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
- Inpatient
- Ambulatory/MD Anderson public spaces

**Hemodynamic or respiratory compromise**

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

- Altered mental status is defined as Glasgow Coma Scale < 14 or motor score ≤ 5 (see Appendix A: Glasgow Coma Scale (GCS))

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)

**Evidence of anatomical injury**

- 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

- 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

**DISPOSITION**

- Stabilized?
  - Yes
  - Transfer to outside hospital for higher level of care (see Page 4)
  - Continue management in the ACCC until patient transferred
  - Manage individual as clinically indicated
  - Medical management and disposition per ACCC and/or Primary Teams as indicated

- No
  - Evidence of high-energy event?
    - Yes
      - Transfer to outside hospital for higher level of care (see Page 4)
    - No
      - Evidence of anatomical injury?
        - Yes
          - Transfer to outside hospital for higher level of care (see Page 4)
        - No
          - Stabilized?
            - Yes
              - Transfer to outside hospital for higher level of care (see Page 4)
            - No
              - Manage individual as clinically indicated
            - Medical management and disposition per ACCC and/or Primary Teams as indicated
          - No
            - Manage individual as clinically indicated
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PRESENTATION AND ASSESSMENT

Inpatient

- Hemodynamic or respiratory compromise
- Altered mental status

Yes

No

- Call Code Blue Team (713-792-7099) and Request additional support from Public Space Code Blue Team
- Notify Primary Team
- Call MERIT (713-792-7090)

Evidence of anatomical injury

- 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

Stabilized?

Yes

No

Transfer to outside hospital for higher level of care (see Page 4)

Manage patient as clinically indicated

Evidence of high-energy event

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

Yes

No

Medical management and disposition per Primary Teams as 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 and the expected benefits outweigh the increased risks of the transfer (see MD Anderson Institutional Policy # CLN3280 - Emergency Medical Screening Examination Stabilization, and Appropriate Transfer Policy)
4 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
- 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 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
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**PRESENTATION AND ASSESSMENT**

- **Ambulatory**\(^1\)/MD Anderson public spaces
  - Call Code Blue Team (713-792-7099) and Request additional support from Public Space Code Blue Team

**Hemodynamic or respiratory compromise\(^2\) or altered mental status\(^3\)?**

- **Yes**
  - Maintain airway with cervical spine stabilization as indicated
  - Stabilized\(^4\)?
    - Yes
      - **Transfer to outside hospital for higher level of care** (see Page 4)
    - No
      - Manage individual as clinically indicated

- **No**
  - Evidence of anatomical injury\(^5\)?
    - **Yes**
      - Evidence of high-energy event\(^6\)?
        - **Yes**
          - **Medical management and disposition per Code Blue and/or Primary Teams as indicated**
        - **No**
          - **Yes**
            - Paralysis or suspected spinal cord injury
            - Flail chest
            - Long bone fracture
            - Transfer to outside hospital for higher level of care (see Page 4)
          - **No**
            - Manage individual as clinically indicated

**Evidence of anatomical injury\(^5\)?**

- **No**
  - Manage individual as clinically indicated

**Evidence of high-energy event\(^6\)?**

**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 ambulatory 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 Examination 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

\(^6\)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
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1 If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer and 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).

2 Emergency Medical Treatment and Labor Act (EMTALA) generally does not apply for admitted patients (see MD Anderson Institutional Policy # CLN3280 - Emergency Medical Screening Examination, Stabilization, and Appropriate Transfers Policy).

3 See MD Anderson Institutional Policy # CLN0614 - Transfer of Patients to, from, and Within MD Anderson Cancer Center Policy.

4 Discuss with Attending Physician regarding preference for receiving hospital based on clinical scenario. See Appendix B: Texas Medical Center (TMC) Hospital Contact Information.

5 Other documentation as appropriate.

12 EMERGENCY TRANSFER ADMINISTRATIVE PROCESS

- Patient needing transfer to higher level of care
  - Inpatient
  - Ambulatory/MD Anderson public spaces

- Attending Physician will notify ACCC assigned Case Manager or OSA to coordinate acceptance at outside hospital
  - Case Manager
    - Monday through Friday 8 AM – 5 PM: Contact Case Manager assigned to patient location
    - Monday through Friday 5 PM – 10 PM or Holidays/Weekends 8 AM – 10 PM: Contact Case Manager via on call calendar
  - OSA
    - Monday through Friday or Weekends/ Holidays: 10 PM – 8 AM: Contact OSA via the on call calendar

- Code Blue team contacts Emergency Medical Services (EMS) for transfer to outside facility for higher level of care
- Code Blue team to notify clinical or administrative leaders in the ambulatory area of patient disposition
- Code Blue team to notify available family and primary team as appropriate

- Transfer of Patients to Approved by the Executive Committee of the Medical Staff on [date]

- Case Manager or OSA will:
  - Complete the Memorandum of Transfer
  - Ensure proper documentation
  - 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
  - Sign the Memorandum of Transfer

- Attendng Physician will:
  - Manage patient as clinically indicated
  - Inform patient and family that care will continue at MD Anderson
  - Make patient available family and primary team as appropriate

Transfer accepted?

Yes

- Case Manager or OSA will:
  - Complete the Memorandum of Transfer
  - Ensure proper documentation
  - 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
  - Sign the Memorandum of Transfer

- Attendng Physician will:
  - Manage patient as clinically indicated

No
# 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>Obey commands for movement</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Localizes pain</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

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---

# 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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