES → If definitive surgical care or critical care monitoring are not available, activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan. Stabilization may involve surgical intervention.

NO → Consider admission if condition remains stable.

NO ↓

PRIORITY III

Perform appropriate emergency department evaluation. Consider discharge or admit if condition remains stable.

Pediatric Trauma Score 9-12

↓

Deterioration of Glasgow Coma Scale, vital signs or patient's condition or significant findings on further evaluation: Initiate Trauma Treatment Protocol—Activate Trauma System and prepare for RAPID transfer to the appropriate designated Trauma Facility according to the Regional Trauma Plan if definitive surgical care and critical care monitoring are not available.

Approved: OTSIDAC 02/01/06 Revised: OTSIDAC 08/01/07; 02/06/08, 08/06/08; 02/03/10 Clarification: Revision by MAC: 11/19/08

APPENDIX B

TRANSFER REFERRAL CENTER
TReC

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

OKLAHOMA CITY (8) REGIONAL TRAUMA PLAN

Telephone
(888) 658-7262
or (866) 778-7262

For questions, issues, or concerns, please contact: Emergency Systems
Phone 405-271-4027, Fax 405-271-4240

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

APPENDIX C
HOSPITAL STANDARDS

May be accessed at
www.ok.gov/health/protective_health
Protective Health Services
Medical Facilities

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

APPENDIX D

EMResource™ UTILIZATION

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

EMResource™ Usage

I. Introduction

For several years EMResource™ has served as a tool for hospitals to display their diversion status in Oklahoma City. Although diversion is still a feature on the EMResource™, we are going to ask that you look at EMResource™ as a communication tool capable of demonstrating resource availability, health alerts and disaster notifications. EMResource™ is now a vital tool that can better enable communication in both routine daily circumstances and during disasters. EMResource™'s ability to serve this function is limited by the use of the system by providers.

II. Usage Requirements

Within Region 8 all providers are required of to comply with the guidelines established by the State EMResource™ Joint Advisory Committee and/or the Oklahoma State Department of Health in the EMResource™ Manual. In the event that the EMResource™ Manual is updated, the revisions to the EMResource™ Manual override the requirements in this document.

Specific usage requirements include but are not limited to:

A. Contact Information
   1. Each provider is responsible to maintain accurate contact information on the EMResource™.
   2. Hospitals shall post the telephone number they wish other providers to use when calling patient referrals or reports in this area of Resource™.

B. Provider Status

Each hospital is required to maintain current status on the EMResource™ so that their capabilities or capacity can be readily accessed by other hospitals, EMS agencies and the Trauma Transfer and Referral Center.

Critical Concept: Emergency Departments and Hospitals are considered open unless posted otherwise on EMResource™.

1. Emergency Department Status
   a. This is the specific status of the Emergency Department and is the only status appropriate for diversion of pre-hospital transports. The current ED Status categories are: Open, Total ED Divert, Trauma Divert, CT Divert, ED select, Forced Open, and Closed.
   b. If a facility has not updated their status on the EMResource™ their attempt to divert may be overridden by the pre-hospital provider or the Trauma Transfer and Referral Center.

2. Hospital Status
   a. This status is specific to the inpatient capability/capacity and is only appropriate for diverting inter-facility transfer patients. The current Hospital Status categories are: Open, Caution, and Closed.
   b. If a facility has not updated their status on the EMResource™ their attempt to divert may be overridden by the Trauma Transfer and Referral Center.

   Critical Concept: Emergency Departments and Hospitals are considered open unless posted otherwise on EMResource™.

3. Provider Resource Availability
   This status is for displaying hospital specialty coverage on a real time basis. A customized list of eight specialties has been developed to meet the needs of Oklahoma. The status categories for these coverage areas are:
   a. Yes – Coverage is currently available.
   b. No – Coverage is not currently available.
   c. N/A – This service is not offered at this facility.

