Division of Trauma, Acute Care Surgery, and Surgical Critical Care

Emergency Response Plan for Mass Casualties

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Contents

I. PURPOSE

1. To facilitate a coordinated and graded response by the members of the Division of Trauma, Acute Care Surgery and Surgical Critical Care to multiple casualty situations including all adult and pediatric patients in both Ruby Memorial Hospital and WVU Children's Hospital.

2. To define the roles and job responsibilities for key personnel within the Division during a disaster using the format outlined by the "Hospital Incident Command System (HICS)".

3. To define the pathway for escalation of Emergency Response within the Division of Trauma, Acute Care Surgery and Surgical Critical Care with additional support from the Departments of Surgery (General Surgery, Pediatric Surgery) and other surgical and medical consultants (Orthopedics, Neurosurgery, Internal Medicine).

II. SCOPE

The Division of Trauma, Emergency Surgery, and Surgical Critical Care Emergency Response Plan is a subsection of the hospital-wide disaster plan outlined in the West Virginia University Hospital (WVUH) Emergency Operations Plan (EOP). The Emergency Response Plan outlines the procedures to be followed by members of Division when the hospital-wide plan is activated. The Emergency Response Plan is coordinated with the Hospital Incident Command System and coordinated with the plans from the Department of Emergency Medicine.

The plan is meant to be flexible and may be expanded or scaled back to meet the particular needs of a specific crisis. An external disaster or mass casualty incident (MCI) may require varying degrees of disaster response from surgical personnel. There are three levels of surgical disaster response based on the number of anticipated casualties and in accord with the hospital wide Medical Alert Patient Surge: Level I, Level II, and Level III. The description of these tiered responses is outlined in the section "Definitions and Levels of Disaster Response".

III. ACTIVATION

A Level I, Level II, or Level III response may be initiated by the On-Call Trauma Attending and in best case scenarios, this occurs after both the Emergency Department (ED) and Trauma attendings and

Administrator on Call (AOC), who serves as Hospital Incident Commander, communicate on the expected scope of the situation as well as the status of the house. Elevation to a Level II or full Level III Response for MCI will be approved by the Hospital Incident Commander with input from the ED Attending and the on-call Trauma Attending.

IV. NOTIFICATION

Notification of the Department of Surgery personnel will begin with the notification of the on-call Trauma Attending by the ED Attending (if not already directly communicated) and/or Medical Command. The on-call Trauma Attending will be responsible for notification of the AOC in all mass casualty responses, Level I, II, and III.

V. DEFINITIONS AND LEVELS OF DISASTER RESPONSE

Level I Response: A Level I response is a limited response and will be utilized for circumstances in which the number of casualties is expected to range from 5 to 10 major trauma victims presenting over a one-to-two-hour period. Under most circumstances a Level I surgical response can be handled by the on-call Trauma team utilizing the team's usual day to day back-up mechanisms.

The Level I response is outlined in Table 1.

Level II Response: A Level II surgical response will be utilized for circumstances in which the number of anticipated casualties is expected to range between 10 and 20 major trauma victims. If at any time during the Level II response, the Trauma Team Leader hears of additional incoming casualties or feels that the surgical services are overwhelmed, he/she can escalate the response to a Level III.

The Level II response is outlined in Table 2.

Level III Response: A Level III response will be utilized for circumstances in which the numbers of casualties are expected to exceed 20 critically injured or burn patients requiring activation of the WVUH IAP. Alternatively, the Hospital Incident Commander or the Trauma Team Leader may elevate a Level II response to a Level III response if at any time the surgical resources are felt to be overwhelmed.

The Level III response is outlined in Table 3.

VI. SPACE

In the event of a Mass Casualty Incident and activation of Disaster Response, the following spaces will be utilization for patient care and incident management.

SURGICAL COMMAND CENTER

A Surgical Command Center (SCC) located in the OR Conference room on 5N will be set up during the activation of a surgical disaster response. The Surgical Command Center will provide a central location for members of the Surgery Department and Surgical Subspecialties (attendings, residents, and support staff) to meet, obtain updates and assignments, and to communicate information and needs directly to the Surgical Team Leader. The Surgery Command Center will serve as the staging area for the establishment of operative teams (attending surgeons, surgical house staff, and/or support staff).

