Triage and Cervical Spine Stabilisation

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Objectives

- To introduce the various types of triaging in Disaster
- Process and the practice of Triage
- To enlighten the simple and effective method triage based on the available resources

History

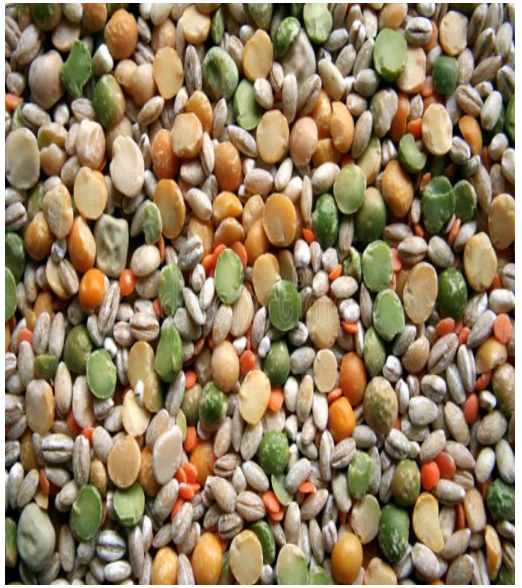
- TRIAGE: French word –trier meaning to separate shift

  or select
- The term triage may have originated during the Napoleonic wars
- The French military surgeon baron Dominique –Jean Larrey is generally credited with developing the first battlefield triage system
- In his 1812 memoirs, Larrey explained his then –novel method of immediately treating the most severely wounded first without waiting for the battle to end ,as was previously customary

- French for “sorting” or “to sort”

- A process for determining who to treat and transport first in the case of a Mass casualty incident (MCI)

- Refined during the Vietnam conflict by military medics



- PLAY

Patient Scenario #1

This patient states he cannot move or feel his legs

His respirations are 24

He has a radial pulse of 100

He is awake are oriented

How would you triage this patient?

Patient Scenario #2

This patient has a blood soaked shirt on

His respirations are 36

His capillary refill is less than 2 seconds

He is awake are oriented

How would you triage this patient?

Patient Scenario #3

This patient has some minor abrasions on his forehead

His respirations are 16

His capillary refill is less than 2 seconds

He is very slow in recalling his name and whereabouts

How would you triage this patient?

Patient Scenario #4

This patient appears to have no injuries

Her respirations are 20

Her capillary refill is less than 2 seconds

She is unconscious

How would you triage this patient?

Patient Scenario #5

He gurgles a couple of times as you attempt to open his airway but does not resume breathing on his own

His capillary refill is still more than 2 seconds

He is still unconscious

How would you triage this patient?

Goal of disaster triage

- Do the greatest possible for the greatest number of casualties

Why disaster triage

- Multiple victims
- Multiple presentations
- Trauma
- Medical

Types of Triage

- Simple Triage
- Advanced Triage
- Integrated Triage
- Over Triage
- Under Triage
- Reverse triage

Simple Triage

- Done by Emergency Medical Technicians (Paramedics)

- Simple triage is usually used in a scene of an "mass-casualty incident" (MCI), in order to sort patients into those who need critical attention and immediate transport to the hospital and those with less serious injuries. This step can be started before transportation becomes available.

- After triaging, each patient may be labelled which may identify the patient, display assessment findings, and identify the priority of the patient's need for medical treatment and transport from the emergency scene.

- Patients may be simply marked with coloured flagging tape or with marker pens. Pre-printed cards for this purpose are known as a triage tag.

Advanced Triage

- In advanced triage, doctors and specially trained nurses may decide that some seriously injured people should not receive advanced care because they are unlikely to survive.

- Used to divert scarce resources away from patients with little chance of survival in order to increase the chances of survival of others who are more likely to survive.

- The use of advanced triage may become necessary when medical professionals decide that the medical resources available are not sufficient to treat all the people who need help.

Over Triage

- **Over triage** is the overestimating of the severity of an illness or injury.

