

# Triage, Stabilization and Transfer Process for Individuals with Trauma

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

**Note:** For emergencies occurring on MD Anderson campus locations not supported by the Code Blue Team, contact 911 ([Code Blue Team vs. 911 Response Map](#))

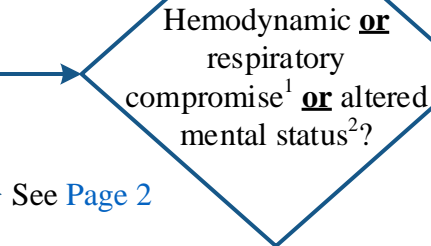
## PRESENTATION AND ASSESSMENT

Patient, visitor, or employee with blunt or penetrating trauma

EC

Inpatient

Outpatient/MD Anderson public spaces



See Page 2

See Page 3

## DISPOSITION

- Maintain airway with cervical spine stabilization as indicated
- Consider surgical team consult (General Surgery, Thoracic Surgery, Neurosurgery and/or Orthopedics)
- Imaging as determined by medical teams



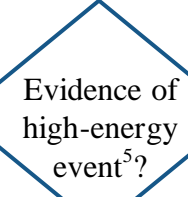
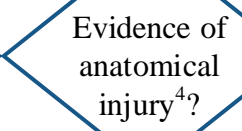
Transfer individual

See Box A below

Manage individual as clinically indicated

**A**  
 Transfer to outside hospital for higher level of care [see [Appendix B: Texas Medical Center \(TMC\) Hospital Contact Information](#)]

Emergency transfer administrative process, see [Page 4](#)



Medical management and disposition per EC and/or Primary teams as indicated

**Note:** Comorbid factors may increase the severity of injury

- Age ≤ 5 or > 70 years
- Significant cardiac or respiratory disease
- Diabetes, cirrhosis, end-stage renal disease, morbid obesity
- Bleeding disorders or currently taking anticoagulants

- Pregnancy
- Immunosuppression

<sup>1</sup> Hemodynamic or respiratory compromise is defined as: SBP < 90 mmHg, respiratory rate < 10 bpm or > 29 bpm

<sup>2</sup> Altered mental status is defined as Glasgow Coma Scale < 14 or motor score ≤ 5 [see [Appendix A: Glasgow Coma Scale \(GCS\)](#)]

<sup>3</sup> If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer or the expected benefits outweigh the increased risks of the transfer (See MD Anderson Institutional Policy #CLN3280 – Emergency Medical Screening Examination, Stabilization, and Appropriate Transfers Policy)

<sup>4</sup> Anatomic injury includes the following:

• Open or depressed skull fracture

• Penetrating injury to head, neck, torso, and/or extremities proximal to elbow and knee

<sup>5</sup> Evidence of high-energy event includes the following:

• Falls > 20 feet (6 meters) in adults and > 10 feet (3 meters) or 2-3 times height in children

• High-risk auto crash:

- Intrusion > 12 inches occupant site or 18 inches any site
- Ejection (partial or complete) from vehicle
- Death in same passenger compartment

- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures

- Paralysis or suspected spinal cord injury
- Flail chest
- Long bone fracture

- Auto vs. pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact
- High-energy electrical injury
- Burns > 10% total body surface area and/or inhalation injury
- Tender or rigid abdomen

