OEMS | OFFICE OF EMERGENCY MEDICAL SERVICES

Bureau for Public Health
West Virginia Department of Health and Human Resources

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West Virginia Mass Casualty Incident Management

Refresher Course

Version: 2022

This course has been designed to refresh the seasoned EMS provider in the concepts and operations that will be needed to function in a Mass Casualty Incident.

The needs of individual incidents and the availability of appropriate resources will vary from region to region requiring agencies to develop plans specific to their needs.

OBJECTIVES

- Define an MCI
- Review Incident Management from EMS perspective
- Review Triage Procedures
- ICS Form review – use with scenarios
- 2 – Scenarios (Adult & Pediatric)

What is a disaster?

A natural or manmade event that suddenly or significantly disrupts normal community function & causes concern for the Safety, Property, & Lives of the citizens.

- Loss of life
- Loss of property
- Many injured or killed
- Loss of control

D: Detection

I: Incident Command

S: Safety & Security

A: Assess Hazards

S: Support

T: Triage & Treatment

E: Evacuation

R: Recovery

Mass Casualty Incident (MCI) Defined

An incident which produces multiple casualties such that emergency services, medical personnel and referral systems within the normal catchment area cannot provide adequate and timely response and care without unacceptable mortality and/or morbidity.

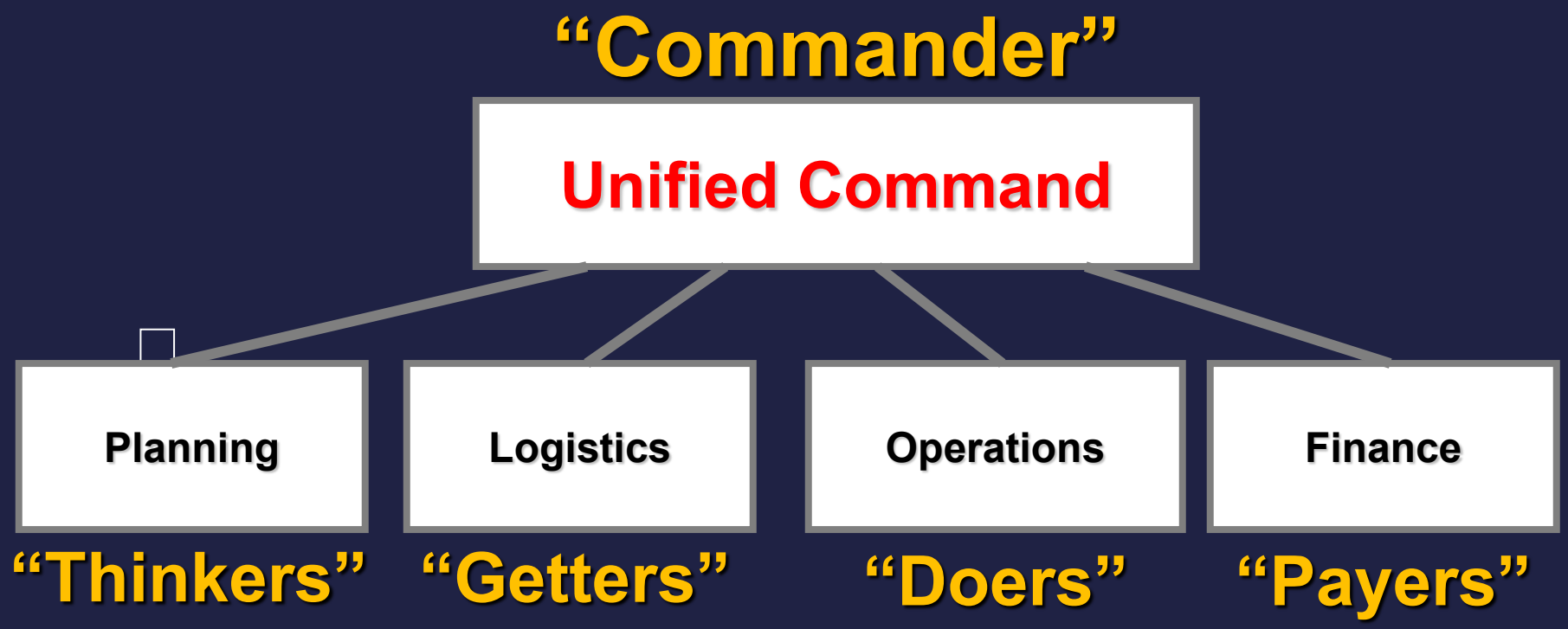
Chronology of a Disaster

- Incident with multiple casualties reported to the dispatch center
  - Police/Fire/EMS are dispatched.
  - Incident Command is established on scene
  - Size up identifies a ***mass casualty event***.
  - Incident Commander notifies dispatch to activate the Mass Casualty Plan
  - Incident Commander establishes staging area and requests additional resources.

