

# Disaster Triage START/JUMPSTART

Finger Lakes Regional Training Center



Kathee Tyo, MS, RN  
FLRTC Educator

---

---

---

---

---

---

---

---

## Objectives:

- Define a Mass Casualty Incident and the unique challenges of an MCI
- Understand the differences between day-to-day triage and triage during an MCI
- Increase the region's healthcare providers' awareness of disaster triage

---

---

---

---

---

---

---

---

## What is the Goal of MCI Management?

---

---

---

---

---

---

---

---



**GOAL:**  
**TO SAVE THE LARGEST NUMBER OF**  
**SURVIVORS FROM A MULTIPLE**  
**CASUALTY INCIDENT**

---

---

---

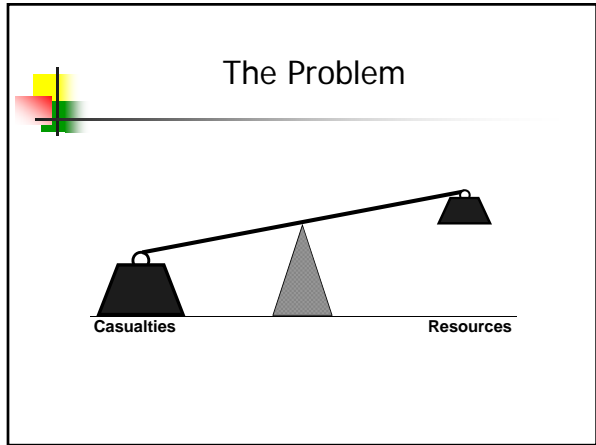
---

---

---

---

---



### The Problem

Casualties

Resources

---

---

---

---

---

---

---

---

### Considerations During an MCI Response

- Supply vs. Demand
- Resource Allocation
- Coordination
- Medical Management
- Ethics

---

---

---

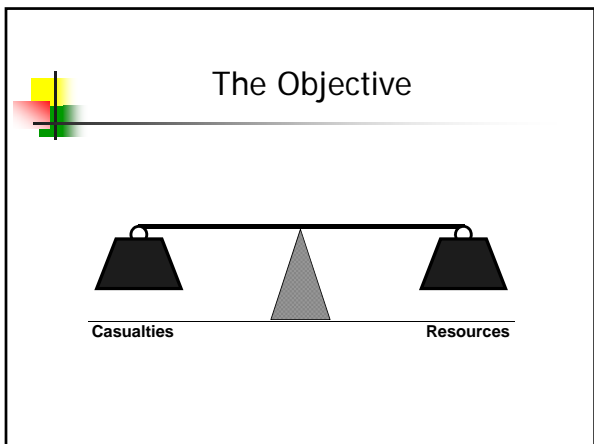
---

---

---

---

---




---

---

---

---

---


---

---


---

### What Could Be an MCI For You?

- Transportation Accident
- Fire
- Hospital Overloading
- Hospital Evacuation



February 2008: 390 Pile Up



January 2005: 390 Bus Accident

---

---

---

---

---

---

---

---

### What Could Be an MCI For You?

- Sporting Event
- Hazmat Incident
- Loss of Power
- Severe Weather



Watkins Glen Speedway




---

---

---

---

---

---

---

---



## Managing Hospital Incidents

- Would any of those situations lead to shortage of personnel & equipment resources?
- Would decisions and changes need to be made in how you do business?
  - Altered Standards of Care

---

---

---

---

---

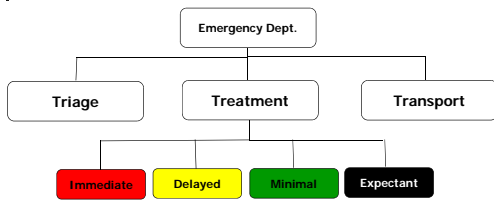
---

---

---



## Incident Command System



---

---

---

---

---

---

---

---



## Disaster Triage

START/JUMPSTART

---

---

---

---

---

---

---

---



## Types of Triage

- **Primary**
  - On scene prior to movement or at hospital (self transports)
  
- **Secondary**
  - Incident dependent, probably prior to or during transport or upon arrival to hospital

---

---

---

---

---

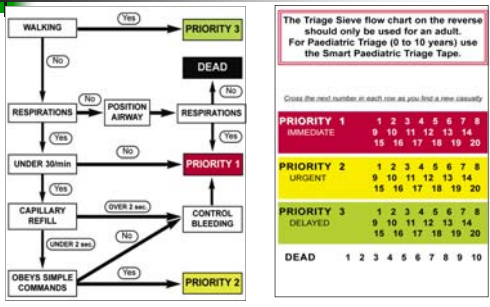
---

---

---



## Triage Protocol (START)




---

---

---

---

---

---

---

---



## Triage Coding

Priority	Treatment	Color
Immediate	1	RED
Urgent	2	Yellow
Delayed	3	Green
Dead	0	Black




