LEWIS COUNTY MCI TRAINING

Endorsed by:

Lewis County EMS Council
Lewis County Fire Chiefs

Approved by:

Dr. Peter McCahill, MPD

Promulgated by:

Lewis County Commissioners

ACKNOWLEDGEMENTS

- THE CDC AND THE NATIONAL SALT TRIAGE MODEL
- THE LEWIS COUNTY DEM
- LEWIS COUNTY MCI COMMITTEE
- LEWIS COUNTY CHIEFS ASSOCIATION

OBJECTIVES

- Discuss differences between daily & disaster triage
- Understand the SALT mass casualty triage method
- Understanding the relationship between resources and triage
- Compare features of different triage systems
- Practice and fully understand how to use SALT triage

Source: DoD Photo Library, Public Domain

WHAT IS TRIAGE?

- French verb "trier" meaning "to sort"
- Assign priority when resources limited
  - Someone has to go last
- Greatest good for greatest number

HISTORY OF TRIAGE

- Concept: Dominique Jean Larrey
  - Surgeon-in-chief Napoleon's Army
- 200 years later…
  - Dozens of systems
  - Many types of triage labels/tools
  - No standardization for mass casualty triage in United States

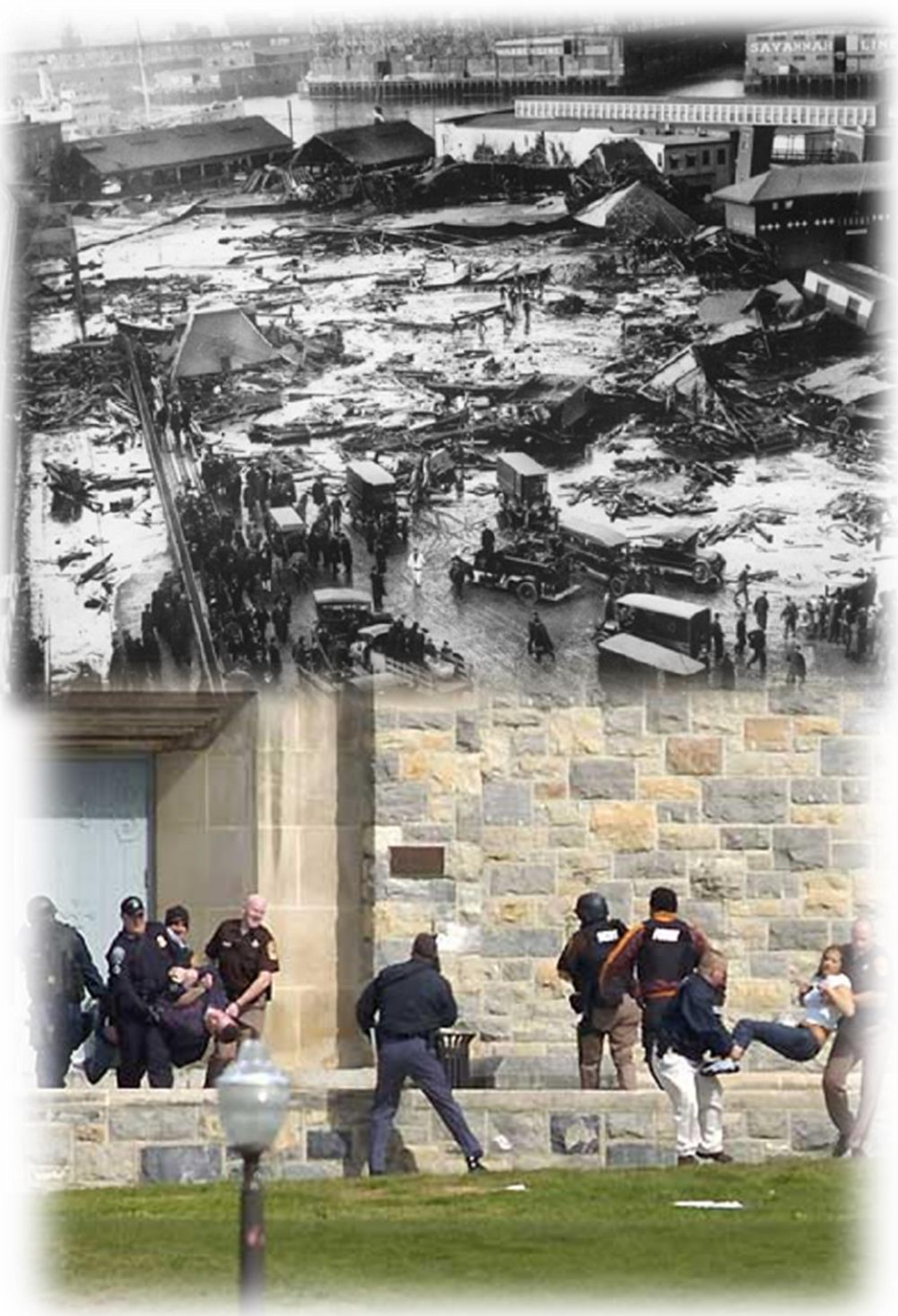
DISASTER TRIAGE – THE PROBLEM

- Scene response is chaotic by definition
- Bystander assistance, interference, and pressures
- Secondary threats
- Multi-jurisdictional response
- Civil/Military Interface
- LOW FREQUENCY/ HIGH ACUITY-RISK
- Media
- Moving casualties
- Geographic obstacles

WHAT'S UNIQUE ABOUT MASS CASUALTY TRIAGE?

- Number of patients
- Infrastructure limitations
  - Providers
  - Equipment
  - Transport capabilities
  - Hospital resources
- Scene hazards
  - Threats to providers
  - Decontamination issues
  - Secondary devices, unsafe structures

WHEN WE TRAIN IT LOOKS LIKE THIS…



REALITY LOOKS LIKE THIS. . .

THE DEVELOPMENT OF SALT

Part of CDC sponsored project to develop national standard for mass casualty triage

Assembled list of current triage methods

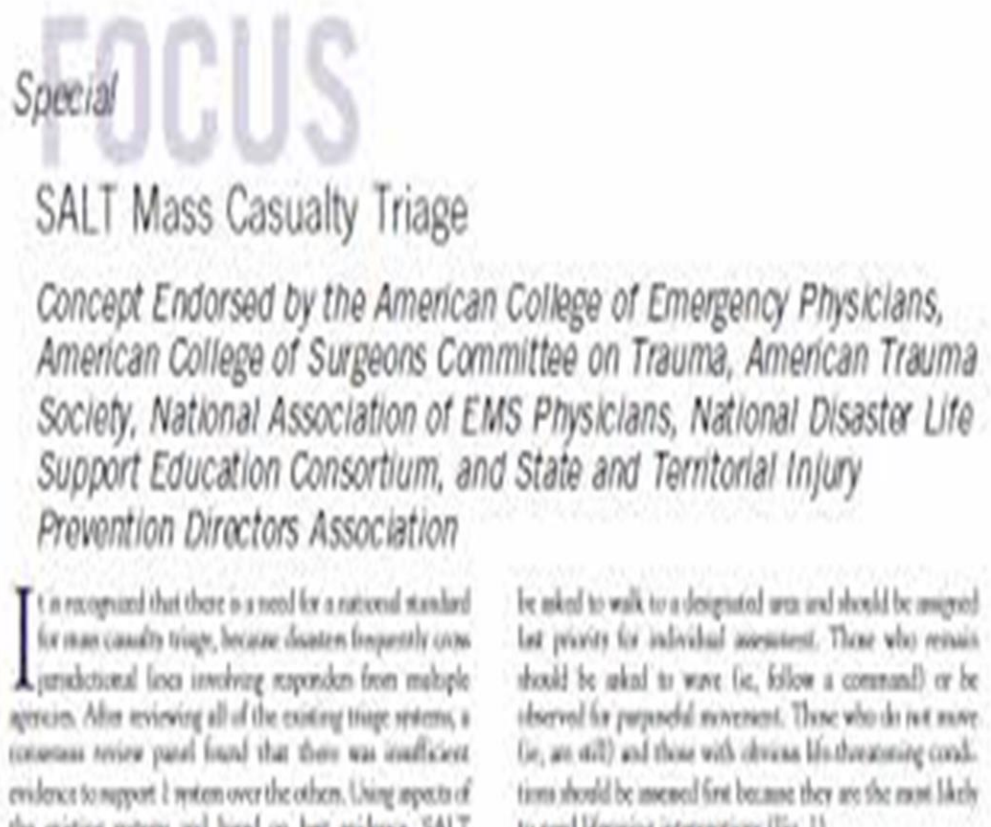
- Research evidence
- Practical experience