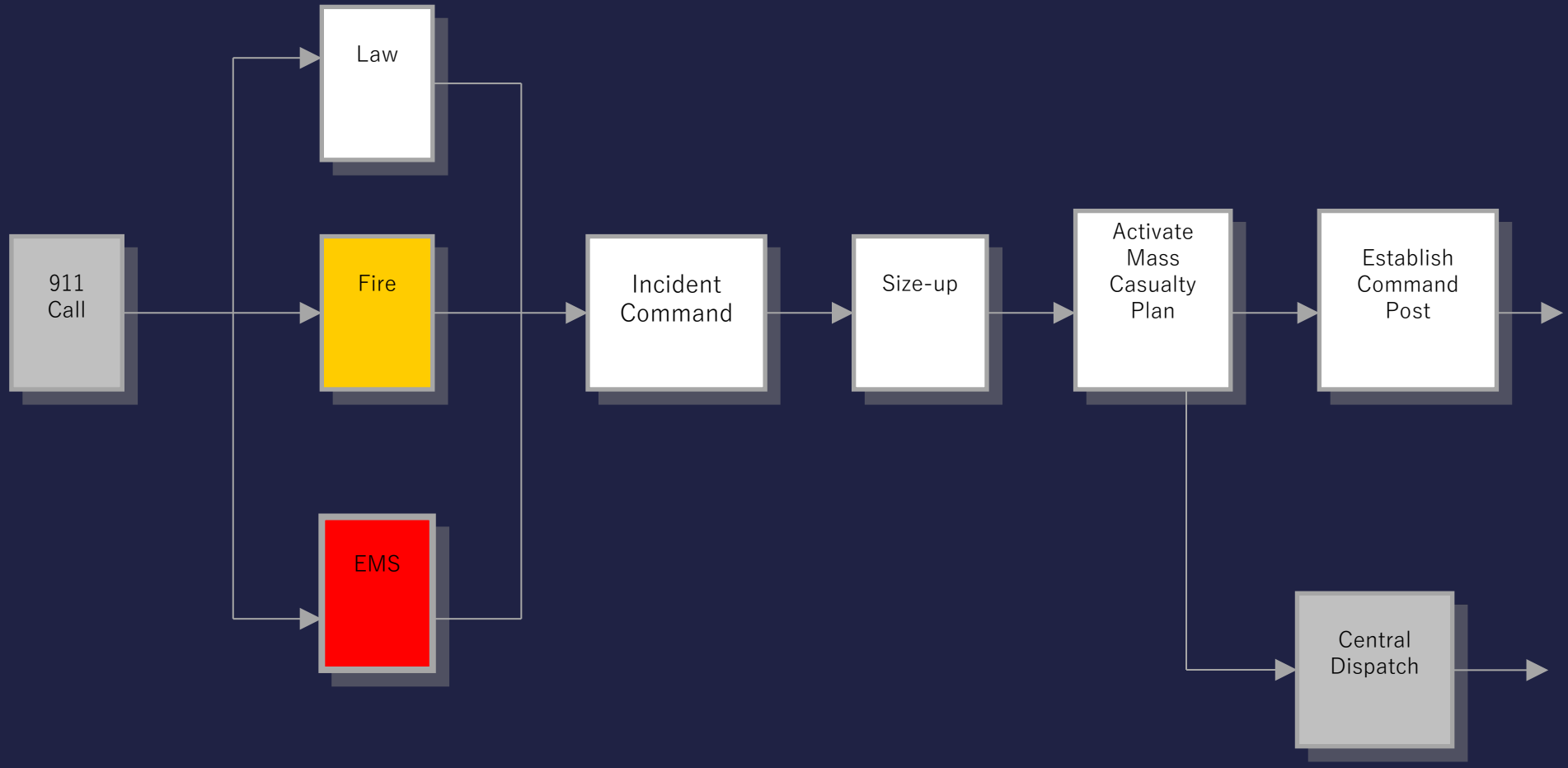
Establishing Command

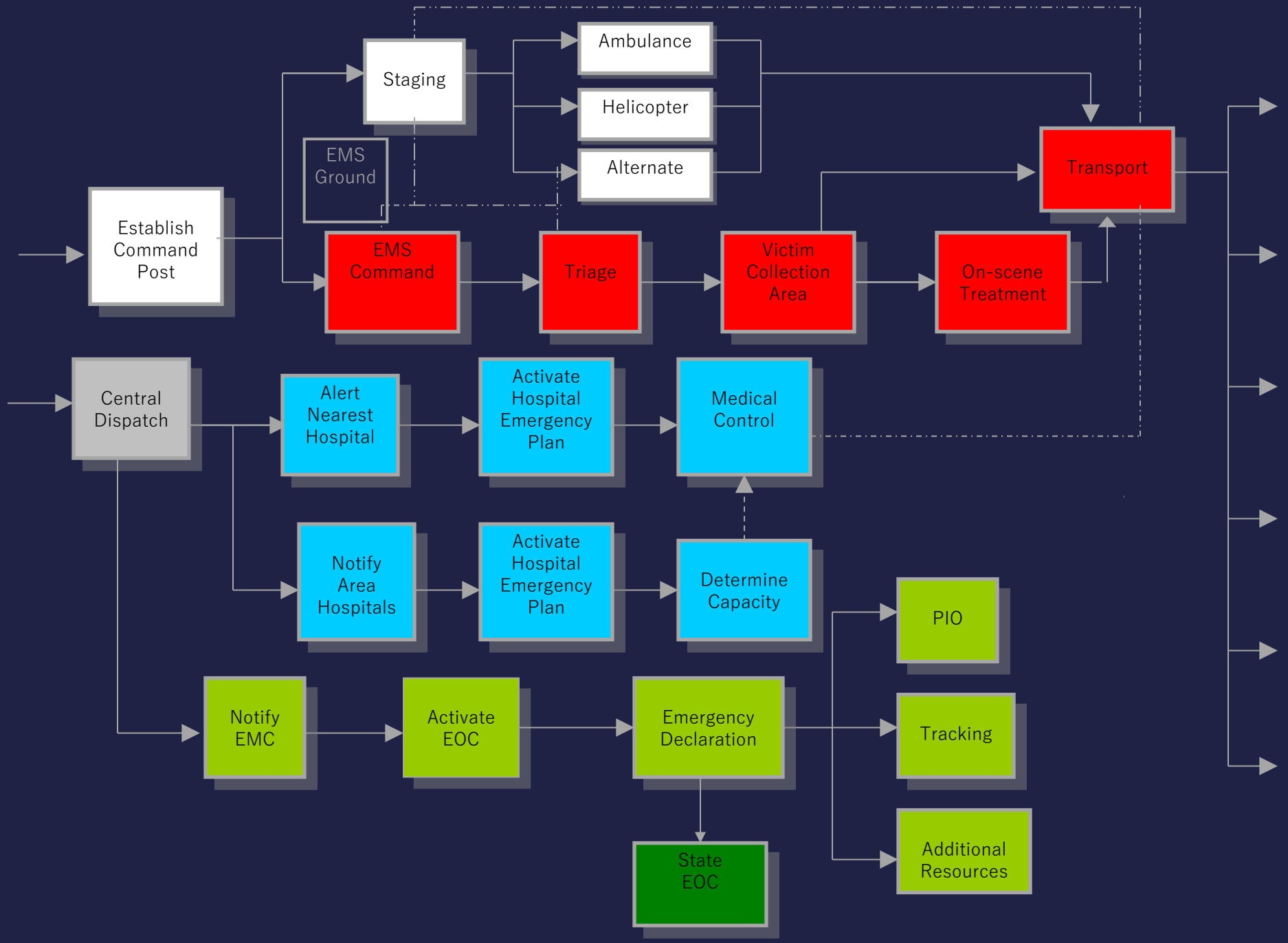
- Assume command
- Announce you have command
- Initial assessment (Size-Up)
- Control communications
- Identify what must be done

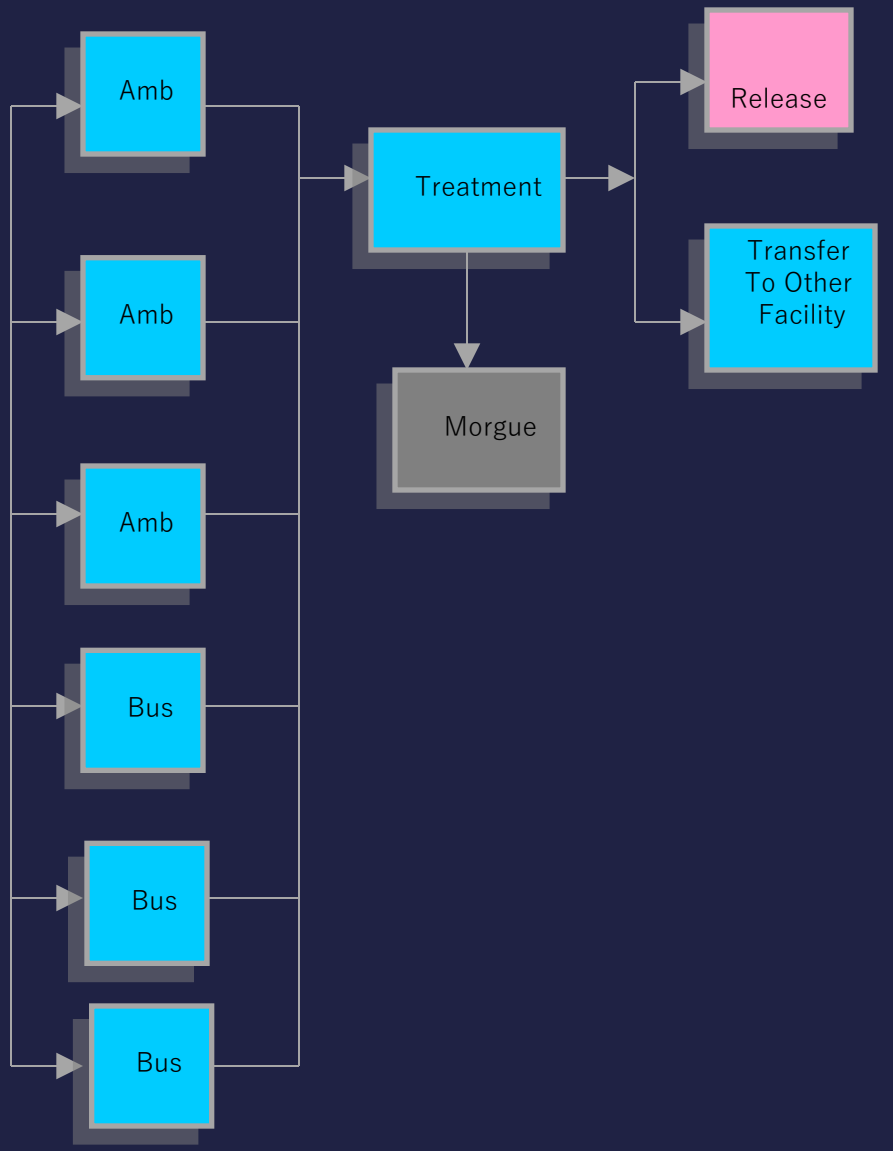
Incident Command System—The Basics

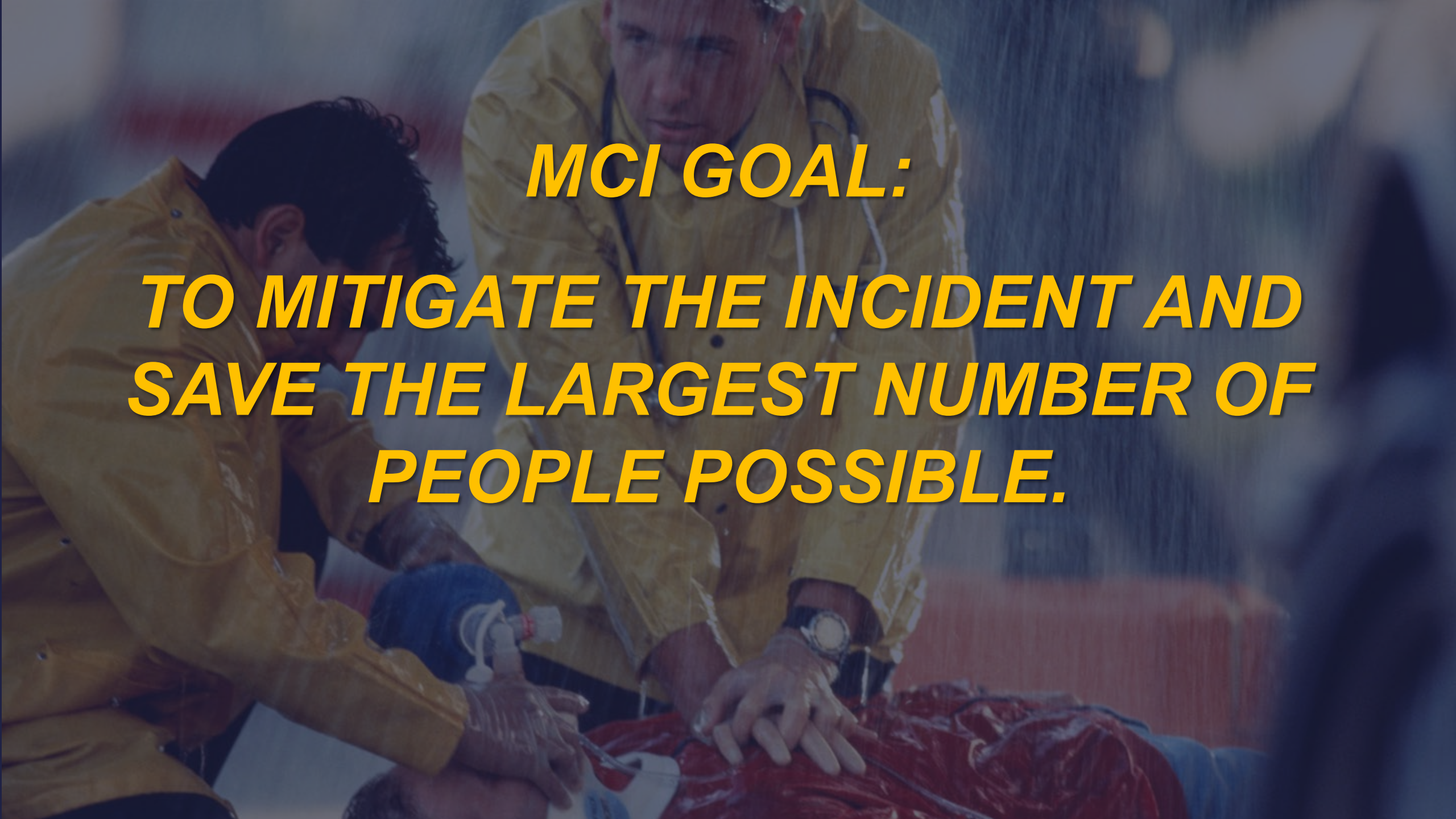


MCI Incident Flow Chart




Staging
Ambulance
Helicopter
Alternate
EMS Ground
Establish Command Post
EMS Command
Triage
Victim Collection Area
On-scene Treatment
Transport
Central Dispatch
Alert Nearest Hospital
Activate Hospital Emergency Plan
Medical Control
Notify Area Hospitals
Activate Hospital Emergency Plan
Determine Capacity
Notify EMC
Activate EOC
Emergency Declaration
State EOC
PIO
Tracking
Additional Resources