---

---

---

---

---

---

---

---

## Primary Triage



The Scene

---

---

---

---

---

---

---

---

## Primary Triage



The first attempt at balancing resources and casualties/injured

---

---

---

---

---

---

---

---

## PRIORITY 3

- Not injured or "Walking wounded"
- Have motor, respiratory, mental function

**DELAYED**

---

---

---

---

---

---

---

---

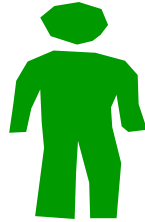
## Example

Patient walks over to you and has an obvious broken arm

Respirations are 22

Pulse is 124 (Radial)

He is awake, alert, and crying



---

---

---

---

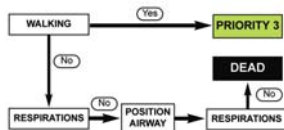
---

---

---

---

## Primary Triage



Determining whether there is an airway and breathing

---

---

---

---

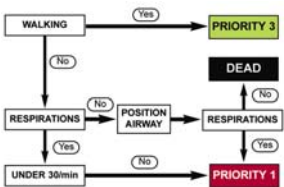
---

---

---

---

## Primary Triage



If breathing, at what rate & is it good enough?

---

---

---

---

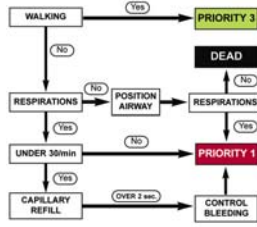
---

---

---

---

## Primary Triage



They have an airway, are breathing.  
Are they circulating blood sufficiently?

---

---

---

---

---

---

---

---

## Circulatory Check...

If you are unable to obtain a capillary refill, check the radial pulse. If absent then control any bleeding and prioritize the patient **PRIORITY 1**.

---

---

---

---

---

---

---

---

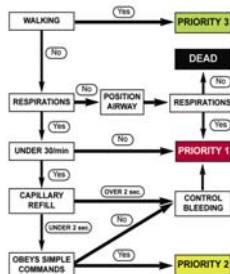
## Primary Triage

A

B

C

Mental Status




---

---

---

---

---

---

---

---



**PRIORITY 1**

- Opening airway, starts to breathe
- Breathing is greater than 30 or less than 10
- Delayed capillary refill time (> 2 seconds)
- Absent radial pulses
- Bleeding that needs to be controlled
- Does not follow instructions

**Immediate**

---

---

---

---

---

---

---

---


**Example**

Patient has an open head  
Wound, bleeding controlled

Respirations are 16

Pulse is 88 (Radial)

He is unconscious



---

---

---

---

---

---

---

---

**PRIORITY 2**

- Did not move out, when asked
- Airway OK
- Breathing within 11 and 29
- Capillary refill less than 2 seconds or radial pulses present
- Can follow instructions to move unaffected limb

**Urgent**

---

---

---

---

---

---

---

---

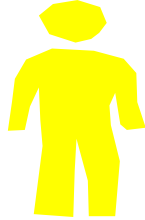
### Example

Patient states he can't move or feel his legs

Respirations are 26

Pulse is 110 (Radial)

He is awake and oriented



---

---

---

---

---

---

---

---

### EXPECTANT/DEAD

- Still require resources
- Focus of care is comfort
- Psychologically most challenging for healthcare providers

---

---

---

---

---

---

---

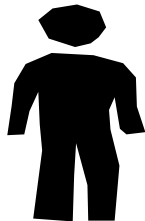
---

### Examples

Patient gurgles but can't maintain an open airway and is not breathing

Weak Carotid Pulse

She is unresponsive



---

---

---

---

---

---

---

---



## Secondary Triage

- Generally used when there is an extended duration event
- After initial color coding triage
- Healthcare professionals who respond to the scene or PH/Hospital response teams may be utilized to further determine who gets transported from scene first




---

---

---

---

---

---

---

---



## Secondary Triage

**GLASGOW COMA SCORE**

**EYE OPENING :**  
 Spontaneous  
 To Pain  
 None

**VERBAL RESPONSE :**  
 Oriented  
 Disoriented/Confused  
 Incomprehensible sounds  
 No response

**MOTOR RESPONSE :**  
 Obeys commands  
 Localizes pain  
 Flexion/extension  
 Abnormal flexion/extension  
 No response

