Lect. 3 I Triage in the ED & Creating an action Plan

Prof. Hala Saad Abdel-Ghaffar

Before creating the action plan for this patient, you have to define the urgency of his condition by what is called ''Triage''

High-Yield

From past exams

1. I

Triage I

- ''Trier'' is the French verb that means to separate or to select or sort.
- Triage is the sorting of patients (as in an emergency room) according to the urgency of their need for care. Triage is the process of **rapid initial assessment** of a patient to **define the urgency of medical care and priorities in treatment**.
- Each organization has its own triage system. They all create priorities for who gets care or is transported for a higher level of care. The most common triage systems use **color-coding**.

Triage process is the gatekeeper to the emergence department.

- **Over triage** (scaling up the patient's urgency condition) can use up vital beds in ED,
- **Under triage** (scaling down the patient's urgency condition) can delay vital care to critical patients.

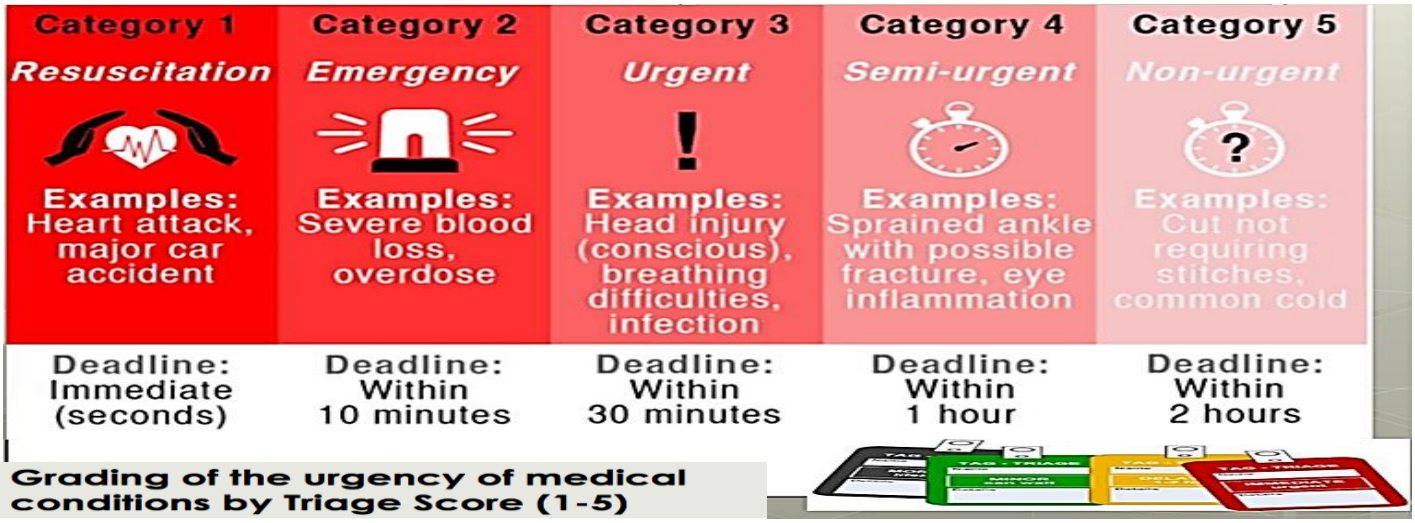
Important questions regarding Triage:

- **What:** Sorting patients into priority groups according to their needs and the available resources.
- **Why:** Identify and treat seriously ill patients as soon as possible to prevent deterioration in their conditions.
- **When:** as soon as the patient arrives at the ED.
- **Where:** at various locations, depending on the facility (waiting room, designated triage area)
- **Who:** all clinical staff (nurses, physicians) can do triage.
- **How:** rapid assessment performed within **15-20 seconds**, without using equipment or taking vital signs.

How to perform this rapid assessment?

- Look and listen
- What is the overall appearance of the patient?
  - Is he/she conscious and reactive?
  - Is he/she poorly responsive or sick?