Amb
Amb
Amb
Bus
Bus
Bus
Treatment
Morgue
Release
Transfer
To Other
Facility


MCI GOAL:
TO MITIGATE THE INCIDENT AND SAVE THE LARGEST NUMBER OF PEOPLE POSSIBLE.

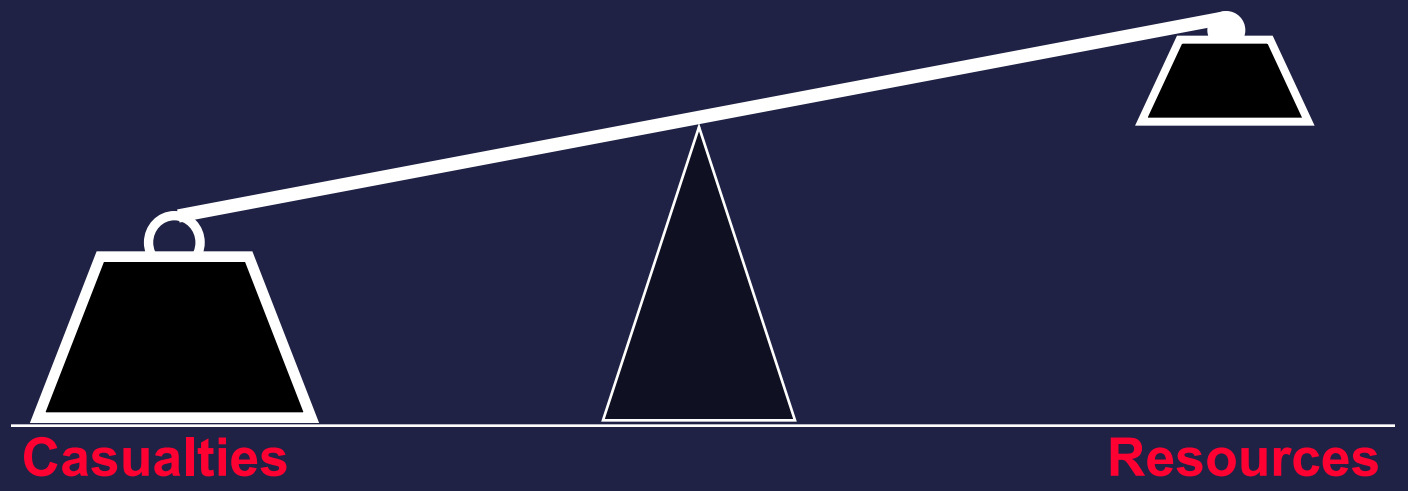
What are some common things affecting your MCI response?

- Typical staffing of your ambulance service?
- What does EMS routinely do daily?
- How do you handle the following?
  - 4 victims in a two car “head-on”
  - 17 victims in a “team” van
  - 43 victims on a school bus
  - 350 victims on a train

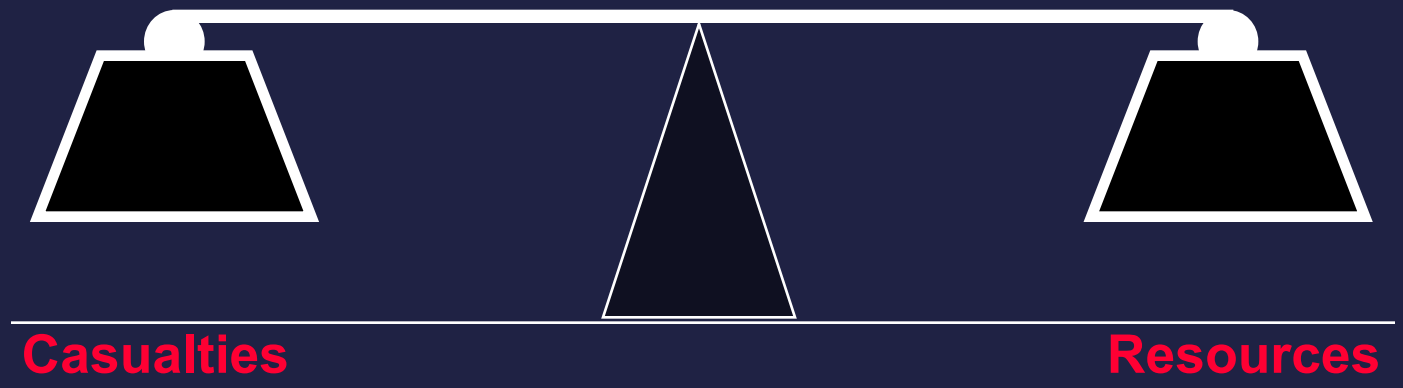
Scene Priorities

- ***FIRST***—Protect yourself & your team members!
- Protect the public
- Protect the patients
- Protect the environment

The initial problem on scene…



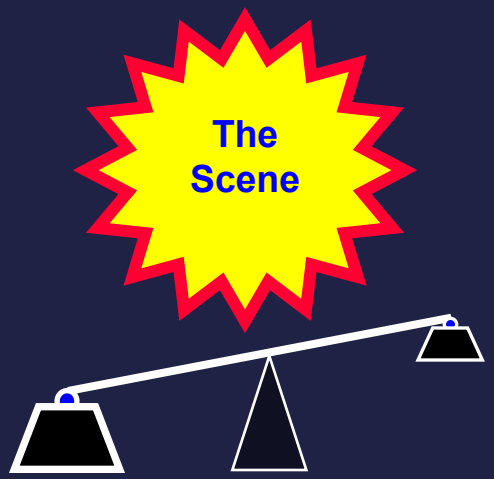
The Objective



Achieve Balance

Scene Management

TIME

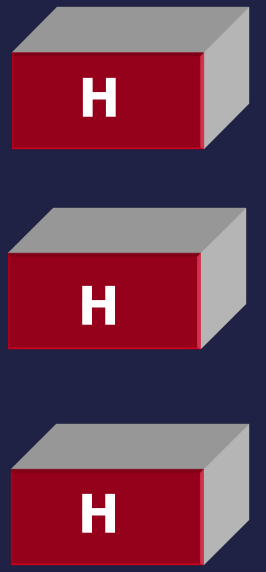


MANAGEMENT

Command
Safety
Assessment
Communication

EMS OPERATIONS

Triage
Treatment
Transport



Definitive Care

Scene Management—Cont'd

- *Command*
  - Who is in Charge?
  - Who is in charge of what?
  - Who is going to do what?
  - Who else needs to be here?
  - EMS is generally in Operations (Ops)
- *Safety*
  - Is there a hazard or threat?
  - Should I be here?
  - Am I protected?
  - What should I worry about?

Scene Management—Cont'd

- ***Assessment***
  - What is going on?
  - How big is this, how many people?
  - What do I need?
  - How does what I do affect others?
  - What are they doing that can affect me?
- ***Communications***
  - Who needs to know?
  - What do they need to know?
  - Does Command & Ops know?
  - Do the other players know?

Scene Management—Cont'd

- ***Triage***
  - Who is doing it?
  - Where are they doing it?
  - What are they finding?
- ***Treatment***
  - What the typical EMS provider comes "preloaded" with…
  - How to organize?
  - How much can we do?

Scene Management—Cont'd

- ***Transport***
  - Who is doing it?
  - From where are they doing it?
  - Where are the patients going?
  - How many patients going where?

BUT—How is EMS trained?

- BLS, ALS
- CPR, ACLS, PALS
- PHTLS, ITLS
- EVO, EMR, EMT, AEMT, EMT-P

How many patients are you taught to treat at one time?

What changes when you have an MCI?

- What are my resources?
- Who is a Patient?
- Which Patient do I treat first?
- Who can be salvaged?
- Who gets transported first?
- Who needs a Trauma/Specialty Center?
- Who can help care for others?