Compared features of each system

No one system was supported by evidence

TRIAGE SYSTEMS REVIEWED BY CDC

- Care Flight
- French Red Plan or ORSEC
- Glasgow Coma Scale
- Homebush
- Italian CESIRA
- JumpSTART (pediatric)
- MASS
- Military/NATO Triage
- Sacco
- START (Simple Triage and Rapid Treatment)
- Triage Sieve



Special FOCUS

SALT Mass Casualty Triage

Concept Endorsed by the American College of Emergency Physicians, American College of Surgeons Committee on Trauma, American Trauma Society, National Association of EMS Physicians, National Disaster Life Support Education Consortium, and State and Territorial Injury Prevention Directors Association

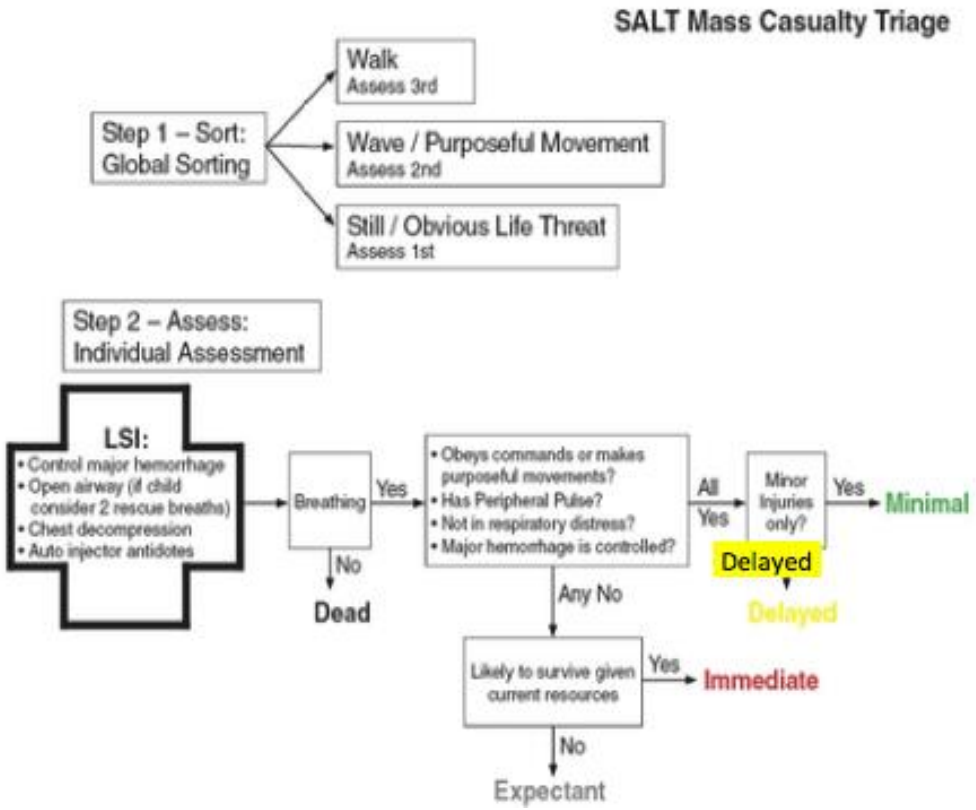
It is recognized that there is a need for a national standard for mass casualty triage, because disasters frequently cross jurisdictional lines involving responders from multiple agencies. After reviewing all of the existing triage systems, a consensus review panel found that there was insufficient evidence to support 1 system over the others. Using aspects of

be asked to walk to a designated area and should be assigned last priority for individual assessment. Those who remain should be asked to wave (ie, follow a command) or be observed for purposeful movement. Those who do not move (ie, are still) and those with obvious life-threatening conditions should be assessed first because they are the most likely

THE DEVELOPMENT PROCESS

- Compared features of each system
- Developed SALT Triage Guideline using best of all systems
- Sort – Assess – Life Saving Interventions – Treatment/Transport
- Based on best evidence available
- Concept endorsed by: ACEP, ACS-COT, ATS, NAEMSP, NDLSEC, STIPDA, FICEMS

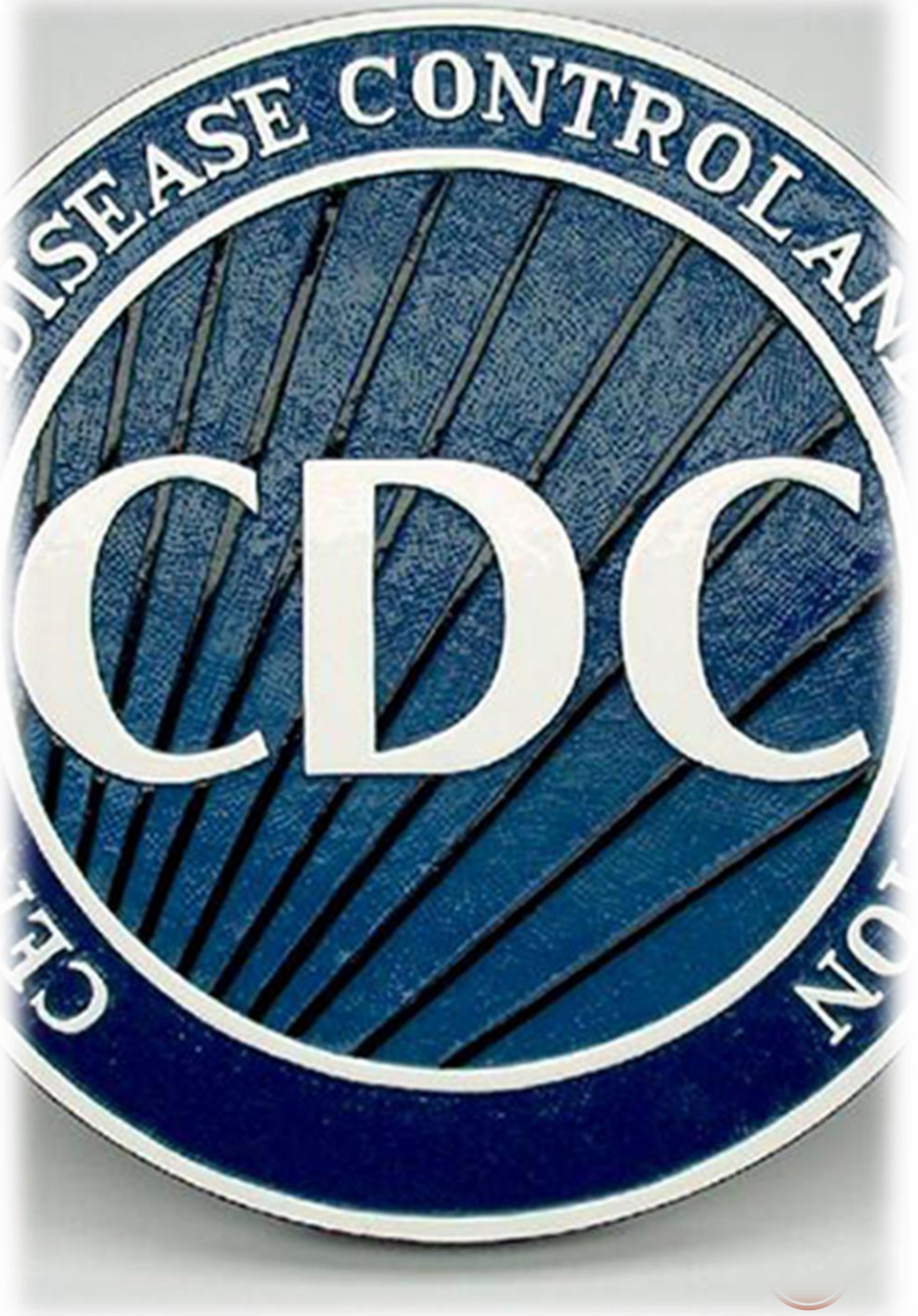
WHY CHANGE FROM START?