4. Air Ambulance Status
   This status is for displaying the current status/availability of Air Ambulances. The status categories for this status are:
   a. Available – the aeromedical resource is currently ready and able to respond to emergency calls.
   b. Call for Status – current conditions necessitate those providers in need of aeromedical transport call to determine resource availability because:
      1) The aeromedical resource may already be dispatched to a call or be on standby.
      2) Local weather conditions may temporarily impact the ability of this aeromedical resource to respond.
      3) This aeromedical resource may be temporarily unavailable due to routine service or fueling.
   c. Not Available – the aeromedical resource is currently unable to respond in a timely manner.
   d. In Region 8 the air ambulances are required to keep their most accurate status current. They may not leave their status as “call for status” at all times.

C. System Alerts
1. Providers in Region 8 are required to maintain EMResource™ in a manner that enables them to receive alerts in a timely manner. It is suggested that all providers maintain a computer specifically for EMResource™ use 24 hours a day.
2. If a provider is unable to maintain a computer with EMResource™ displayed 24 hours a day the provider is expected to work with the regional EMResource™ administrator to arrange the delivery of all System Alerts to the text enabled device of designated staff responsible to share the alert information with other on-duty staff.

D. Data Reporting

Providers in Region 8 are required to participate in reporting data supported by the EMResource™ application. This reporting requirement includes but is not limited to:
1. Hospital Daily Report of bed capacity and ED volume;
2. EMS Daily Report of resources and volume;

III. Monitoring

Appropriate use of EMResource™ will be enforced in the region through the QI process

A. The CQI committee will routinely review reports from the Trauma Transfer and Referral Center on diversion of patients and compare the patient diversion list with the list of facility diversion hours generated from the EMResource™.
B. The CQI committee will review all cases referred to them for inappropriate use of EMResource™ in any of the listed categories.
C. The regional and/or state EMResource™ administrator will perform periodic drills using EMResource™ and monitor appropriateness of provider response. Reports of these drills will be provided to the RTAB CQI committee who will address problems/trends directly with the provider and if necessary through referral to the appropriate state level committee.

The CQI committee will work with these providers to come into compliance with EMResource™ usage requirements. If these attempts fail the cases will be referred to the State QI committee for further action.

IV. Summary

EMResource™ is a vital communication tool that provides the capability of real time communication among trauma system participants. This ability is limited by provider use of the system. Region 8 supports use of this tool.

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

Appendix E

Advanced Life Support Assistance Protocol

Approved by RPC: 3/7/07
Approved by RTAB: 3/13/07
Amended and consolidated: 03/2008, 05/2011
Approved by OTSIDAC: 08/02/06

ALS INTERCEPT PROTOCOL FOR REGION 8

Purpose:

To provide guidelines to Emergency Medical Services personnel on when to request Advanced Life Support (ALS) assistance from neighboring ambulance services.

Policy:

The following will apply to ensure that BLS/ALS assistance requests are managed appropriately. ALS Assist is defined as any request for an air or ground advanced life support unit to respond to and/or intercept with an EMS Unit for the purpose of providing an advanced level of patient care. A licensed Intermediate or Paramedic level of care should provide ALS Assist.

ALS Assist/intercept requests should be made in any situation where the EMS provider has determined that the patient may be unstable or has life-threatening injuries or illness. Medics should refer to the Oklahoma Trauma Triage and Transportation guidelines for classification of the patient.

Procedure:

1. Consideration must be given as to the location of the EMS unit, and anticipated location of intercept. The decision to request ALS should be made immediately.
2. The location of the intercept shall be decided as soon as possible.
3. Only if it is deemed to be in the best interest of the patient should the patient be transferred from a BLS unit to a ground ALS unit.
4. The ALS provider should be licensed at the Intermediate or Paramedic level or an Air Ambulance.
5. BLS and ALS personnel may elect to request air medical support based on the Regional Trauma Plan. BLS personnel need not wait for an assessment prior to requesting air medical support. Landing zone selection and security shall be coordinated with local resources. Transportation to the closest most appropriate medical facility shall not be inordinately delayed while waiting for air support.
6. A full verbal patient care report shall be given to the ALS personnel upon arrival and a full patient care report will be left with the patient at the hospital.

