



WADEM
WORLD ASSOCIATION FOR DISASTER AND EMERGENCY MEDICINE

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Triage During a MCI: A Collaborative Process

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Objectives

- What I am aiming at is to show a simplified way to do triage during a MCI.
- Will be looking at triage during a MCI as a collaborative effort.

What is Triage?

What is the goal of triage?

- Triage is derived from the French word trier, meaning to sort.
- The goal of triage during a MCI is to identify critical injuries requiring life-saving intervention in the shortest amount of time.
- Sorting of casualties and determination of treatment priorities according to: medical condition, chance of survival, available resources.



FIG. 63.—Triage operated by the 77th Division, La Chalade, September 28, 1918

The major reasons that triage is beneficial during a MCI

- Triage separates those who need rapid medical care to save life or limb.
- By providing for the equitable and rational distribution of casualties among the available hospitals, triage reduces the burden on each to a manageable level, often even to “non-disaster” levels.

Why is Proper Triage During a MCI Important?

Important to Consider Under/Over Triaging and its affects

- **The goal of treatment during a MCI must change from the greatest good for each individual to the greatest good for the greatest number of individuals.**
- Learning to base triage on injury severity and not mechanism of injury or prior ethical thoughts.

Results of over/under-triaging

- Over-triage has been shown to be as life-threatening as under-triage, because of the inundation by large numbers of noncritically injured patients into a system of scarce medical resources..
- Over-triaging of non-critical casualties or the expected dead, comes at the cost of time and attention or the immediate care that should be given to the truly critically ill.
- Resuscitation of the hopeless casualties following a MCI often yields dismal outcomes and such heroic measures should be discouraged.

Results of over-under triage II

- Under-triage results in unnecessary deaths
- Under-triage is not as often as over-triage

How to avoid Over/ under-triage

- Over/ under-triage can be avoided by implementing a simplified form of triage during a MCI.
- Proper training of triage officers to recognize life-threatening problems that require proper treatment from field to hospital.

Another
important
aspect to
effective
triage in a MCI

- **One important aspect to proper triage during an MCI is collaboration.**
- EMS
- Nurse
- ED Physician
- Surgeon
- Anesthesiologist
- Intensivist
- ???

All disciplines can triage

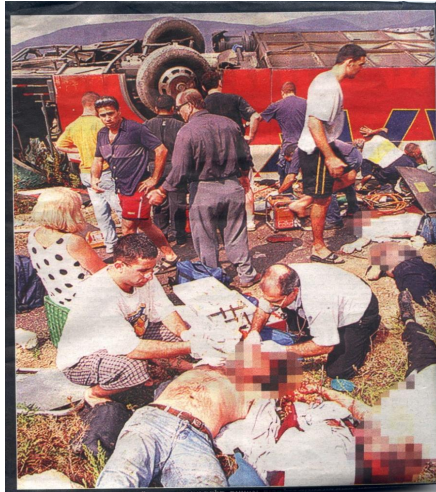
- EMS, ED Physician, Surgeons, Nurses, Anaesthesia, Intensivists
- All these disciplines have the potential to learn the skills required for such a role.
- Collaboration of many disciplines will make for speedy and efficient placement of a patient into the best proper care area for them, hence improving their outcome.

Lack of research

- The most widely used mass casualty triage algorithms being used are not evidence based.
- There is an insufficient amount of research looking at the existing MCI triage algorithms, their ease of use, reliability and validity.

Field Triage/Colour Coding (an oldie but a goody)

- Field Triage: is rapid, simple and has a smooth transition.
- It is about triage/treatment and transport.
- Proper placement of patients during the MCI as to ensure they receive speedy and effective care.



Why

Why this triage system:

- With no one standardized system globally or nationally available, it is important for deploying a triage and decontamination system which is easy to follow and flexible to the available medical resources, casualty number, and severity of injury.
- Its quick and fluid.
- No counting.
- No need to remember to many colours.
- The placement of patients can be based on colours from field to emergency department in any urban or austere environment.