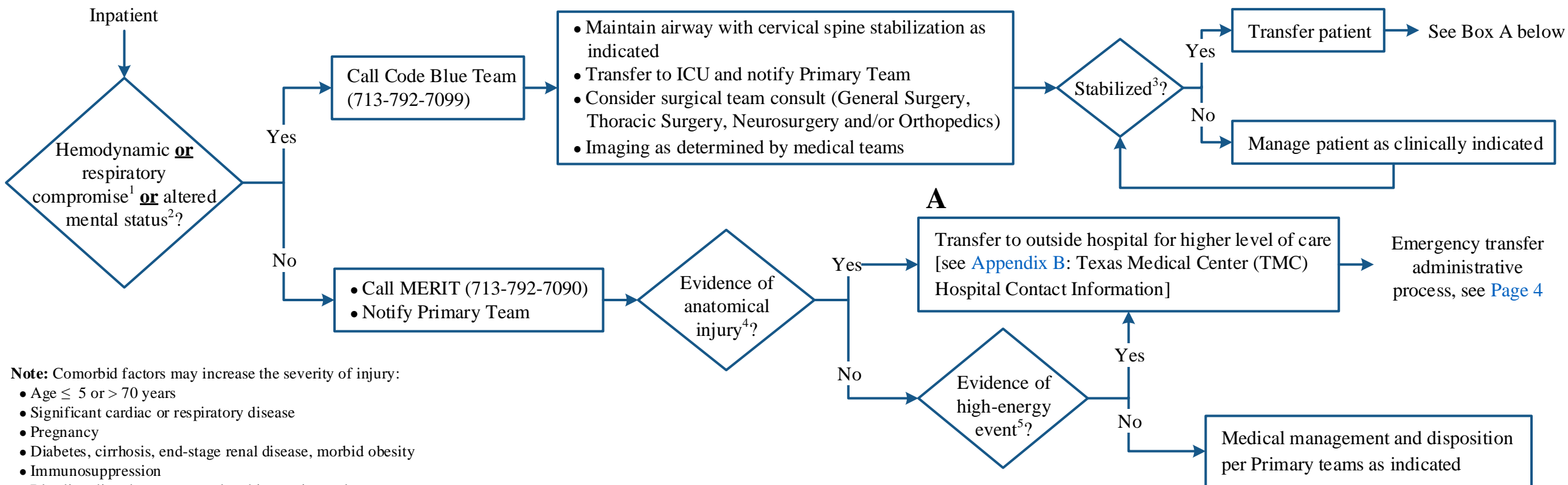
# Triage, Stabilization and Transfer Process for Individuals with Trauma

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

**Note:** For emergencies occurring on MD Anderson campus locations not supported by the Code Blue Team, contact 911 ([Code Blue Team vs. 911 Response Map](#))

## PRESENTATION AND ASSESSMENT

## DISPOSITION



**Note:** Comorbid factors may increase the severity of injury:

- Age  $\leq 5$  or  $> 70$  years
- Significant cardiac or respiratory disease
- Pregnancy
- Diabetes, cirrhosis, end-stage renal disease, morbid obesity
- Immunosuppression
- Bleeding disorders or currently taking anticoagulants

<sup>1</sup> Hemodynamic or respiratory compromise is defined as: SBP  $< 90$  mmHg, respiratory rate  $< 10$  bpm or  $> 29$  bpm

<sup>2</sup> Altered mental status is defined as Glasgow Coma Scale  $< 14$  or motor score  $\leq 5$  [see [Appendix A: Glasgow Coma Scale \(GCS\)](#)]

<sup>3</sup> If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer **or** the expected benefits outweigh the increased risks of the transfer (See MD Anderson Institutional Policy #CLN3280 – Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy)

<sup>4</sup> Anatomic injury includes the following:

- Open or depressed skull fracture
- Penetrating injury to head, neck, torso, and/or extremities proximal to elbow and knee
- Flail chest
- Long bone fracture
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Paralysis or suspected spinal cord injury

<sup>5</sup> Evidence of high-energy event includes the following:

- Falls  $> 20$  feet (6 meters) in adults and  $> 10$  feet (3 meters) or 2-3 times height in children
- High-risk auto crash:
  - Intrusion  $> 12$  inches occupant site or 18 inches any site
  - Ejection (partial or complete) from vehicle
  - Death in same passenger compartment
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant ( $> 20$  mph) impact
- High-energy electrical injury
- Burns  $> 10\%$  total body surface area and/or inhalation injury
- Tender or rigid abdomen