Example: categorizing a Priority 3 (Minimal) patient as a Priority 2 (Delayed) or Priority 1 (Immediate).

Acceptable over triage rates - up to 50% in an effort to avoid under triage.

Under Triage

- **Under-triage** is the underestimating the severity of an illness or injury.

Example - categorizing a Priority 1 (Immediate) patient as a Priority 2 (Delayed) or Priority 3 (Minimal).

Acceptable under-triage rates have been deemed 5% or less.

Integrated Triage

- Continuous integrated triage is an approach to triage in mass casualty situations which is both efficient and sensitive to psychosocial and disaster behavioral health issues that affect the number of patients seeking care (surge), the manner in which a hospital or healthcare facility deals with that surge (surge capacity) and the overarching medical needs of the event.

- Continuous integrated triage combines three forms of triage with progressive specificity to most rapidly identify those patients in greatest need of care while balancing the needs of the individual patients against the available resources and the needs of other patients.

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)

- 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 a upper extremity, in a visible location (wrist)

MASS Triage (Move, Assess, Sort, Send)

- **Green** (Minimal)
- Ambulatory patients (no impaired function, can self-treat or be cared for my non-professional)
- “Walking Wounded”
- Abrasions, contusions, minor lacerations etc.
- Routine treatment within 24 hours

MASS Triage (Move, Assess, Sort, Send)

- Yellow (Delayed)
- Can wait for care after simple first aid (I.e., wounds dressed, splints applied)
- Clearly need medical attention, but should not decompensate rapidly if care is delayed.

MASS Triage (Move, Assess, Sort, Send)

- Red (Immediate)
- Critical (seriously injured, but have a reasonable chance of survival)
- Obvious threat to life or limb
- Complications in their ABC’s
- Urgent treatment within 2 hours

MASS Triage (Move, Assess, Sort, Send)

- **Black** (Deceased or Expectant)
- Expectant; This patient shows obvious signs of death.
- Included are – unresponsive patients with no pulse – or with catastrophic head injuries and / or chest injuries.

MASS Triage (Move, Assess, Sort, Send)

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

START (Simple Triage and Rapid Transport)

- START was developed in the 1980s in Orange County, California as one of the first civilian triage systems.
- Adopted as the de facto disaster triage standard by the Domestic Preparedness Program of the Department of Defense.
- There is some evidence that START can lead to the **over-triage** of patients in a real-time mass casualty setting.

Why START?

- Easily learned
- Easily remembered
- Clear-cut decision process
- Relies only on BLS skills

START (Simple Triage and Rapid Transport)

