**PLEASE REVIEW INSTRUCTIONS BEFORE WE BEGIN
THE DISASTER TRIAGE WEBINAR**

PollEverywhere – we will be using polling throughout the webinar.
To participate you need to join the session: **Text TRAIN187 to 37607**

Joining Instructions
- Attendee phones have been placed on mute
- **Open Participants and Chat Panel** located at top of your computer screen
- Right Click on panels to move for better viewing of presentation
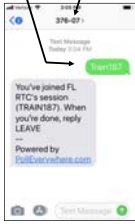- Webinar will be recorded for future viewing

Attendance
- If you do not see your **full name** listed under "Attendees" , provide your name to the Host using the Chat Function
- If you are hosting a group of participants in a room, fax/email sign-in sheet to Eileen_Spezio@urmc.Rochester.edu or (585) 756-5098 by COB today

Communication
- Check the Chat window during the presentation for important messages and instructions from the Host.
- Communicate with the host, panel and/or presenter using the Hand or Chat
    - Hand – request to be unmuted for a verbal question or comment
    - Chat – type questions, comments or suggestions during presentation

LMS Certificates
- Will be available to participants that registered for the course on the NYS Learning Management System www.nylearnsph.com

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Introduction to
Mass Casualty/Disaster
Triage

Acknowledgements

- NYSDOH – Bureau of Emergency Medical Services
- National Disaster Life Support Foundation
- E. Brooke Lerner, PhD
- University of Rochester Medical Center - FLRTC
- Stony Brook Medicine – MARO RTC
- Albany Medical Center – CDR RTC
- Upstate Medical University – CNY RTC
- Blessing Health System/Quincy Area EMS System
- Los Angeles County - Emergency Medical Services Agency

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
- Examine the dynamics of 2 Disaster Triage Methods:
  - START and JumpSTART
  - SALT
- Review use of the SMART tagging system
- Examine the impact of MCI on the Healthcare System
- Demonstrate competency in triage with brief exercise

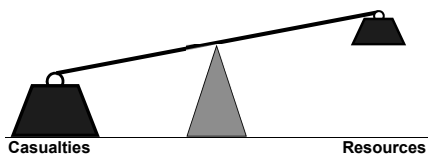## Have you ever used Disaster Triage in a the following ways

Exercise/Practice **A**

Real Event **B**

BOTH - Real Event and Practice **C**

No - Never Used **D**

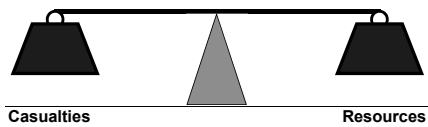## Mass Casualty Incident

any event that
overwhelms
available resources
with casualties

Natural
Accidental
Intentional

The Problem

Casualties   Resources

The Objective

Casualties   Resources

GOAL:

UTILITARIAN APPROACH
GREATEST GOOD FOR THE
GREATEST NUMBER

Important Considerations during an MCI Response

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

What Could Be an MCI For You?

- Transportation Accident
  - Highway Accidents, Air Crashes, Train Derailments

February 2008: 390 Pile Up

- Fire, Explosion
- Building Collapse
- Terrorist Attack
- Hospital Overloading
- Hospital Evacuation

January 2005: 390 Bus Accident

What Could Be an MCI For You?

- Mass Gathering Event
- Hazmat Incident
- Biological Incident
- Loss of Power
- Severe Weather
  - Blizzard
  - Tornado
  - Hurricane
  - Flood

Watkins Glen Speedway

CASE STUDIES
FROM ACUTAL EVENTS

Super Tornado Outbreak
Asiana Airline Crash
Boston Marathon Bombing
Orlando Shooting
Las Vegas Shooting
Thousand Oaks Shooting
Schoharie Limousine Crash

Tornado Super Outbreak
Chattanooga, TN
April 27, 2011

Courtesy of the NOAA Photo Library
https://www.ncei.noaa.gov/news/2011-tornado-super-outbreak

The Scene

On April 27, 2011, an EF4 (enhanced Fujita scale) tornado struck a 48-mile path across northwest Georgia and southeast Tennessee. Traumatic injuries sustained during this tornado and others in one of the largest tornado outbreaks in history presented to the regional Level I trauma center, Erlanger Health System, in Chattanooga, TN.

Where Did They Go?

169 adults and children
treated in Erlanger Health System's 5 area Emergency Departments
94 treated at Level 1 Trauma Center
20 at Erlanger Bledsoe
6 at Erlanger North
19 at Children's Hospital
30 at Erlanger at Hutcheson in North Georgia.

28 patients required admission to the trauma service. Of those, 11 required intensive care unit admissions. All survived to discharge
- 19 (68%) patients were discharged home
- 6 (21%) went to a rehabilitation hospital
- 3 (11%) were transferred to skilled nursing facilities.

Injury & Treatment

Most Common Injures:
- soft tissue injuries
- bony fractures
- injuries to the chest

Interventions
- tube thoracotomies
- exploratory laparotomies
- orthopedic fixations
- soft tissue reconstructions
- craniotomy

Boston Marathon Bombing
May 15, 2013

The Scene

Rescue workers and medical personnel were on hand to assist runners and bystanders rushed to help the wounded in the immediate aftermath

Where Did They Go?

264 casualties were treated in **27 local hospitals**
At least **14 casualties** required amputations

- Brigham and Women's Hospital received **31 casualties** – 28 with significant injuries
- Massachusetts General Hospital also received **31 casualties** - at least 4 required amputations.
- Boston Medical Center received **23 casualties**.
- Beth Israel Deaconess Medical Center handled **21 casualties**
- Boston Children's Hospital took in **10 children**, ages two to twelve.
- Tufts Medical Center and St. Elizabeth's Medical Center each treated **18 casualties**

Injury & Treatment

Blast Injuries
Mutilation/Mangled Extremities (mainly legs and feet)
Shrapnel wounds
Dismemberment
Ruptured eardrums

Mass Shooting
Las Vegas, NV
October 01, 2017

The Scene

Elevated shooter from approximately 350 yards away on the 32nd floor. Casualties were among the approximately 22,000 concert attendees. When the shooting started, the crowd scattered in all directions, making on-scene triage impossible.