Approved by RPC: 3/18/14
Approved by RTAB: 4/08/14
Approved by OTERAC: 06/04/14

GLOSSARY OF TERMS

Assigned Patient: An established patient of a facility, or a stable patient who has requested a specific facility.

Definitive Care: Completed therapy; end point at which all treatment required at the time has occurred.

On-Call Facility: When "on call", the facility will provide orthopedics, neurosurgery, general surgery, facial trauma, hand trauma, and anesthesia….or arrange coverage through hospital transfer agreements. This is for unassigned, Priority 2 patients with single-system injury, or at risk for injury that at least include neurosurgery, facial trauma, or hand trauma, but currently stable, picked up by EMSA in its service area or transported into the metropolitan area from other regions of the State.

Pediatric Patient: A patient less than or equal to sixteen (≤16) years of age.

Unassigned Patient: A patient with no preference for facility destination, or no pre-existing relationship with a facility.

Appendix F

Letter Schedule of Escalation

The purpose of this proposal is to establish and define a statewide process to address organizations that fail to respond to letters received from the Regional Continuous Quality Improvement Committee in order to encourage participation in continuous quality improvement activities as required by Title 63 §1-2530.3 for the betterment of the Oklahoma State Trauma System.

Tier 1 – Initial Letter from the Regional Continuous Quality Improvement (CQI) Committee is signed by the committee signatory (ies) and sent to the appropriate recipient named below.

EMS Agencies – Initial letter for system errors or queries will be sent to the Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH).
Hospitals – Initial letters for system errors or queries that occur related to the function of the Emergency Department (ED) will be sent to the ED Medical Director and the ED Director/ Manager. Initial letters for system errors or queries that occur related to the function of areas outside of the ED will be sent to the Chief Medical Officer/ Chief of Staff and Chief Executive Officer/ President.

Response deadline: 30 days from the documented receipt of the letter.

Tier 2 – No response to the initial letter from the CQI Committee by the Tier 1 deadline.

OSDH staff will place a call to the authorized Regional Trauma Advisory Board (RTAB) representative to enlist help providing a reminder to the letter recipient to respond and communicate the new deadline for receipt.

Response deadline: 15 days from successful contact with RTAB representative.

Tier 3 – No response to the initial letter from the CQI Committee by the Tier 1 deadline or reminder call from OSDH staff with the Tier 2 deadline (approximately 45 days from receipt of initial letter).
A letter addressing the lack of response signed by RTAB Chair with a copy of the initial letter and sent to the appropriate recipient named below.

EMS Agency: Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH) as well as the appropriate License Owner/City Manager.
Hospital: CEO and CMO

Response deadline: 15 days from documented receipt of the Tier 3 letter.

Tier 4 – No response to Tier 3 letter
A letter addressing the lack of response signed by the Oklahoma Trauma and Emergency Response Advisory Council (OTERAC) chair with copies of all previous tier letters and sent to the appropriate recipient named below.

EMS Agency: Medical Director and the EMS Director on file with The Oklahoma State Department of Health (OSDH) as well as the appropriate License Owner/City Manager.
Hospital: CEO and CMO

Response deadline: 10 days from documented receipt of the Tier 4 letter.

Child Abuse Recognition

Larissa Hines, MD
Child Abuse Pediatrician and Fostering Hope Pediatrician
Oklahoma Children's Hospital at OU Health
Clinical Assistant Professor
University of Oklahoma Health Sciences Center at OU Health

What is Child Abuse?

The Federal Child Abuse Prevention and Treatment Act (CAPTA), (42 U.S.C.A. §5106g), as amended and reauthorized by the CAPTA Reauthorization Act of 2010, defines child abuse and neglect as, at minimum:

"Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act which presents an imminent risk of serious harm."

https://www.childwelfare.gov

Physical Abuse

- Nonaccidental physical injury (ranging from minor bruises to severe fractures or death) that is inflicted by a parent, caregiver, or other person who has responsibility for the child.
- Such injury is considered abuse regardless of whether the caregiver intended to hurt the child.
- Physical discipline, such as spanking or paddling, is not considered abuse as long as it is reasonable and causes no bodily injury to the child.