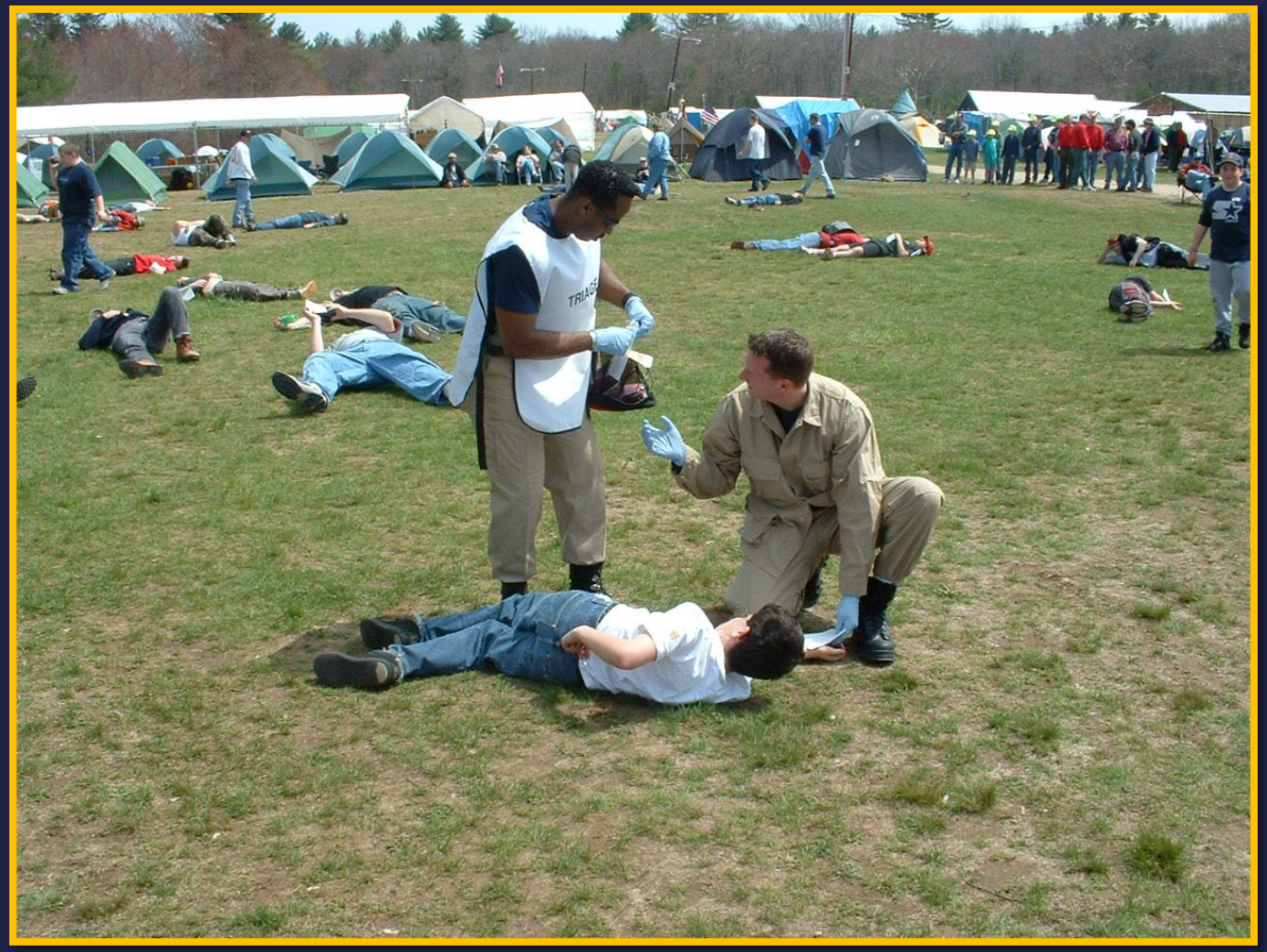
Three Types of Triage

- MASS Triage
- S.T.A.R.T. Triage
- ADVANCED Triage

Why so many types ?

- **MASS Triage** - divides patients into triage categories ***based on their ability to move***
- **S.T.A.R.T. Triage** - ***determines the severity of injuries***
- **ADVANCED Triage** - more fully assess injury priorities

MASS Triage



MASS Triage

- MASS triage stands for Move, Assess, Sort, & Send
- Performed in the hot zone
- Offensive responders wearing appropriate PPE
- Based on the patients ability to move and respond

MASS Triage
(Move, Assess, Sort, Send)

- Move: “Everyone who can hear me and needs medical attention, please move to a designated area now!”
  - (Green) Minimal or ambulatory
- Assess: Non-ambulatory “Everyone who can raise an arm or leg." Doing the most good for the most victims.

MASS Triage
(Move, Assess, Sort, Send)

- **Sort:** Proceed immediately to remaining victims. Reassess!
  - Green (Minimal)
  - Yellow (Delayed)
  - Red (Immediate)
  - Black (Deceased or Expectant)

MASS Triage
(Move, Assess, Sort, Send)

Green (Minimal):

Ambulatory patients *(no impaired function, can self-treat or be cared for by a non-professional)*

"Walking Wounded"

Abrasions, contusions, minor lacerations etc.

MASS Triage
(Move, Assess, Sort, Send)

- **Send:** - victims are sent (evacuated) both safely & promptly to the decon area / or treatment area.
  - Victims are treated and released at the scene.
  - Send to hospitals or secondary treatment facilities
  - Send to morgue facilities

MASS Triage

- Triage is an ongoing process done many times
- MASS Triage just starts the process
  - Utilize triage ribbons (colored-coded strips) first
  - Tie the triage ribbon to an upper extremity, in a visible location (wrist, if possible, preferably on the right)

MASS Triage

- Independent decision should be made for each victim
- ***DO NOT*** base triage decision on the perception that there are too many REDs, not enough GREENs, etc.

What is ID-ME ?

- A mnemonic for sorting patients during mass casualty incident triage. Most widely accepted international code for triage using colors

I - Immediate (red)

D - Delayed (yellow)

M - Minimal (green)

E - Expectant (black)

S.T.A.R.T.

- START stands for Simple Triage & Rapid Treatment
- Rapid approach to triaging large numbers of causalities
- Occurs just inside the warm zone prior to decontamination to assess the victims & their injuries

Why S.T.A.R.T. ?

- Fast, Easy to use, Easy to remember
- Consistent
- Allows the most good for the most patients with the least amount of resources.
- First Step in S.T.A.R.T. is to separate victims into ambulatory & non-ambulatory if not already done (MASS).

Where to S.T.A.R.T.

- Initial patient assessment & treatment should take less than one minute for each patient, 30 seconds is preferred
- First: clear the walking wounded using verbal instructions (if not all ready done using MASS triage)
  - Anyone who can hear me and needs medical attention, please move to the designated area.
  - Direct them to a treatment area or holding area
  - Tag these as MINOR (Green)
  - You have gathered ambulatory patients in to 1 group

Treatment

- These are the only treatments that occur during START:
  - Open the airway / insert OPA
  - Stop the bleeding.
  - Elevate the legs for shock.

R.P.M.s - Patient Assessment

- Patient assessment determines their initial category:
  - R - Respiratory Status
  - P - Perfusion (pulse & blood flood)
  - M - Mental Status
- The procedure is smooth and takes you from one check to another utilizing a “flow chart” type concept
- Remember 30 - 2 - can do

R.P.M. – 30 – 2 – Can Do

- When things get hectic with multiple patients rev up your RPM's
  - R - Respiration > 30
  - P - Perfusion > 2 seconds
  - M - Mental Status CAN DO

R.P.M.s – R – Respirations

- No Respirations:
  - Open the airway - remove obstructions
  - Still none? (DECEASED - Tag BLACK)
  - Breathing restored (IMMEDIATE - Tag RED)

R.P.M.s – R – Respirations

- Respirations Present:
  - **Respirations > 30:** (IMMEDIATE - Tag RED)
  - **Respirations < 30:** move to checking perfusion

R.P.M.s – P – Perfusion

- No Pulse: (DECEASED - Tag BLACK)
- Radial Pulse Absent or Capillary Refill > 2 Seconds: (IMMEDIATE - Tag RED)
- Radial Pulse Present or Capillary Refill < 2 seconds: M***ove to checking mental status***