Where Did They Go?

Between 625 and 800 casualties were treated at nearly every hospital and treatment facility in the Washoe Valley of Nevada and beyond

- ❑ Desert Springs Hospital (community hospital closest to the venue) received **55 casualties.** Hospital staff had little or no experience with GSWs

- ❑ University Medical Center (trauma hospital, six miles from venue) received **60 casualties** initially, then approx. 25 by transfer later

- ❑ Sunrise Hospital (Level 2 trauma center 4.8 miles from venue) received **184 casualties** (many more unregistered)

- ❑ Most victims self-transported or arrived by private vehicle, cab, Uber, etc. Less than 25% arrived by EMS

Injuries & Treatment

- ❑ Truly a **no-notice** event
- ❑ Vast majority of injuries were high-caliber GSW involving all areas of the body
- ❑ Other injuries included blunt trauma from trampling or vehicle vs. pedestrian as they fled the scene
- ❑ Minimal to no pre-hospital triage
- ❑ Some hospital used SMART triage, others used "Sharpies on the forehead" to document triage status
- ❑ Hospitals deployed all available resources and stressed the importance of "tactical combat medicine"
- ❑ Bleeding control and airway management were initial priorities

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Managing
Mass Casualty Incidents

- Did these situations lead to shortage of personnel & equipment resources?

- Were decisions and changes made in how they did business?
  - Priority Shift
  - Altered Standards of Care
  - Treatment of Non-MCI patients

MCI MANAGEMENT

HOW?

Triage

French verb *trier*, meaning to separate, sift or select

French Battlefield Term
dating back to WWI
Wounded were divided into three categories

Those who are likely to live, regardless of what care they receive	Those who are unlikely to live, regardless of what care they receive	Those for whom immediate care might make a positive difference in outcome

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General Principles of Mass Casualty Triage

Mass casualty triage:
- Systematic method
- Organization of casualties
- Occurs at the scene

Mass casualty triage decision making encompasses:
- Presence of a life-, limb-, or vision-threatening condition
- Available lifesaving interventions
- Availability of transportation assets

Disaster Triage

- **Primary**
  - 1st contact (at scene or hospital)
  - Assign triage category

- **Secondary**
  - ongoing process that takes place after the patient has been moved to a **treatment/holding area** awaiting transport.

Primary Triage

The Hospital

The Scene

Disaster Triage Categories

Triage Color	Priority	Acuity	Need for Treatment	Comments
RED	1	Emergent	Immediate	Threat to life, limb or organ
YELLOW	2	Urgent	Delayed	Significant injury or illness but can tolerate a delay in care
GREEN	3	Minimal	Minor	Can safely wait for treatment
GREY	4	Expectant	Comfort Care	Consider transport and care AFTER initial "Reds" are cleared, if resources exist and it does not delay care for Yellows
BLACK	0	Dead	None	Dead: Don't move

Triage Category Assignment

IMMEDIATE	DELAYED	MINIMAL	EXPECTANT	DEAD

I D M E

Disaster Triage Systems

MASS – "Move, Assess, Sort, Send"

ESI – "Emergency Severity Index"

SALT – "Sort, Assess, Lifesaving Interventions, Treatment/Transport"

START/JumpSTART – "Simple Triage & Rapid Treatment/Transport"

What Disaster Triage System does your agency or facility utilize/train?

SALT **A**

START **B**

Other **C**

MASS **D**

Don't Know **E**

Start the presentation to see live content. 'Still no live content' Install the app or get help at PollEv.com/app

Which system is utilized in NYS?

- Depends on the local medical director

- NYS DOH BEMS does **NOT** endorse or recommend a particular system
  - In 2005 was provide grant monies to purchase and distribute SMART Tag Triage System to ambulance services across NYS

- START is currently the most commonly used methodology in NYS

Disaster Triage Systems

MASS
ESI
SALT
START/JumpSTART
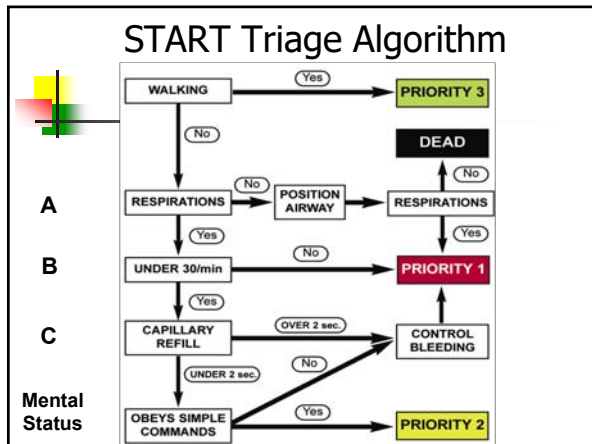**"Simple Triage and Rapid Treatment/Transport"**