https://www.childwelfare.gov

Neglect

- Failure of a parent, guardian, or other caregiver to provide for a child's basic needs
  - Physical (e.g., failure to provide necessary food or shelter, or lack of appropriate supervision)
  - Medical (e.g., failure to provide necessary medical or mental health treatment)
  - Educational (e.g., failure to educate a child or attend to special education needs)
  - Emotional (e.g., inattention to a child's emotional needs, failure to provide psychological care, or permitting the child to use alcohol or other drugs)

https://www.childwelfare.gov

Sexual Abuse

- Activities by a parent or caregiver such as fondling a child's genitals, penetration, incest, rape, sodomy, indecent exposure, and exploitation through prostitution or the production of pornographic materials

https://www.childwelfare.gov

Emotional Abuse

- Pattern of behavior that impairs a child's emotional development or sense of self- worth
- May include constant criticism, threats, or rejection, as well as withholding love, support, or guidance
- Often difficult to prove, and therefore, child protective services may not be able to intervene without evidence of harm or mental injury to the child
- Almost always present when other types of maltreatment are identified

https://www.childwelfare.gov

Abandonment

- A child is considered to be abandoned when the parent's identity or whereabouts are unknown, the child has been left alone in circumstances where the child suffers serious harm, or the parent has failed to maintain contact with the child or provide reasonable support for a specified period of time

https://www.childwelfare.gov

Substance Abuse

- Prenatal exposure of a child to harm due to the mother's use of an illegal drug or other substance
- Manufacture of methamphetamine in the presence of a child
- Selling, distributing, or giving illegal drugs or alcohol to a child
- Use of a controlled substance by a caregiver that impairs the caregiver's ability to adequately care for the child

https://www.childwelfare.gov

Epidemiology

- 3.6 million referrals alleging maltreatment to CPS involving 6.6 million children
- 702,000 victims of maltreatment
- 1,580 fatalities
- 9.4 child victims per 1,000 children
- The youngest children are the most vulnerable to death from maltreatment

NCANDS. Child Maltreatment 2014.

Epidemiology

- Neglect is the most common at 75% of cases
- Physical abuse is the second most common
- 17% of cases are physical abuse
- 119,517 victims of physical abuse

NCANDS. Child Maltreatment 2014.

Under Reporting

- The estimated number of victims is actually much higher
- Physical abuse remains under reported (and often under detected)
  - Individual and community variations in what is considered "abuse"
  - Inadequate knowledge and training among professionals in the recognition of abusive injuries
  - Unwillingness to report suspected abuse
  - Professional bias

Duty to Report Child Abuse and Neglect

All professionals in the state of Oklahoma have a duty to report any reasonable suspicion of child maltreatment.

Physical Abuse

Clinical Approach

- Stabilize and resuscitate
- Careful and well documented history is the most critical element of the medical evaluation
  - Using quotes whenever possible
  - Description of the mechanism of injury or injuries
  - Onset and progression of symptoms
  - Child's developmental capabilities

Physical Examination

- Detailed documentation
  - Photographs
  - Body diagrams
- Specific attention to
  - All areas of skin
  - External ears
  - Conjunctiva
  - Frenula

Cutaneous Findings

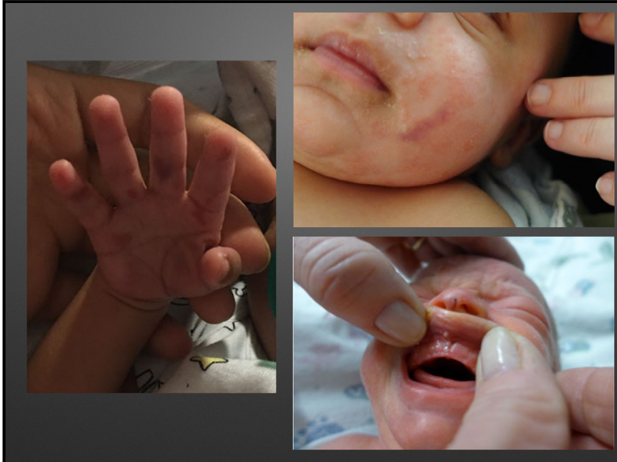
Sentinel Injuries

- Minor injuries, such as a bruise or intraoral injury
- Premobile infant
- Visible or detectable to a caregiver
- Poorly explained and unexpected