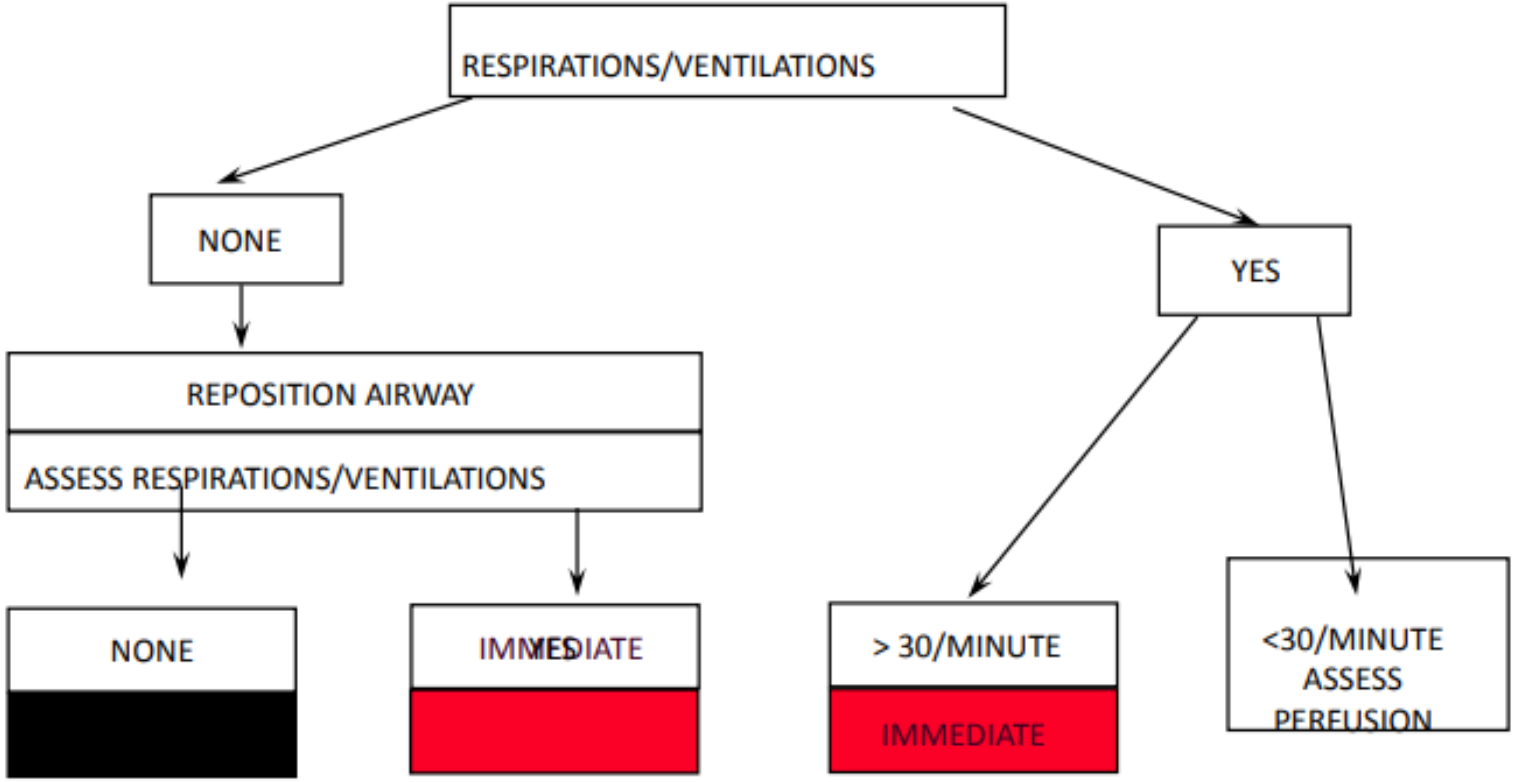
If you can walk, go stand over there!

All of Ya'll, go over there! (Texas version)