R.P.M.s – M – Mental Status

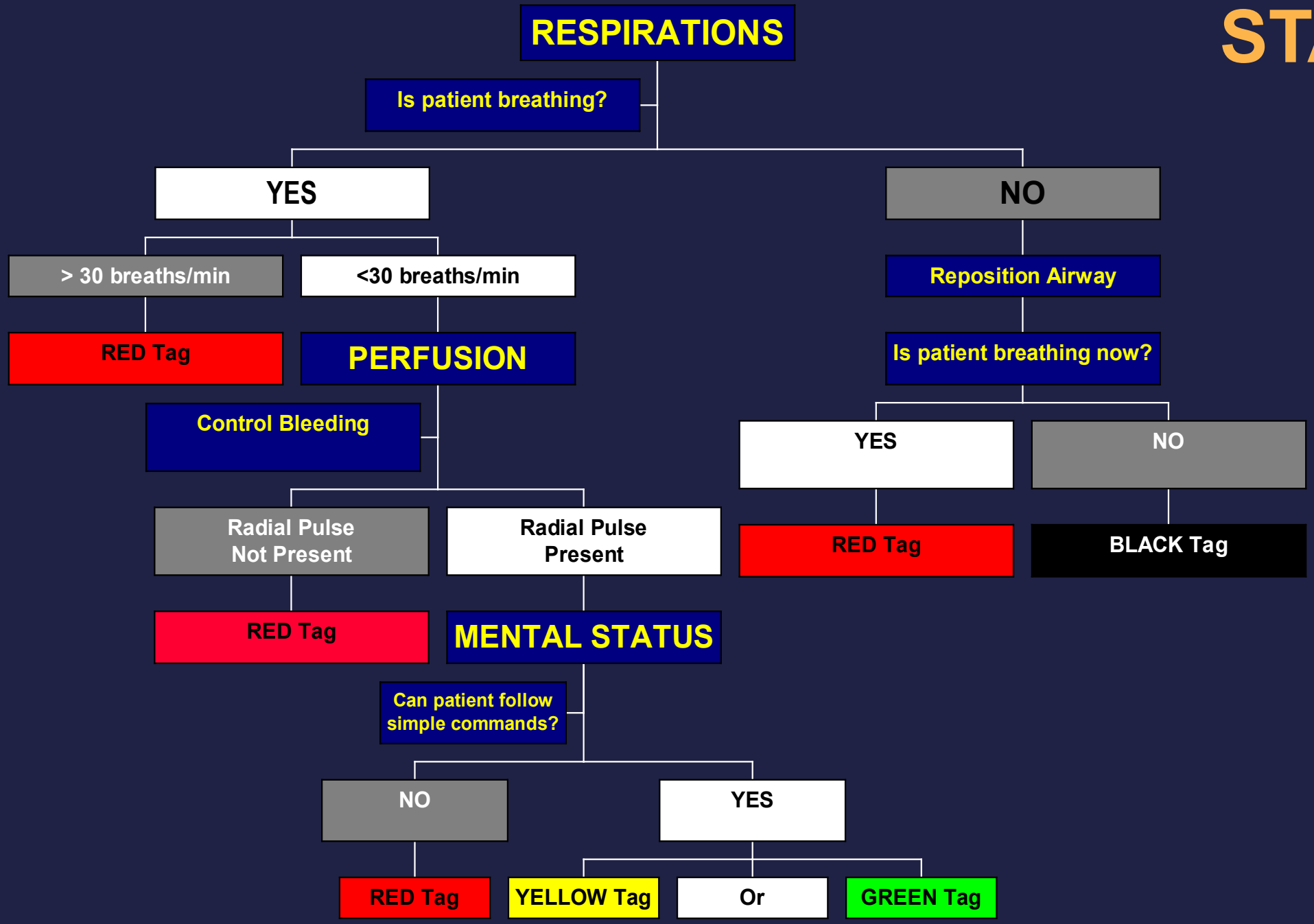
CAN NOT Follow Simple Commands
Unconscious or Altered Level of
Consciousness (IMMEDIATE - Tag RED)

CAN Follow Simple Commands
(DELAYED - Tag YELLOW or GREEN)

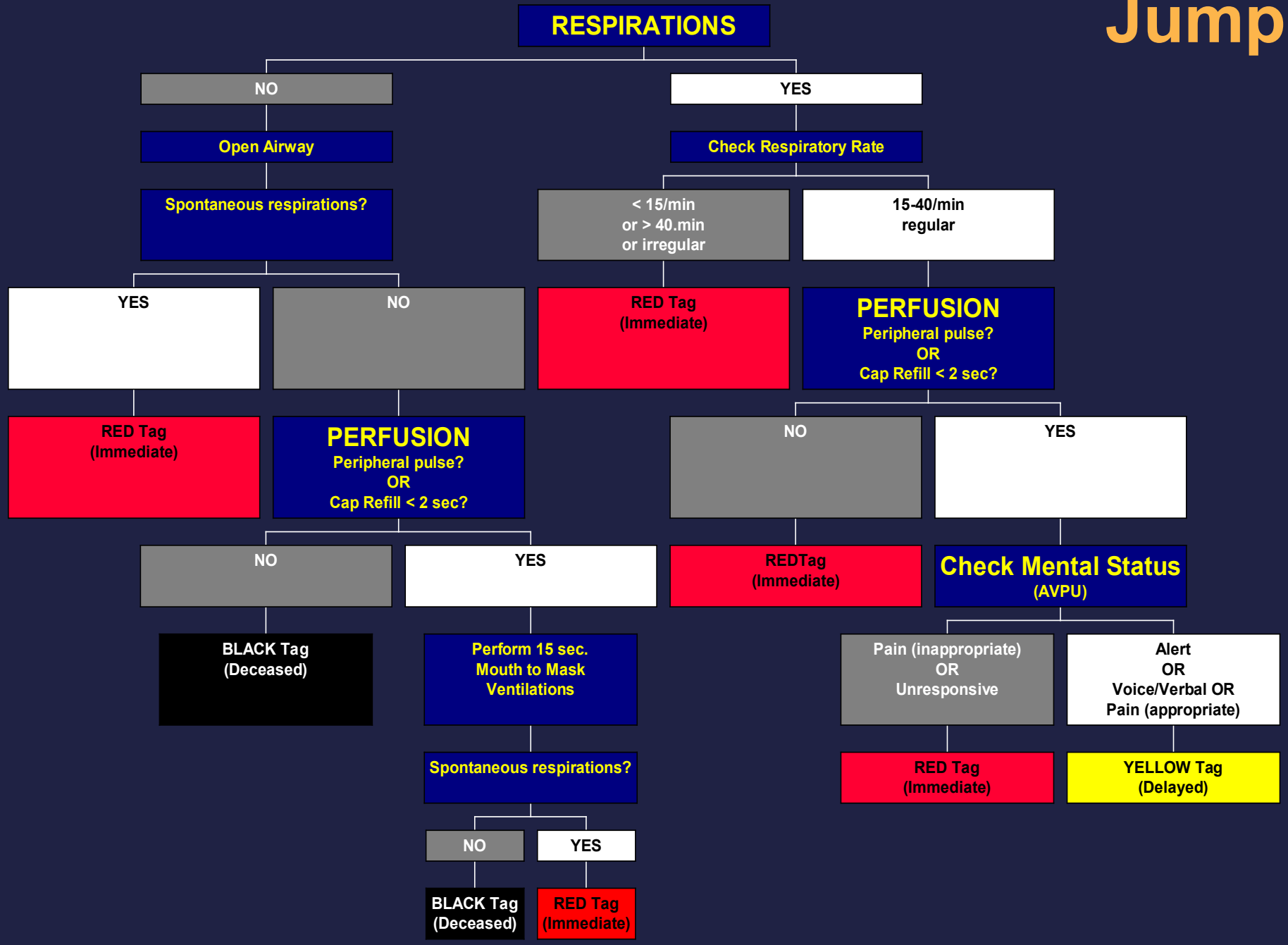
R.P.M.s – M – Mental Status

- Be sensitive to those who can't follow simple commands:
- May not speak English
- Deaf
- Hearing deficit
- Mentally impaired normally

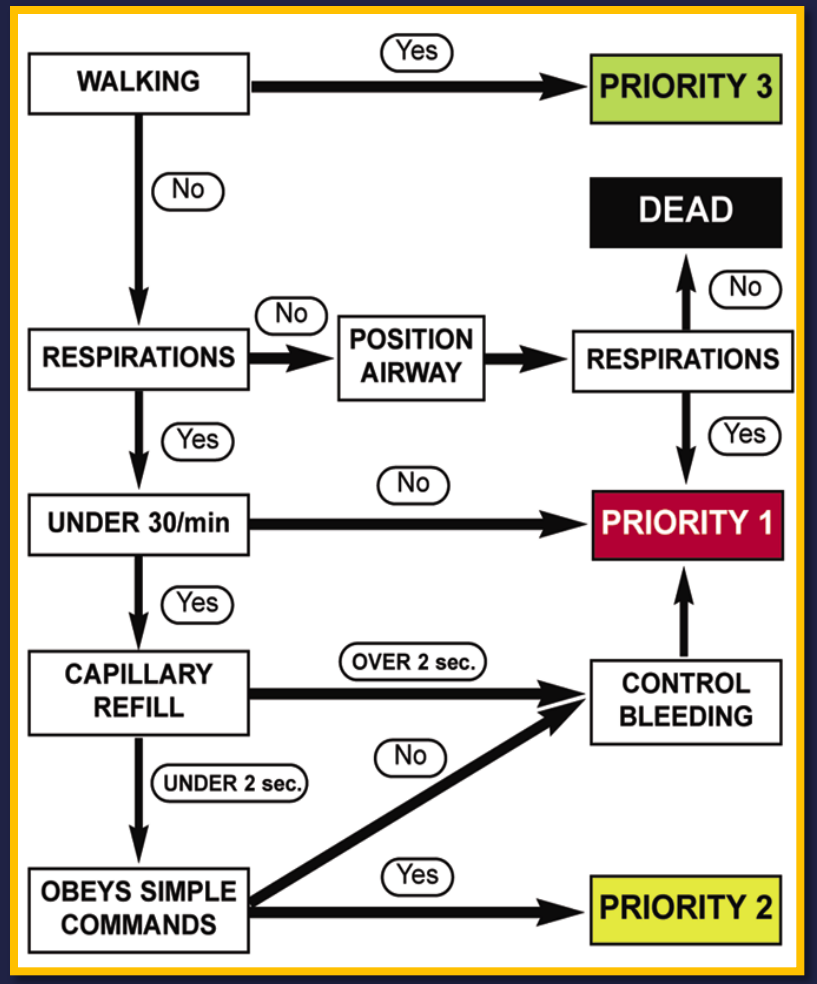
START


RESPIRATIONS
Is patient breathing?
YES
NO
> 30 breaths/min
<30 breaths/min
Reposition Airway
RED Tag
PERFUSION
Is patient breathing now?
Control Bleeding
YES
NO
Radial Pulse Not Present
Radial Pulse Present
RED Tag
BLACK Tag
RED Tag
MENTAL STATUS
Can patient follow simple commands?
NO
YES
RED Tag
YELLOW Tag
Or
GREEN Tag

