

# TACTICAL COMBAT CASUALTY CARE COURSE

## MODULE 12: HEAD INJURIES



Committee on  
Tactical Combat  
Casualty Care  
(CoTCCC)

**TCCC TIER 1**  
All Service Members

**TCCC TIER 2**  
Combat Lifesaver

**TCCC TIER 3**  
Combat Medic/Corpsman

**TCCC TIER 4**  
Combat Paramedic/Provider

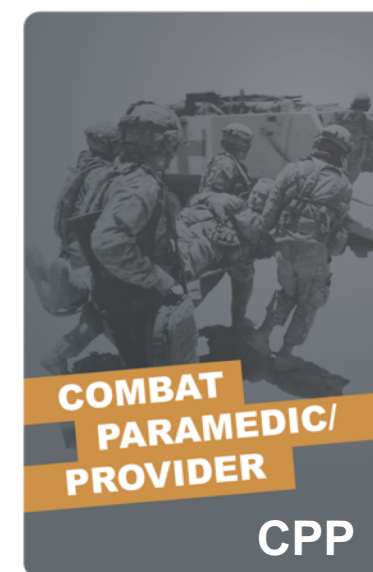
# TACTICAL COMBAT CASUALTY CARE (TCCC) ROLE-BASED TRAINING SPECTRUM

## ROLE 1 CARE

### NONMEDICAL PERSONNEL



### MEDICAL PERSONNEL



◀ **YOU ARE HERE**

STANDARDIZED JOINT CURRICULUM

# TERMINAL LEARNING OBJECTIVE

## 13 Identify a head injury in accordance with DoDI 6490.11, Change 1. 1 June 2018

- **68** Identify external forces that can cause a head injury (DoDI 6490.11 enclosure 3 Section 1).
- **69** Identify signs and symptoms of a head injury (DoDI 6490.11, enclosure 3 Figure IED checklist).
- **70** Identify the critical observations that should be reported to medical personnel for trauma casualties with a suspected head injury, in accordance with the Military Acute Concussive Evaluation 2 (MACE 2).

## 3 ENABLING LEARNING OBJECTIVES (ELOs)

● = Cognitive ELOs ● = Performance ELOs

# Three PHASES of TCCC

## 1 CARE UNDER FIRE

**RETURN FIRE  
AND TAKE COVER**

Quick decision-making:

- Consider scene safety
- Identify and control life-threatening bleeding
- Move casualty to safety

## 2 TACTICAL FIELD CARE

**COVER AND  
CONCEALMENT**

Basic management plan:

- Maintain tactical situational awareness
- Triage casualties as required
- Conduct MARCH PAWS assessment



**YOU ARE HERE**

## 3 TACTICAL EVACUATION CARE

More deliberate assessment and treatment of unrecognized life-threatening injuries

- Pre-evacuation procedures
- Continuation of documentation

**NOTE: This is covered in more advanced TCCC training!**



# TACTICAL FIELD CARE

## MARCH PAWS

### *DURING* LIFE-THREATENING

**M** MASSIVE BLEEDING #1 Priority

**A** AIRWAY

**R** RESPIRATION (*breathing*)

**C** CIRCULATION



**H** HYPOTHERMIA/  
HEAD INJURIES

### *AFTER* LIFE-THREATENING

**P** PAIN

**A** ANTIBIOTICS

**W** WOUNDS

**S** SPLINTING

## POTENTIAL MECHANISMS OF HEAD INJURY

Head injury is trauma to the **scalp, skull, and/or brain**



- Involvement in a vehicle **blast event, collision, or rollover**
- Presence within **50 METERS** of a **blast (inside or outside)**
- A direct blow to the head or witnessed loss of consciousness
- Exposure to **more than one blast event** (the Service member's commander will direct a **medical evaluation**)

