GUIDELINES FOR MASS CASUALTY TRIAGE

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OBJECTIVES

- Discuss differences between daily & disaster triage
- Understand the SALT mass casualty triage method
- Prepare for GMVEMSC Standing Orders Skill Evaluation

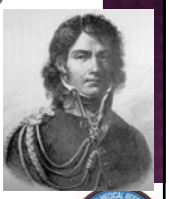
WHAT IS TRIAGE?

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

Source: DoD Photo Library, Public Domain

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 PROBLEMS

- Scene response is chaotic by definition
- Bystander assistance, interference, and pressures
- Secondary threats
- Multi-jurisdictional response
- Civil/Military Interface

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

AND IT LOOKS LIKE THIS…

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 supported by evidence

TRIAGE SYSTEMS REVIEWED BY CDC

- CareFlight
- 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

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
- 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
- Focus on Life Saving Interventions
- Best evidence supports use of Mental Status, and Systolic BP as triage criteria
- Simple
- Rapid
- Inexpensive
- Use NATO triage categories plus dead

SALT TRIAGE

- Sort – Assess – Life Saving Interventions – Treatment/Transport
- Simple
- Easy to remember
- Groups large numbers of patients together quickly
- Applies rapid life-saving interventions early

SALT TRIAGE

- Can be used whenever number of patients exceeds treatment or transport resources
- Same process (except one LSI) for adult and peds

SALT/MCI GENERAL PRINCIPLES

- Move as quickly as possible
- Begin transports of red patients as soon as feasible, BUT don't neglect processes (triage, allocation of patients to hospitals, command, etc.)
- Triage Ribbons 1st, then Tags at CCP or Transport Area
- Over-triage can be as harmful as under-triage

TRANSPORT GROUP/UNIT)

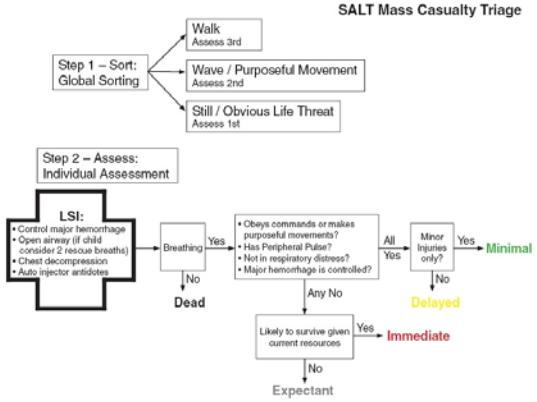
- Crucial to overall success in MCI
- Must ensure secondary triage prior to transport
- Must ensure triage tag application prior to transport
- Responsible (with Treatment Group) for assigning priorities for transport

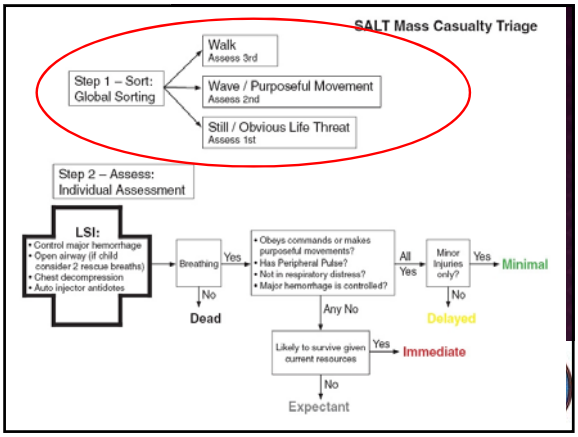
TRANSPORT GROUP/UNIT

- Must ensure appropriate hospital allocations
  - Do NOT relocate the disaster to the hospital!!
  - Use non-Trauma Center and more distant hospitals as needed
- Consider use of RHNS

ORANGE RIBBONS

- Indicate contaminated patients
- Remove during decon
  - EMS always has responsibility for performing primary decontamination prior to transport
  - ALWAYS notify hospital of contaminated patients





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 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

GLOBAL SORTING RESULT

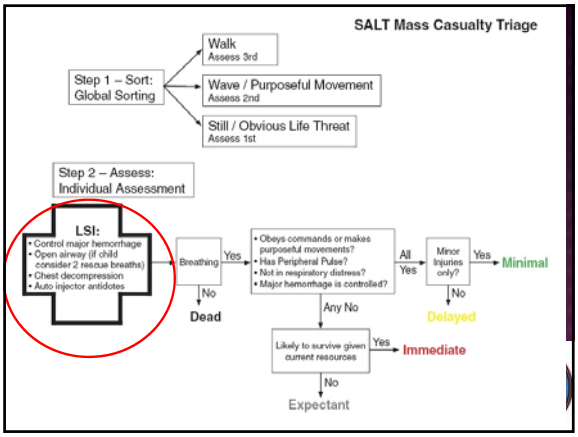
- **Casualties are now prioritized for individual assessment**
  - Priority 1: Still, and those with obvious life threat
  - Priority 2: Waving/purposeful movements
  - Priority 3: Walking