Responsibilities will be assigned at the discretion of the Surgical Team Leader based on their communications between the Incident Commander and the Trauma Team Leader in the ED. The Surgical Team Leader will also communicate specifically with the Intensive Care Unit (ICU) Director, Anesthesia Director and OR Charge regarding patient flow. They will also be responsible for assigning shifts and sleep/rest periods in the event that a sustained response is anticipated.

MCI SURGE SPACE (2 West Area E) Surge beds 37-50

In the event of an MCI in which the number of anticipated casualties in the first 2 to 3 hours is greater than 20 severely injured or critical patients, it will be essential to maintain a unidirectional flow of patients. There will be some patients who will have an obvious and immediate disposition shortly after arrival to the ED (i.e. operating room, angio suite, morgue) however, the vast majority of severely injured patients will require various levels of diagnostic testing to determine their appropriate disposition. Once patients leave the emergency room, additional casualties will prevent their return to the emergency department. In such cases, the patient will need to be brought to the MCI SURGE SPACE until the results of their test(s) can be assessed to determine what if any further intervention is needed. This unite will be used for observation of all trauma and surgical patients. A trauma team will be designated to staff that area by the Trauma Team Leader. The team will complete the patients' workup and determine the next or final disposition of the patient (i.e. ward, OR, Angio suite, ICU).

EXPECTANT (BLACK) PATIENT HOLDING

In accordance with the START triage criteria certain patients will arrive dead or non-survivable. Depending on the level of response, the ICC in communication with the trauma team leader will need to identify a location for these patients to be placed and if needed have pain medication administered.

Appropriate medical personnel will need to be assigned. The MCI Surge Space may be used for this scenario.

VII. STAFFING

INCIDENT LEADERSHIP AND RESPONSIBILITES

The INCIDENT LEADERSHIP for the Division mass casualty response is outlined in the attachments section of this document.. The key leadership roles include the following.

- **Incident Commander**
- **Trauma Team Leader**
- **Surgical Team Leader**

Each individual leader is responsible for bi-directional communication with each other to coordinate patient triage, patient disposition, supply needs, personnel and information.

Coordination of the response including personnel call back, supplies, ancillary services, supporting departments, facilities and security, and public information is the responsibility of the Incident Commander and their staff. Notification is via the mass communication system which has predefined call back and notification lists including but not limited to:

1. Division of Trauma, Acute Care Surgery and Surgical Critical Care
2. OR charge for notification of OR personnel
3. Anesthesia
4. Department of Surgery including general, plastic and pediatric surgery
5. Orthopedics
6. Neurosurgery
7. Vascular and CT Surgery
8. Surgical consultants: Urology, ENT, OMFS, OB-GYN
9. Critical Care Physicians (SICU, MICU, NCCU, CVICU, PICU)
10. House Supervisor for notification of nursing leadership of ICU's, step down units, general floors
11. Internal medicine and hospitalists
12. Additional clinical departments call back lists to include:
    a. Radiology and Interventional Radiology
    b. Blood bank and pathology, laboratory
    c. Pharmacy
    d. Respiratory
13. SPD and supply
14. EVS
15. Security
16. Hospital Administration

Each of the above will provide a call back list to be maintained within the WVUH mass communications system and in the Incident Command Center.

INCIDENT COMMANDER

Upon notification of an MCI incident, the AOC will automatically assume the role of Incident Commander until it is formally transferred to another person. The Incident Commander (IC) should be the most qualified and trained person in the organization and not necessarily the one with the rank, seniority or title. The position should be the person who best knows the Emergency Operations Plan or has training or experience in the type of incident.

The IC has the authority for and responsibility over the Hospital Command Center and the response and recovery activities until they formally delegate or pass this authority to another person.

In addition to having overall responsibility for managing the entire incident, the Incident Commander is specifically responsible for:

- Ensuring incident safety.
- Providing information services to internal and external stakeholders.
- Establishing and maintaining liaison with other organizations participating in the incident.

TRAUMA TEAM LEADER

The Trauma Team Leader will be the lead trauma surgeon responding to the ED in the event of an MCI. They will communicate directly with the ED faculty to triage (START Triage – Attachment 2) the arriving patients and coordinate the establishment of trauma teams for initial evaluation and resuscitation of MCI patients. They will determine disposition of MCI patients with urgent surgical needs, admission (appropriate level of care), or observation unit.