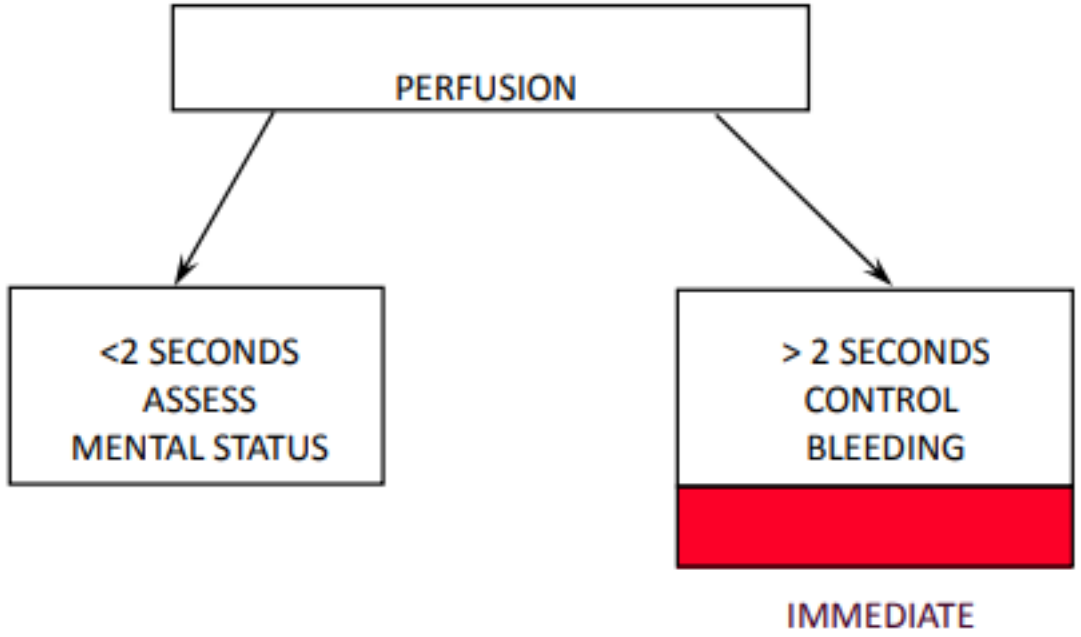
The Next Step

- Take a DEEP breath
- Ensure that your scene is safe
- Start to triage all patients that were unable to move
- Spend about 60 seconds/patient

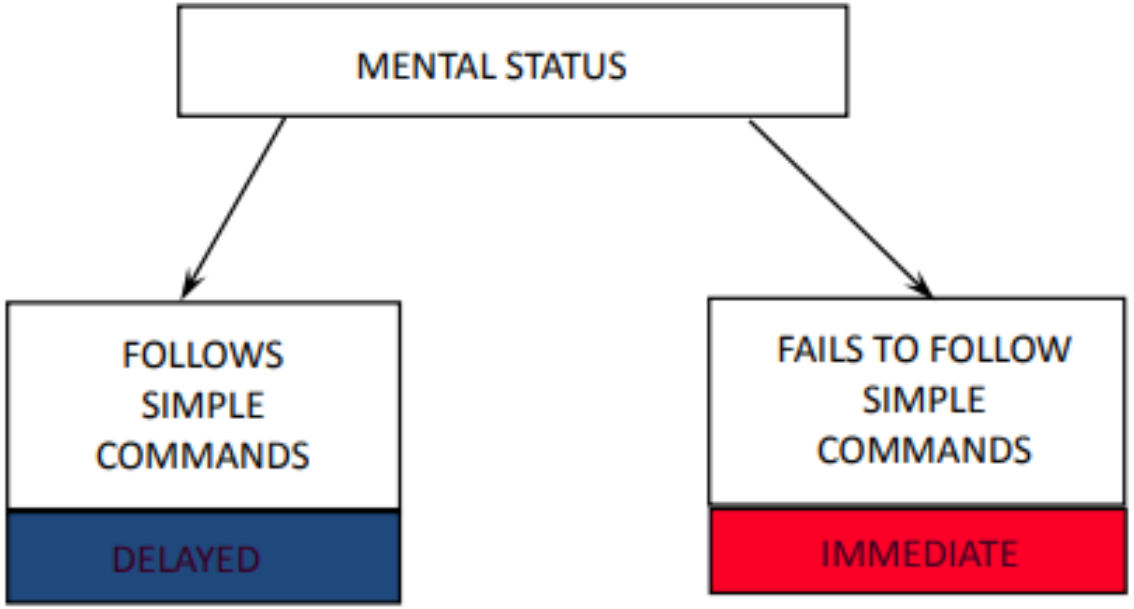
START Algorithm (Airway/Breathing)



START Algorithm (Circulation)



START Algorithm (Disability)