For patients who are sick, systematically look for the presence of emergency and priority signs such as altered mental status, respiratory distress, airway obstruction, snoring, wheezes, weak pulse, acute chest pain, external bleeding, seizures, agitation, abdominal pain, major burns, etc.



Grading of the urgency of medical conditions by Triage Score (1-5)

TRIAGE SCALE

Category	Treatment accurate (Max. Waiting time)
1	Immediate
2	10 minutes
3	30 minutes
4	60 minutes
5	120 minutes

- After triage, a triage tag is inserted to each patient according to his/her seriousness of the condition.
- Doctors must deliver medical care to their patients in the emergency department within these time limits according to each patient's color-coded card.

Triage Case Scenarios I

Scenario 1

Violet is a 91 years old female patient of non-English speaking background. She is brought to the hospital in her son's car after seeing the local doctor in the next town. You are called to assist her to get out of the car. Her son tells you she is "very sick". You note that she is able to transfer to a wheelchair with minimal assistance. According to her son, violet fell three days earlier and has bruised her right hip. She is able to walk, through her hip is very painful. She is not distressed when seated. Her blood pressure is 150/90, heart rate 88 and respiratory rate 20. You are unable to ascertain her exact level of pain, though she tells you she is alright.

Triage score?

Reasons?

Answer:

Triage Score: 4

Reasons:

— Airway, breathing and circulation intact
— Hip causing pain on movement but able to weight-bear.
— Should wait no longer than 60 minutes

Scenario 2

A father presents to the hospital at 2000hrs with his three and a half year old daughter, Savannah, stating that she has had a sore throat for "a day or two". It started with a runny nose and a fever, then yesterday she began complaining of a sore throat. She has no cough or stridor, she demonstrates no shortness of breath and her skin is pink and warm.

Triage score?

Reason?

2000hrs=83.33 days (about 2 and a half months); an expression used to denote the period of the Covid-19 pandemic).

Answer:

Triage Score: 4

Reasons:

— Airway, breathing and circulation are intact
— She is experiencing some discomfort from her condition and should commence treatment within 60 minutes.

Scenario 3

Nic, a 38 year old arborist, has cut his left arm with a chain saw. He was brought into the hospital by a workmate. He has a deep laceration of about 10cm to the inner aspect of his arm. The wound was bleeding "quite a bit" but the blood loss has been controlled with firm bandaging. He tells you that the wound is "not that painful" but he looks pale and is sweating. His heart rate is 84 and his respiratory rate 20. His workmate reports that the dressing was changed once, half an hour ago because it was soaked with blood. Chain saw: منشار

Triage score?

Reasons?

Answer:

Triage Score: 3

Reasons: Airway and breathing are intact, no hemodynamic compromise despite moderate blood loss

- *This patient should wait no longer than 30 minutes before treatment is commenced*
- *A clean dressing and firm bandage should be applied to the wound. A sling should be applied and elevation of the arm should occur*
- *Retriaging will be required if hemodynamic compromise or increased blood loss occur*

In this case definitive treatment is *operative repair of his wound, while resuscitative treatment should start immediately upon admission to ED (IV cannula, iv fluids, and routine investigations)*

Scenario 4

Baz, 34 years old, was installing a ceiling fan with the assistance of a friend in his own home. He received a 240 volt charge to his right hand, and was thrown back against the roof. His friend immediately switched off the power and called an ambulance. Baz had a brief period of loss of consciousness, but was alert when the ambulance crew arrived. His heart rate is 80 and irregular and his respirations 20. He has a 5 cm blackened area to his right hand. No exit wound is seen.

Triage score?

Reasons?