Based on a 4 colour coding system:

RED

YELLOW

GREEN

BLACK

How field triage works

BACK

TRIAGE TAG
PART I

MEDICAL COMPLAINTS/HISTORY

ALLERGIES:
PATIENT R:

TIME	DRUG SOLUTION			DOSE
	D ₅ W	R/L	NS	

NOTES:

PERSONAL INFORMATION

NAME:
ADDRESS:
CITY: TEL. NO.:
MALE FEMALE AGE: WEIGHT:

DECEASED

IMMEDIATE

DELAYED

MINOR

FRONT

No. 678406 TRIAGE TAG No. 678406
PART I
No. 678406
CALIFORNIA FIRE CHIEFS ASSOCIATION®

Leave the correct Triage Category ON the end of the Triage Tag

Move the Walking Wounded **MINOR**

No respirations after head tilt **DECEASED**

Respirations - Over 30 **IMMEDIATE**

Perfusion - Capillary refill Over 2 seconds **IMMEDIATE**

Mental Status - Unable to follow simple commands **IMMEDIATE**

Otherwise- **DELAYED**

MAJOR INJURIES:

HOSPITAL DESTINATION:

ORIENTED DISORIENTED UNCONSCIOUS

TIME	PULSE	B/P	RESPIRATION

DECEASED

IMMEDIATE No. 678406

DELAYED No. 678406

MINOR No. 678406

(Though the transition of the patient from field to ED there is some treatment at times this system can remain).

How to use the Field Triage system

RED: Patients whose lives are in immediate danger and who require immediate treatment. serious wounds, resuscitation, and immediate surgery.

Patients who need immediate surgery-life saving-and have a good chance of survival.

Examples:

ABC, tracheostomy, hemothorax, hemorrhaging abdominal wound, peripheral blood vessels

How to use the Field Triage system II

YELLOW : Patients whose lives are not in immediate danger and who will require urgent, not immediate, medical care. need surgery but can wait.

They need surgery but not on an urgent basis. A large number of patients will fall into this category.

Example:

Non-haemorrhaging abdominal wounds, wounds of the limbs with fractures and/or major soft tissue wounds, penetrating head wounds (GCS>8)

How to use the Field Triage system III

GREEN : Patients with minor injuries who will eventually require treatment. Ambulatory management. These are patients with wounds requiring little or no surgery. This is a large number of patients.

Example:

These can be superficial wounds managed under local anaesthesia in the ED or with simple first aid measures.

BLACK: Patients who are either dead or who have such extensive injuries that they can not be saved with the limited resources available.

The moribund or those with multiple major injuries whose management could be considered wasteful of scarce resources in a mass casualty situation.

How to use Field Triage System III

- Each patient gets 15 seconds.
- Components of the assessment: ambulation, ventilation, perfusion and cognition.
- The only treatment that would be given at the field level is airway management and hemorrhagic control.

Some general rules for triage during a MCI

- In borderline cases select the most urgent cases.
- When children are involved, give them priority over adults in the same triage class.
- Give a higher priority than the medical condition warrants to victims with hysteria or hysterical relatives.
- Stabilise all patients before giving care to another individual.

Different stages of triage during a MCI

- During a MCI, triage may occur at multiple points as patients progress from prehospital management to definitive care in ED, OT or ICUs.
- At various points triage is usually classified as primary, secondary or tertiary.
- The various points of triage, depends on:
 - Is there a treatment area before transport, or direct transport from field to ED.

Primary Triage I

- Patients are classified according to severity as **green** (uninjured or minimally injured), **yellow** (moderately injured or urgent), **Red** (severely injured or emergent), and **Black** (deceased).
- This triage occurs in the field and can also be known as the field triage stage and is performed on three levels.

