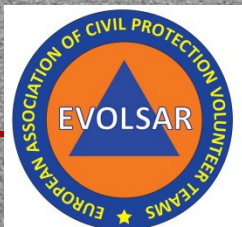


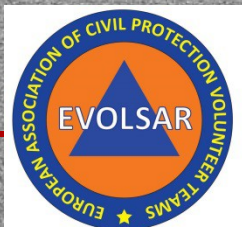
Management of Polytrauma Patient

During a Multiple Casualties Incident



Moisides Gregory – Orthopaedic Surgeon Doctor for E.H.I

Injuries that involve more than one body Systems



- **Respiratory**
- **Cardiovascular/Circulatory**
- **Nervous**
- **Musculoskeletal**
- **Digestive/Gastrointestinal**
- **Skin/integumentary**

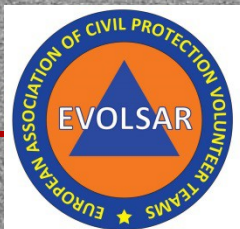


Example of polytraumatized patient:

- Head trauma
- Chest wall trauma
- Spleen trauma
- Femur fracture



- **Isolated trauma**
- **Example – simple calcaneal fracture without external bleeding**



Surrounding Environment

- Security of the medical team
- Stability of environment
- Proper lighting
- Adequate ventilation
- Security of communication



Red flags indicating severe injury of patient deterioration



- **Fumes**
- **Electrical cables**
- **Harmful fluids**



The “Golden Hour” or “Golden Period”

Is the time dealing with an injury up to its definitive treatment and relates to an injured patient.

This time has a critical period which is referred as Golden Hour.



**During a Multiple Casualties Incident (MCI)
the priority is to save the maximum number of
injured**



Polytrauma Evaluation

- **Airway**
- **Breathing**
- **Circulation with hemorrhage control**
- **Disability-Neurological evaluation**



This sequence ensures the ability of the red blood cell to circulate and deliver oxygen to the tissues



Three are the elements necessary for normal physiology

- Red blood cell (RBC) oxygenation
- RBC transfer
- Oxygen release



- **The primary evaluation targets:**
 - **Breathing – Ventilation**
 - **Blood Circulation – Bleeding**



- **Airway management**

Manual methods (jaw thrust)

Mechanical ways such as,

- **Intubation**



Cervical Spine Immobilization

- **Manually**
- **Brace**



Breathing



Rhythm

Apnea – non viable

- slow < 12/min



- **Normal 12 – 20/min**
Supplement O2
- **Fast 20 – 30/min**

Results in to CO₂ accumulation

Supplement O2 until reason is established



- Very fast >30/min

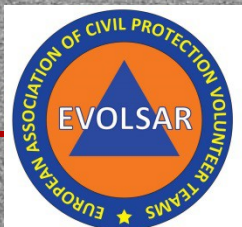
Hypoxia – anaerobic metabolism

Supplement O₂



Circulation

Hemorrhage



Hemorrhage Control

- **Direct pressure**
- **Tourniquet**



Hemorrhage Control

- **Mental State**
- **Pulse**
- **Skin color**
- **Temperature**
- **Capillary return**



Neurologic Evaluation



Glasgow Coma Scale

G.C.S

- **Eye response**
- **Verbal response**
- **Motor response**



Reminder of G.C.S



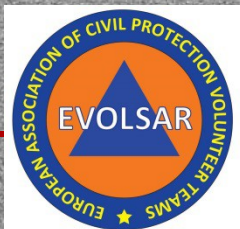
Maximum Score G.C.S 15

- G.C.S. <8 Severe
- G.C.S. 9-12 Moderate
- G.C.S. 13-15 Minor



G.C.S. < 8

Emergency Airway Management



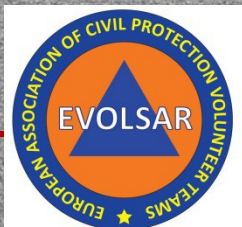
Environment

Only the absolutely necessary body parts are exposed



Environment

- **Beware of Hypothermia**
- **Patient must be warm**



All the above guide us to the **STAR TRIAGE**



STAR TRIAGE



- **Breathing 30/min**
- **Circulation 2'**

Mental state:

Can follow simple commands

**THIS IS THE POLYTRAUMA PATIENT
THAT CAN SURVIVE**



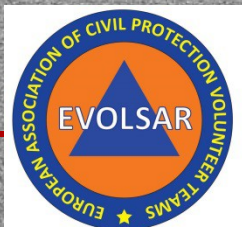
**If patient can follow simple commands
he/she is considered viable.**



Mental State

- **If there is radial pulse but cannot follow commands**

Continue support with good chance of survival



No radial pulse and capillary refill (nail pressure test) > 2''

**Hemorrhage Control
Possible Survival**

Fast evacuation and transfer



No radial pulse and and capillary refill (nail pressure test) > 2''

Mental State

Does not follow simple commands.

Evaluate evacuation time and decide transfer



Capillary Refill < 2''

**Mental state
Follows commands.**

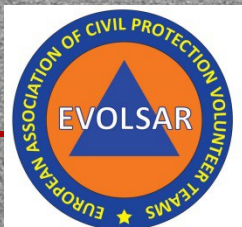
Evacuate and continue support



Dangerous Syndromes

With low survival rate due to increased evacuation time

- **ARDS (Respiratory distress)**
- **Crush Syndrome**



ARDS

- **Pneumothorax open**
- **Pneumothorax closed**

Mechanical Respiratory Support



Crush

- **Evacuation with bleeding control**
- **Load with iv fluids to avoid possible renal failure**



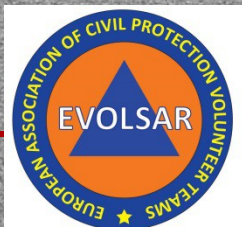
When to STOP CPR?



This basic knowledge should allow us to evaluate,

- **The survivors**
- **The one who could survive with appropriate treatment.**

THIS IS THE REALITY OF Multiple Casualties Incidence



THANK
YOU



Μουσιδης Κ. Γρηγόριος – Ορθοπαιδικός Χειρουργός-Ιατρός Ε.Π.Ι