- 60 seconds/patient is far too slow
- Physiologic criteria never validated (respiration #'s and cap-refill)
- Real world use limited and suggests system not used even if taught due to assessment time
- Assessment process may delay LSI for those who are distant from initial assessment location
- Lack of expectant category

CONSENSUS FINDINGS

- Global Sorting saves time and life
- Focus on Life Saving Interventions and speed.
- Best evidence supports use of mental status and peripheral pulses as a fast and simple way to estimate perfusion.
- Rapid
- Inexpensive
- Use NATO triage categories plus dead
- The best of all triage systems to be used as a new national standard to help with multi-agency responses.



SALT TRIAGE

- **S**ort – **A**ssess – **L**ife **S**aving **I**nterventions – **T**reatment/**T**ransport
- Simple
- Easy to remember
- Groups large numbers of patients together quickly
- Applies rapid life-saving interventions early
- Can be used whenever number of patients exceeds treatment or transport resources
- Same process (except one LSI) for adult and PED's (giving 2 breaths for PED's)
- A (grey) expectant category allows those who would normally just be classified as dead a better chance of survival once more resources become available.

SALT/MCI GENERAL PRINCIPLES

- Move as quickly as possible!
- Begin transport of red patients as soon as feasible, BUT don't neglect processes (triage, allocation of patients to hospitals, command, etc.)
- Triage Ribbons 1st, then Lewis County MCI Tags at CCP or Transport Area/ as patients are loaded for transport.
- Over-triage can be as harmful as under-triage
- Only commit time to life saving interventions and life saving treatment while considering your resources and the overall goal of doing the greatest good for the most people.

MEDICAL GROUP/UNIT

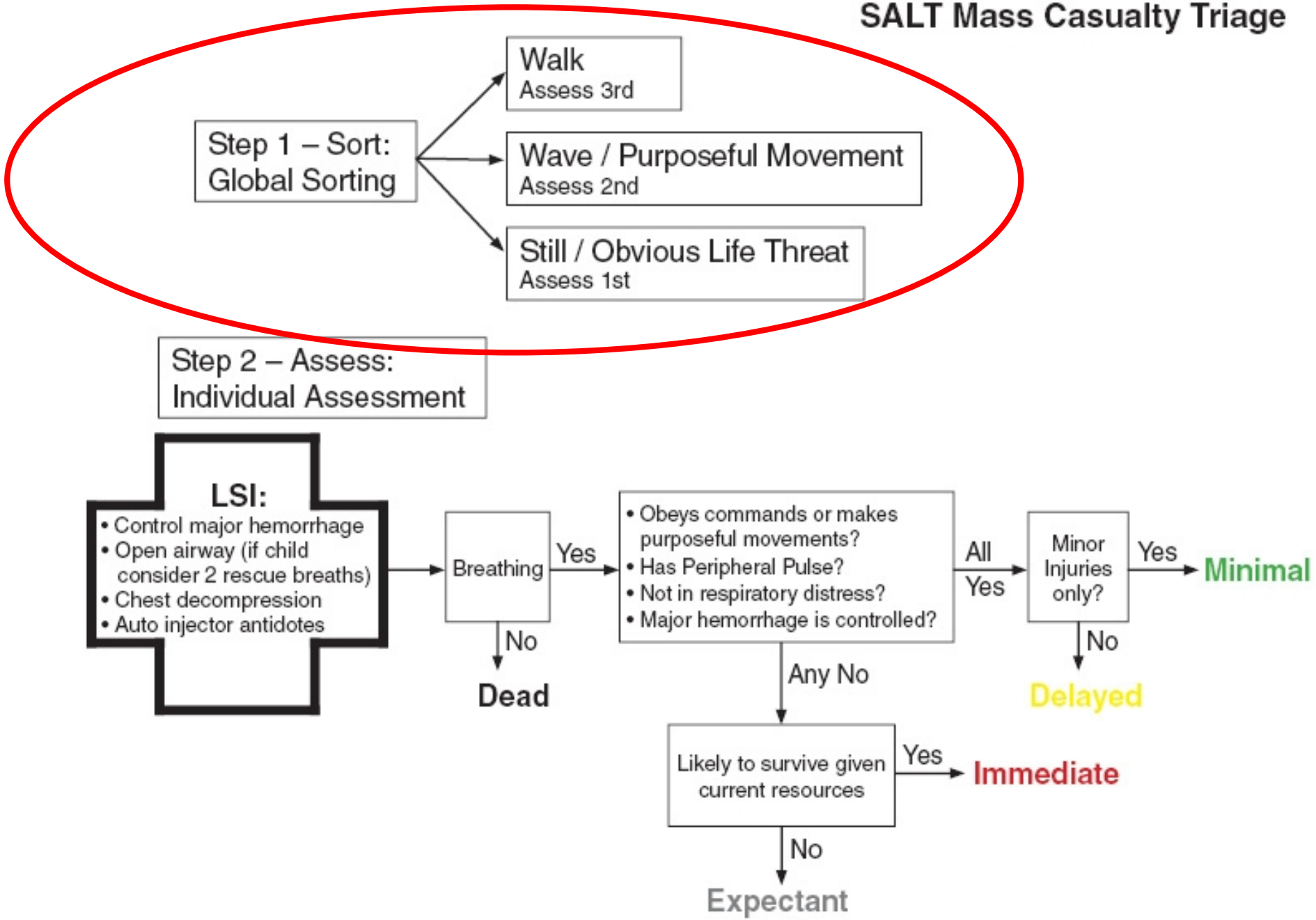
Must ensure appropriate hospital allocations

Consider the activation of the DMCC (once contact is made do not cut communications)

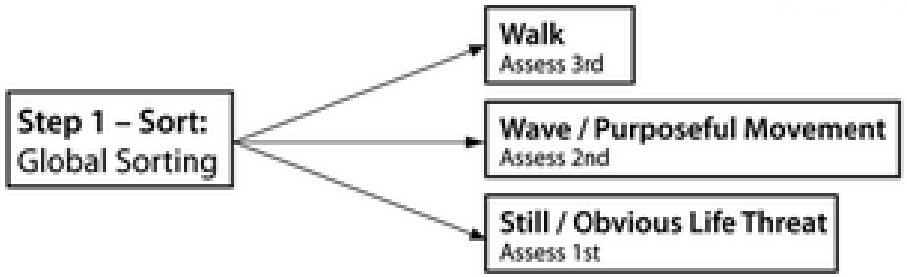
Do NOT relocate the disaster to the hospital!!

Use non-Trauma Center and more distant hospitals as needed

SALT Mass Casualty Triage



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

GLOBAL SORTING ACTION 1

- It is important to scan the walking wounded for any life threats as they are relocating themselves (things such as uncontrolled bleeding).
- Anyone with a life threat should be considered priority 1 (immediate/ red) until that life threat is controlled.
- Remember that not all minimal patient's will be willing to relocate (parent of a injured child etc.)
- It is ok to use minimal patients to help with LSI under close supervision (i.e. keeping an airway open or holding direct pressure)
- ALL MINIMAL PATIENT WILL NEED TO BE REEVALUATED/TRIAGED AS SOON AS RESOURCES ALLOW.