The Trauma Team Leader will be assisted by the trauma advanced practice providers, trauma program managers and staff.

The Trauma Team Leader will communicate directly with the Incident Commander and Surgical Team Leader.

SURGICAL TEAM LEADER

The Director of Trauma will assign a trauma attending to serve as the Surgical Team Leader.

The Surgical Team Leader will assign individuals to the appropriate surgical and trauma teams and be in direct and continuous contact with the Hospital Incident Commander.

The Surgical Team Leader will determine which additional individuals from the department of surgery and other departments as consults are to be notified for additional staffing and report this information to the ICC.

All surgical staff will be instructed to report directly to the Surgical Team Leader at the SCC for job assignments to expedite an orderly and productive response.

VIII. SUPPLIES

In the event of a Mass Casualty Incident and activation of Disaster Response, WVUH anticipates trauma and surgical supplies usage will exceed normal stock. The supply chain team stores Mass Casualty Supply Carts on the 4th floor of ruby that will be automatically deployed to the ED upon activation of an MCI response. The supply chain will increase staffing to provide additional resources for the ORs.

IX. EXERCISING

This plan will be exercised bi-annually during both working hours and weekends. Debriefing after a test or actual disaster should occur within 24 hours in order to optimize event recollection. Revisions to the plan may be made based on recommendations elicited during these debriefing sessions. This will be the responsibility of the designated division of trauma, emergency surgery and surgical critical care disaster response manager and should be confirmed during the debriefing session.

LEVEL I RESPONSE

General Guidance

- **Partial disaster response**
- **Activated by the On-Call Trauma attending for multiple casualty incidents**.
- **Anticipated number of casualties are expected to be in the range of 5 to 10 major trauma victims presenting over a period of one to two hours.**
- **Can be managed by the on-call trauma team with the assistance of the backup Trauma Attending on call, SICU Attending on call, GEN/MARS Attending on call, and the in-house general surgery residents, including in-house orthopedic, and neurosurgery residents.**
- **If the individuals listed above are not adequate for the situation, the on-call trauma attending will notify the AOC/IC for additional personnel. If subspecialty services are required, the on-call Trauma team will notify the on-call members of that service using the usual day-to-day on-call list or notify the AOC for notification.**

Procedure

☐	Upon notification, the on-call Trauma Team will report immediately to the Emergency Department.
☐	After assessing the situation, the on-call Trauma Attending will notify the AOC to activate the Incident Command to commence the MCI Response. The AOC will initiate the Incident Command Center and begin surgical personnel callback notification based on Level I Response Call Back List. This will include the on call and backup trauma and general surgeons and trauma APP staff as well as SICU attending, surgical consults as appropriate to include pediatric surgery, orthopedics, neurosurgery, vascular/CT surgery. In addition, surgical residents and backups will be notified per the on-call notification system.
☐	Trauma Team Leader will complete all duties outlined in the Job Action Sheet located in Attachments section of this document.
☐	The Trauma Team Leader will assign individuals to the roles designated in the organizational chart and dispense the appropriate assignments to those individuals.
☐	The Trauma Team Leader will determine which additional individuals from the department of surgery and other departments as consults are to be notified for additional staffing and report this information to the ICC.
☐	All additional surgeons will be instructed to report directly to the Trauma Team Leader for job assignments to expedite an orderly and productive response.

Elevation to a Level II Response: If at any time the on-call Trauma Attending, or Trauma Team Leader feels that the need for Surgical Services exceeds that of a Level I response, the response will be elevated to a Level II response.

LEVEL II RESPONSE

General Guidance		
• **Full disaster response by the Division** • **Anticipated casualties are expected to range from 10 to 20 major trauma victims from an MCI.**		
Procedure		
Phase 1	☐	Upon notification, the on-call Trauma Team will report immediately to the Emergency Department.
	☐	After assessing the situation, the on-call Trauma Attending will notify the AOC to activate the Incident Command to commence the MCI Response. The AOC will initiate the Incident Command Center and begin surgical personnel callback notification based on Level I Response Call Back List. This will include the on call and backup trauma and general surgeons and trauma APP staff as well as SICU attending, surgical consults as appropriate to include pediatric surgery, orthopedics, neurosurgery, vascular/CT surgery. In addition, surgical residents and backups will be notified per the on-call notification system.
Phase 2	☐	A Trauma Attending will be dispatched to the SCC (by direction of the Trauma Director) to serve as the Surgical Team Leader. The Job Action Sheet for the Surgical Team Leader is in Attachments section of this document.
	☐	The Surgical Team Leader maintains obtains correct numbers/radio channels for and maintains continuous contact with the Hospital Incident Commander.
	☐	The Surgical Team Leader will assign individuals to the appropriate surgical and trauma teams.
	☐	The Surgical Team Leader will determine which additional individuals from the department of surgery and other departments as consults are to be notified for additional staffing and report this information to the ICC.
	☐	All surgical staff will be instructed to report directly to the Surgical Team Leader at the SCC for job assignments to expedite an orderly and productive response.