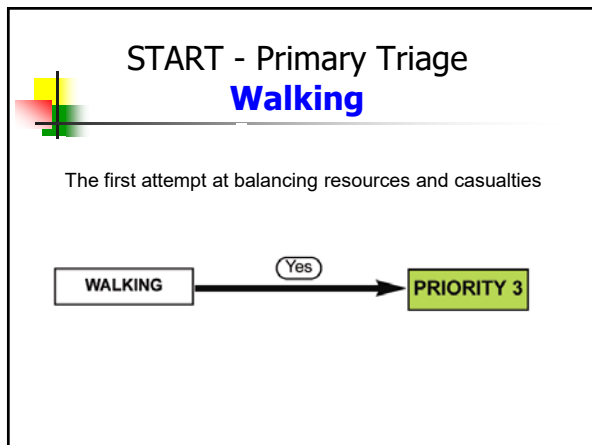## "START" System of Triage

CONSIDER	CATEGORIZE
■ Ability to **follow directions & walk**	■ **Priority 1 Immediate (red)**
■ **R**espiratory effort	■ **Priority 2 Delayed (yellow)**
■ **P**ulses/perfusion	■ **Priority 3 Minor (green)**
■ **M**ental status	■ **Deceased or expectant (black)**

START Triage Algorithm

A

B

C

Mental Status

START - Primary Triage
Walking

The first attempt at balancing resources and casualties

The "Greens"

☐ Once they walk toward you – designate a place for them to go

☐ Someone needs to tag them green

☐ Someone needs to stay with them & keep them informed

"START" – PRIMARY TRIAGE
RPM

Non-Ambulatory Casualties Require Additional Assessment

- **Respiratory effort**
- **Pulses/perfusion**
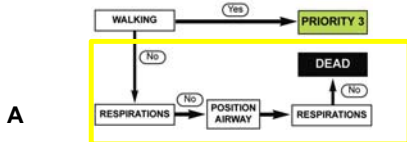- **Mental status**

TRIAGE CATEGORY: RED, YELLOW OR BLACK
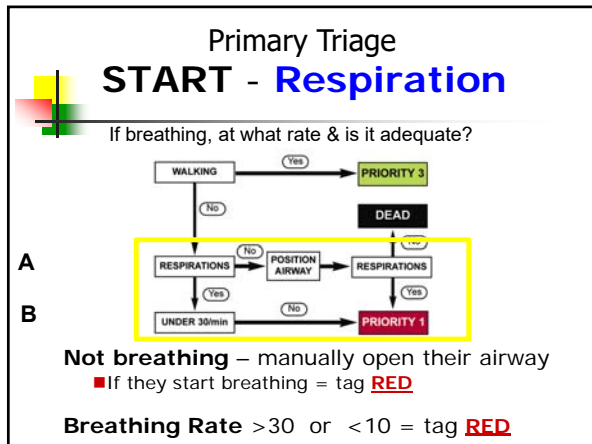

HELPFUL MNEMONIC

RPM: 30-2-Can Do

- **R**ESPIRATION
- **P**ERFUSION
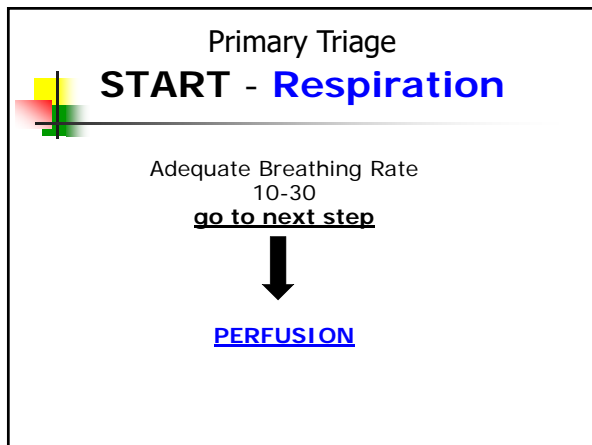- **M**ENTAL STATUS

- **30**
- **2**
- **CAN DO**

Primary Triage
START - Respiration
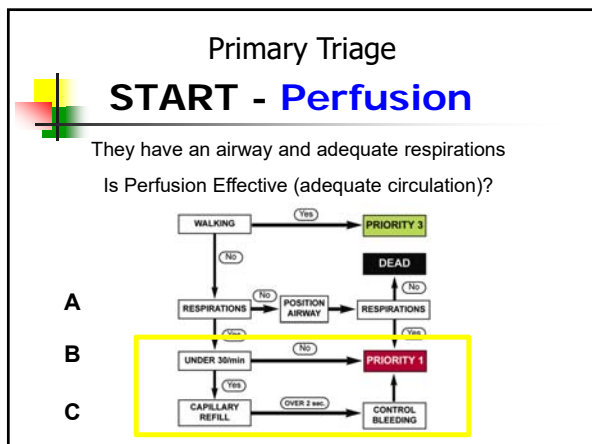
Determining whether there is an airway and/or breathing

A

Not Breathing – manually open airway
- If they DON'T start breathing – tag **BLACK**

Primary Triage
START - Respiration

If breathing, at what rate & is it adequate?

A

B

Not breathing – manually open their airway
- If they start breathing = tag **RED**

Breathing Rate >30 or <10 = tag **RED**

Primary Triage
START - Respiration

Adequate Breathing Rate
10-30
go to next step

⬇

PERFUSION

Primary Triage
START - Perfusion

They have an airway and adequate respirations

Is Perfusion Effective (adequate circulation)?

A

B

C

Primary Triage
START – Perfusion/Pulse

Circulatory Check…

Capillary Refill > 2 seconds = tag **RED**

If unable to obtain a capillary refill, check the radial pulse.
If radial pulse is absent, **control bleeding** and tag **RED**

BLEEDING CONTROL

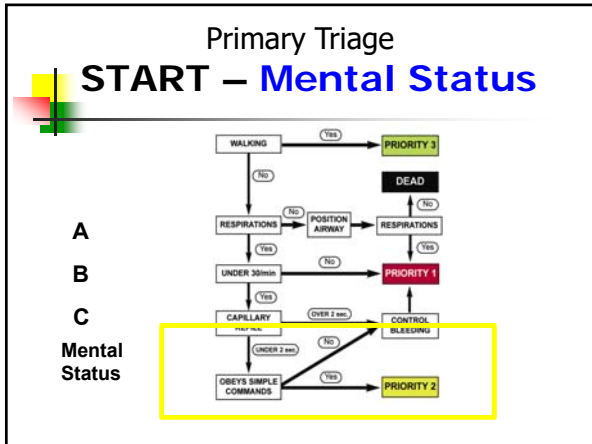STOP THE BLEED

tourniquet or
wound packing

https://www.stopthebleed.org/

Primary Triage
START – Perfusion/Pulse

Adequate Circulation
Capillary Refill < 2 Seconds
Radial pulse present
go to next step