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

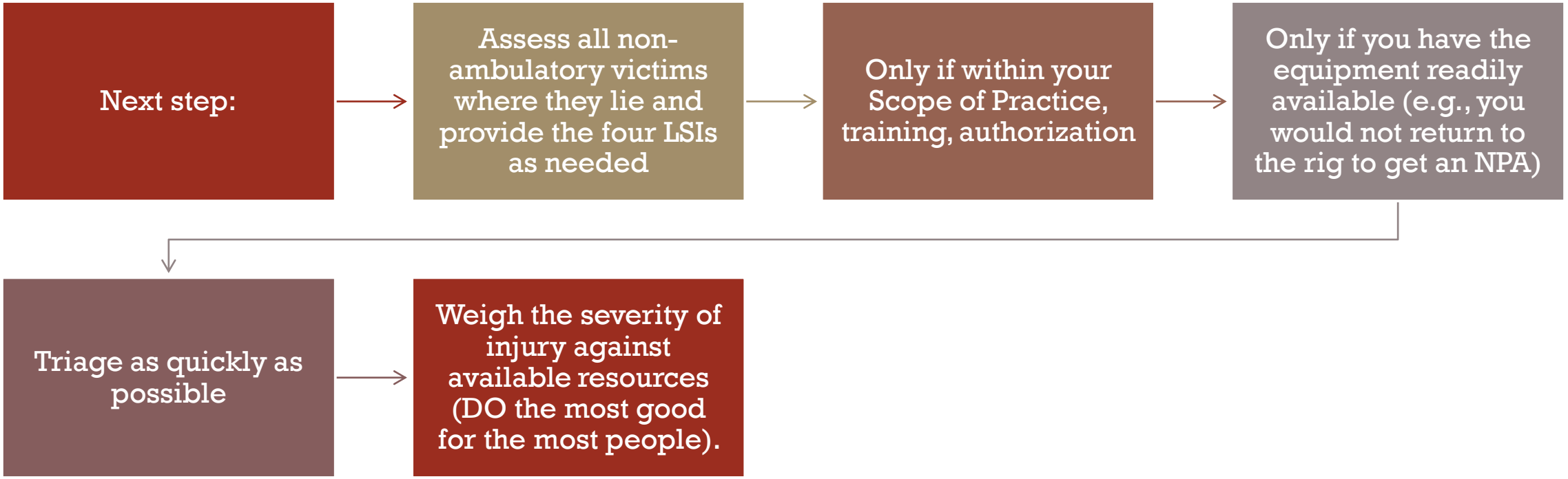
Pictures published by Felicity Mathews

GLOBAL SORTING RESULT

- Casualties are now prioritized for individual assessment
- Priority 1: Still, and those with obvious life threat
- Priority 2: Waving/purposeful movements
- Priority 3: Walking

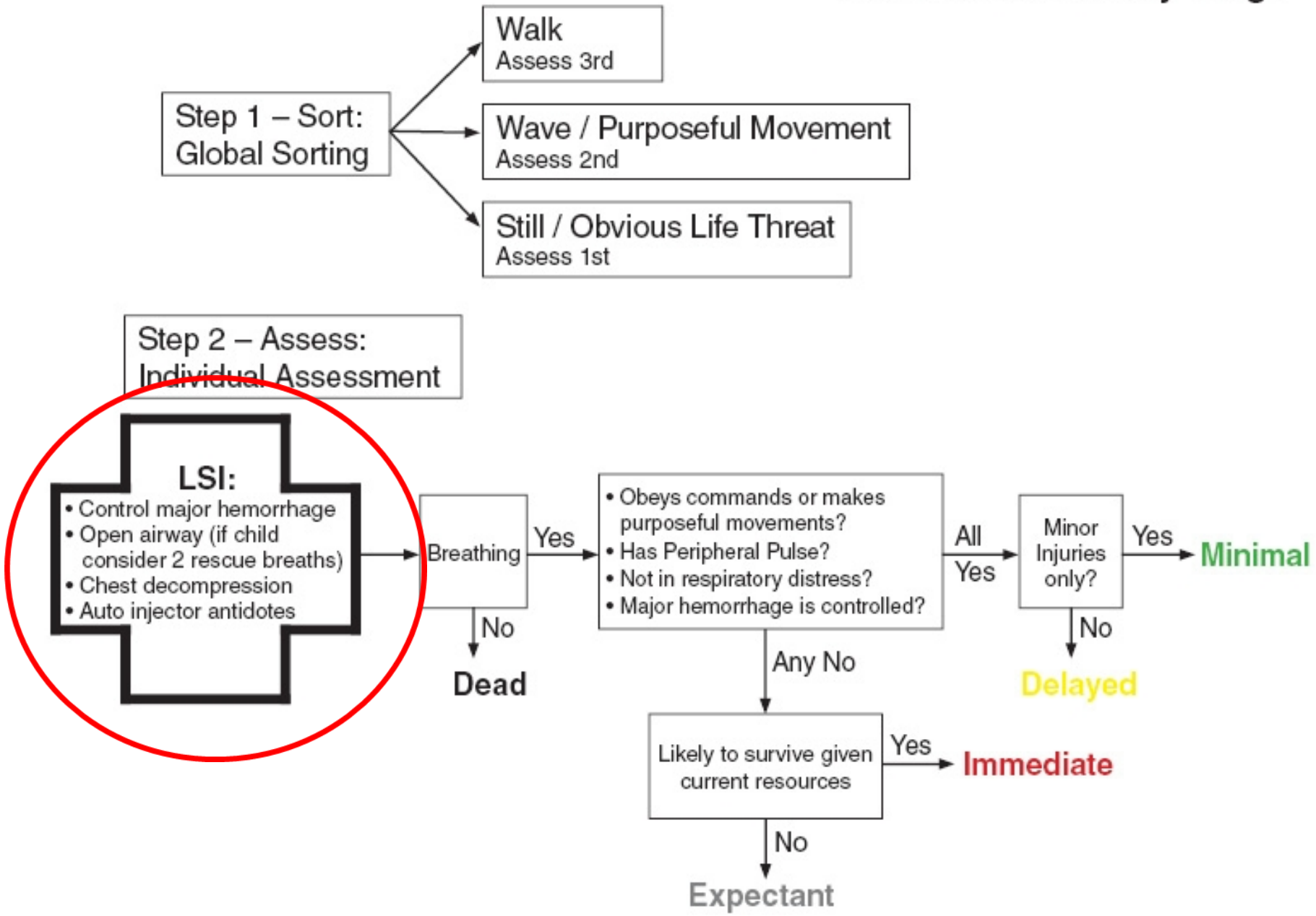
GLOBAL SORTING RESULTS…

- Lots of possibilities could cause lack of response to Global Sorting:
- Mom could walk with an unconscious child
- Husband may refuse to leave wife's side
- Patient with signs of Acute Myocardial Infarct (AMI) may walk
- Global Sort is merely first step
- ALL must be individually assessed as soon as possible after being sorted