JumpSTART


RESPIRATIONS
NO
YES
Open Airway
Check Respiratory Rate
Spontaneous respirations?
< 15/min
or > 40.min
or irregular
15-40/min
regular
YES
NO
RED Tag
(Immediate)
PERFUSION
Peripheral pulse?
OR
Cap Refill < 2 sec?
RED Tag
(Immediate)
PERFUSION
Peripheral pulse?
OR
Cap Refill < 2 sec?
NO
YES
NO
YES
REDTag
(Immediate)
Check Mental Status
(AVPU)
BLACK Tag
(Deceased)
Perform 15 sec.
Mouth to Mask
Ventilations
Pain (inappropriate)
OR
Unresponsive
Alert
OR
Voice/Verbal OR
Pain (appropriate)
Spontaneous respirations?
RED Tag
(Immediate)
YELLOW Tag
(Delayed)
NO
YES
BLACK Tag
(Deceased)
RED Tag
(Immediate)

Triage Protocol (START)



Advanced Triage

- Advanced Triage will be performed on all victims in the Treatment Area by medical teams
- Utilize the Triage Tags and attempt to assess for and complete all information required (as time permits)
- The Triage priority determined **in the Treatment Area** should be the priority used for transport

Special Considerations

- The FIRST assessment that produces a RED tag stops further assessment
- Only corrections of life-threatening problems should be managed during triage (i.e. airway obstruction or severe bleeding)

Special Considerations—Cont'd

- To initially mark patient categories, colored (ribbons) should be considered
- When using Triage Tags, if the patient's condition or the triage priority changes, the bottom portion of the tag should be removed, leaving only the injured information
- Add a new tag to identify the new triage priority, and if time permits, the reason for the change

Triage Reminders

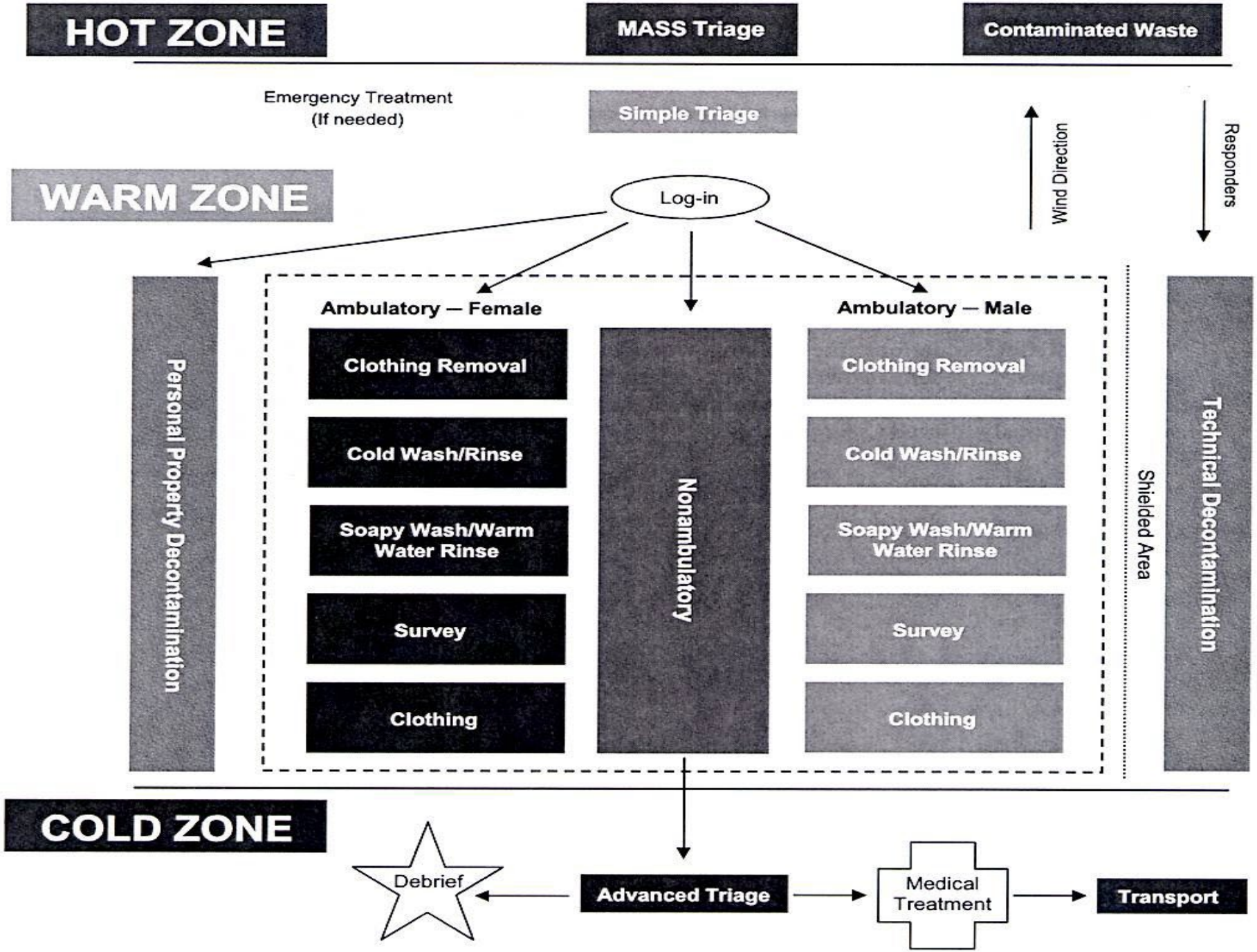
- You DO NOT decide who lives or dies … The incident has already dictated that.
- The sooner your start Triage the sooner the medical care process starts
- Triage is an ongoing process that is repeated many times
- If you forget any of the above rules, go back to rule number 1.

Triage Coding

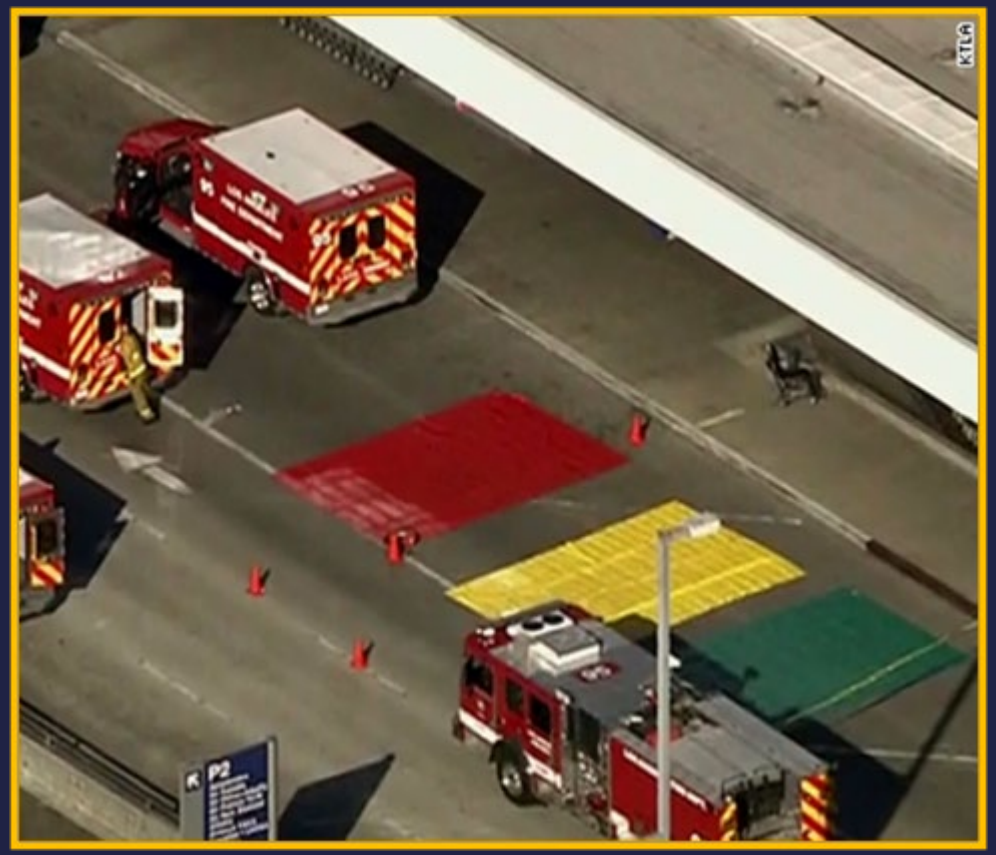
Priority Treatment		Color
Immediate	1	RED
Urgent	2	Yellow
Delayed	3	Green
Dead	4	Black