⬇

MENTAL STATUS

Primary Triage
START – Mental Status

A

B

C

Mental
Status

Primary Triage
START – Mental Status

Assess if casualty can follow a simple command
"Squeeze my hand"

☐ Can follow a simple command = tag **YELLOW**

☐ Cannot follow a simple command = tag **RED**

Pediatric Triage
Modifications for START
JumpSTART

- 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

- Designed for Children ages 1-8 years

JumpSTART
Pediatric Modifications
RPMs - Respiratory effort

- No Respirations – **OPEN AIRWAY**
  - If the patient starts breathing tag **RED**
  - If apneic and no pulse tag **BLACK**
  - If apneic with pulse try **5 rescue breaths**
  - If still apneic tag **BLACK**
  - If starts breathing tag **RED**

- Respirations < 15 or > 45 tag **RED**

- Adequate Respirations 15-45 **go to next step**

↓
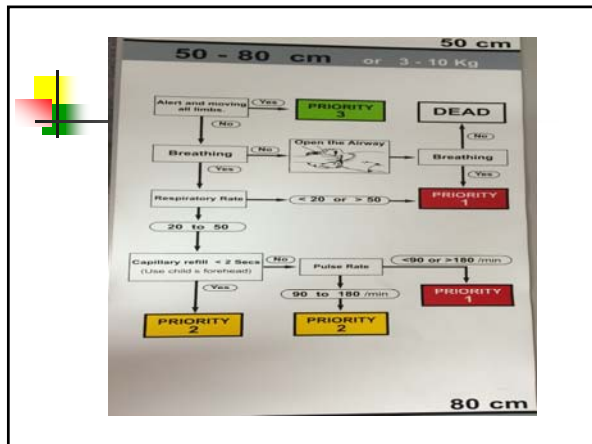
PULSE

JumpSTART
Pediatric Modifications
RPMs - Pulse

- No distal pulse – **tag RED**
- Pulse present **go to next step**

↓

Mental Status

JumpSTART
Pediatric Modifications
RPMs – Mental Status

AVPU

- Alert, responds to verbal or responds to pain - **tag YELLOW**

- Inappropriate response, posturing or unresponsive - **tag RED**

JumpSTART Triage of Children

Children OVER 1 year old

Infants **Under 1 Year** Get Secondary Triage (Meaning **No Greens!**).

Follow **JumpSTART** to Determine **Yellow** or **Red**.

The SMART Tape ™

https://youtu.be/nKBh2v12uwA

QUICK REVIEW....

- **SORT**
  - Ambulatory/Walk = GREEN
  - Non-Ambulatory = NEXT STEP (Airway)
- **AIRWAY**
  - YES breathing = NEXT STEP (Respiratory)
  - NO Breathing = Open Airway
    - Starts to breath = RED
    - No breathing = BLACK
- **BREATHING/RESPIRATORY**
  - ABNORMAL (>30 or <10) = RED
  - NORMAL (10-30) = NEXT STEP (Circulation)
- **CIRCULATION** – Capillary Refill OR Radial Pulse
  - ABNORMAL/ABSENT (CR > 2 OR No Pulse) = RED
    - Control Bleeding
  - Normal (CR < 2 OR Pulse Present = NEXT STEP (Mental Status)
- **MENTAL STATUS**
  - YES follows simple command = YELLOW
  - NO can't follow simple command = RED

Disaster Triage Systems

MASS – *"Move, Assess, Sort, Send"*
ESI – *"Emergency Severity Index"*
SALT –
"Sort, Assess, Lifesaving Interventions, Treatment/Transport"
START/JumpSTART

Development of SALT

- Part of CDC sponsored project
- Develop national standard for mass casualty triage
- Sort – Assess – Life Saving Interventions – Treatment/Transport
- Based upon best evidence
- Concept endorsed by: ACEP, ACS-COT, ATS, NAEMSP, NDLSEC, STIPDA

64

Federal Recommendations Released July 2013

Model Uniform Core Criteria

BACKGROUND

- Workgroup established to review science and develop list of recommended criteria for Disaster Triage Systems
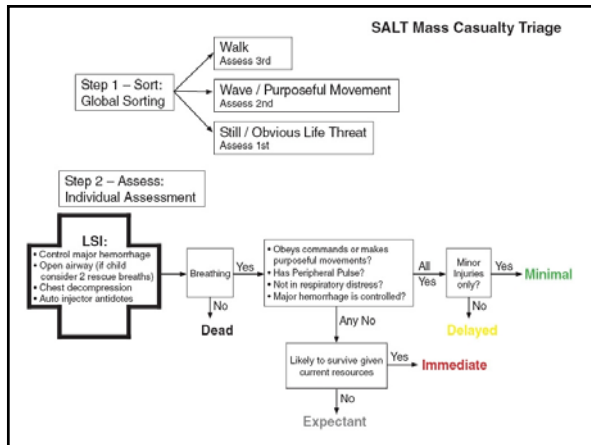
RESULT

- Identifies 24 criteria – essential elements – for an MCI triage system
- Provides a standard for triage systems to increase interoperability
- Provides guidelines for revision of existing MCI triage systems