LIFE SAVING INTERVENTIONS

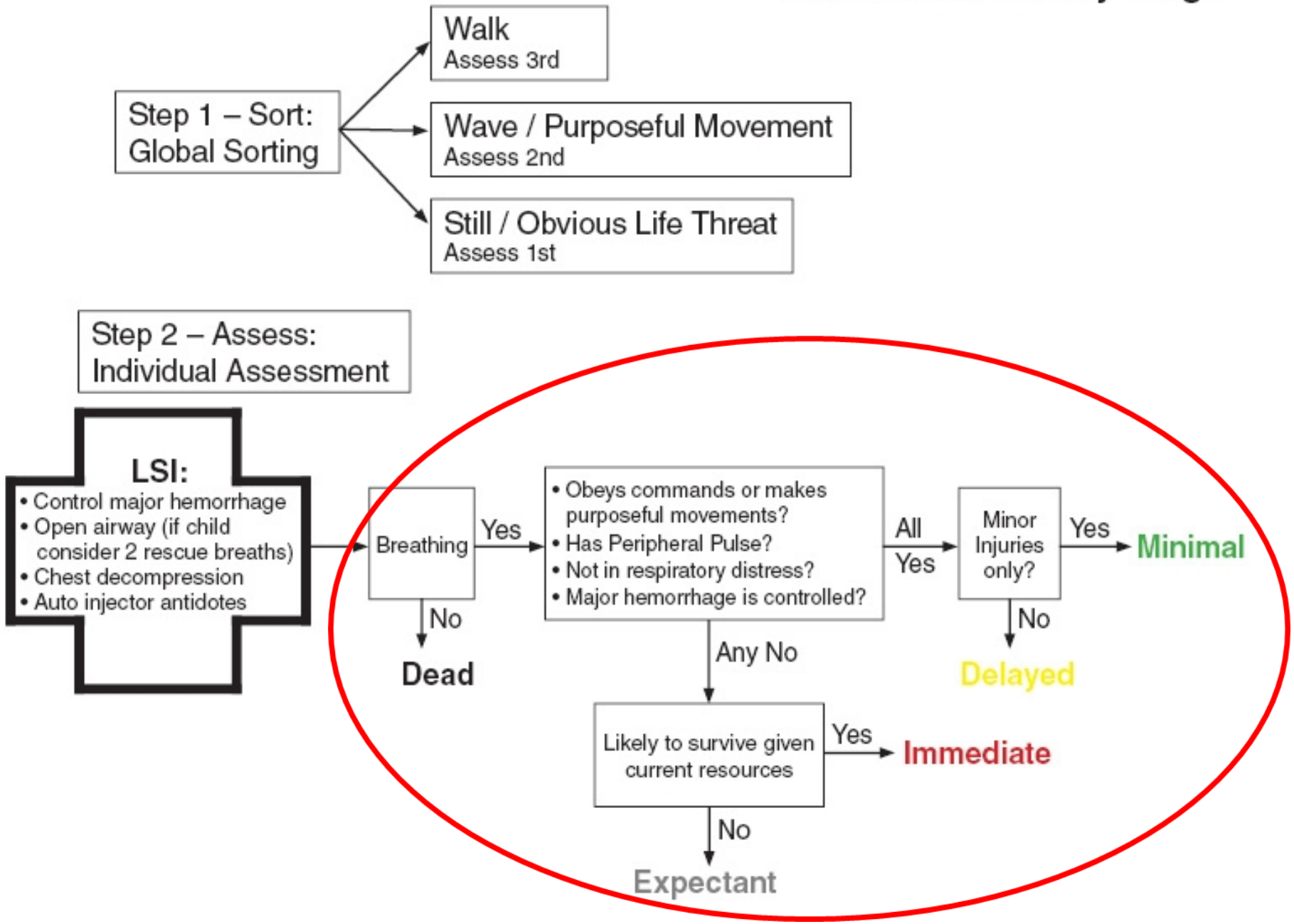
SALT Mass Casualty Triage



STEP 2: INDIVIDUAL ASSESSMENT -- LIFESAVING INTERVENTIONS

- Provide Lifesaving Interventions
- Control major hemorrhage
- Open airway if not breathing
- If child, consider giving 2 rescue breaths
- Chest needle decompression
- Auto injector antidotes (2-pam) (Mark-1) (CyanoKit) if available and indicated
- You may want to use walking wounded to help stop bleeding or maintain airway

SALT Mass Casualty Triage



INDIVIDUAL ASSESSMENT --

- Triage Categories:
  - **Immediate**
  - **Delayed**
  - **Minimal**
  - **Expectant**
  - **Dead** (Ribbon/Tag may be black or zebra-strip
- Orange polka dot ribbon may be added to patient's contaminated with a hazardous material to indicate a need for decontamination
- (see MCI appendix)

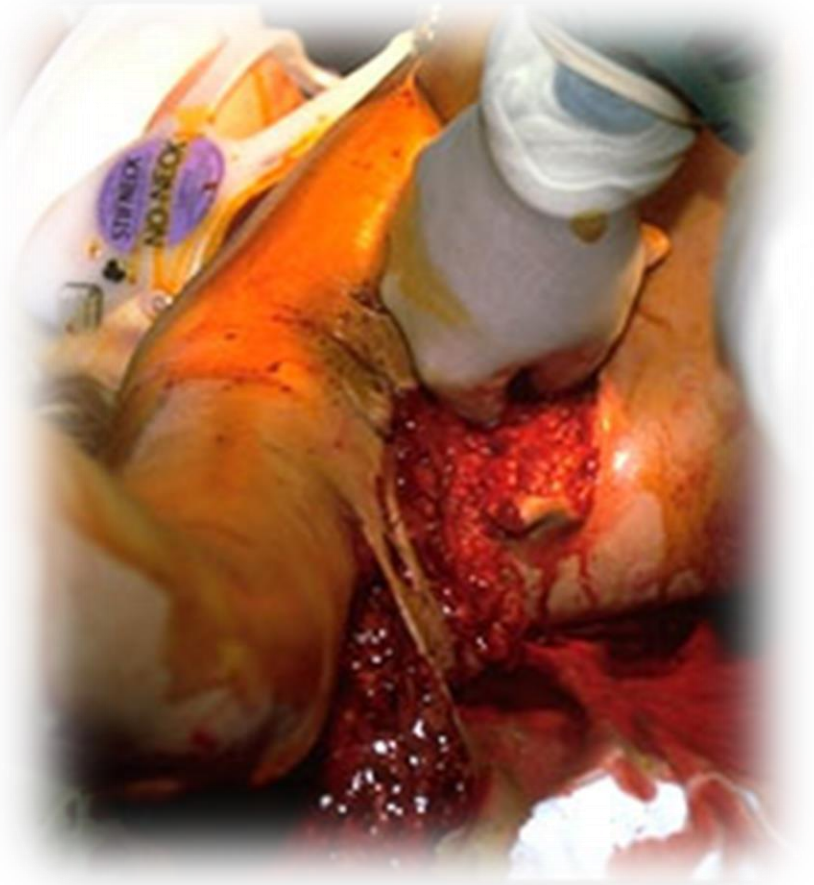
Helpful pneumonic- ID-MED

Photo Ken Lambert/The Seattle Times

DEAD

- Patient not breathing after opening airway
  - In Children, consider two rescue breaths
  - If still not breathing must tag as dead
- Tag/ribbon dead patients to prevent re-triage
- Do not move
  - Except to obtain access to live patients
  - Avoid destruction of evidence if possible
- If breathing conduct the next assessment

IMMEDIATE



- Serious injuries
- Immediately life-threatening problems
- High potential for survival given the available resources
- Examples
  - Tension pneumothorax
  - Exposure to nerve agent
  - Severe shortness of breath or seizures
  - Arterial bleeding that can be controlled

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

IMMEDIATE

- No to any of the following
  - Follows commands or makes purposeful movements?
  - Has a peripheral pulse?
  - Not in respiratory distress?
  - Hemorrhage is controlled?

- Likely to survive given available resources.

ASSESSMENT MNEMONIC -

- **C** – Follows Commands
- **R** – No Respiratory Distress
- **A** – No (uncontrolled) Arterial bleeding
- **P** – Peripheral Pulse Present

- "Bad" answer to any one or more question:
- Pt. is either Red or Grey

EXPECTANT

- No to any of the following
  - Follows commands or makes purposeful movements?
  - Has a peripheral pulse?
  - Not in respiratory distress?
  - Hemorrhage is controlled?
- Unlikely to survive given available resources

EXPECTANT

- New category to our system.
  - Way to preserve resources by taking care of those who are more likely to survive
  - Serious injuries
  - Very poor survivability even with maximal care in hospital or pre-hospital setting
  - Most of these patients unlikely to survive in best of circumstances

- Examples:
- 90% BSA Burns
- Multitrauma pt. with brain matter showing

EXPECTANT

- DOES NOT MEAN DEAD!
  - Means the patient is unlikely to survive given current resources
- Important for preservation of resources
  - Delay treatment and transport until more resources, field or hospital, are available
  - If delays in the field, consider requesting orders for palliative care, e.g., pain medications, if time and resources allow

DELAYED

- Yes ("not Bad") to all of the following:
  - Follows commands or makes purposeful movements?
  - Has a peripheral pulse?
  - Not in respiratory distress?
  - Hemorrhage is controlled?