Sentinel Injuries

- A sentinel injury preceded severe abuse in 27.5% of cases
- A history of a sentinel injury is rare in infants evaluated for maltreatment and found to not be abused
- All sentinel injuries were observed by a parent
- 42% of the sentinel injuries were known to a medical provider but the infants were not protected from further harm
- Recognition of and appropriate response to sentinel injuries could prevent many cases of child physical abuse

Sheets. Pediatrics 2013;131:701-7.

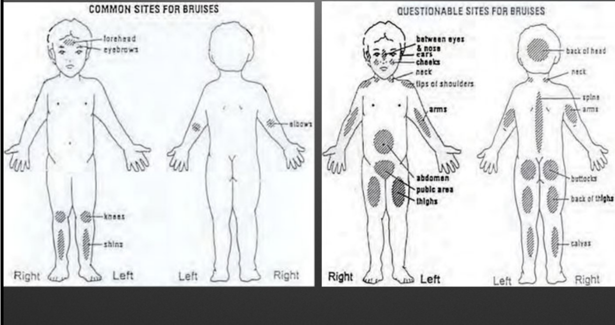


Bruises

If you don't cruise, you don't bruise

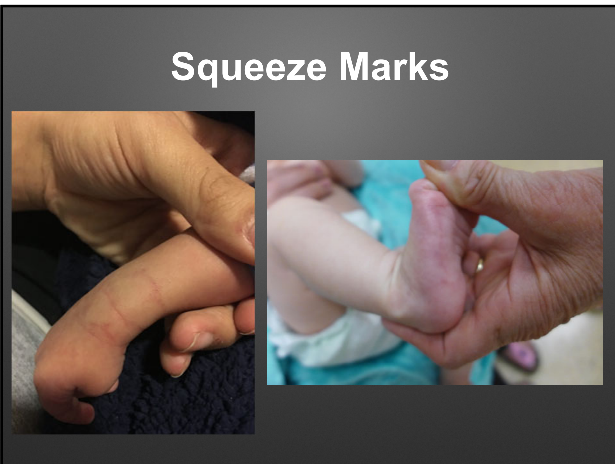
- Bruising in infants who don't pull to a stand or walk are rare
- Bruising increases exponentially once an infant begins to cruise
- Bruising is generally found over bony prominences