2018

- NHTSA released an addendum
  https://www.ems.gov/pdf/education/National-
  EMS-Education-Standards-and-Instructional-
  Guidelines/MUCC_Addendum_EMT.pdf
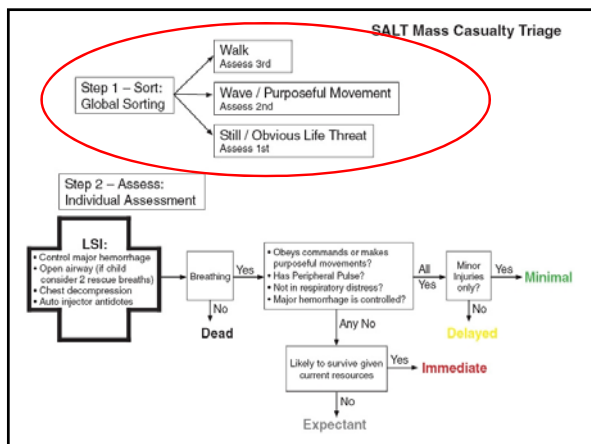
SALT - **Global Sorting** Action 1

- **Action:**
  - "Everyone who can hear me please move to [designated area] and we will help you"
    - Use loud speaker if available
- **Goal:**
  - Group ambulatory patients using voice commands
- **Result:**
  - Those who follow this command - last priority for individual assessment

70

SALT - **Global Sorting** Action 2

- **Action:**
  - "If you need help, wave your arm or move your leg and we will be there to help you in a few minutes"
- **Goal:**
  - Identify non-ambulatory patients who can follow commands or make purposeful movements
- **Result:**
  - Those who follow this command - second priority for individual assessment
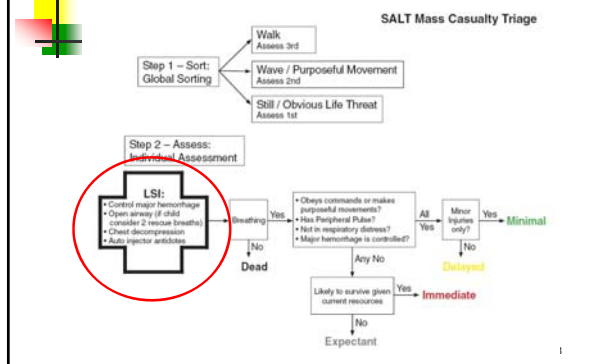
71

SALT - **Global Sorting** Result

Casualties prioritized for individual assessment

- Priority 1: Still, and those with obvious life threat
- Priority 2: Waving/purposeful movements
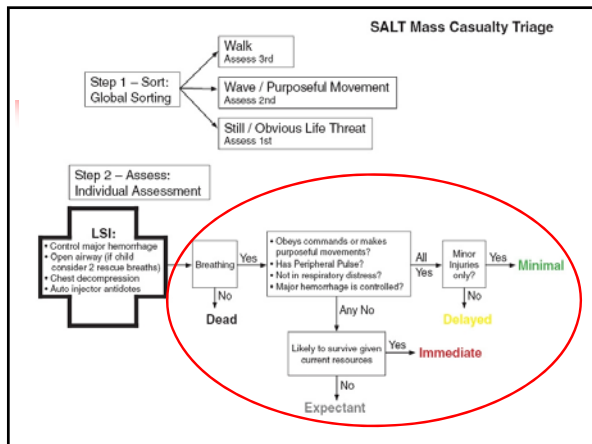- Priority 3: Walking

72

24

Step 2: Individual Assessment Lifesaving Interventions

SALT Mass Casualty Triage

SALT - Individual Assessment
What can I do?

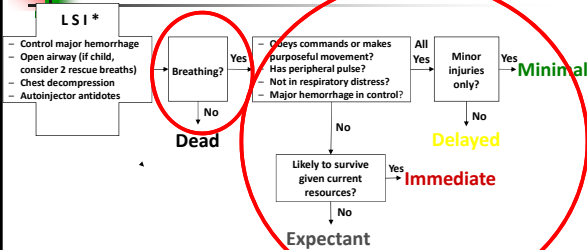| Provide Lifesaving interventions |
| --- |
| Control major hemorrhage |
| Open airway - If child, consider giving 2 rescue breaths |
| Decompress chest (needle decompression) |
| Autoinjector antidotes |

SALT Mass Casualty Triage

SALT - Individual Assessment
Triage Category Assignment

Response to interventions
Respiratory distress?
Peripheral pulse?
Bleeding stopped?
Responds to commands?

Triage Categories:

Immediate
Delayed
Minimal
Expectant
Dead

SALT - Individual Assessment
AFTER LSI - Triage Category Assignment

LSI *
- Control major hemorrhage
- Open airway (if child, consider 2 rescue breaths)
- Chest decompression
- Autoinjector antidotes

Breathing? →Yes
No
Dead

Obeys commands or makes purposeful movement?
Has peripheral pulse?
Not in respiratory distress?
Major hemorrhage in control?

All Yes → Minor injuries only? →Yes **Minimal**
No
Delayed

No →
Likely to survive given current resources? →Yes **Immediate**
No
Expectant

*LSI = lifesaving interventions

IMMEDIATE

Highest priority of casualties to receive care
- Immediate, life-threatening conditions
- Require immediate management in order to survive
- Response to lifesaving interventions:
  - Any *NO* answer + resources are available

DELAYED

Require prompt medical attention for survival
- Condition can tolerate a short delay in treatment
- Expected to survive despite that short delay
- Response to lifesaving interventions:
  - All **YES** answers + does need access to additional or definitive health care

_____
_____
_____
_____
_____
_____
_____

MINIMAL

- Minor injuries or illnesses
- Expected to survive even if medical treatment not received
- Response to lifesaving interventions:
  - All **YES** answers + does NOT need access to additional or definitive health care