- Injuries are not Minor and require care but not yet life threatening

DELAYED

Serious injuries that need care, but can be delayed with minimal mortality or morbidity risk

On secondary triage, some of these will be higher priorities for transport than others:

Example:

bilateral femur Fx vs multiple lacerations with already controlled bleeding.

MINIMAL

- Yes to all of the following
  - Follows commands or makes purposeful movements?
  - Has a peripheral pulse?
  - Not in respiratory distress?
  - Hemorrhage is controlled?
  - **Injuries are Minor?**

MINIMAL

- Injuries require minor care or no care
- Examples
  - Abrasions
  - Minor lacerations
  - Nerve agent exposure with mild runny nose

ID PATIENTS STATUS

- Begin with Triage Ribbons

  As you attach each ribbon collect a small piece of that ribbon to help you with patient counts later (communicate this to IC or medical branch)

- Add Triage Tags at CCP, Treatment Area or before transport
- Right wrist for both Ribbon and Tag
- Geographic

AFTER CATEGORIZING

- Prioritization process is dynamic
  - Patient conditions change
  - Correct misses
  - Resources change

- After care/transport has been given to immediate patients
  - Re-assess expectant, delayed, or minimal patients
  - Some patients will improve and others will decompensate

TREATMENT/ TRANSPORT PRIORITY

- In general, treat/transport immediate patients first
  - Then delayed
  - Then minimal
  - Then re-assess

- Treat/transport expectant patients when resources permit (LAST)

- Efficient use of transport assets may include mixing categories of patients and using alternate forms of transport

SALT TRIAGE TRAINING STUDY

E BROOKE LERNER, RICHARD B. SCHWARTZ, PHILLIP L. COULE, RONALD G. PIRRALLO
DETERMINATION OF FIELD PROVIDERS OPINIONS OF SALT TRIAGE
PREHOSPITAL EMERGENCY CARE
VOLUME 13, NUMBER 1, PP. 114, JANUARY/MARCH 2009

43 trainees participated in the course

- 16 MD, 10 RN, 5 EMS, 5 PA, 3 Pharmacist, 4 Other

Prior to the drill, 1/3 did not feel confident using SALT

After the drill every provider felt confident using SALT Triage

- 30% were at the same level of confidence
- 70% felt more confident
- none felt less confident after they participated in the training course

SALT TRIAGE FIELD TRAINING STUDY

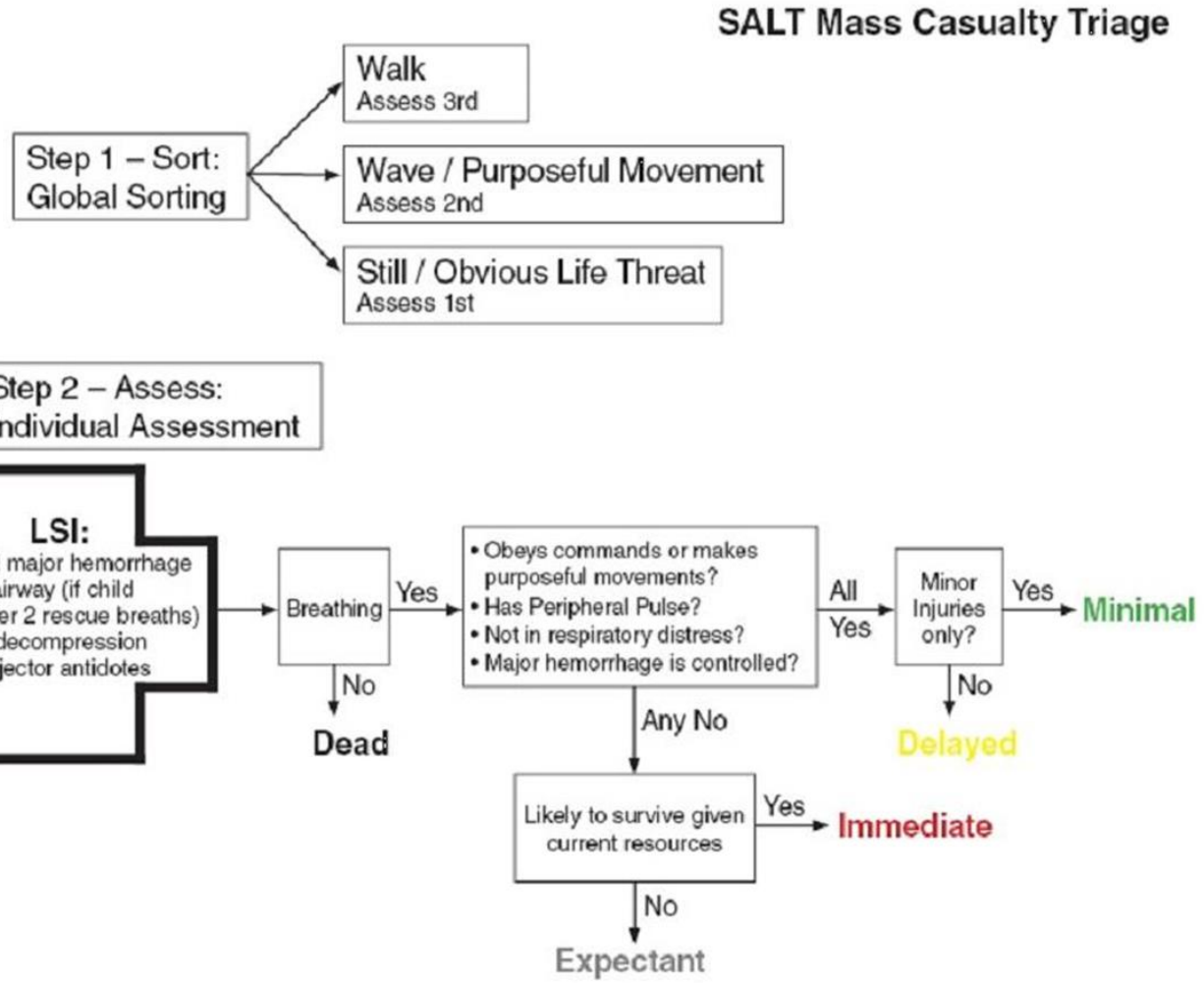
- Before the hands-on practical drill more than half thought SALT was easier to use than their current disaster triage protocol

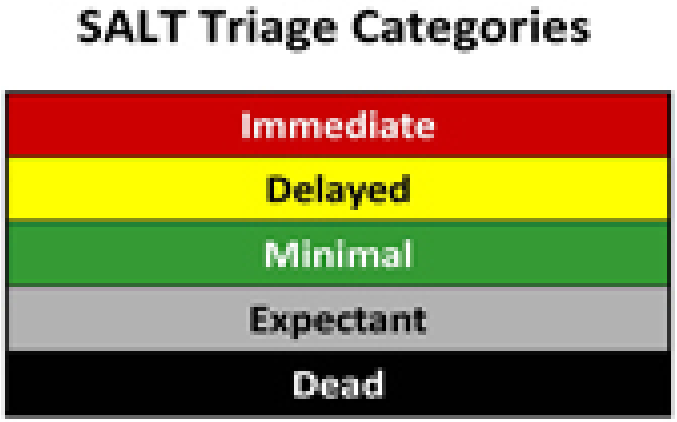
- After the drill:
  - 85% did not change how easy they felt SALT Triage was to use
  - 13% thought it was easier to use then they had thought
  - 2% thought it was harder than they had thought

CONCLUSION

- Conclusion:
  - Providers receiving a 30-minute training session in SALT Triage felt confident using it. They also felt that SALT Triage was similar or easier to use than their current triage protocol.
  - Using SALT Triage during a simulated mass casualty incident improved trainee confidence.

