Mount Sinai

MOUNT SINAI HOSPITAL
MOUNT SINAI QUEENS
POLICY & PROCEDURE

POLICY TITLE:
Trauma Management
POLICY NUMBER:
GPP-262
POLICY OWNER:
Emergency Department
ORIGINAL DATE OF ISSUE:
04/01/2003

LAST REVIEWED DATE:

05/2018

EFFECTIVE DATE:
08/2019

CROSS REFERENCE:

GPP-520 Chain of Command Policy
EM-34 Admitting Policy
EM-34.1 ED Attending Authority to Admit
MSS-1-MSH MSH Rules and Regulations
EM-4.3EMTALA

I. POLICY

The Mount Sinai Hospital (MSH) and Mount Sinai Queens (MSQ) are committed to providing timely trauma care for all patients who suffer traumatic injury. This policy defines the response of emergency department, surgical, and support services in order to expedite the evaluation, treatment, and disposition of trauma patients in the Emergency Department (ED).

II. PROCEDURE

I. Trauma System

There is a three-tier trauma activation system:
1. Trauma Code: Full trauma team activation based on potential immediate life threat
2. Trauma Alert: Limited trauma team activation based on high-risk mechanism
3. Trauma Consult: Surgical consultation necessary for evaluation, treatment, or disposition

Trauma System activations may occur on patient arrival or prior to arrival based on EMS pre-notification.

II. Trauma System Activation Criteria

Trauma Code: Full trauma team activation based on potential immediate life threat

<u>Mechanism/Pre-hospital Notification</u>
- Traumatic arrest in the field or en route

- Transfers receiving blood transfusions to maintain vital signs
- Hanging
- Drowning
- Fall >20 feet; 3x height of child
- Injured pregnant patient >20 weeks with vaginal bleeding
- Attending emergency physician discretion

Primary Survey
- **A**irway: Instability/obstruction; requiring intubation or assisted ventilation
- **B**reathing: Respiratory insufficiency (RR<10 or >29; hypoxia, grunting, distress)
- **C**irculation: Hypotension (SBP<90 for adults). Signs of poor perfusion in children. Of note, blood pressure is an unreliable indicator of shock in children; tachycardia and signs of poor perfusion may be seen prior to BP changes in children.

AGE	RESPIRATORY RATE/MIN	HEART RATE	SYSTOLIC BP
Neonate	40 to 60	100 to 180	60 to 90
Infant	30 to 60	100 to 160	87 to 105
Toddler	24 to 40	80 to 110	95 to 105
Pre-schooler	22 to 34	70 to110	82 to 110
School-age	18 to 32	65 to 110	97 to 112

- **D**eficit: Head Injury with GCS ≤ 13 with mechanism attributed to trauma

Secondary Survey
- Open or depressed skull fracture
- Penetrating injuries to the head, neck, chest, abdomen
- Flail chest or disruption of chest wall
- Unstable pelvic fracture
- Two or more proximal long bone fractures
- Threatened Limb: Mangled extremity and/or amputation above wrist or ankle; crush injury with vascular compromise
- Paralysis or suspected spinal cord injury
- Major Burn Injury or compromising perfusion or airway
- Attending emergency physician discretion

****ANY TRAUMA PATIENT WITH UNSTABLE VITAL SIGNS (hypotension with signs of poor perfusion/respiratory distress) IS A TRAUMA CODE!**

Trauma Alert: Limited trauma team activation based on high risk mechanism

- Head trauma from fall from any height if age >70 or on anticoagulant or antiplatelet agent
- Ejection from vehicle
- Death of occupant of same passenger compartment
- MVC with intrusion >12 inches
- Rollover unrestrained passenger
- Motorcyclist separated from vehicle or traveling >20 mph
- Pedestrian or bicyclist struck by vehicle
- Penetrating injuries to the proximal extremities (consider upgrade if concern for abdominal or thoracic involvement)
- Blunt abdominal injury with firm or distended abdomen or with seatbelt sign

- Burns with multiple trauma
- 2 or 3 degree burns >5% of BSA
- High-energy electrical injury
- Attending emergency physician discretion
- (Mount Sinai Queens: A Trauma Alert should be activated for patients not meeting criteria on arrival if a CT reveals traumatic intracranial injury or if clinical evaluation identifies blunt trauma requiring a CT of the abdomen or chest.)

Trauma Consult: Surgical consultation necessary for evaluation, treatment, or disposition

- Traumatic injuries not requiring Trauma Code or Trauma Alert activation
- Attending emergency physician discretion

III. Trauma System Activation Procedure

Trauma Code or Trauma Alert

The Triage or Charge RN announces overhead that a trauma patient is being brought to the resuscitation area and assigns an ED attending. The triage RN and/or EMS escorts the patient to the resuscitation area and transfers care to the ED resuscitation team. The ED attending determines what level of activation (Trauma Code or Trauma Alert) is required. The hospital-wide Trauma System is activated as follows:

The Mount Sinai Hospital

- To activate the hospital-wide Trauma System, the ED team calls hospital telecommunications (x47000) and states that a Trauma Team activation is required. They should specify:
  - Trauma activation level: Trauma Code or Trauma Alert
  - Additional required surgical specialty consultants
  - Location: Adult ED or Pediatric ED
- The telecommunications operator notifies the general or pediatric surgery attending and resident, requested surgical specialty consultants, respiratory therapist, OR, blood bank, radiology (CT), and nursing administrator. The telecommunications operator also announces overhead via the hospital paging system the trauma activation level (Trauma Code or Trauma Alert) and location (Adult ED or Pediatric ED). Telecommunications will maintain an updated Trauma Team group page list, and each clinical service will maintain an up-to-date and easily accessible contact list and escalation pathway.