_____
_____
_____
_____
_____
_____
_____

EXPECTANT

Casualties with low probability of survival
- Not expected to survive given available medical resources
- Response to lifesaving interventions:
  - Any **NO** answer + resources are NOT available

_____
_____
_____
_____
_____
_____
_____

DEAD

Casualties with complete absence of life

- Not breathing after basic airway-opening maneuvers, including two rescue breaths if a child
- Attempt basic life-sustaining efforts only if sufficient personnel available
- It is important to *NOT* move dead casualties, unless the remains are blocking access to live casualties

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MASS CASUALTY TRIAGE
REVIEW OF PRIORITIES

I IMMEDIATE	D DELAYED	M MINIMAL	E EXPECTANT	DEAD

START VS SALT

PRIORITY 1

| **START**	**SALT**
non-ambulatory casualty with one or more of the following:	casualty with one or more of the following:
•Starts breathing AFTER opening airway • Breathing is > 30 or < 10 • Delayed cap refill time (> 2 sec) • Absent radial pulses • Uncontrolled bleeding • Unable to follow simple commands	•No peripheral pulse •Respiratory distress •Uncontrolled Hemorrhage •Doesn't follow commands or make purposeful movements **Likely** to survive given available resources

IMMEDIATE - EMERGENT

Example

Casualty has an open wound, bleeding controlled

Respirations are 16

Capillary Refill < 2 seconds
Radial Pulse is 88

Unconscious

Photo Source: www.swsahs.nsw.gov.au Public Domain

PRIORITY 2

START	SALT
Non-ambulatory casualty with one or more of the following	YES to ALL of the following
• Patent Airway	• Has a peripheral pulse
• Respirations > 10 and < 30	• Not in respiratory distress
• Capillary refill less than 2 seconds or radial pulses present	• Hemorrhage controlled
• Able to follow simple commands	• Follows commands and makes purposeful movement
	Injuries are **NOT MINOR** and require care

DELAYED - URGENT

Example

Casualty unable to walk due to ankle fracture

Respirations are 26

Pulse is 110 (Radial)

Alert and oriented

Photo Source: Phillip L. Coule, MD

PRIORITY 3

START	SALT
■ Ambulatory/Walking Wounded ■ Has motor, respiratory, mental function ■ Worried Well	YES to ALL of the following ■ Has a peripheral pulse ■ Not in respiratory distress ■ Hemorrhage controlled ■ Follows commands or makes purposeful movement ■ Injuries **are Minor**

MINOR - MINIMAL

Example

Casualty walks over to you with a minor laceration

Respirations are 22

Radial Pulse is 124

Crying

Photo Source: Phillip L. Coule, MD

PRIORITY 4

SALT
casualty with one or more of the following:

▪ No peripheral pulse
▪ Respiratory distress
▪ Uncontrolled Hemorrhage
▪ Doesn't follow commands or make purposeful movements

Unlikely to survive given available resources

EXPECTANT

Example

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

Unresponsive
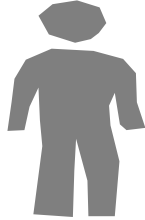
DEAD – PRIORITY 5

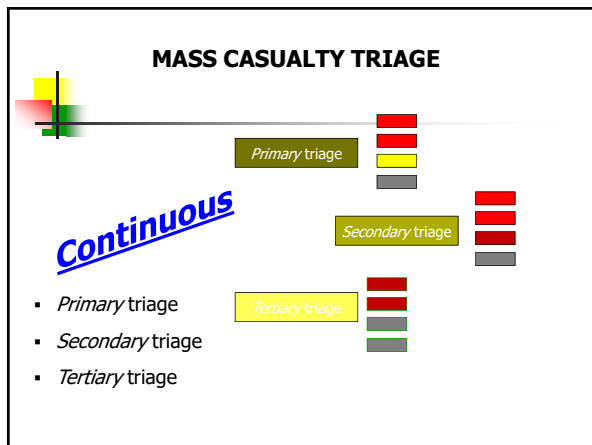| START	SALT
Non-ambulatory casualty with the following: - Inability to maintain a patent airway - No respirations - Unresponsive	Casualties with complete absence of life: Not breathing after basic airway-opening maneuvers, including two rescue breaths if a child
EXPECTANT/DEAD	**DEAD**

MUST CONSIDER THIS:

- Primary Triage address ONLY the first level of sorting
- Probably a very short part of the response
- Triage is dynamic and continuous

MASS CASUALTY TRIAGE

Dynamic

Immediate

Expectant

Delayed

Minimal

MASS CASUALTY TRIAGE

Continuous

Primary triage

Secondary triage

Tertiary triage

- *Primary* triage
- *Secondary* triage
- *Tertiary* triage
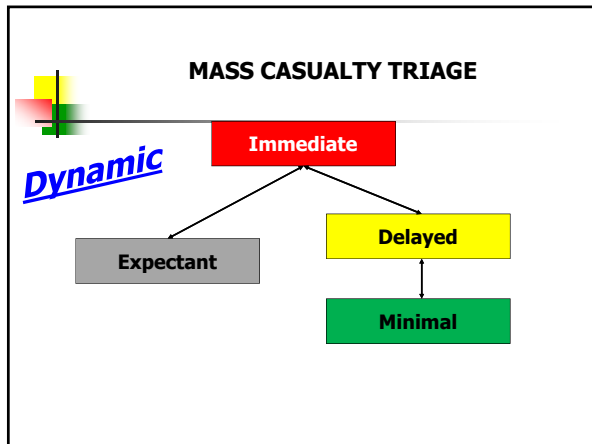
Secondary Triage

- After Primary Triage
- Performed by Treatment Teams
- Further Assessment beyond ABC/RPMs
- If time permits
- Utilized to further determine transport priority within triage categories

