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**

  - Hemodynamic or respiratory compromise<sup>1</sup> or altered mental status?<sup>2</sup>
  - Inpatient
  - Outpatient/MD Anderson public spaces

  - EC
  - See Page 2

  - Yes
  - No

  - See Page 3

### 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

<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 #CLN1280 – Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy)

### DISPOSITION

- **Stabilized?**
  - Yes
  - Transfer individual
  - See Box A below
  - No
  - Manage individual as clinically indicated

- **Evidence of high-energy event?**
  - Yes
  - Emergency transfer administrative process, see Page 4
  - No

- **Evidence of anatomical injury?**
  - Yes
  - Manage individual as clinically indicated
  - No

- **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**

### Note:**

- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Paralysis or suspected spinal cord injury
- Flail chest
- Long bone fractures
- 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

### Managing patient with blunt or penetrating trauma:

- Auto vs. pedestrian/bicyclist
  - Run over
  - Flail chest
  - Paralysis or suspected spinal cord injury
  - Tender or rigid abdomen

### For emergencies not supported by the Code Blue Team:

- Phone contact 911
- MD Anderson Emergency Medical Screening Examination

### Note:**

- Ejection
- Intrusion
- Death in same passenger compartment

### MD Anderson Institutional Policy #CLN1280 – Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy

- For emergencies occurring on MD Anderson campus locations not supported by the Code Blue Team

### Approval:

- Approved by the Executive Committee of the Medical Staff on 03/24/2020

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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

- Hemodynamic or respiratory compromise or altered mental status?
  - Yes
    - Call Code Blue Team (713-792-7099)
    - Maintain airway with cervical spine stabilization as indicated
    - Transfer to ICU and notify Primary Team
    - Consider surgical team consult (General Surgery, Thoracic Surgery, Neurosurgery and/or Orthopedics)
    - Imaging as determined by medical teams
  - No
    - Call MERIT (713-792-7090)
    - Notify Primary Team
    - Evidence of anatomical injury?
      - Yes
        - Transfer to outside hospital for higher level of care [see Appendix B; Texas Medical Center (TMC) Hospital Contact Information]
      - No
        - Medical management and disposition per Primary teams as indicated

- Yes
  - Stabilized?
    - Yes
      - Transfer patient
    - No
      - Manage patient as clinically indicated

- No
  - Evidence of high-energy event?
    - Yes
      - Emergency transfer administrative process, see Page 4
    - No
      - Manage patient as clinically indicated

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

1 Hemodynamic or respiratory compromise is defined as: SBP < 90 mmHg, respiratory rate < 10 bpm or > 29 bpm
2 Altered mental status is defined as Glasgow Coma Scale ≤ 14 or motor score ≤ 5 [see Appendix A; Glasgow Coma Scale (GCS)]
3 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)

A

4 Anatomical 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
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Paralysis or suspected spinal cord injury

5 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

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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/MD Anderson public spaces

Call Code Blue Team (713-792-7099)

Hemodynamic or respiratory compromise? or altered mental status?

- **Yes**
  - Maintain airway with cervical spine stabilization as indicated
  - Stabilized?

- **No**
  - Evidence of anatomical injury?
    - **Yes**
      - Transfer to outside hospital for higher level of care [see Appendix B: Texas Medical Center (TMC) Hospital Contact Information]
    - **No**
      - Emergency transfer administrative process, see Page 4

  - Evidence of high-energy event?
    - **Yes**
      - Medical management and disposition per Code Blue and/or Primary teams as indicated
    - **No**

**DISPOSITION**

**Stabilized?**

Transfer individual

Manage individual as clinically indicated

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

1. For outpatient areas not covered by Code Blue services, call 911 and provide supportive care until EMS arrives
2. Hemodynamic or respiratory compromise is defined as: SBP < 90 mmHg, respiratory rate < 10 bpm or > 29 bpm
3. Altered mental status is defined as Glasgow Coma Scale ≤ 14 or motor score ≤ 5 [see Appendix A: Glasgow Coma Scale (GCS)]
4. 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 Examinations, Stabilization, and Appropriate Transfers Policy)
5. Anatomic injury includes the following:
   - Open or depressed skull fracture
   - Penetrating injury to head, neck, torso, and/or extremities proximal to elbow and knee
   - Pelvic fractures
   - Crushed, degloved, or mangled extremity
   - Amputation proximal to wrist and ankle
   - Paralysis or suspected spinal cord injury
   - Flail chest
   - Long bone fracture
6. 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
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EMERGENCY TRANSFER ADMINISTRATIVE PROCESS

- Case Management or OSA will:
  - Contact Transfer Center at the receiving hospital to obtain approval and bed availability
  - Provide attending physician with contact number for physician at outside hospital
- Attending Physician will discuss case with physician at outside hospital
- Attending Physician to notify patient and family of intent to transfer

EC/Inpatient

Attending Physician will notify Case Management or Off Shift Administrator (OSA) (outside of business hours) to coordinate acceptance at outside hospital

Outpatient/MD Anderson public spaces

- Code Blue team contacts EMS for transfer
- Code Blue team to notify outpatient area of patient disposition
- Outpatient team to notify available family and primary team as appropriate

Case Management or OSA will:
- Identify and coordinate appropriate transportation service to be used
- Complete the Memorandum of Transfer
- Ensure proper documentation accompanies patient
- Notify appropriate nursing unit when the approval to transfer has been obtained along with information such as address and phone numbers for calling clinical report
- Inform patient and family of accepted transfer

Transfer accepted?

Yes

No

- Inform patient and family that care will continue at MD Anderson
- Manage patient as clinically indicated

EMS = Emergency Medical Services

1. Contact Case Management or OSA via operator
2. Refer to MD Anderson Institutional Policy #CLN0614: Transfer of Patients to, from and Within MD Anderson Cancer Center Policy
3. 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.
4. Documentation:
   - “Face sheet”
   - Medical records to include a current reconciled medication list and transfer orders per primary care team
   - Others as appropriate

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### APPENDIX A: Glasgow Coma Scale (GCS)\(^1\)

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

\(^1\)GCS is obtained by adding the score from each parameter

---

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

<table>
<thead>
<tr>
<th>For Transfers:</th>
<th>Memorial Hermann TMC</th>
<th>Ben Taub Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transfer Center (713)</td>
<td>Transfer Center (713)</td>
</tr>
<tr>
<td></td>
<td>704-2500</td>
<td>873-8601</td>
</tr>
</tbody>
</table>

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SUGGESTED READINGS


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


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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:

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