Location

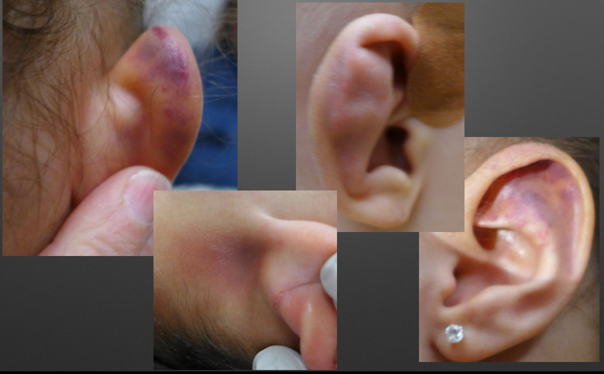


Patterned Bruising

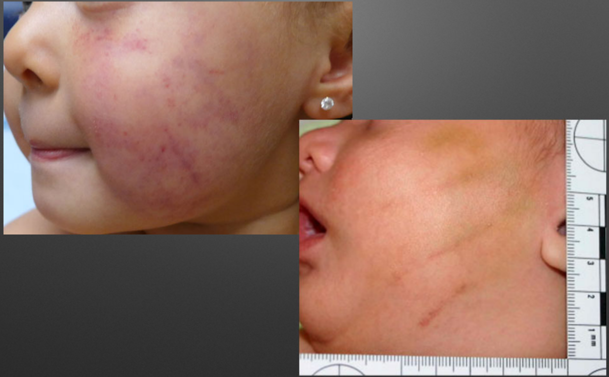
Squeeze Marks



Ear Bruising



Slap Marks



Burns

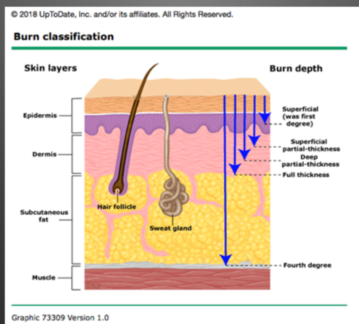
Epidemiology

- Abusive burns account for 11-25% of burns in hospitalized children
- Infants and toddler represent the greatest percentage of cases
- Typically occur in children younger than 6 years
- Mean age of injury between 2-3 years

Burn Classification

Superficial - Epidermal layer only	1st degree
Superficial Partial Thickness - Epidermis and superficial dermis Deep Partial Thickness - Epidermis and deep dermis	2nd degree
Full Thickness - Epidermis, entire dermis and into underlying subcutaneous tissue	3rd degree
Extension to Deep Tissues - Through skin and underlying soft tissues, can involve muscle or bone	4th degree

Burn Classification



Patterns of Injury Concerning for Abuse

- Large surface area of burn
- Uniform degree of burn injury
- Full-thickness burn
- Presence of delineated burn margins
- Symmetrical burns
- Absence of burn in areas of skin flexion
- Sparing of skin with surrounding burn secondary to contact with cooler surfaces
- Scald injury without splash/drip marks

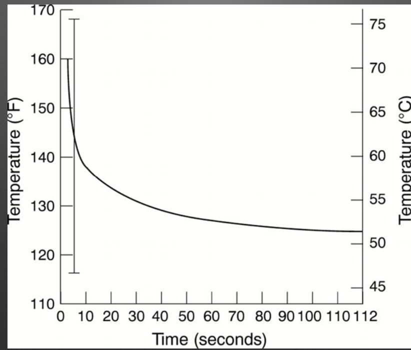
Temperature of Water

- Children bathe comfortably at 101 degrees
- Hot tubs are generally set at 102-104 degrees
- Adults sense water as painful at 112-114 degrees
- Recommended water heater setting is 120 degrees

Temperature of Water

- At 120 degrees it would take 10 minutes to produce a deep partial thickness burn
- At 130 degrees there is a difference between children and adult skin burn times
- Above 130 degrees, children burn in 1/4 the time of adults
- Hot water splash burns require 140 degrees to produce tissue injury

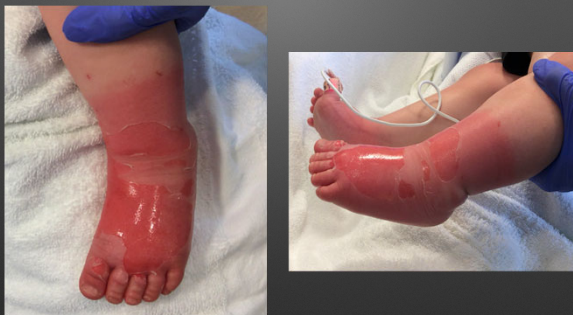
Burn Curve



Immersion Burns

- Burn patterns:
  - Uniformity of burn depth
  - Flexion sparing
  - Linear contour between burned and unburned skin
  - Absence of splash marks
  - Bilateral burn symmetry
  - Skin sparing in areas where the skin was in contact with cooler surfaces (doughnut)