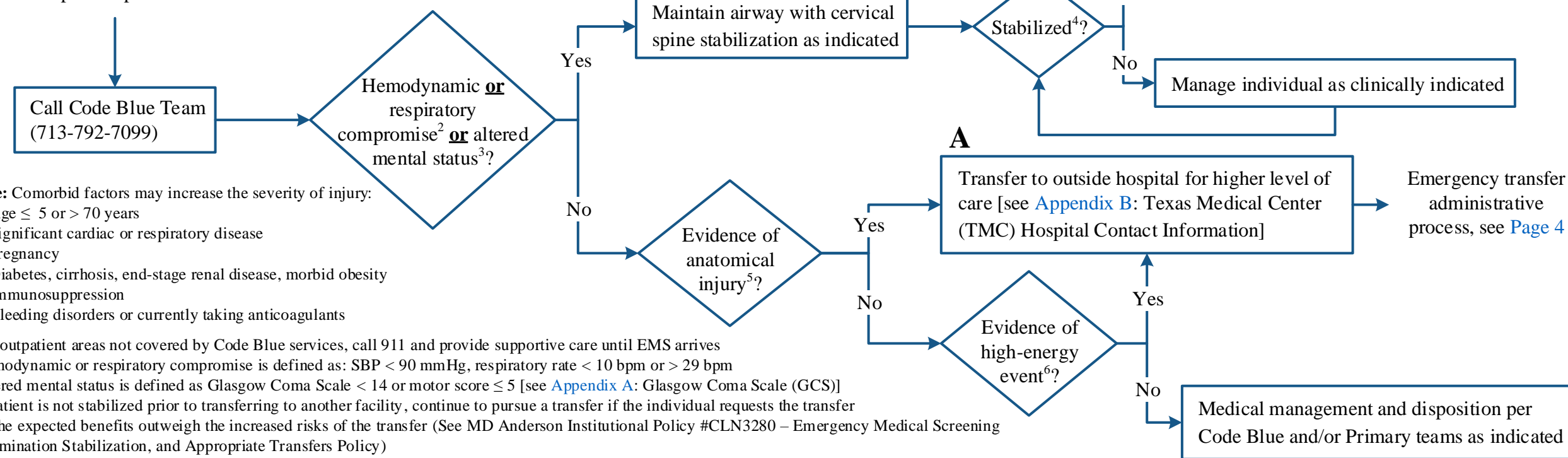
# Triage, Stabilization and Transfer Process for Individuals with Trauma

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

**Note:** For emergencies occurring on MD Anderson campus locations not supported by the Code Blue Team, contact 911 ([Code Blue Team vs. 911 Response Map](#))

## PRESENTATION AND ASSESSMENT

Outpatient<sup>1</sup>/MD Anderson public spaces



**Note:** Comorbid factors may increase the severity of injury:

- Age ≤ 5 or > 70 years
- Significant cardiac or respiratory disease
- Pregnancy
- Diabetes, cirrhosis, end-stage renal disease, morbid obesity
- Immunosuppression
- Bleeding disorders or currently taking anticoagulants

<sup>1</sup> For outpatient areas not covered by Code Blue services, call 911 and provide supportive care until EMS arrives

<sup>2</sup> Hemodynamic or respiratory compromise is defined as: SBP < 90 mmHg, respiratory rate < 10 bpm or > 29 bpm

<sup>3</sup> Altered mental status is defined as Glasgow Coma Scale < 14 or motor score ≤ 5 [see [Appendix A: Glasgow Coma Scale \(GCS\)](#)]

<sup>4</sup> If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer **or** the expected benefits outweigh the increased risks of the transfer (See MD Anderson Institutional Policy #CLN3280 – Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy)

<sup>5</sup> Anatomic injury includes the following:

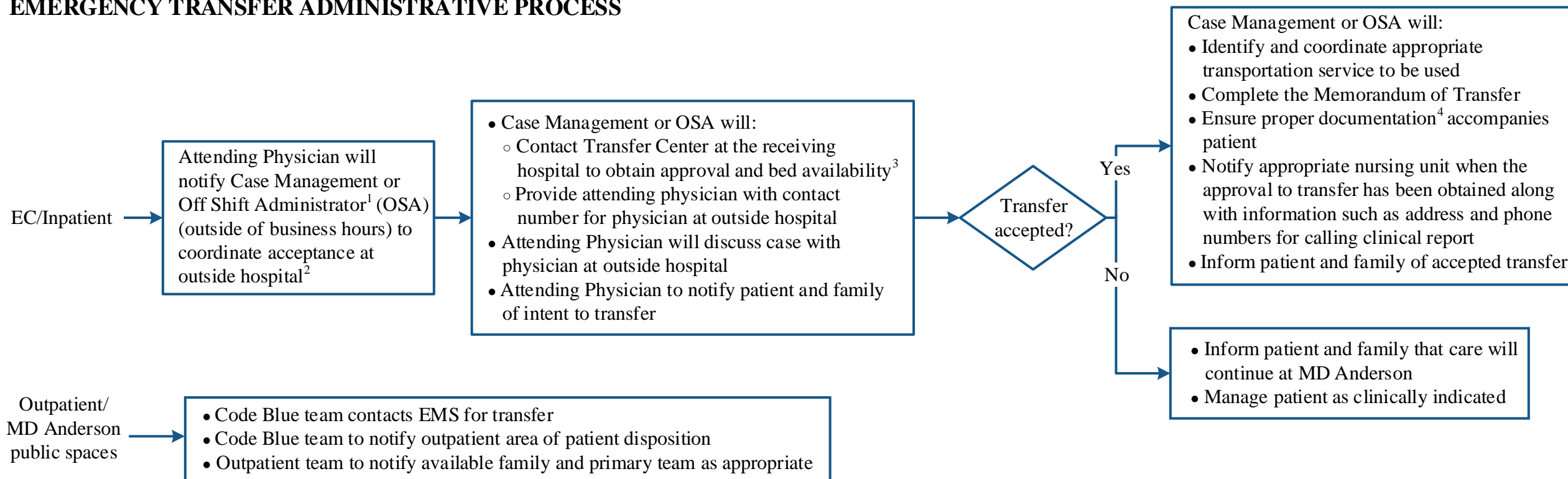
- Open or depressed skull fracture
- Penetrating injury to head, neck, torso, and/or extremities proximal to elbow and knee
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Paralysis or suspected spinal cord injury
- Flail chest
- Long bone fracture

<sup>6</sup> Evidence of high-energy event includes the following:

- Falls > 20 feet (6 meters) in adults and > 10 feet (3 meters) or 2-3 times height in children
- High-risk auto crash:
  - Intrusion > 12 inches occupant site or 18 inches any site
  - Ejection (partial or complete) from vehicle
  - Death in same passenger compartment
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact
- High-energy electrical injury
- Burns > 10% total body surface area and/or inhalation injury
- Tender or rigid abdomen

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.

## EMERGENCY TRANSFER ADMINISTRATIVE PROCESS



EMS = Emergency Medical Services

<sup>1</sup> Contact Case Management or OSA via operator

<sup>2</sup> Refer to MD Anderson Institutional Policy #CLN0614: Transfer of Patients to, from and Within MD Anderson Cancer Center Policy

<sup>3</sup> Discuss with Attending Physician regarding preference for receiving hospital based on clinical scenario. See [Appendix B: Texas Medical Center \(TMC\) Hospital Contact Information](#). If transfer approval is not promptly obtained, Case Management to contact alternate hospitals to avoid delay.