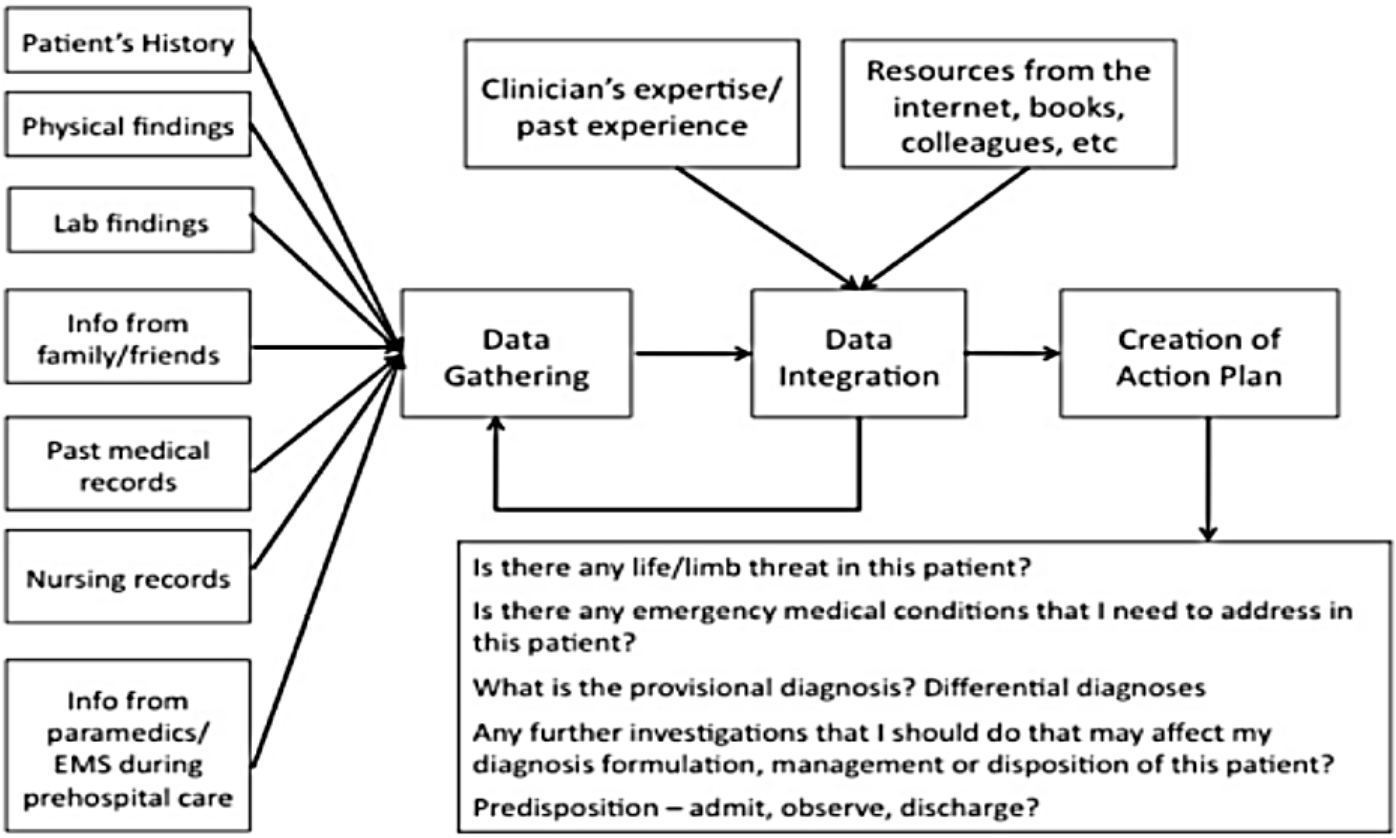
Triage Score: 2

Reasons: Airway, breathing and circulation are intact

- *Likely full thickness burn from electrocution indicates severe local trauma with possible systemic involvement*
- *Should wait no longer than 10 minutes for treatment*

Part 2: Creation of an action plan:

After defining the urgency of your patient, How to create an action plan خطة العمل to this patient in the emergency department