QUESTIONS?


SALT Mass Casualty Triage
Step 1 – Sort:
Global Sorting
Walk
Assess 3rd
Wave / Purposeful Movement
Assess 2nd
Still / Obvious Life Threat
Assess 1st
Step 2 – Assess:
Individual Assessment
LSI:
• Control major hemorrhage
• Open airway (if child consider 2 rescue breaths)
• Chest decompression
• Auto injector antidotes
Breathing
Yes
No
Dead
• Obeys commands or makes purposeful movements?
• Has Peripheral Pulse?
• Not in respiratory distress?
• Major hemorrhage is controlled?
All Yes
Any No
Minor Injuries only?
Yes
Minimal
No
Delayed
Likely to survive given current resources
Yes
Immediate
No
Expectant


SALT Triage Categories
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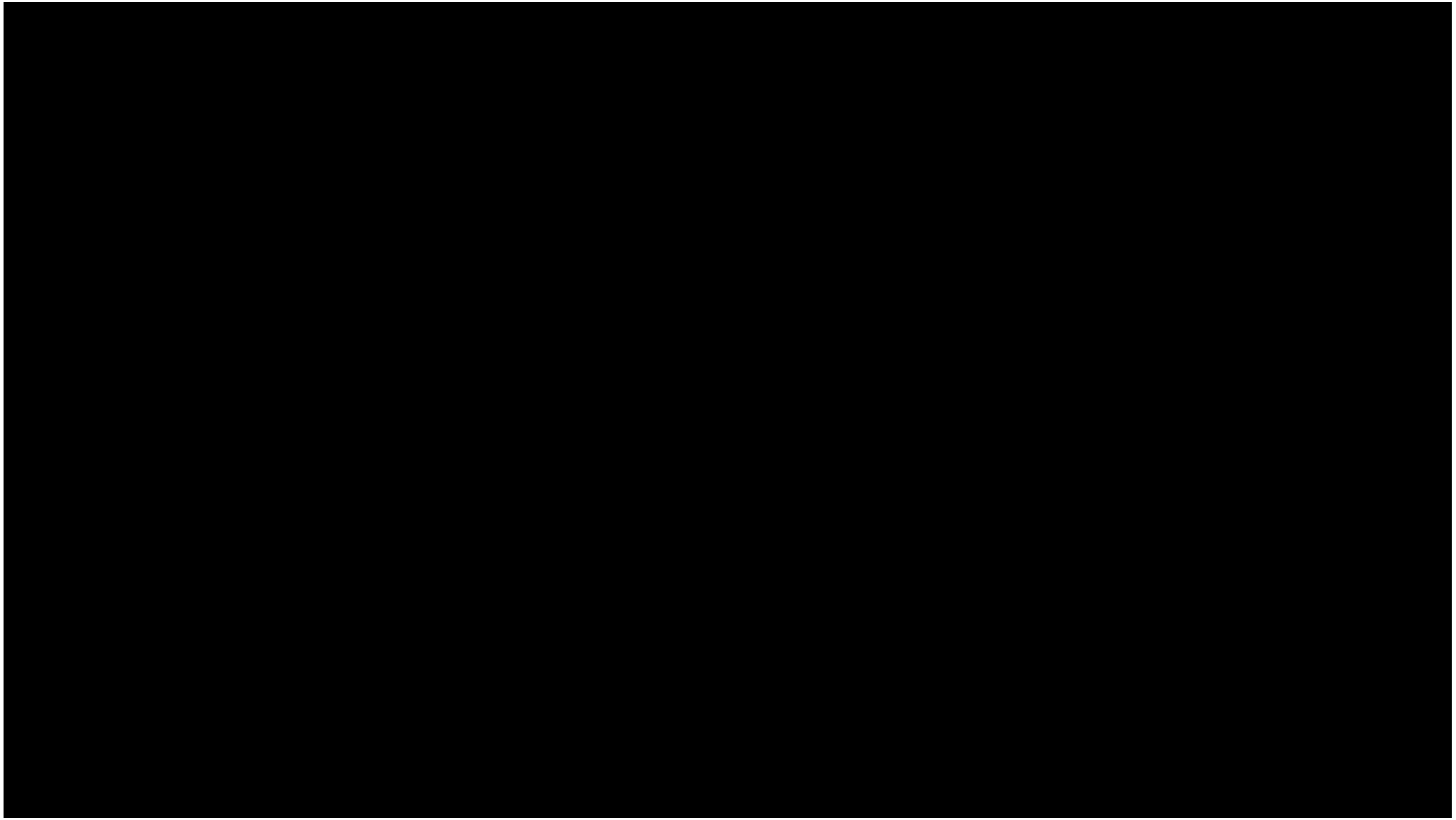


SALT PRACTICE -

Here is your scene -

TWO BUS MVA ON HIGHWAY WITH MULTIPLE INJURIES -

- Let's assume all safety and IC rolls have been addressed and hazards are controlled
- Resources are on the way and a transport corridor has been established

- You arrive and are assigned to triage
  - What are your initial actions?
  - How will you quickly triage and assess all patient's?
  - How will you overcome the geographic divisions ? (2 large busses and walking wounded)

AFTER GLOBAL SORTING YOU LOCATE ALL THE PATIENT'S NOT MOVING-

- A male, 43, isn't moving during your global sorting.
- You also note that he's not breathing.
- His airway is re-positioned (LSI), but he is still apneic.

- What priority is the patient?

DEAD!

REASONING FOR CATEGORY -

- With SALT an adult patient who is not breathing or having agonal breaths after opening the airway is dead (black)
- For a child who was not breathing you may open the airway and give two breaths – if no response (they do not have any respiratory drive) they are dead (black)
- We have to do the most good for the most people and can not spend all of our time and resources helping victims who are unlikely to survive

YOU MOVE TO YOUR NEXT CLOSEST "STILL" PATIENT-

- A female, 32, is not moving during the global sorting.
- However, as you approach she seems to follow simple commands.
- She isn't in respiratory distress.
- No major hemorrhage, but has no radial pulse.

- Triage this patient ?

IMMEDIATE

JUSTIFICATION -

- A patient with no radial pulse and no other conditions that would be considered incompatible to life should be tagged immediate (red).
- The lack of peripheral pulse indicates a life threatening lack of perfusion and or shock.
- It takes an average of 80mmHg systolic BP to achieve a palpable peripheral pulse, making it a good fast indicator of perfusion.

YOU CONTINUE TO LOCATE YOUR UNRESPONSIVE OR "STILL" PATIENTS

EXPECTANT

- A male isn't moving, breathing at a slow rate with a weak pulse.
- He doesn't respond to painful stimulus.
- A piece of rebar is penetrating his skull.

- How would triage this patient?

JUSTIFICATION -

- Remember – this has been declared an MCI which means your resources are already taxed .
- You have to do the most good for the most people.
- A patient in critical condition with an injury that they are unlikely to survive given the current resources should be tagged expectant (grey).

NEXT PATIENT- SPEED IS THE KEY!

- A boy, 4, is unresponsive.
- He's not breathing.
- Airway is open and he's given two rescue breaths (LSI).
- He's still not breathing.
- He has no major bleeding.

DEAD!

- This patient should be categorized as ?

ANY PATIENT NOT BREATHING AFTER OPENING THE AIRWAY (AND 2 BREATHS CONSIDERED FOR PEDIATRICS)
Should be triaged as dead-

NEXT PATIENT-

- You see no more "still" patient's, so you move on to non-ambulatory patients who have purposeful movement…
  - A 72-year-old male waved at you during the global sorting.
  - He does not want to walk because he is short of breath and has severe chest pain.
  - This patient would be triaged?

IMMEDIATE

ANY PATIENT IN RESPIRATORY DISTRESS (SHORT OF BREATH) SHOULD BE TRIAGED IMMIDIATE/ RED.