**GLASGOW COMA SCALE TOTAL :**

Total Glasgow Coma Scale	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Respiratory Rate	10-20	9-10	8	7	6	5	4	3	2	1	0	0	0	0	0
Systolic BP	90-120	80-89	70-79	60-69	50-59	40-49	30-39	20-29	10-19	0-9	0	0	0	0	0

12 = PRIORITY 3  
 11 = PRIORITY 2  
 10 = PRIORITY 1

TOTAL :

---

---

---

---

---

---

---

---



## Pediatric Triage

- Children are involved in mass casualty incidents
- The over prioritizing of children will take valuable resources away from more seriously injured adults
- Triage systems based on adult physiology will not provide accurate triage




---

---

---

---

---

---

---

---



## The SMART Tape™



---

---

---

---

---

---

---

---



## SMART Tag Triage System



---

---

---

---

---

---

---

---



## SMART Triage Pack Contents

- Dynamic Tags (20)
- Dead Tags (10)
- Pencils
- Cylume Sticks
- Patient Count Card/Protocol
- SMART Pediatric Tape

---

---

---

---

---

---

---

---



## When Patients Arrive at Your Door

- Transition from the EMS patient to hospital patient
- Dealing with self presenting patients

---

---

---

---

---

---

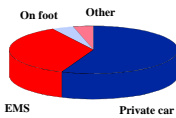
---

---



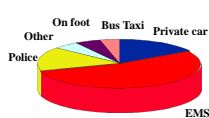
## Transportation Distribution

Patient transport - Oklahoma Bombing



Injury prevention database, OK Dept of Health

Patient Transport - 29 US Disasters



Quarantelli, Delivery of Emergency Services in Disasters, Assumptions and Realities

---

---

---

---

---

---

---

---



## BALI NIGHT CLUB BOMBING

*"As bad as the scene was 20 minutes after the blast, it only got worse. Patients who could self-evacuate generally had relatively minor injuries. They arrived on foot, by taxi and by motorcycle, and they were treated as they came in".*



October 12, 2002

*"But then the ambulances started to arrive with the most serious patients—the burn victims".*

*"By then, though, the operating rooms were completely full. They had to wait".*

**Dr. Tjakra Wibawa**  
Sanglah Trauma Center

---

---

---

---

---

---

---

---

# Scenarios

---

---

---

---

---

---

---

---

## Scenario

An improvised explosive device is detonated at a large outdoor sporting event. At least 50 people are confirmed injured. EMS is on scene, but patients begin to arrive at your hospital before EMS.

Triage and "Tag" the following patients.

---

---

---

---

---

---

---

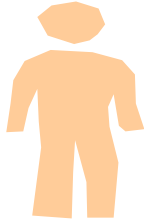
---

## Patient #1

Apneic

Pulse-less

Missing LUE



---

---

---

---

---

---

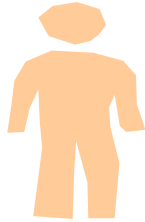
---

---



### Patient #2

Eviscerated bowel  
Multiple penetrating wounds to chest & head  
Brain matter exposed  
Unresponsive to tactile stimuli



---

---

---

---

---

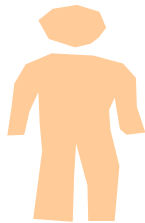
---

---



### Patient #3

Abd. Tenderness and minor penetrating trauma  
Ambulating  
A & O x 3  
RR 24  
Strong radial pulse



---

---

---

---

---

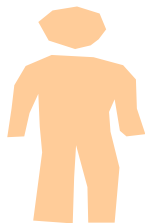
---

---



### Patient #4

Multiple penetrating injuries, blood in ears  
Responds only to pain  
Airway clear  
RR 20  
Strong Radial pulse



---

---

---

---

---

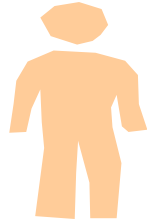
---

---



### Patient #5

Extremity fractures,  
blood in ears  
A & O x 3  
RR 26  
Strong radial pulse



---

---

---

---

---

---

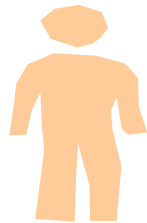
---

---



### Patient #6

Child, screaming  
Minor lacs, blood in  
ears  
RR 30  
Moving all  
extremities