Secondary Triage

GLASGOW COMA SCORE

Alert
Verbal
Pain
Unresponsive

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

Casualty Reporting, Identification, and Tracking

- Efforts to identify and track casualties should begin at the scene
- Tracking officer must ensure everyone accounted for
- Systems can range from electronic system, to triage tag, to simply recording information on a piece of tape
- Allow for more information to be added to system as it becomes available

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Triage Coding

Priority	Treatment	Color
1	Immediate/Emergent	RED
2	Delayed/Urgent	Yellow
3	Minor/Minimal	Green
0	Dead/Expectant	Black

Triage Tags

- Types of triage tags
  - Several on the market
  - **SMART Tag**
  - **METTAG**
  - **SALT Method METTAG**
- **Advantages**
  - Alerts providers to priorities
  - Prevents re-triage
  - Tracking system

SMART TAG®

DEAD

https://youtu.be/YCmCWzed0uA

SMART TRIAGE TAG

- Innovative folded design allows for simple re-triaging
- Highly visible, with Priority 1 lightstick
- Highly durable, waterproof and tear resistant material
- Space for structured recording of interventions (time allowing)
- Unique barcode for integration with tracking software

It's a **RED**
that is **VERY Critical**

Documentation & Secondary Triage

SMART WMD TAG™

https://youtu.be/EpK7FSukPOQ

SMART Tag Triage System

https://youtu.be/Ttl-gsMeDcM

SMART Triage Pack Contents

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

Casualty Count Card/Protocol

The Treatment Area ON SCENE

Casualties should be separated as tagged

Dead/Expectant Special Considerations

- Establish an area away from other casualties
- It should be a secure area away from on-lookers, media, etc.
- Accessible for you and coroner staff

Mass Fatality Management

Generally performed by specialized teams or county based resources

- Identifying and examining remains
- Moving deceased to the morgue(s)
- Maintaining custody of bodies until released
- Determining and reporting cause of death
- Returning personal items to family members
- Making final disposition decisions for bodies
- Issuing death certificates

Casualty Transport and Evacuation

Casualties must be prioritized for treatment as well as transport to definitive care.

Regions may have different plans related to notification, destination and transport

Avoid overwhelming the closest hospitals:
1. Transport priority patients to local hospitals
2. Transport stable patients to more distant hospitals or treatment facilities stood-up for the incident
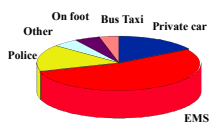3. Treat minor injuries and release from scene

Casualty Transport
How do victims arrive?

- Ambulance
- Air Transport
- Medical Emergency Response Vehicle (MERV)
- Non-Emergency Vehicles (Bus)

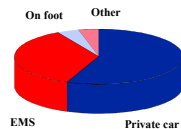- Self Transport (private vehicles, UBER)

Transportation Distribution

Patient Transport - 29 US Disasters

On foot   Bus Taxi   Private car
Other
Police
EMS

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

Patient transport - Oklahoma Bombing

On foot   Other
EMS   Private car

Injury prevention database, OK Dept of Health

Casualty Transport
Hospital Considerations

Estimating Total Expected Casualties Calculations
# of casualties arriving within 1 hr x 2

- ~ 50% of acute casualties may arrive at the closest medical facilities within 60 min

- 50-80% may arrive within 90 min

- Most arrive within 1-4 hours

Total Casualty Numbers
Hospital Planning Assumptions

Hospital Licensed Bed Size	All MCI Casualties (20% bed size)	20% Pediatric Casualties	Red (20%)	Operating Room (10%)	Yellow (30%)	Green (50%)
100	20	4	4	0	6	10
200	40	8	8	1	12	20
300	60	12	12	1	18	30
400	80	16	16	2	24	40
500	100	20	20	2	30	50
600	120	24	24	2	36	60

FLDOH

The Treatment Area
Hospital

Sample/Suggested Expanded Treatment Area Locations
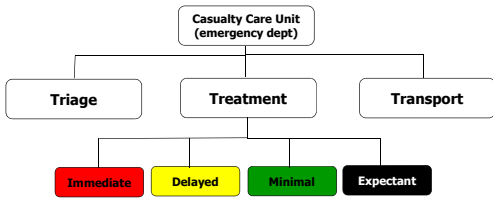*[Personalize to hospital locations]*

Expanded Treatment Area	Primary Location (Sample)	Alternate Location
Triage	Ambulance Bay	
Immediate Treatment (Red Area)	Emergency Dept	
Delayed Treatment (Yellow Area)	Ambulatory Surgery ED Fast Track	
Minor Treatment (Green Area)	Clinics, Outpatient Areas	
DOA or Terminal (Black Area)	Morgue	

Forward Triage Concept

15 'til 50 Program : http://cdphready.org/15-til-50-mass-casualty-incident-toolkit/

HICS: Hospital Command Center

Casualty Care Unit
(emergency dept)

| Triage | Treatment | Transport |

| Immediate | Delayed | Minimal | Expectant |

Hospital MCI Resources

- MCI Boards
- Electronic Disaster Registration
- Pre-Developed Disaster (Paper) Charts

Summary

- Mass casualty event occurs when number of victims overwhelms resources
- Change perspective to greatest good for greatest number
- Initial goal of mass casualty triage to sort and assess casualties to identify those with life-threatening injuries and initiate lifesaving treatment and then evacuate all casualties
- Triage Process is Continuous and Dynamic

Disaster Triage Practical Application

PollEverywhere
Text TRAIN187 To 37607
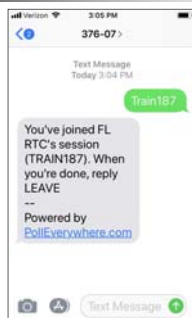
Scenario

An improvised explosive device is detonated at a large outdoor sporting event. At least 50 people are confirmed injured.

EMS arrives on scene

Initial Question

What are your immediate priorities?