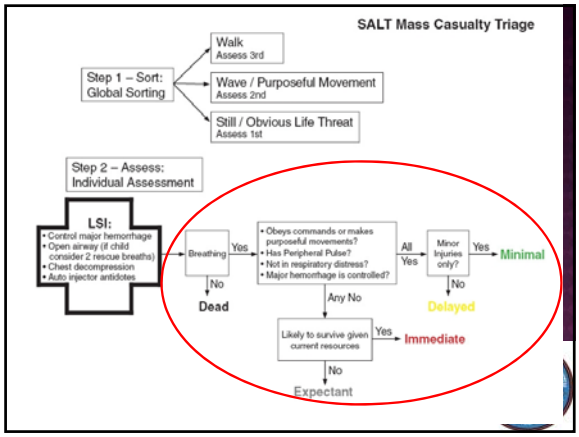
GLOBAL SORTING RESULT

- **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 AMI may walk
- **Global Sort is merely first step**
  - ALL must be individually assessed as soon as possible.

GLOBAL SORTING RESULT

- **Next step:**
- **Assess all non-ambulatory victims where they lie and provide the four LSIs as needed**
  - **Only** if within your Scope of Practice, training, authorization
  - **Only** if you have the equipment readily available (e.g., you would not return to the rig to get an NPA)
- **Triage as quickly as possible**





TRIAGE CATEGORIES ID-MED

- Immediate
- Delayed
- Minimal
- Expectant
- Dead
  - (Ribbon/Tag may be black or zebra-striped)

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 breathing conduct the next assessment

IMMEDIATE

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

- Serious injuries
- Immediately life threatening problems
- High potential for survival
- Examples
  - Tension pneumothorax
  - Exposure to nerve agent
    - Severe shortness of breath or seizures

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

MNEMONIC FOR ASSESS QUESTIONS

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

- "Bad" answer to any one or more: 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

- Serious injuries
  - Require care but management can be delayed without increasing morbidity or mortality
- Examples
  - Long bone fractures
  - 40% BSA exposure to Mustard gas

Photo Source: Phillip L. Coule, MD

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

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:
  - MI with no dyspnea over long-bone fracture with good distal PMS
  - Pt. with TK over pt. with minor 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

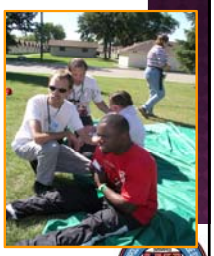


Photo source: Phillip L. Coule, MD

IDENTIFYING PATIENT STATUS

- Begin with Triage Ribbons
- Add Triage Tags at Treatment Area or at point of transport
- Right wrist for both Ribbon and Tag
- Geographic

AFTER PATIENTS ARE CATEGORIZED

- 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
- Treat/transport expectant patients when resources permit
- Efficient use of transport assets may include mixing categories of patients and using alternate forms of transport

CASE STUDY

- Multiple GSW at Local Sporting Event
  - You and partner respond (one ambulance)
  - 10 casualties
  - What are the issues that need to be addressed?

INITIAL CONSIDERATIONS DISASTER

- Detection
  - Multi-Casualty event
  - Needs are greater than resources
- Incident Command
  - Who is the incident commander
- Scene Safety/Security
  - Active shooter?
  - Secondary devices?

INITIAL CONSIDERATIONS

- Assess Hazards
  - Penetrating trauma
- Support
  - Law enforcement, additional EMS, medical control, trauma center, community hospitals, supplies
- Triage/Transport/Treatment
- Recovery

INITIAL SORTING OF PATIENTS

- Walk
  - 2 patients
- Wave
  - 3 patients (one with obvious severe hemorrhage)
- Still
  - 5 patients

STILL

- 29 yr male — Immediate
  - GSW left chest, radial pulse present, severe respiratory distress
- 8 yr female — Expectant
  - GSW head (through and through), visible brain matter, respiratory rate of 4, radial pulse present
- 50 yr male — Dead
  - GSW to abdomen, chest, and extremity, no movement or breathing

STILL - CONT.

- 40 yr female — Immediate
  - GSW neck with gurgling respirations, marked respiratory distress, radial pulse present
    - Consider needle decompression
- 16 yr male — Dead
  - GSW right chest. No respiratory effort

WAVING

- 14 year male — DELAYED**
  - GSW right upper extremity, active massive hemorrhage, good pulses
  - **after tourniquet LSI
- 65 year male — IMMEDIATE
  - severe chest pain, diaphoretic, obvious respiratory distress, no obvious GSW
- 22 year female — DELAYED
  - GSW right lower extremity, good pulses, no active bleeding

WALKED

- 29 yr male — Minimal
  - Superficial GSW in the skin of left upper extremity
- 37 yr male — Delayed
  - GSW left hand. Exposed muscle, tendon and bone fragments, peripheral pulse present

WHAT NEXT?

- Another ambulance arrives and transports 2 of your immediate patients
- Your partner is providing care to the other immediate patient
  - What do you do next?
    - Re-assess

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 EM, 5 PA, 3 Pharmacist, 4 Other
- Prior to the drill one-third did not feel confident using SALT Triage
- After the drill all felt confident using SALT Triage
  - 30% were at the same level of confidence
  - 70% felt more confident
  - none felt less confident
- Before the 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 then they had thought
- 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.

SUMMARY

- SALT Triage
  - Global Sort
  - Individual Assessment
    - Life Saving interventions
    - Assign Category

QUESTIONS?