Light Blue Tape

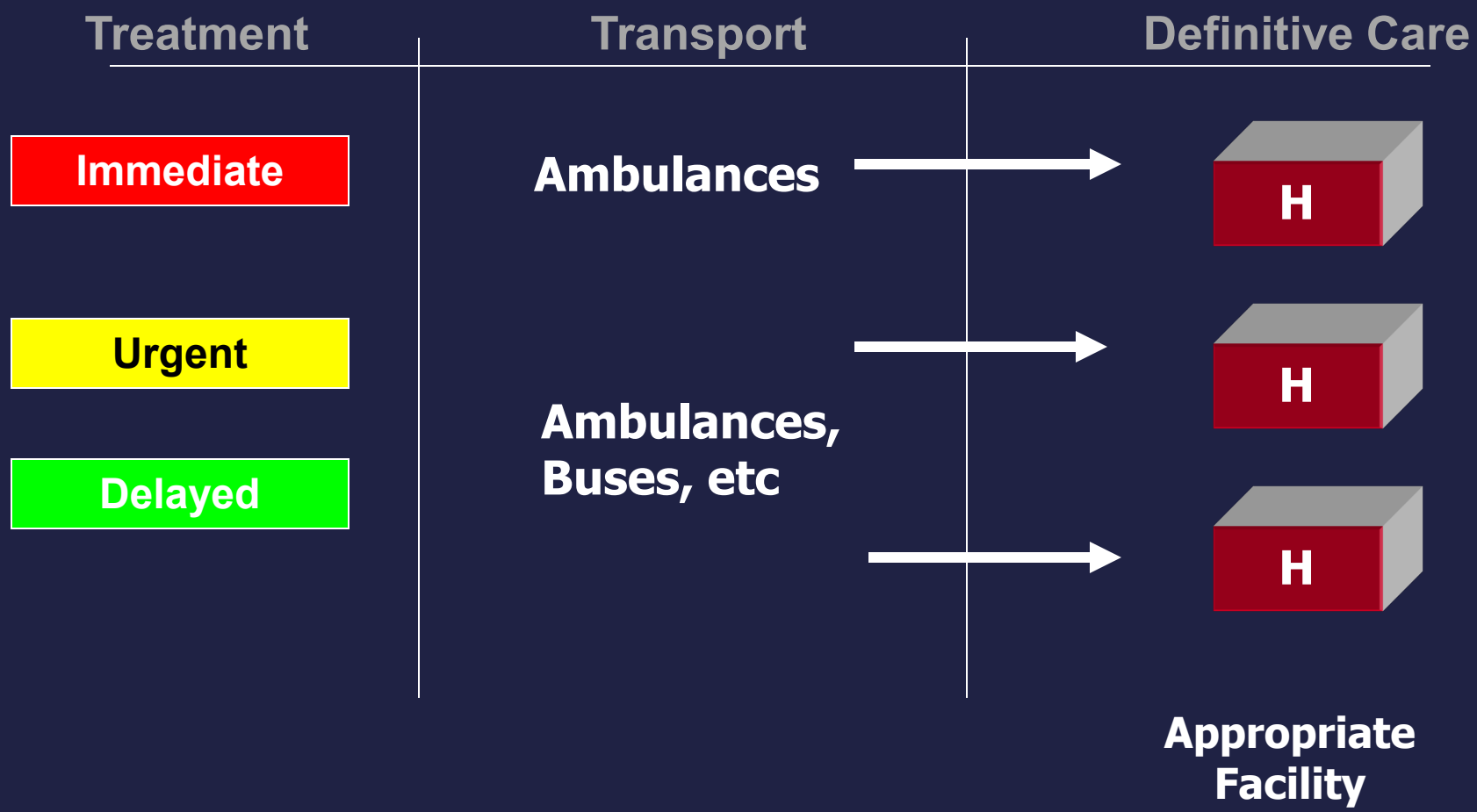
- Can be used to mark contaminated patients who need decontaminated before entering the treatment area.
- Simply place a light blue ribbon along with the appropriate green, yellow, red, or black ribbon on a contaminated patient.
- Once the patient passes through the decontamination process, the tape is removed.
- At NO time should light blue tape be in the:
  - Treatment Area
  - Ambulance
  - Hospital
  - Morgue
- Marked “blue” patients get rerouted through decon.


HOT ZONE
MASS Triage
Contaminated Waste
Emergency Treatment
(If needed)
Simple Triage
Wind Direction
Responders
WARM ZONE
Log-in
Personal Property Decontamination
Ambulatory — Female
Clothing Removal
Cold Wash/Rinse
Soapy Wash/Warm Water Rinse
Survey
Clothing
Nonambulatory
Ambulatory — Male
Clothing Removal
Cold Wash/Rinse
Soapy Wash/Warm Water Rinse
Survey
Clothing
Shielded Area
Technical Decontamination
COLD ZONE
Debrief
Advanced Triage
Medical Treatment
Transport

Incident Scene Layout



From Treatment to Definitive Care



EMS Incident Management Tools

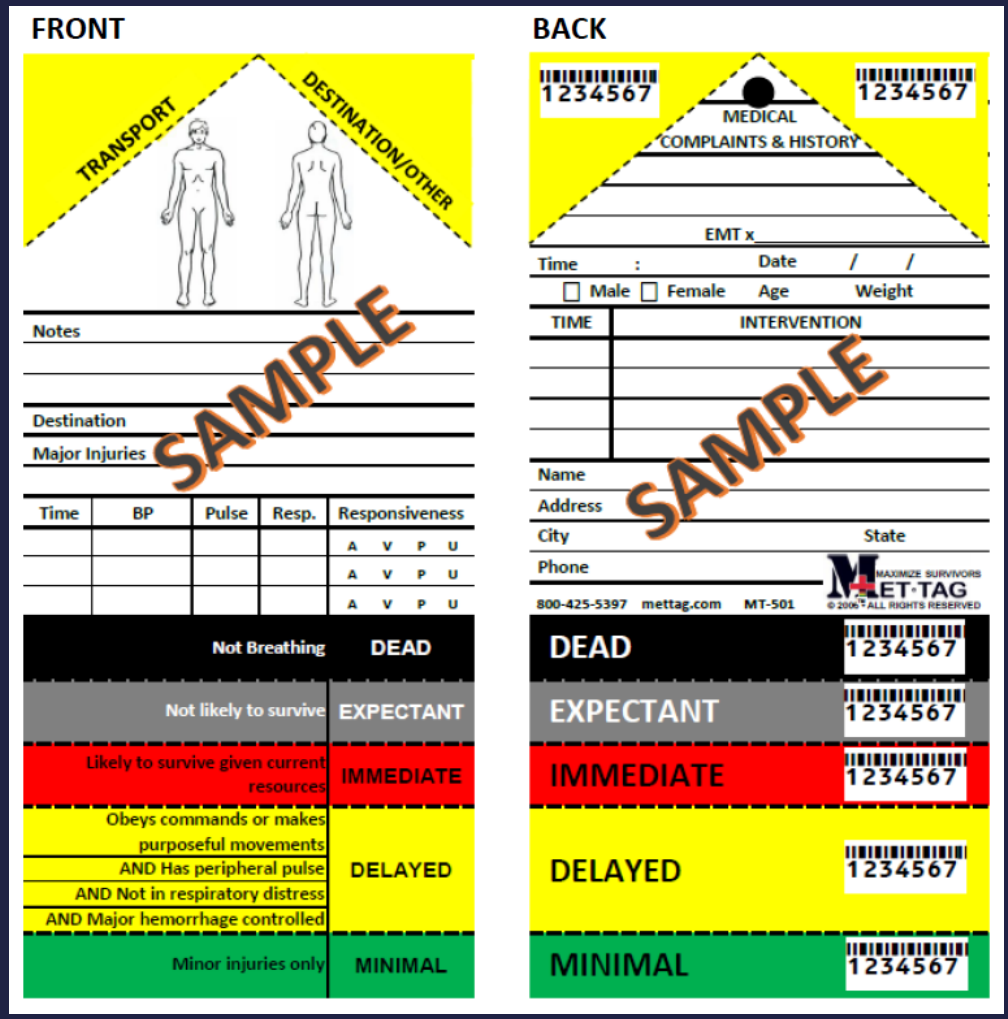
MCI Management Tools

- Use of ICS
- FOGs and SOGs
  - Field Operations Guides
  - Standard Operations Guides
- Command Boards
- Communications
  - Radios / Cellular, etc
  - Verbal
  - Documentation
- Scribes/Runners

EMS Incident Management – Triage Ribbon

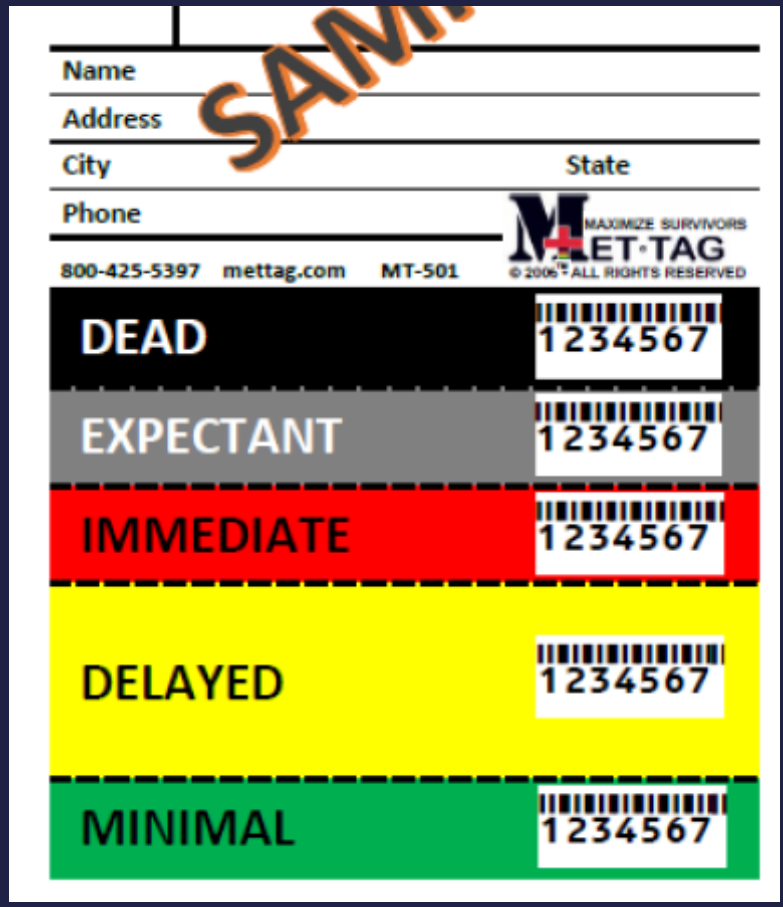
Triage Tags

- Designed to make patient categorization easier
- Provide a continuous documentation tool