On site Triage

On-site triage:

- This can be done by EMS, nurses or by ED Physician.
 - It can also be completed by first aid providers by getting them to only triage as red or yellow.
 - This classifies the victims to identify those who need to be taken immediately to the advanced medical post.



Medical Triage:

- Determines the required level of care.
 - An ED Physician, Anaesthesiologist or Surgeon should be in charge of this type of triage.

Evacuation triage:

- Victims are reclassified in terms of their priority for transportation to the nearest hospital based on the initial triage or the treatment area triage.

Secondary Triage

Secondary Triage

- Performed by Emergency Nurses, Emergency Physicians or Surgeons immediately upon a patient's arrival at the hospital.
- They prioritize patients by assigning them to treatment areas for initial interventions.
- Based on the colour coding system:
 - **Red** would go to a predefined RED area,
 - **Yellow** would go to a predefined YELLOW area.
- Efficient flow of critically injured or ill patients through this part of the system to definitive care is critical.

Secondary Triage II

- Treatment decisions may be more accurate than in the field, but they will remain limited until further information about the event or predicted outcomes can be ascertained.
- Here at the emergency department door the colour coding system remains, there is not prolonged assessment and is defined by injury severity and by this point presentation of patient depending on time of transport.



Reason for colour coding at ED door

- Here patients are moved to their designated area where the proper surgeons or physicians can then further triage.
- Trauma surgeons, General Surgeons, Orthopedic Surgeons, Anaesthesiologists and ED Physicians will assess the **Red** patients in their area and **Yellow** in theirs
- Patients are placed by injury severity and not by mechanism of injury where there would be over-triage of many patients.

Tertiary Triage

Tertiary triage

- Should be performed by Surgeons, Intensivists or ED Physicians.
- The patient is placed into a colour coding system but after disposition, the colour coding system is defused.
- In this stage of triage it calls for definitive management and disposition of the patient.
- Here a medical team is beginning treatment based on and x-ray.
- CT scans can be ordered and disposition to OT, ICU or general unit can be made.
- A psychosocial component may be added to have an understanding of the patients that are being admitted and their possible psychosocial needs along with family reunification.

Triage beyond the ED

- Here patients will be placed in OT, ICU or general wards.
- Patients will need to be monitored for worsening or improvement in health from their injury.
- This triage is completed again by many disciplines: Nursing, Intensivists, Trauma and General Surgeons Orthopedic Surgeons, Psychiatrist and Social Worker .
- A patient may move from ICU to OT, OT to ICU, OT to ward, ward to ICU or OT.
- Here is primarily based on injury presentation, vital signs and cognition.



Table top drill



You are at the The Westin Harbour Castle Hotel, located on the shores of Lake Ontario, at 1 Harbour Square, Toronto, ON M5J 1A6, Canada.

Triage in MCI



- 27th April – 1530
- A car bomb parked on to the junction of Queens quay / Harbour Street / Yonge Street Just next to the Westin Hotel Parking Lot, explodes.
- .

The scenario I





LAKESHORE BLVD. W.

BAY STREET

YONGE STREET

SELF PARKING

TO UNDERGROUND GARAGE

PINNACLE CENTRE

P1

EXIT

ENTER

HARBOUR STREET

ONE WAY

WESTIN CONFERENCE CENTRE

Tract Parking Management Lot
Toronto Star Building

QUEENS QUAY W.

THE WESTIN HARBOUR CASTLE TORONTO

Cashier's Booth

Canada Auto Parks Parking Lot



Unit Park Parking Lot

Map of the event location

The scenario II

- As a result, a sound of great explosion is heard, and a large fire breaks out in the area.
- Following the explosion there is chaos all over the place, accompanied by shouting and calling for help.
- Injured victims, dead bodies and bodies parts are scattered all over.
- **Mission:**
- Assess the surrounding area.
- Estimate the number of injuries.
- Define the injuries and the injuries pattern.
- Estimate the resources needed,
- Establish a triage system .



Sights from
the arena