Elevation to a Level III Response: If at any time the on-call Trauma Attending, or Trauma Team Leader feels that the need for Surgical Services exceeds that of a Level II response, the response will be elevated to a Level III response.

LEVEL III RESPONSE

General Guidance

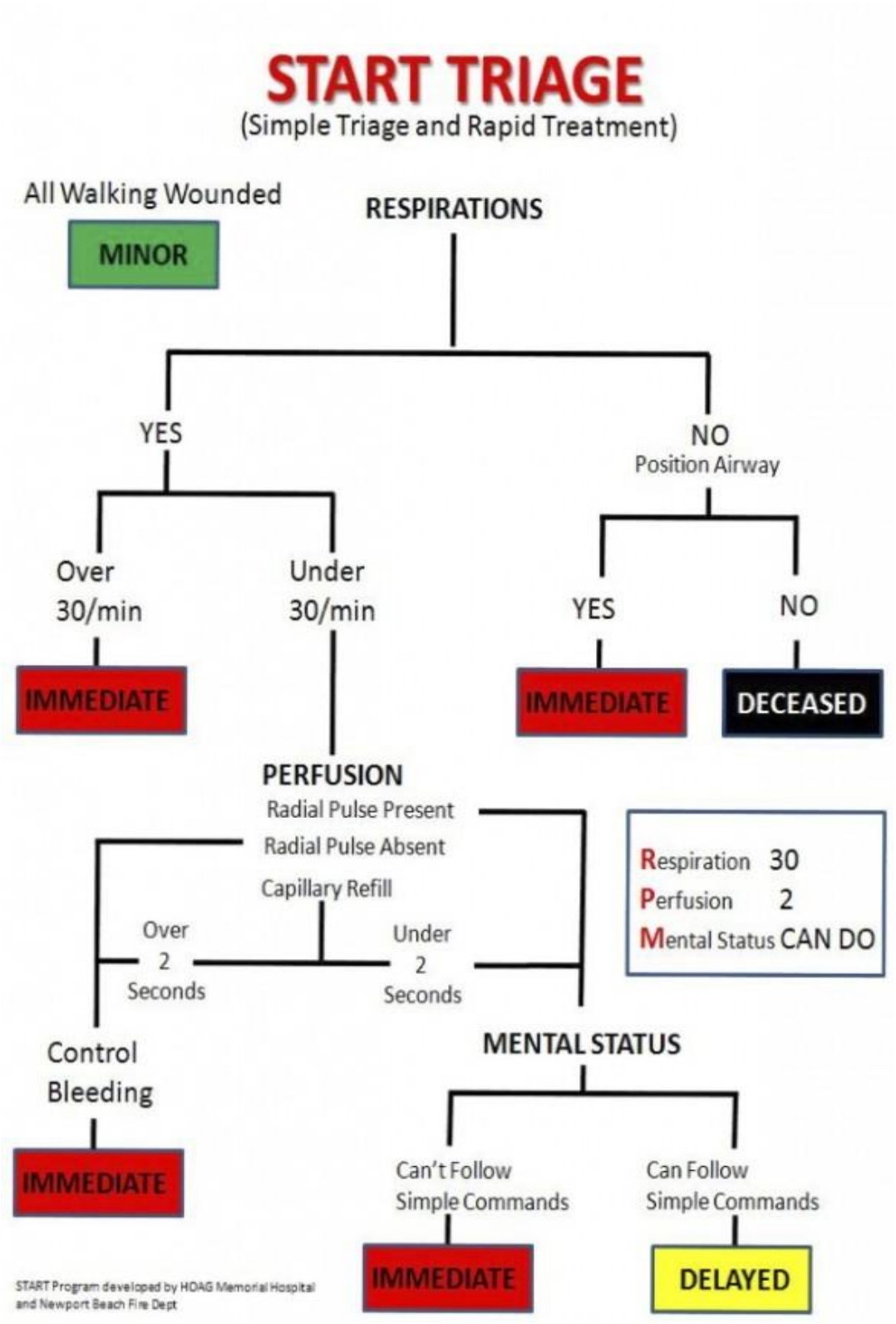
- **Full disaster response by the Department of Surgery**
- **Number of casualties is expected to exceed 20 critically injured or burn patients requiring activation of the WVUH Emergency Operations Plan.**