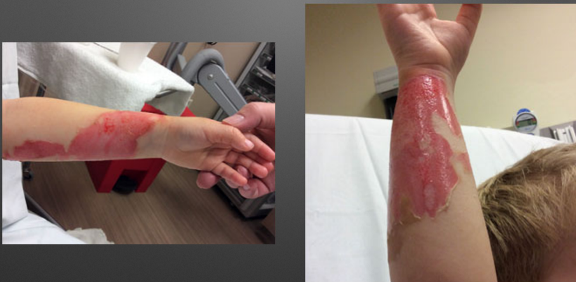
Immersion Burns



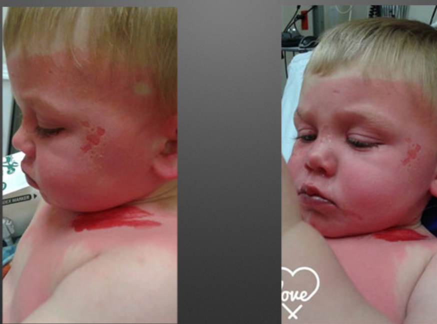
Flowing Liquid

- Can be altered by clothing
- Triangular (V) shaped pattern (flow pattern)
- Type of liquid can significantly affect the burn
  - Liquids with greater boiling point (higher heat source) and viscosity (prolonged contact with skin) can result in deeper more significant burns

Flowing Liquid



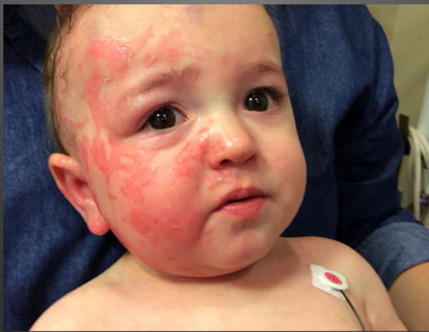
Flowing Liquid



Splash/Splatter Burns

- Require a minimum temperature of 140 degrees to produce tissue injury
- Lower temperatures will cool to a point where thermal cutaneous injury will not occur

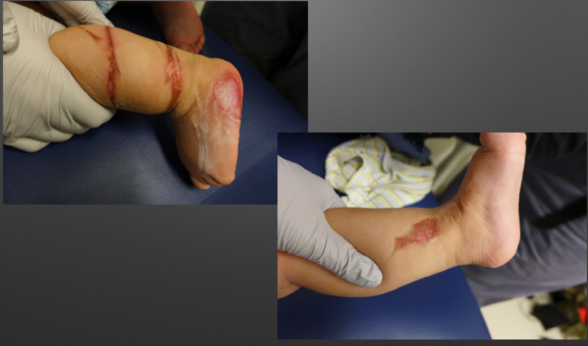
Splash Burns



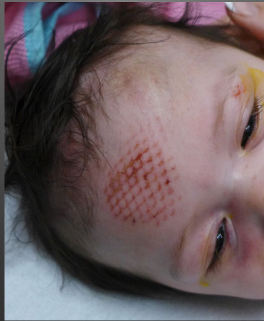
Heated Solid Objects

- Due to prolonged contact with hot solid
- Abusive:
  - Distinct margins
  - Grouped burn lesions
  - Clearly inscribed patterns
  - Injuries on parts of the body normally covered by clothing

Heated Solid Objects



Heated Solid Objects



Abusive Head Trauma

Nomenclature

- In 2009, the AAP recommended adoption of a less mechanistic term, "abusive head trauma", to describe the constellation of cerebral, spinal and cranial injuries that result from inflicted head injury to infants and young children
- The term shaken baby syndrome is still used in education and prevention efforts

Pediatrics. 2009;123(5):1409-11

Definition

- AHT is defined as inflicted injury to the head of an infant or young child
- Mechanisms include crush head injury, shaking, shaking with impact, impact alone, or strangulation

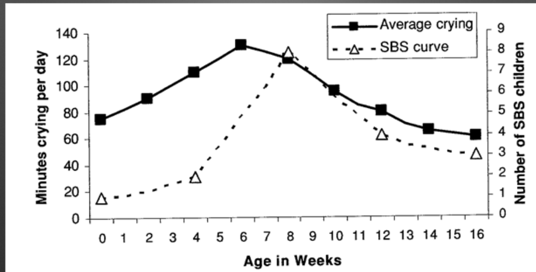
Kleinman, P. Diagnostic imaging of child abuse. 3rd ed.