LET'S TRIAGE

8 Individual casualties will be shown on the screen (with signs/symptoms)

1. Follow START OR SALT Triage methodology
2. Assume Sorting has occurred
3. Make initial triage decision(s)
4. Send your answer (A,B,C,D,E) via text

A	B	C	D	E
Immediate/Red	Urgent/Yellow	Delayed/Green	Expectant	Dead/Black

Casualty #1

50 YEAR OLD FEMALE
Patient is not ambulatory but is responding to instructions.

Casualty #1

- RR 26
  No obvious signs of respiratory distress
- Pulse Present
- Following all instructions
- Significant bleeding above the ankle

How would you triage Casualty #1?

Immediate/Red   Urgent/Yellow   Delayed/Green   Expectant   Dead/Black

Casualty #2

29 YEAR OLD MALE
Patient is not ambulatory and is not responding to instructions.

Casualty #2

- RR 36 – but no obvious signs of distress
- Pulse felt below the injury to the arm
- Does not understand simple commands
- Significant bleeding from the wound

How would you triage Casualty #2?

Immediate/Red
Urgent/Yellow
Delayed/Green
Expectant
Dead/Black

Casualty #3

26 YEAR OLD MALE

Patient is not ambulatory but is responding to instructions.

Casualty #3

- RR 26 – no obvious signs of distress
- Peripheral pulse present
- Following all instructions
- Object imbedded in upper arm but major blood loss is unlikely

How would you triage Casualty #3?

Immediate/Red
Urgent/Yellow
Delayed/Green
Expectant
Dead/Black

Casualty #4

44 YEAR OLD MALE

Patient is not ambulatory and is not responding to instructions.

Casualty #4

- Does not appear to be breathing
- No pulse
- Can't follow instructions
- No bleeding

According to START/SALT - If a casualty is not breathing you would...

Tag Black and rapidly go to the next casualty	A
Intubate	B
Don't waste time with tagging - go to next casualty	C
Manually open airway, tag Red if he starts to breathe	D

Casualty #4

- Remains Apneic
- No pulse
- Can't follow instructions
- No bleeding

How would you triage Casualty #4?

Immediate/Red	A
Urgent/Yellow	B
Delayed/Green	C
Expectant	D
Dead/Black	E

Casualty #5

3 YEAR OLD FEMALE
Patient is not ambulatory and is not responding to instructions.

Casualty #5

- RR<10 no obvious signs of distress
- Peripheral pulse present
- No purposeful movement
- No visible bleeding

How would you triage Casualty #5?

Immediate/Red
Urgent/Yellow
Delayed/Green
Expectant
Dead/Black

Casualty #6

41 YEAR OLD MALE
The patient is not ambulatory and is not responding to instructions.

Casualty #6

- Slow and shallow respirations
- Pulse Present
- Unresponsive
- Burns cover most of body
- Minimal Bleeding

How would you triage Casualty #6?

Immediate/Red

Urgent/Yellow

Delayed/Green

Expectant

Dead/Black

Casualty #7

13 YEAR OLD FEMALE

Patient is ambulatory and is responding to instructions.

Casualty #7

- Hysterical but no signs of respiratory distress
- Pulse present
- Can follow instructions
- Bleeding from wound is minimal

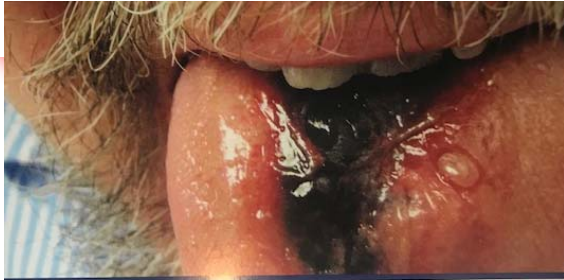**How would you triage Casualty #7?**

Immediate/Red

Urgent/Yellow

Delayed/Green

Expectant

Dead/Black

Casualty #8

45 YEAR OLD MALE
Patient is ambulatory and is responding to instructions.

_____
_____
_____
_____
_____
_____
_____
_____

Casualty #8

How would you triage Casualty #8?

- RR 26 – no respiratory distress
- Pulse present
- Following commands
- Some bleeding from tongue but is controlled

Immediate/Red
Urgent/Yellow
Delayed/Green
Expectant
Dead/Black

_____
_____
_____
_____
_____
_____
_____
_____

SITREP:
Triage Status Report

TRIAGE CATEGORY	START	SALT
Immediate	3	2
Delayed	2	2
Minimal	2	2
Expectant	0	1
Dead	1	1

_____
_____
_____
_____
_____
_____
_____
_____

Questions???

Remember the goal of **Disaster Triage** training

- Increase familiarity/proficiency of a triage methodolog (START or SALT)
- Increase familiarity with the SMART Tag Triage System
- Train with a standardized methodology and system
- Grow your organization's triage & mass casualty response competency

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Regional Training Centers

UNIVERSITY of ROCHESTER
MEDICAL CENTER

Finger Lakes Regional Training Center
Anne D'Angelo
Phone: (585) 758-7640
anne_dangelo@urmc.rochester.edu
Website: **wrhepc.urmc.edu**

UPSTATE MEDICAL UNIVERSITY | State University of New York

CNY Regional Training Center
Kelsey Wagner
Phone: (315)464-7597 Ext: 4-7597
WagneKel@upstate.edu
Website: **http://www.upstate.edu/cnyrtc**

Albany Medical Center

CDR Regional Training Center
Jenette White
Phone: (518) 262-1070
whitej4@amc.edu

Stony Brook Medicine

MARO Regional Training Center
Connie Kraft   Phone: (631) 444-9074
Connie.Cincotta-Kraft@stonybrookmedicine.edu
Website: **https://www.stonybrookmedicine.edu/MARORTC**