Procedure

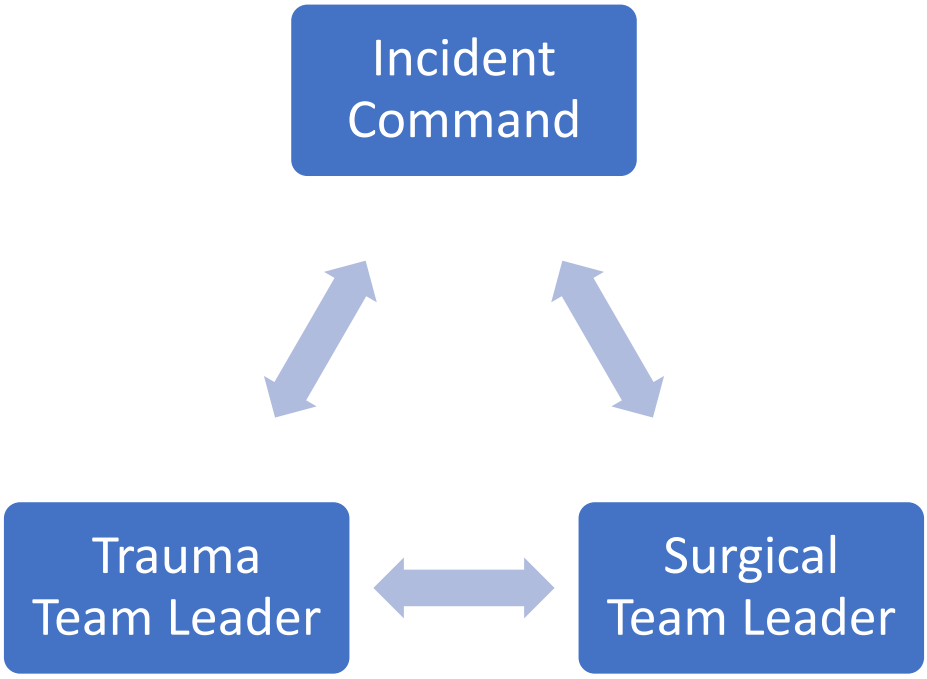
Phase 1	☐	Upon notification, the on-call Trauma Team will report immediately to the Emergency Department.
	☐	After assessing the situation, the on-call Trauma Attending will notify the AOC to activate the Incident Command to commence the MCI Response. The AOC will initiate the Incident Command Center and begin surgical personnel callback notification based on Level I Response Call Back List. This will include the on call and backup trauma and general surgeons and trauma APP staff as well as SICU attending, surgical consults as appropriate to include pediatric surgery, orthopedics, neurosurgery, vascular/CT surgery. In addition, surgical residents and backups will be notified per the on-call notification system.
Phase 2	☐	A Trauma Attending will be dispatched to the SCC (by direction of the Trauma Director) to serve as the Surgical Team Leader. The Job Action Sheet for the Surgical Team Leader is in Attachments section of this document.
	☐	The Surgical Team Leader maintains obtains correct numbers/radio channels for and maintains continuous contact with the Hospital Incident Commander.
	☐	The Surgical Team Leader will assign individuals to the appropriate surgical and trauma teams.
	☐	The Surgical Team Leader will determine which additional individuals from the department of surgery and other departments as consults are to be notified for additional staffing and report this information to the ICC.
	☐	All surgical staff will be instructed to report directly to the Surgical Team Leader at the SCC for job assignments to expedite an orderly and productive response.
	☐	Individuals within the department who are not needed immediately will be told to remain on standby until further notice.
	☐	It should be anticipated that the nature and number of casualties that require a Level III surgical response will likely require a sustained surgical presence for several days to address multiple injuries appropriately. The Surgical Team Leader, faculty, and support staff should be cognizant of this from the beginning and initiate the appropriate planning.