Mnemonic

R	30
P	2
M	Can do

A Simple Approach

The Triage Tag

Simple
Triage
And
Rapid
Treatme
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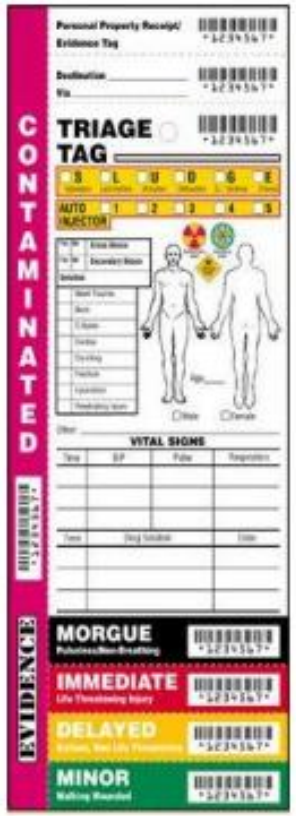
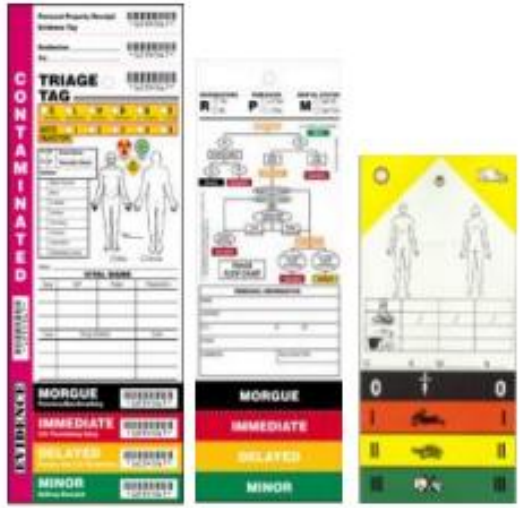


A Tag is placed on each patient once they have been assessed. The tag displays the patient's current status and advises those providing treatment with one of the four possible treatment priorities:

Minor
Delayed
Immediate
Deceased



There are a variety styles and sizes of Triage Tags

A Simple Approach

Simple
Triage
And
Rapid
Treatme
nt

The Triage Tag

Triage Tags are designed with tear-off tabs. Unused tabs are removed and the last remaining tab designates the patient's priority.

Last remaining tab indicated patient priority In this case IMMEDIATE

Unused tabs torn off

A Simple Approach

Simple Triage And Rapid Treatment

The Triage Tag

Each tab is distinctly color-coded allowing fast patient priority identification from a distance

DECEASED

IMMEDIATE

DELAYED

MINOR

START:
Potential Problems with Children

- An apneic child is more likely to have a primary respiratory problem than an adult. Perfusion may be maintained for a short time and the child may be salvageable.
- RR +/- 30 may either over-triage or under-triage a child, depending on age .

START:
Potential Problems with Children

- Capillary refill may not adequately reflect peripheral hemodynamic status in a cool environment.
- Obeying commands may not be an appropriate gauge of mental status for younger children.

JumpSTART: Age

- Initially ages 1-8 years chosen
- Less than one year of age is less likely to be ambulatory.
- The pertinent pediatric physiology (specifically, the airway) approaches that of adults by approximately eight years of age.