---

---

---

---

---

---

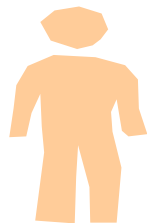
---

---



### Patient #7

Amputated fingers,  
head injury  
A & O x 3  
Dizzy  
RR 24  
Smells like beer



---

---

---

---

---

---

---

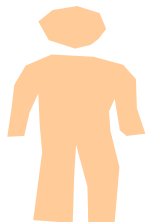
---





**Patient #8**

Chest pain, SOB  
No trauma noted  
RR 34  
Shallow  
Weak radial pulse



---

---

---

---

---

---

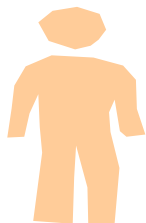
---

---



**Patient #9**

Blood in nose,  
mouth and ears  
Not breathing



**What would you do?**

---

---

---

---

---

---

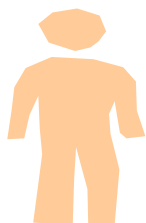
---

---



**Patient #9**

Blood in nose,  
mouth and ears  
Not breathing  
RR 10 with manual  
opening



---

---

---

---

---

---

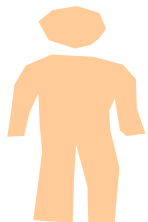
---

---



Patient #10

Some penetrating trauma  
Unresponsive  
Apneic  
No radial pulse  
Carotid 130/min



---

---

---

---

---

---

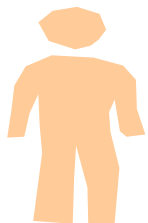
---

---



Patient #11

Arterial bleed from leg  
Responsive to pain  
RR 34  
No radial pulse  
Carotid 130/min



---

---

---

---

---

---

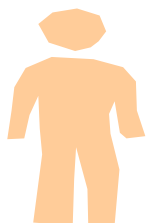
---

---



Patient #12

Minor lacs  
Crying  
Ambulatory  
RR 24



---

---

---

---

---

---

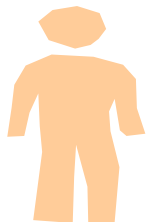
---

---



Patient #13

Deviate trachea  
RR 40  
Weak radial pulse  
+JVD  
Cyanosis



---

---

---

---

---

---

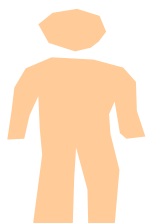
---

---



Patient #14

Open fracture of  
RUE  
Non-ambulatory  
A & O x 3  
RR 26  
Strong radial pulse



---

---

---

---

---

---

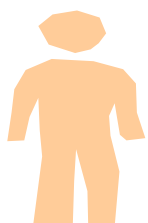
---

---



Patient #15

100% TBS burns  
(partial and full)  
A & O x 2  
RR 36  
Coughing  
Strong radial pulse



---

---

---

---

---

---

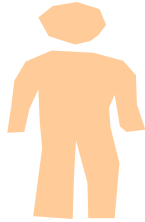
---

---



### Patient #16

CP, SOB  
Slurred speech  
R sided weakness  
A & O x 1  
RR 24  
Strong radial pulse



---

---

---

---

---

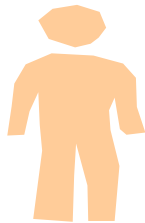
---

---



### Patient #17

Avulsion RUE  
Arterial bleed  
A & O x 2  
RR 30  
"I'm thirsty"



---

---

---

---

---

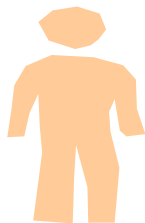
---

---



### Patient #18

Open fractures BLE  
Blood in ears  
A & O x 3  
RR 28  
Strong radial pulse



---

---

---

---

---

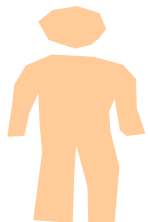
---

---



### Patient #19

Hysterical,  
screaming  
Blood in ears  
A & O x 3  
RR 36  
Strong radial pulse



---

---

---

---

---

---

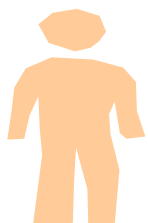
---

---



### Patient #20

Child  
Cyanotic from nipple  
line up  
Apneic



---

---

---

---

---

---

---

---



### What is the goal of **Disaster Triage** training?

- Increase familiarity/proficiency of the START and Jump START triage methodologies
- Increase familiarity with the SMART Tag Triage System
- Train with a standardized methodology and system

---

---

---


---

---

---

---

---

 Questions???

---

---

---

---


---

---



---

---

---

 Thank You!

Kathee Tyo, MS, RN  
585-758-7640  
Kathee\_tyo@urmc.rochester.edu



---

---

---

---

---

---

---

---