Phase 3	☐	Once the initial responders have arrived, the Surgical Team Leader will continue ongoing reassessments of staffing needs.
	☐	Coordination with the other surgical services subspecialties, anesthesia, critical care and other medical services should be initiated.
	☐	The Surgical Services Unit Leaders begin preparing for a sustained response and assign rest and work periods for all personnel including themselves.
	☐	Additional resources and staffing needs must be communicated to the Hospital Incident Commander. Resources from external sources will usually become available within 24 hours (State or Region) to 48 hours (Federal) depending on the nature of the Mass Casualty Incident.

Attachment 1 – START TRIAGE



ATTACHMENT 2 - Incident Leadership Command Chart



ATTACHMENT 3 - Surgical Team Leader

Responsible for organizing overall mass casualty response in the Operating Room with assistance of administrative and nursing staff		
Responsibilities	**Done**	**Notes**
Review Mass Casualty Response plan		
Notify IC when Surgical Command Center in place, update with contact phone number		
Ensure notification of required personnel has occurred by the IC		
Obtain head count of all surgeons responding to mass casualty event with time of arrival		
Coordinate the Surgical Command Center to receive all surgical consults		
Assign surgeons/staff to assist Trauma Team Leader in ED		
Assign a team to TOU		
	Ongoing	**Notes**
Prioritize cases for Operating Room		
Monitor availability of ICU beds with IC		
Communicate needs for additional manning or supplies to Hospital Incident Command Center		
Assign work/rest cycles to team members if indicated		
Reassess staffing needs and reassign surgeons from Trauma Teams to TOU and SICU as needed		
Monitor special needs of staff members: family care, child care, etc.		

ATTACHMENT 4 - Trauma Team Leader

Responsibilities	**Done**	**Notes**
Respond to ED and coordinate with Surgical Command Center to accept assignment and team members		
Set up and direct trauma teams to complete all assigned trauma surgical consults, evaluate and treat as indicated		
Designate and prioritize all patient from the ED as to need for operating room, admission and level of care, observation		
Notify surgical command center of all emergent cases		
Update Surgical Team Leader with status of surgical consults and location of patients		
Communicate needs for additional supplies or staffing with Incident command		
Monitor special needs of Trauma Team members: family care, child care, etc.		
Ensure adequate work/rest cycles for Trauma Team members, request replacements from Surgical Command Center		

ATTACHMENT 5 - Guidelines for Predicting Surgical/Trauma Capacity

It is possible to estimate initial casualty volume and pattern after a mass trauma based on information gleaned from past mass trauma events. This information can be used by the surgical leadership to estimate resource needs and staffing requirements during a mass casualty event. This information may also prove useful to help anticipate when surgical or other trauma related local resources may be overwhelmed. The following are some general facts that may serve as guidelines:

1. •Within 90 minutes following an event, 50-80% of the acute casualties will likely arrive at the closest medical facilities.
2. •Approximately 1/2 of all casualties will arrive at the hospital within a 1-hour window. This window begins when the first casualty arrives at the hospital.
3. •Expect an "upside down" triage – the most severely injured arrive after the less injured who will bypass EMS triage and go directly to the closest hospital.
4. •1/3 of all acute casualties are critical (dead at scene, die at hospital, require emergency surgery, or require hospitalization)
5. •2/3 of acute casualties are treated and released from the emergency department.
6. •On average, it takes 3-6 hours for casualties to be treated in the Emergency Department before they are admitted to the hospital or released.
7. •The number of available operating rooms is the major factor in determining a hospital's capacity to care for critically injured casualties. When the number of predicted or actual casualties exceeds the number of operating rooms available, consider transferring or diverting additional critical casualties to other hospitals.
8. •The capacity of the radiology department is another major factor in determining a hospital's ability to provide timely care for non-critical casualties.

ATTACHMENT 6 – MCI Surge Space

Surge Space Lead Contacts:

Tamra Wilson, Manager: 304-216-4271
Kristen Medved, Supervisor: 724-323-4928
Mary Meadows, Clinical Preceptor: 304 -365-0244
Sheila Palmer, Lead RN: 304 -376-1964

2nd Floor Area E Surge Beds 37-50