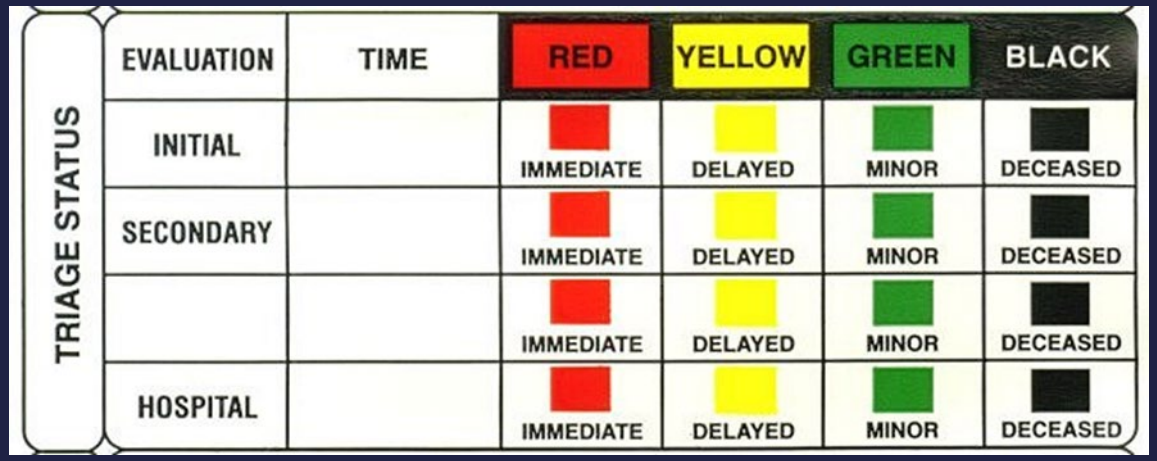
Tag Front

- Patient Information Section
  - Information not always obtainable
  - Can be added throughout triage, treatment, transportation, & hospital reception phases



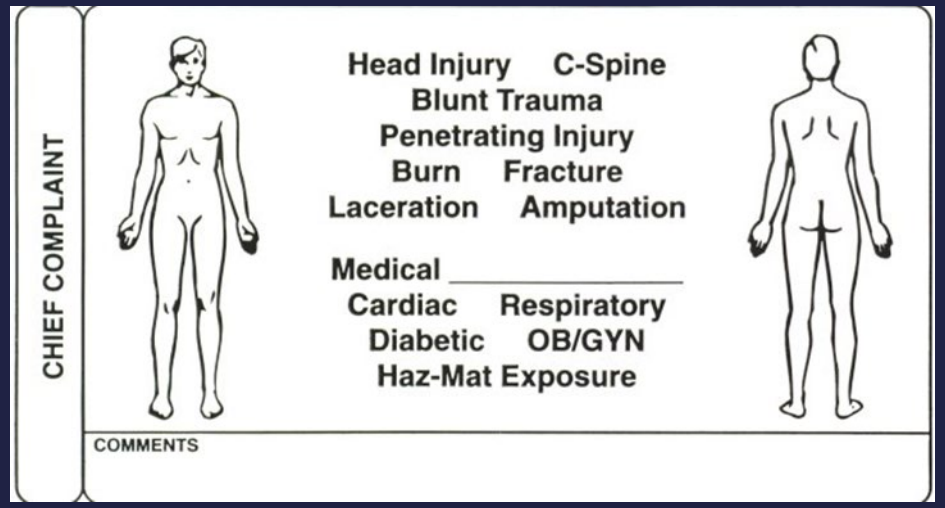
Triage Status Section

- INITIAL/START - first assessment
- SECONDARY - reassessment at scene or in treatment area
- BLANK - used in treatment area or during transportation
- HOSPITAL - initial reassessment receiving hospital



Chief Complaint Section

- Major obvious injuries or illnesses circled
- Indicate injuries on human figure
- Additional information added in “Notes” section



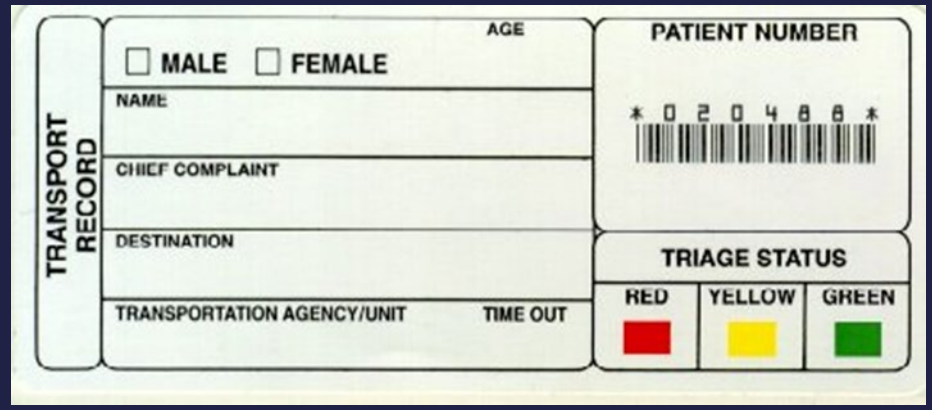
Transportation Section

- Transporting unit notes
  - Agency information
  - Destination hospital
  - Time patient arrived

TRANSPORTATION AGENCY/UNIT	DESTINATION	TIME ARRIVED

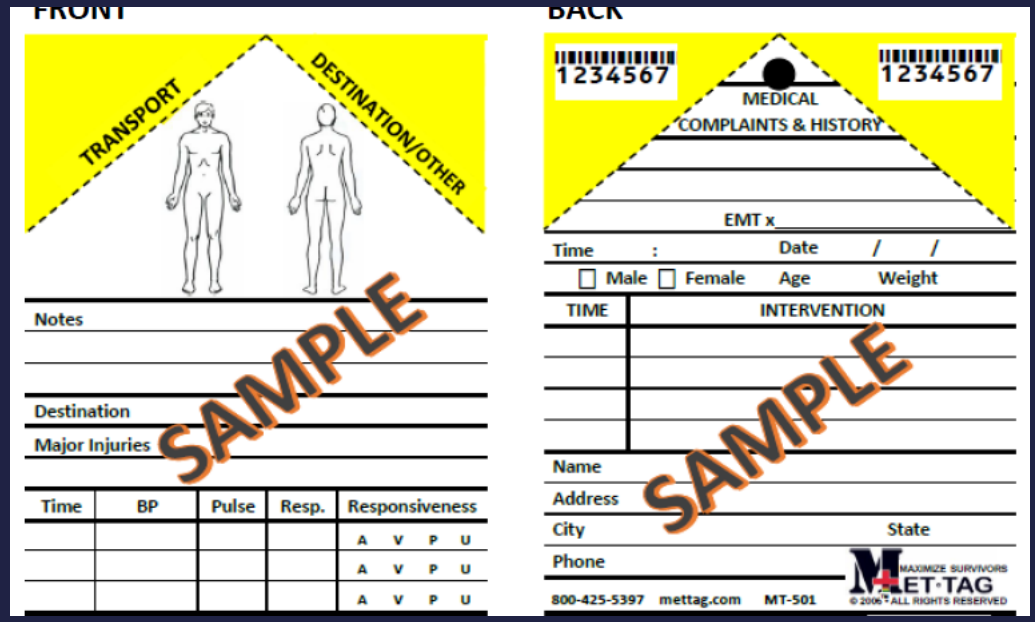
Transportation Record Section

- Detachable by tear-off or as pull-off label
- Document patients transported to hospital or other facility
- Can be fixed to transportation
  - tactical worksheet
    - Mark hospital destination



Patient Care

- **Vital Signs**: three sets of vital signs
- **Medical History**: can be obtained from Medic Alert devices
- **Treatment**: additional treatments and remarks
  - Time treatment actions taken & provider initials



CISM – Critical Incident Stress Management

- Defusing sessions can occur as early as starting on the scene with personnel
- Debriefing sessions should be held within 24 to 72 hours of the incident
  - Consists of peers, mental health professionals (WVDHHR, Valley Mental Health, etc.), and local resources (ministerial associations)

Summary

MCI's Require:

- Change of EMS provider's approach
  - Single Pt. vs. Multiple Pts.
- Applying limited resources effectively & timely
  - Incident & Time Management
- Organizing, Coordinating & Communicating in EMS Operations
- Accountability of resources & patients
  - Who is doing what & how many patients do you have
- Appropriate distribution & destinations
  - Where are they going & why?
- After Action
  - Lessons Learned & Review of Existing plans

Scenarios for tabletop and hands-on activities are included in the instructor's manual.

QUESTIONS?

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