BUT…

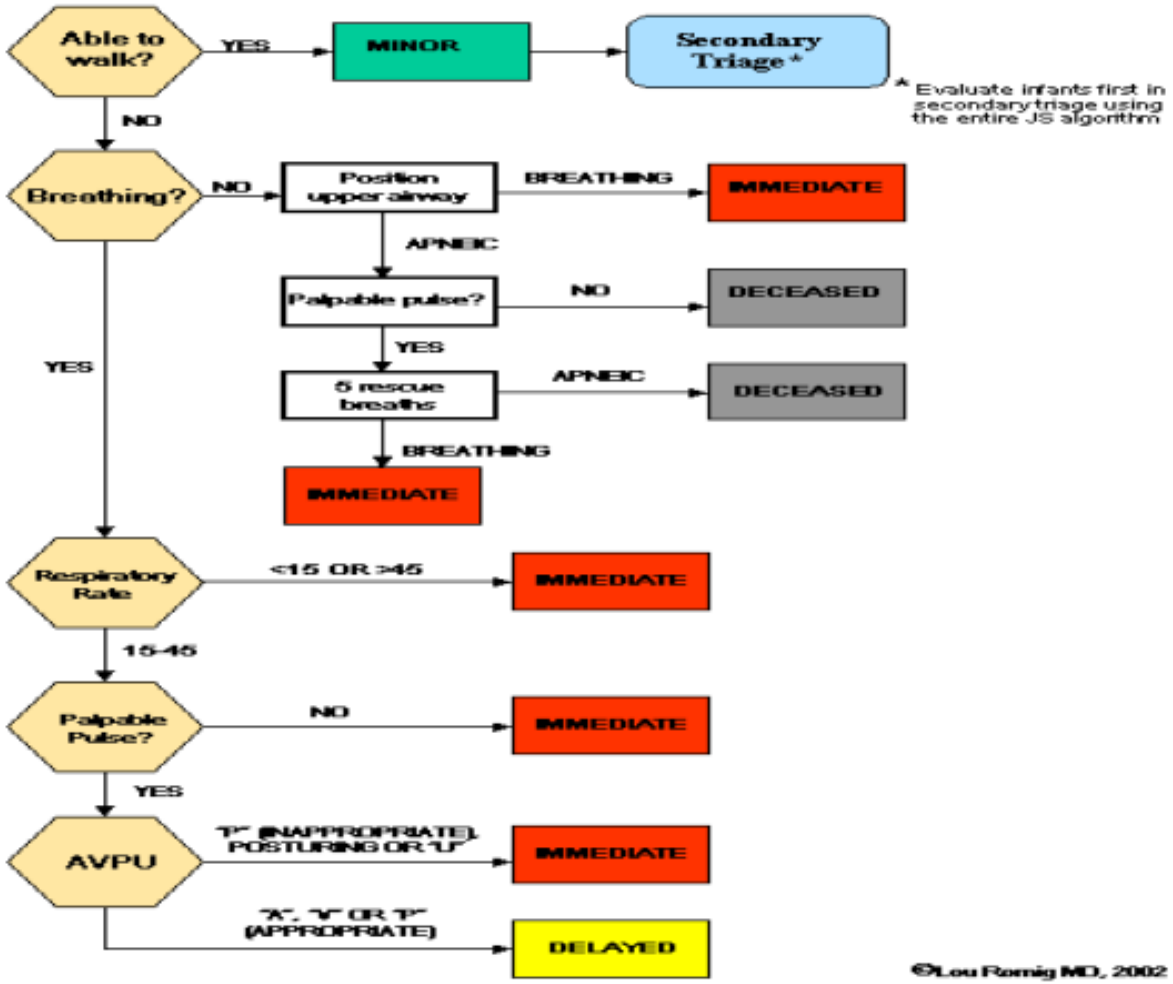
JumpSTART: Age

The ages of “tweens and teens” can be hard to determine so the current recommendation is:

If a victim appears to be a child, use JumpSTART.

If a victim appears to be a young adult, use START.

JumpSTART Pediatric MCI Triage©



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JumpSTART: Breathing?

- If breathing spontaneously, go on to the next step, assessing respiratory rate.
- If apneic or with very irregular breathing, open the airway using standard positioning techniques.
- If positioning results in resumption of spontaneous respirations, tag the patient immediate and move on.

The “Jumpstart” Part

- If no breathing after airway opening, check for peripheral pulse. If no pulse, tag patient deceased/nonsalvageable and move on.
- If there is a peripheral pulse, give 5 mouth to barrier ventilations. If apnea persists, tag patient deceased/nonsalvageable and move on.
- If breathing resumes after the “jumpstart”, tag patient immediate and move on.

JumpSTART: Respiratory Rate

- If respiratory rate is 15-45/min, proceed to assess perfusion.
- If respiratory rate is <15 or >45/min or irregular, tag patient as immediate and move on.

JumpSTART:Perfusion

- If peripheral pulse is palpable, proceed to assess mental status.
- If no peripheral pulse is present (in the least injured limb), tag patient immediate and move on.

JumpSTART: Mental Status

- Use AVPU scale to assess mental status.
- If Alert, responsive to Verbal, or appropriately responsive to Pain, tag as delayed and move on.
- If inappropriately responsive to Pain or Unresponsive, tag as immediate and move on.