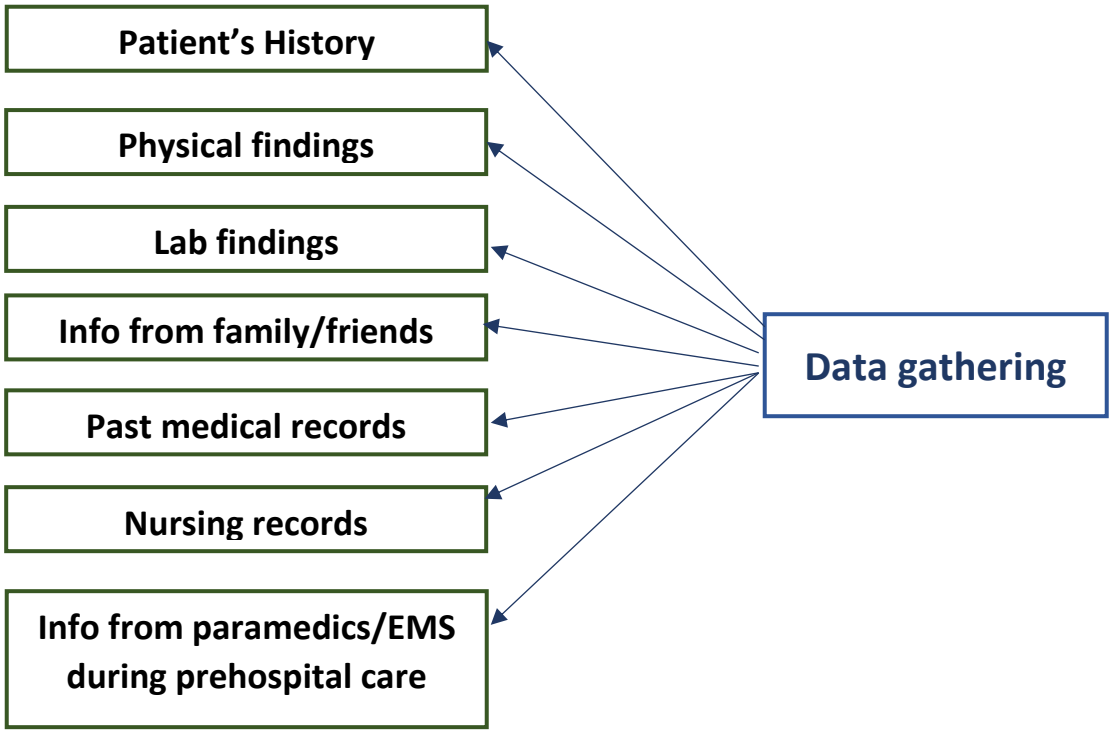


What is an emergency action plan I

- An Emergency Action Plan (EAP) is a written protocol detailing the appropriate management of various types of medical emergencies.
- An EAP is an essential component of patient management that will be individualized according to each patient's condition.
- It contains the management details including suggested further investigations, procedures, and drugs for each individual patient.
- Each patient category, will have its' own emergency action plan that should be clearly defined and documented.

Step 1

Data Gathering (collection)



EMS: Emergency medical service

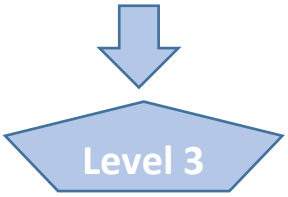
Importance of Vital Signs:

- When formulating your action plan, It is essential to look at the vital signs chart (including the arterial blood pressure, pulse rate, respiratory rate, peripheral arterial oxygen saturation and temperature).
- The trend of measurements of vital signs over time is what we look for not an isolated or single reading.
- Bear in mind that "normal" vital signs can be abnormal.
- **For example:**
  1- An elderly patient with BP that usually ranges from 140 – 160/90 –100 mmHg can mean that he is unstable with a BP of 110/70 mmHg and persistent vomiting and diarrhea.
  2- A patient with severe asthmatic exacerbations who was tachypneic and restless initially does not mean that he is now stable if he is "calmer" with a respiratory rate reduced to 10 breaths per minute.

Besides observing the trend of vital signs, you should know the normal values for each age category, especially the pediatric patients.