Epidemiology

- 14 to 30 per 100,000 cases of AHT in infants < 1 year of age
- Peak hospitalization rates for AHT occur at 2-4 months of age
- Peak rates of AHT fatalities in the first 2 months of life
- The leading cause of death in child abuse victims under 4 years of age

Kleinman, P. Diagnostic imaging of child abuse. 3rd ed.
Parks, S. Inj Prev. 2012:18(6);392-8

Incidence of crying and shaken baby syndrome



Acta Pediatrica. 2008;97:782-785

Clinical presentation

- Irritability
- Lethargy
- Vomiting
- ALTE/BRUE
- Seizures
- Respiratory distress
- Cardiopulmonary arrest
- Coma
- Brain death

Misdiagnosis

- 31% of children and infants with AHT were initially misdiagnosed
- Misdiagnosed victims were more likely to be:
  - Younger
  - White
  - Less severe symptoms
  - Live with both parents

Jenny C. JAMA. 1999;281:621-6

Obtaining the History

- When was the child last seen well?
- When did symptoms first occur?
- What were the symptoms?
- What did the caregivers do at that time?
- Was CPR attempted?
- When was help called?
- What kind of help was called?

Child Protection Team

- Provider on call 24/7
- Always happy to answer questions
- 271-3636

OKLAHOMA State Department of Health

OKLAHOMA TRAUMA SYSTEM QUALITY IMPROVEMENT PROCESS REFERRAL FORM

Please complete this form and attach related records.

Reporting individual contact information	☐I wish to remain anonymous
Date	
Full name and title	
Organization	
Telephone number	
Email address	
Patient information for review	
Date of incident	
Name of patient	
Patient date of birth	
Your medical record#	
Name of any other involved agency/facility	

Reason for requesting review: *(Check all applicable boxes and include a brief narrative)*
☐ *Good Job!*
☐ *Incorrect application of the Trauma Triage, Transport, and Transport Algorithm*
☐ *Deviation from Regional Trauma Plan*
☐ *Delay in care*
☐ *Communication problems*
☐ *Refusal*
☐*Other(please specify)*
Additional information:

Mail, fax, or email to:
OKLAHOMA STATE DEPT. OF HEALTH
EMERGENCY SYSTEMS: Attn. CQI
123 Robert S Kerr Ste.1702 Oklahoma City, OK 73102
Phone: (405) 271-4027 Fax (405) 271-1045
Email: esystems@health.ok.gov

REGIONAL TRAUMA ADVISORY BOARD
Authorized Representative Form

DATE: ____________

☐ NEW APPOINTMENT
☐ UPDATED APPOINTMENT

TRAUMA REGION:

☐ NW REG-1
☐ NE REG-2
☐ SW REG-3
☐ EC REG-4
☐ SE REG-5
☐ CENTRAL REG-6
☐ TULSA REG-7
☐ OKC REG-8

ORGANIZATION NAME: ______________________________

INDIVIDUAL AUTHORIZING APPOINTMENT OF RTAB REPRESENTATIVES:

Name: ______________________________

Job Title: ☐ Hosp Admin. /or__________ ☐ EMS Director /or _____________

Signature: ______________________________

DESIGNATED REPRESENTATIVE: (please print legibly)

Name: ______________________________

Job Title: ______________________________

Email: ______________________________

Telephone: ______________________________

Facsimile: ______________________________

ALTERNATE REPRESENTATIVE: (please print legibly)

Name: ______________________________

Job Title: ______________________________

Email: ______________________________

Telephone: ______________________________

Facsimile: ______________________________

ALTERNATE REPRESENTATIVE: (please print legibly)

Name: ______________________________

Job Title: ______________________________

Email: ______________________________

Telephone: ______________________________

Facsimile: ______________________________

*** *Please fax to the Emergency Systems at (405) 900-7560**** Update Annually***

Oklahoma State Department of Health
Emergency Systems
123 Robert S. Kerr Ave Ste. 1702, Oklahoma City, Oklahoma 73102-6406

Office Use Only:
___ Distribution List ___ Attendance Roster
___ Sign in Form ___ Vote Call Form
(If new facility/agency – update rotation – trauma plans)