Mount Sinai Queens

- The hospital-wide Trauma System is activated for a Trauma Code only. An ED Trauma Alert does not activate the hospital-wide Trauma System.
- To activate a Trauma Code, the ED Clerk announces overhead hospital-wide a Trauma Code to the ED, calls the OR to notify available Surgery and Anesthesia staff, and contacts the Assistant Director of Nursing during nights/weekends. Surgery, Anesthesia, Radiology, Blood Bank, and Respiratory will be notified of all Trauma Codes.

Trauma Consult

A Trauma Consult is initiated via the usual ED consult process. The ED team will page the general or pediatric surgery resident as well as other surgical specialty consults as needed (at the discretion of the attending emergency physician). Each clinical service will maintain an up-to-date and easily accessible consultant contact list and escalation pathway in the paging directory.

IV. Trauma System Response

Trauma Code

- **The Mount Sinai Hospital**
    - The in-house general or pediatric surgery consultant and respiratory therapist will proceed immediately to the ED. The in-house general or pediatric surgery consultant must respond within 15 minutes of notification. For a Trauma Code, the general or pediatric surgery attending must also respond to the ED within 15 minutes.
    - At the discretion of the ED attending, surgical specialty consultants may be included in the initial trauma activation. If a surgical specialty consultant is needed, the ED will notify telecommunications to page the consultant directly. The surgical specialty consultant will proceed immediately to the ED. The surgical specialty consultant must respond to the ED within 15 minutes of notification.
- **Mount Sinai Queens**
    - Available surgery and anesthesiology staff will report to the ED as soon as possible to assist with Trauma Codes.
    - The respiratory therapist must be in the ED within 15 minutes of the trauma notification.

Trauma Alert

- **The Mount Sinai Hospital**
    - The general or pediatric surgery consultant and respiratory therapist will proceed immediately to the ED. The in-house general or pediatric surgery consultant must respond within 15 minutes of notification.
    - At the discretion of the ED attending, surgical specialty consultants may be included in the initial trauma activation. If a surgical specialty consultant is needed, the ED will notify telecommunications to page the consultant directly. The surgical specialty consultant will proceed immediately to the ED. The surgical specialty consultant must respond to the ED within 15 minutes of notification.
    - **Mount Sinai Queens**
    - An ED Trauma Alert does not activate the hospital-wide Trauma System. If a hospital-wide response is required, a Trauma Alert can be upgraded to a Trauma Code at the discretion of the ED attending.

Trauma Consult

A Trauma Consult does not activate the hospital-wide Trauma System. It is initiated via the usual ED consult process. The consultant(s) is expected to respond to the ED (The Mount Sinai Hospital) or by phone (Mount Sinai Queens) within 30 minutes of notification.

V. Trauma Management

The overall care of the trauma patient and all procedures in the ED will be under the supervision of the ED attending, in collaboration with surgery attending(s) if present. Once the patient is admitted, management should be directed by the admitting surgical attending.

VI. Trauma Patient Disposition

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Adult trauma patients should be admitted to a surgical service unless the ED attending in consultation with the surgical and/or medical service(s) determines that trauma is a secondary problem and that a medical service is most appropriate. Medicine is available to follow patients as a consult service. Pediatric trauma patients should be admitted to the PICU unless the ED attending in

consultation with the pediatric surgical and/or medical service(s) determines that another service is most appropriate.

The general surgery consultant is responsible for coordinating care decisions among the surgical services and ensuring timely disposition to an appropriate surgical service. Patients with multi-trauma will usually be admitted to the general surgery service and subsequently transferred to a medical service or specialty surgical service if their injuries are stabilized and the accepting service agrees to continue the management of the patient. Patients with single system trauma will usually be admitted to the appropriate specialty surgical service.

Mount Sinai Queens

Patients with severe traumatic injuries presenting to MSQ ED will be stabilized and transferred to Mount Sinai St. Luke's (MSSL) or Elmhurst Medical Center if the injury requires the services of a 911 designated higher-level Trauma Center. If MSSL is unable to accept a trauma patient transfer, the patient can be transferred to other nearby trauma centers.

The Mount Sinai Hospital and Mount Sinai Queens

The ED attending will adjudicate all matters of disagreement regarding admission decisions between services, as well as decisions involving ED-to-ED inter-hospital transfer (EM-34). The ED attending has final authority to determine the appropriate admission service (EM-34.1). Delays in evaluation, management, or disposition should be escalated in accordance with the Chain of Command Policy (GPP-520).

III. REFERENCES

American College of Surgeons. Committee on Trauma. Resources for optimal care of the injured patient. Amer College of Surgeons; 2014

REVIEW/REVISION HISTORY

Reviewed	03/12	05/18						
Revised	04/03	10/07	11/12	08/19				