Modification for non-ambulatory children

- Infants who normally can't walk yet
- Children with developmental delay
- Children with acute injuries preventing them from walking *before* the incident
- Children with chronic disabilities

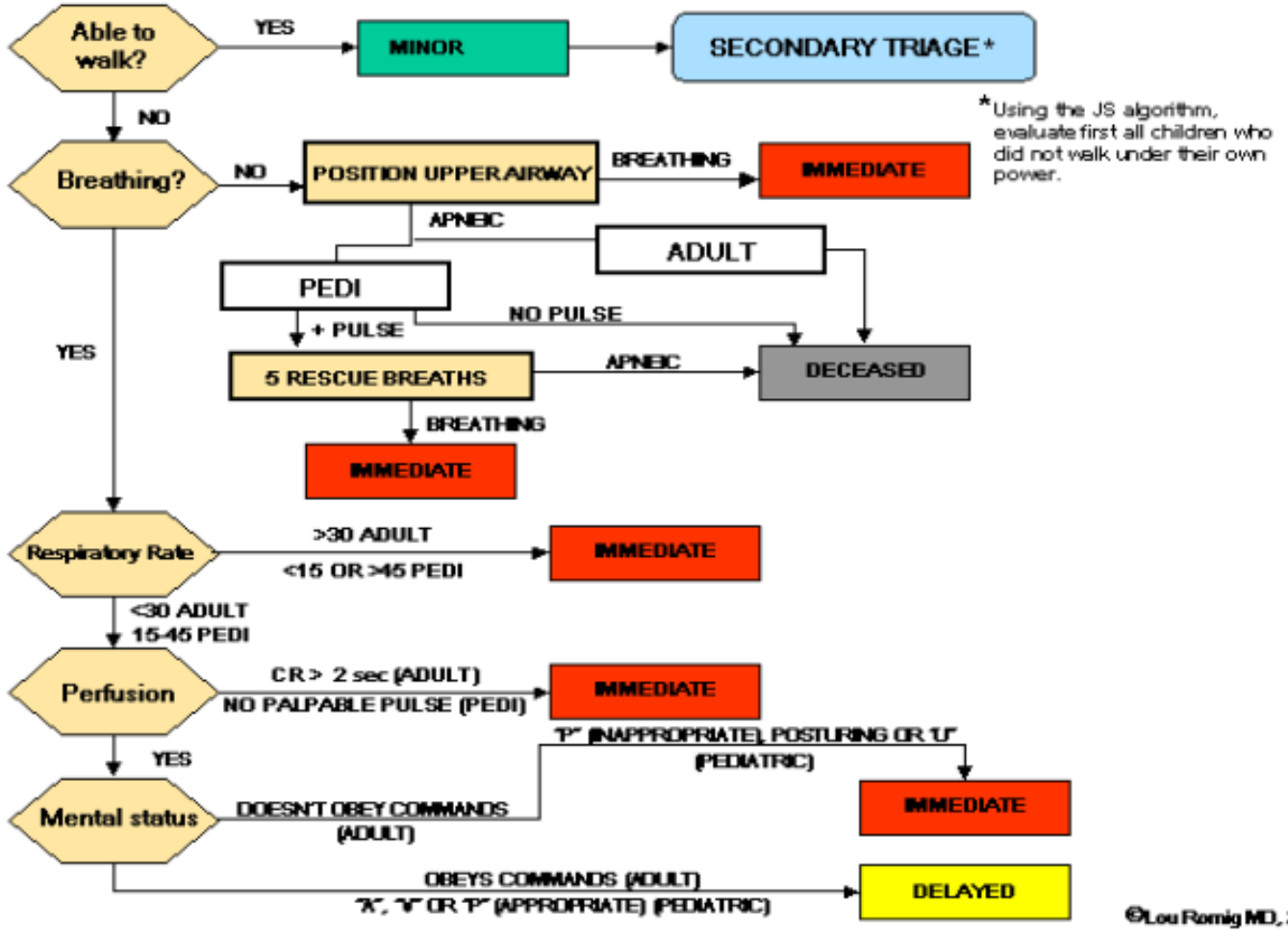
Modification for non-ambulatory children

- Evaluate using the JS algorithm
- If any RED criteria, tag as RED.
- If pt satisfies YELLOW criteria:
  - **YELLOW if significant external signs of injury are found (ie. deep penetrating wounds, severe bleeding, severe burns, amputations, distended tender abdomen)**
  - **GREEN if no significant external injury**

Note for Black Category Victims

Unless clearly suffering from injuries incompatible with life, victims tagged in the BLACK category should be reassessed once critical interventions have been completed for RED and YELLOW patients.