Danger Zone Vitals

	HR	RR	SaO_2
< 3 m	> 180	> 50	< 92 %
3 m:3 y	> 160	> 40	< 92 %
3:8 y	> 140	> 30	< 92 %
> 8 y	> 100	> 20	< 92 %



An example:

Are these vital signs normal?

Trauma

- Notified by EMS you are receiving an 8 y/o female hit by a bus. Witnesses state she was thrown across the street.
- **VS:** HR=148, RR=36, BP=70/palp, 0_2 sat=91%.

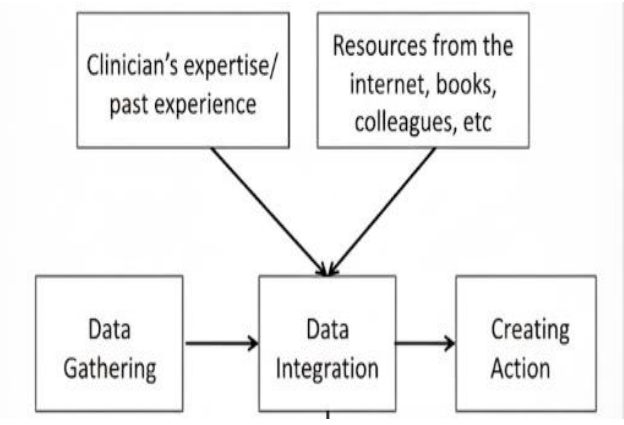
Hematemesis

- EMS arrives with a 49-year-old male with a history of cirrhosis and hepatitis C. His wife called 911 when he started vomiting bright red blood. On arrival he is pale, diaphoretic and has a BP of 92/78, HR 130, RR 28.

Step 2

Data Integration

- ***The emergency department clinician integrates and analyzes the gathered data to build his action plan based on:***
  - **1-** Data collected in step1.
  - **2-** His/her clinical experience.
  - **3-** Scientific resources; books, research articles and internet web sites.



A doctor working in the ED needs to have good clinical sense and adequate knowledge of emergency conditions commonly presented to the ED.