NEXT CLOSEST NON AMBULATORY-

- A female, 55, denies trouble breathing and doesn't have external bleeding.
- She has a strong radial pulse.
- She cannot stand. Her lower legs are broken.

?

DELAYED

JUSTIFICATION. . .

- A patient with no life-threatening conditions but an injury that will require treatment at a hospital should be triaged delayed (yellow).

YOU CONTINUE MOVING SWIFTLY FROM PATIENT TO PATIENT BASED ON YOUR INITIAL GLOBAL SORTING-

- A man's left thigh has blood spurting.
- You apply a tourniquet (LSI), but the bleeding continues.
- His pedal pulse is absent and radial pulse is faint.

- This patient should be categorized as ???

IMMEDIATE !

A PATIENT WHO HAS A LIFE THREATNING UNCONTROLLABLE BLEEDING SHOULD BE CONSIDERED IMMIDIATE (RED) Unless they have a condition/injury that they are unlikely to survive

THE NEXT PATIENT-

- A middle-aged female Initially had some purposeful movement during global sorting but now isn't moving.
- A large piece of glass is in her left chest.
- She's unresponsive with slow shallow, breathing.
- Minimal bleeding now noted.

- Triage this patient?

EXPECTANT

ANY PATIENT WHO IS MAKING AN EFFORT TO BREATH BUT IS NOT LIKELY TO SURVIVE GIVEN CURRENT RESOURCES SHOULD BE TRIAGED EXPECTANT (GREY)

NEXT NON AMBULATORY

- A young male follows your commands.
- He says he thinks he can walk to the treatment area.
- He has a large thigh laceration.
- The bleeding was self-controlled via his own belt.
- He has a radial pulse.

- What treatment area will you send him to?

DELAYED

A PATIENT WHO COULD HAVE LIFE-THREATNING INJURY, BUT THE BLEEDING IS NOW CONTROLLED IS THEN TRIAGED DELAYED BECAUSE THE LIFE THREAT IS GONE BUT TREATMENT IS STILL NEEDED

YOU JUST FINISH WITH YOUR GLOBAL SORTING PRIORITY 1 AND 2 PATIENTS WHEN-

- A 15-month-old is carried to the treatment area you are near.
- She is breathing but can't be arouse during the assessment.
- She has a large contusion on the side of her head.

- Based on just this info this patient should be triaged as?

IMMEDIATE

ANY PATIENT THAT DOES NOT HAVE PURPOSFUL MOVEMENT BUT IS LIKELY TO SURVIVE WOULD BE TRIAGED AS IMMIDIATE (RED)

THE ONLY PATIENT'S LEFT TO TRIAGE

- Are the walking wounded (global sorting priority 3)
- A girl, 7, walks to the treatment area.
- She follows commands and has a radial pulse.
- She denies respiratory distress and has no bleeding.
- She has minor contusions only.

MINIMAL

- This patient is?

A PATIENT WITH MINOR CONDITIONS OR INJURIES REQUIRING ONLY BASIC FIRST AID WILL BE MINIMAL. IF NO INJURIES FOUND, THE VICTIM MAY BE CONSIDERED AN INVOLVED NON CASUALTY (INC); HOWVER, EVERY EFFORT SHOULD STILL BE MADE TO TRACK THESE PATIENT'S.

LAST PATIENT BEFORE BEGINNING TO RE-TRIAGE

- A female walks to the treatment area.
- She thinks she's OK and can't identify any complaints.
- She's 23 weeks pregnant and just wants to be checked out.
- You see no injuries, bleeding, or signs of respiratory distress.

- This patient is?

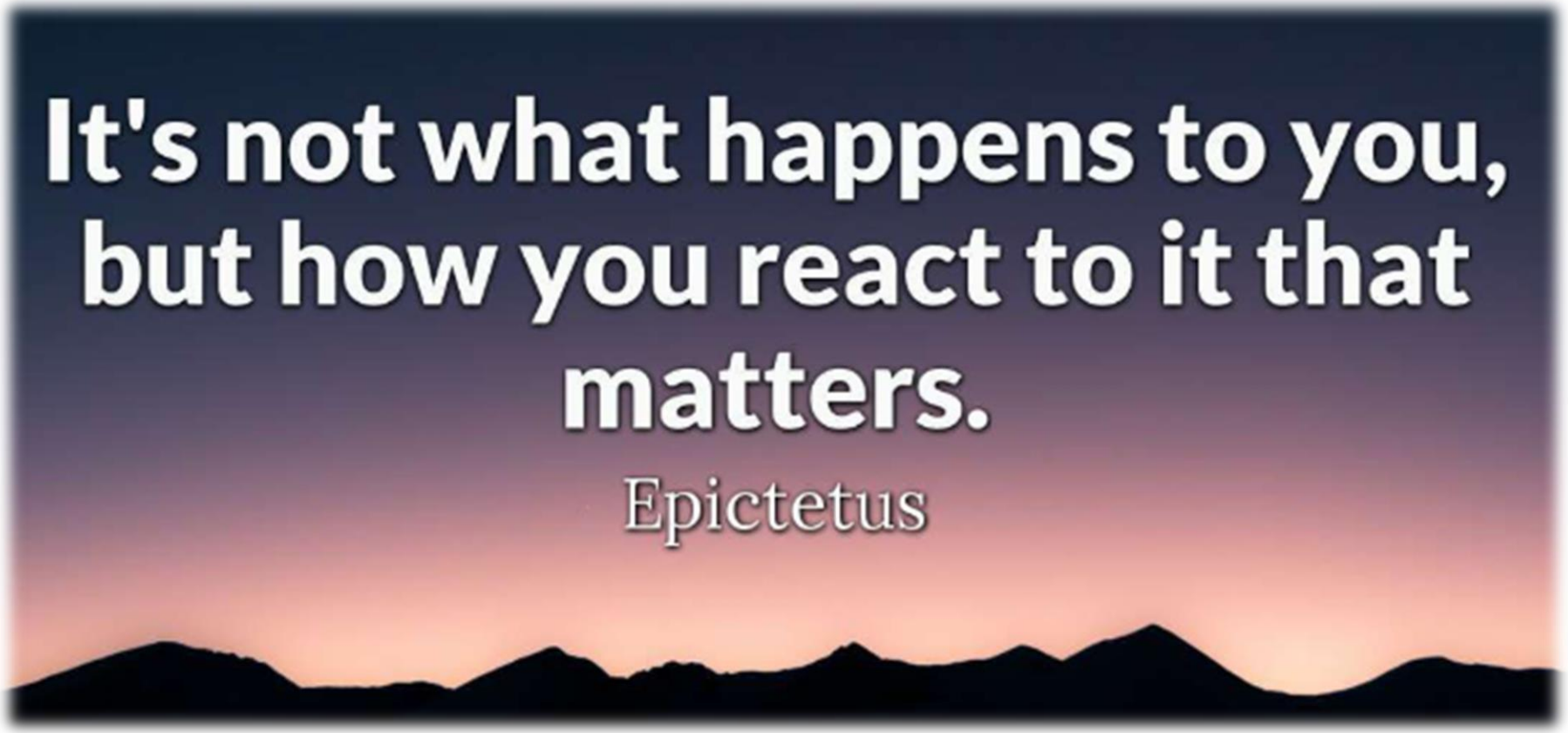
MINIMAL OR INC

(Involved Non Casualty)

SUMMARY:

- SALT was put together by the CDC as part of national standard curriculum.
- SALT was designed to use the best of all triage systems (understanding that no triage system is perfect).
- With SALT providers should be able to speed up triage, globally sort patient's quickly, and provide four life-saving interventions, while keeping patient's moving towards transport and definitive care.
- Although a big change for Lewis County; SALT has been proven to be easily taught and retained by providers.
- **Quiz: How accurately can you apply the SALT triage method to MCI patients?**

THANK YOU FOR YOUR TIME!



MORE INFO AVAILABLE IN THE 2019 LEWIS COUNTY MCI PLAN