Combined START/JumpSTART Triage Algorithm



Patient Scenario #1

This patient states he cannot move or feel his legs

His respirations are 24

He has a radial pulse of 100

He is awake are oriented

How would you triage this patient?

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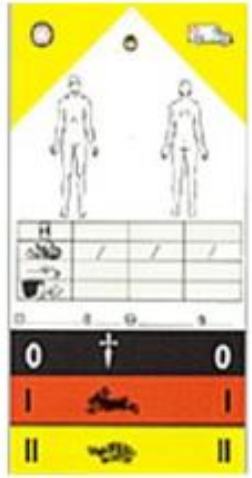
DELAYED (YELLOW)



Patient Scenario #2

This patient has a blood soaked shirt on

His respirations are 36

His capillary refill is less than 2 seconds

He is awake are oriented

How would you triage this patient?

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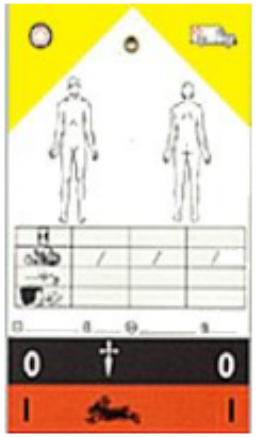
IMMEDIATE **(RED)**



Patient Scenario #3

This patient has some minor abrasions on his forehead

His respirations are 16

His capillary refill is less than 2 seconds

He is very slow in recalling his name and whereabouts

How would you triage this patient?

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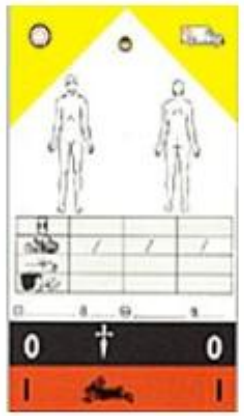
IMMEDIATE **(RED)**



Patient Scenario #4

This patient appears to have no injuries

Her respirations are 20

Her capillary refill is less than 2 seconds

She is unconscious

How would you triage this patient?

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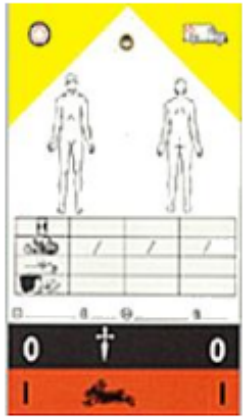
IMMEDIATE **(RED)**



Patient Scenario #5

This patient is lying quietly on the floor

He is not breathing

His capillary refill is more than 2 seconds

He is unconscious

What is the first thing you would do?

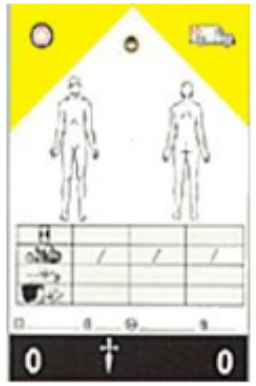
Patient Scenario #5

He gurgles a couple of times as you attempt to open his airway but does not resume breathing on his own

His capillary refill is still more than 2 seconds

He is still unconscious

DECEASED **(BLACK)**



Key Points

- The physiology of adults and children differ; therefore different primary triage systems should be used
- Use JumpSTART for infants through older children
- Use START for young adults and older
- Primary triage is just the first look at an MCI victim, similar to the primary/initial survey/assessment

Thank you