<sup>4</sup> Documentation:

- “Face sheet”
- Medical records to include a current reconciled medication list and transfer orders per primary care team
- Others as appropriate

# Triage, Stabilization and Transfer Process for Individuals with Trauma

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.*

## APPENDIX A: Glasgow Coma Scale (GCS)<sup>1</sup>

Item	Description	Score
Eye Opening Response	Spontaneous	4
	To verbal stimuli, command, speech	3
	To pain only (not applied to face)	2
	No response	1
Verbal Response	Oriented	5
	Confused conversation, but able to answer questions	4
	Inappropriate words	3
	Incomprehensible speech	2
	No response	1
Motor Response	Obeys commands for movement	6
	Purposeful movement to painful stimulus	5
	Withdraws in response to pain	4
	Flexion in response to pain	3
	Extension in response to pain	2
	No response	1

<sup>1</sup> GCS is obtained by adding the score from each parameter

## APPENDIX B: Texas Medical Center (TMC) Hospital Contact Information

	Memorial Hermann TMC	Ben Taub Hospital
<b>For Transfers:</b>	Transfer Center (713) 704-2500	Transfer Center (713) 873-8601

# Triage, Stabilization and Transfer Process for Individuals with Trauma

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.*

---

## SUGGESTED READINGS

ATLS Algorithms. (2010). Retrieved from [https://anesth.unboundmedicine.com/anesthesia/view/Pocket-ICU-Management/534159/all/ATLS\\_Algorithms](https://anesth.unboundmedicine.com/anesthesia/view/Pocket-ICU-Management/534159/all/ATLS_Algorithms)

Galvagno, S. M., Nahmias, J. T., & Young, D. A. (2019). Advanced Trauma Life Support® update 2019: Management and applications for adults and special populations. *Anesthesiology Clinics*, 37(1), 13-32. doi:10.1016/j.anclin.2018.09.009

MD Anderson Institutional Policy #CLN0614 – Transfer of patients to, from and Within MD Anderson Cancer Center Policy

MD Anderson Institutional Policy #CLN3280 – Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy

NB Trauma Program. (2018). Trauma Transfer Guidelines. Retrieved from <https://nbtrauma.ca/wp-content/uploads/2018/10/Trauma-Transfer-Guidelines-Aug-2018-bil.pdf>

Southeast Texas Regional Advisory Council SETRAC (TSA Q). (2018). Emergency medical services/trauma system plan. Retrieved from <https://www.setrac.org/wp-content/uploads/2017/09/Trauma-Plan-2018-revisions.pdf>



Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care.*

---

## DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Emergent Triage/Transfer Process workgroup experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

Ginny Bowman, MSN, RN (Nursing Administration)  
Patricia Brock, MD (Emergency Medicine)<sup>‡</sup>  
John Crommett, MD (Critical Care & Respiratory Care)<sup>‡</sup>  
Robert Drew, MBA, RN (Nursing - Emergency Center)  
Wendy Garcia, BS<sup>♦</sup>  
Marina George, MD (General Internal Medicine)  
Petra Grami, DNP, RN (Nursing Administration)  
Amanda Hamlin, MS, PA-C (Houston Area Locations)  
Angela Hayes-Rodgers, MBA (Off-Shift Administration)  
Colleen, Jernigan, PhD, RN (Nursing Administration)  
Pauline Koinis, BSMT<sup>♦</sup>  
Jeffrey Merlin, MD (Emergency Medicine)  
Karen Plexman, MSN, RN (Emergency Readiness)  
Regina Smith, MSN, MBA, RN (Houston Area Locations)  
Jenise Rice, MSN, RN (Perioperative Nursing)  
Donna Ukanowicz, MS, RN, ACM (Case Management)  
Delmy Vesho, MSN, RN (Nursing Administration)  
Marian Von-Maszewski, MD (Critical Care & Respiratory Care)  
Mary Lou Warren, DNP, APRN, CNS-CC<sup>♦</sup>  
Suzanne M. Wilson, BSN, DBA, RN (Case Management)

<sup>‡</sup> Core Development Team

<sup>♦</sup> Clinical Effectiveness Development Team