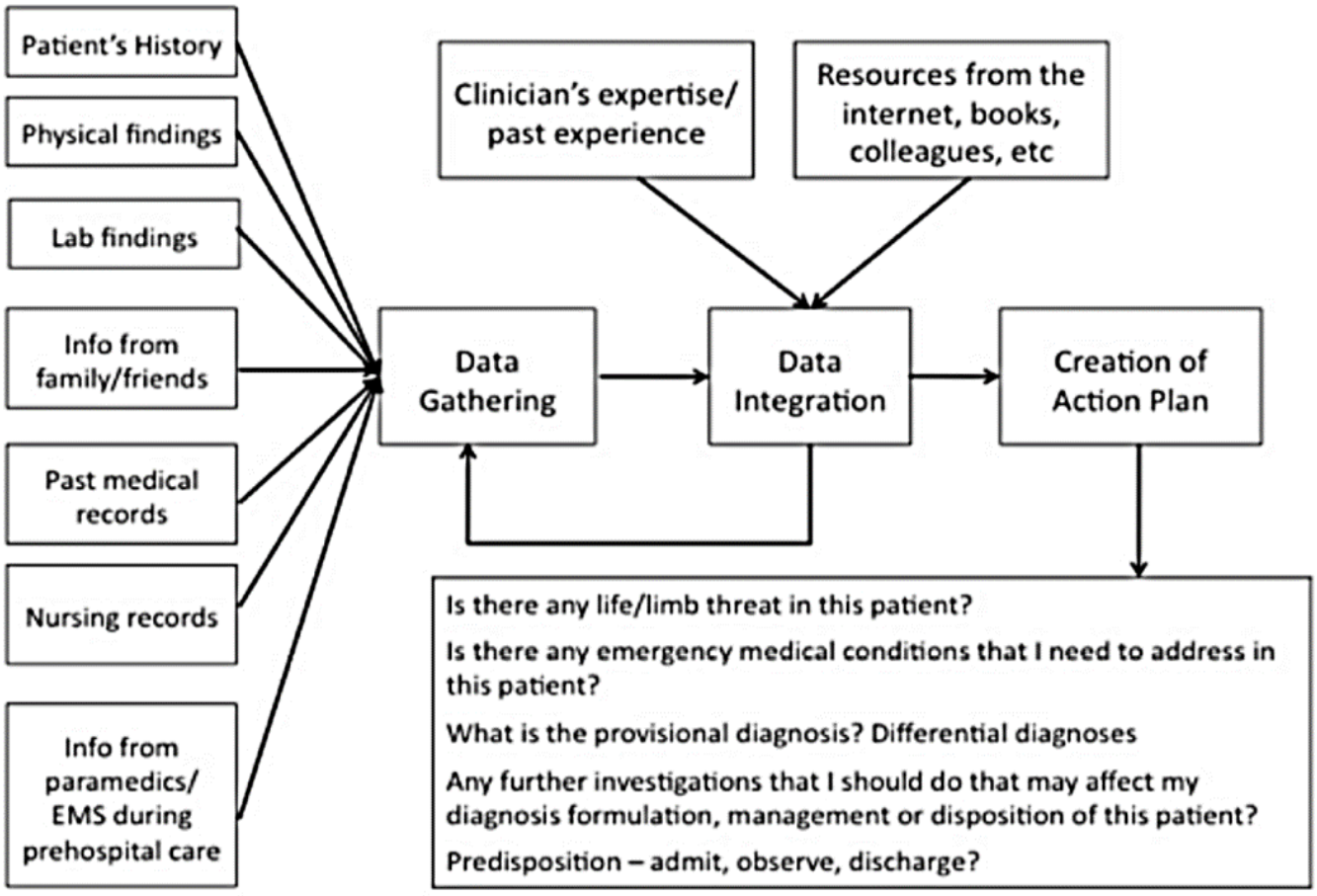
Step 3

Create your action plan

- Based on the data gathered in step 1 and the professional data integration conducted in step 2, the experienced emergency department physician creates his/her plan for management.
- He/she **documents every step in patient management**.

The action plan should include:

- Identification and exclusion of the presence of a serious life or limb threatening condition.
- The provisional diagnosis set and the differential diagnosis for such condition.
- The management protocol regarding fluid management, drugs, suggested further investigations, suggested further procedures, and the definitive management whether drugs or operative procedures.
- The predisposition of admission in the ward, ICU transfer, observe, or discharge of this patient.



QUIZ

Q1: Triage is the sorting of patients in an emergency room according to the

a. The arrival time
b. Their age
c. The urgency of their need of care
d. Type and site of medical emergency

Q2: Over triage leads to

a. Better hospital record
b. Use up of vital beds in the emergency department
c. Delay vital care to critical patients
d. Better control of emergency needs

Q3: Under triage leads to

a. Better hospital records
b. Better control of emergency needs
c. Use up of vital beds in the emergency department
d. Delay vital care to critical patients

Q4: A patient with a heart attack is considered to be Select one:

a. Triage score 1
b. Triage score 2
c. Triage score 3
d. Triage score 4

The correct answer is: Triage score 1

Q5: A patient with drug overdose should be managed in the emergency department in no more than

a. 30 minutes
b. 60 minutes
c. 10 minutes
d. 120 minutes

Q6: A 33-year-old male presented to the emergency department after having motor vehicle accident 1 hour ago in which he was an unrestrained passenger. His initial evaluation showed GCS 15, BP 87/49 mmhg, HR 130, cool extremities and RR was 30 breath/min. Two large bore IV lines were inserted and fluid resuscitation with crystalloids started. Which of the following bedside diagnostic test should be done for this patient?

a. Acetone in urine
b. Apnea test
c. Arterial blood gas
d. Allergy test

Q7: Which of the following is considered an alert sign for possible clinical deterioration?

a. Respiratory rate is less than 30br/min
b. Seizures
c. Systolic blood pressure more than 90 mmhg
d. Airway patent

1	2	3	4	5	6	7
c	b	d	a	c	c	b