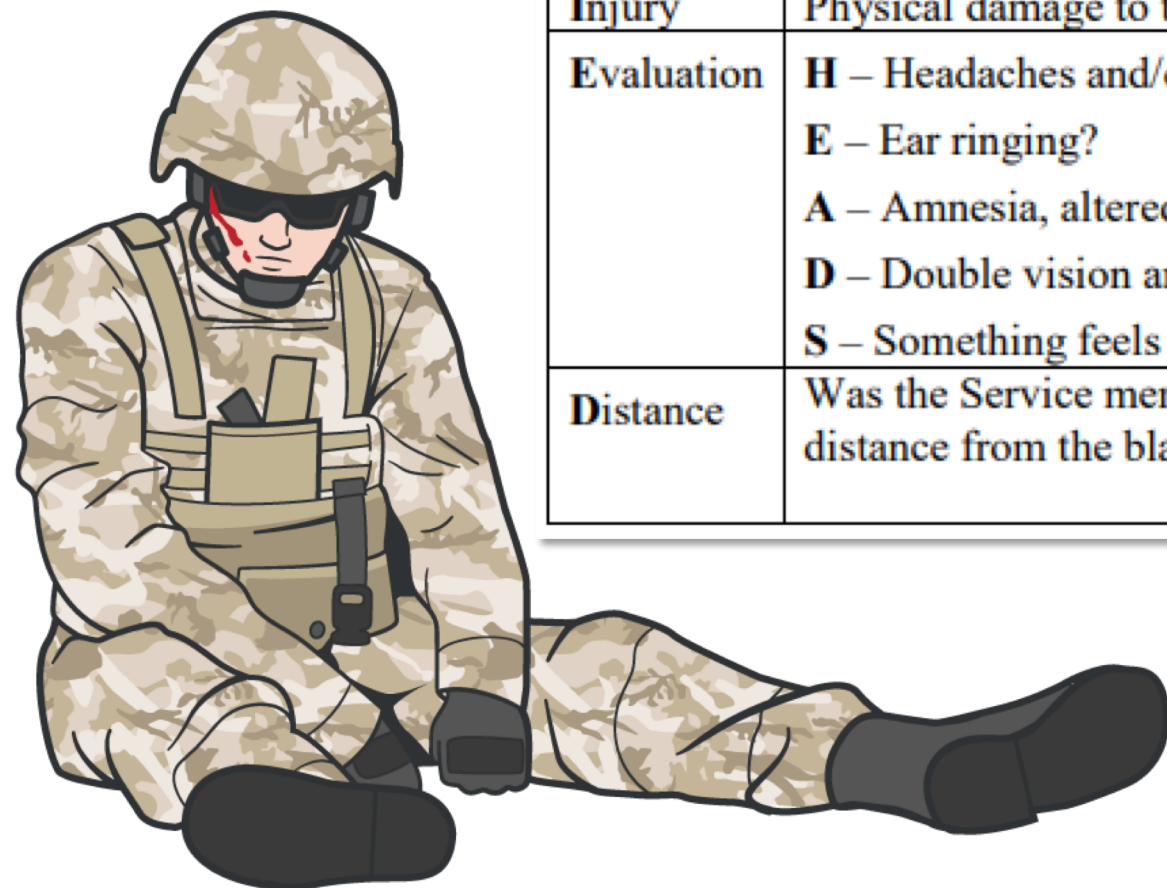
**OTHER EXTERNAL FORCES MAY ALSO LEAD TO HEAD INJURIES**

## SIGNS AND SYMPTOMS OF HEAD INJURY

### IED Checklist

<b>Injury</b>	Physical damage to the body or body part of a Service member?	(Yes/No)
<b>Evaluation</b>	<b>H</b> – Headaches and/or vomiting?	(Yes/No)
	<b>E</b> – Ear ringing?	(Yes/No)
	<b>A</b> – Amnesia, altered consciousness, and/or loss of consciousness?	(Yes/No)
	<b>D</b> – Double vision and/or dizziness?	(Yes/No)
	<b>S</b> – Something feels wrong or is not right?	(Yes/No)
<b>Distance</b>	Was the Service member within 50 meters of the blast? Record the distance from the blast.	(Yes/No) Not Applicable

DoDI 6490.11 (section 3, para 2.a)



## SIGNS AND SYMPTOMS REQUIRING MACE 2\* EVALUATION BY MEDICAL PERSONNEL

Evaluations are **most effective** when done **as soon as possible** after the injury. **Traumatic brain injury (TBI)** is likely if the casualty shows signs of **ANY** of the following:

- Deteriorating level of consciousness
- Double vision
- Increased restlessness; combative or agitated behavior
- Repeat vomiting
- Results from a structural brain injury detection device (if available)
- Seizures
- Weakness or tingling in arms or legs
- Severe or worsening headache

### MACE 2

Military Acute Concussion Evaluation

**Use MACE 2 as close to time of injury as possible.**

Service Member Name: \_\_\_\_\_

DoD/EDIP/SSN: \_\_\_\_\_ Branch of Service & Unit: \_\_\_\_\_

Date of Injury: \_\_\_\_\_ Time of Injury: \_\_\_\_\_

Examiner: \_\_\_\_\_

Date of Evaluation: \_\_\_\_\_ Time of Evaluation: \_\_\_\_\_

**Purpose:** MACE 2 is a multimodal tool that assists providers in the assessment and diagnosis of concussion. The scoring, coding and steps to take after completion are found at the end of the MACE 2.

**Timing:** MACE 2 is most effective when used as close to the time of injury as possible. The MACE 2 may be repeated to evaluate recovery.

**RED FLAGS**

Evaluate for red flags in patients with Glasgow Coma Scale (GCS) 13-15.

<ul style="list-style-type: none"> <li><input type="checkbox"/> Deteriorating level of consciousness</li> <li><input type="checkbox"/> Double vision</li> <li><input type="checkbox"/> Increased restlessness, combative or agitated behavior</li> <li><input type="checkbox"/> Repeat vomiting</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Results from a structural brain injury detection device (if available)</li> <li><input type="checkbox"/> Seizures</li> <li><input type="checkbox"/> Weakness or tingling in arms or legs</li> <li><input type="checkbox"/> Severe or worsening headache</li> </ul>
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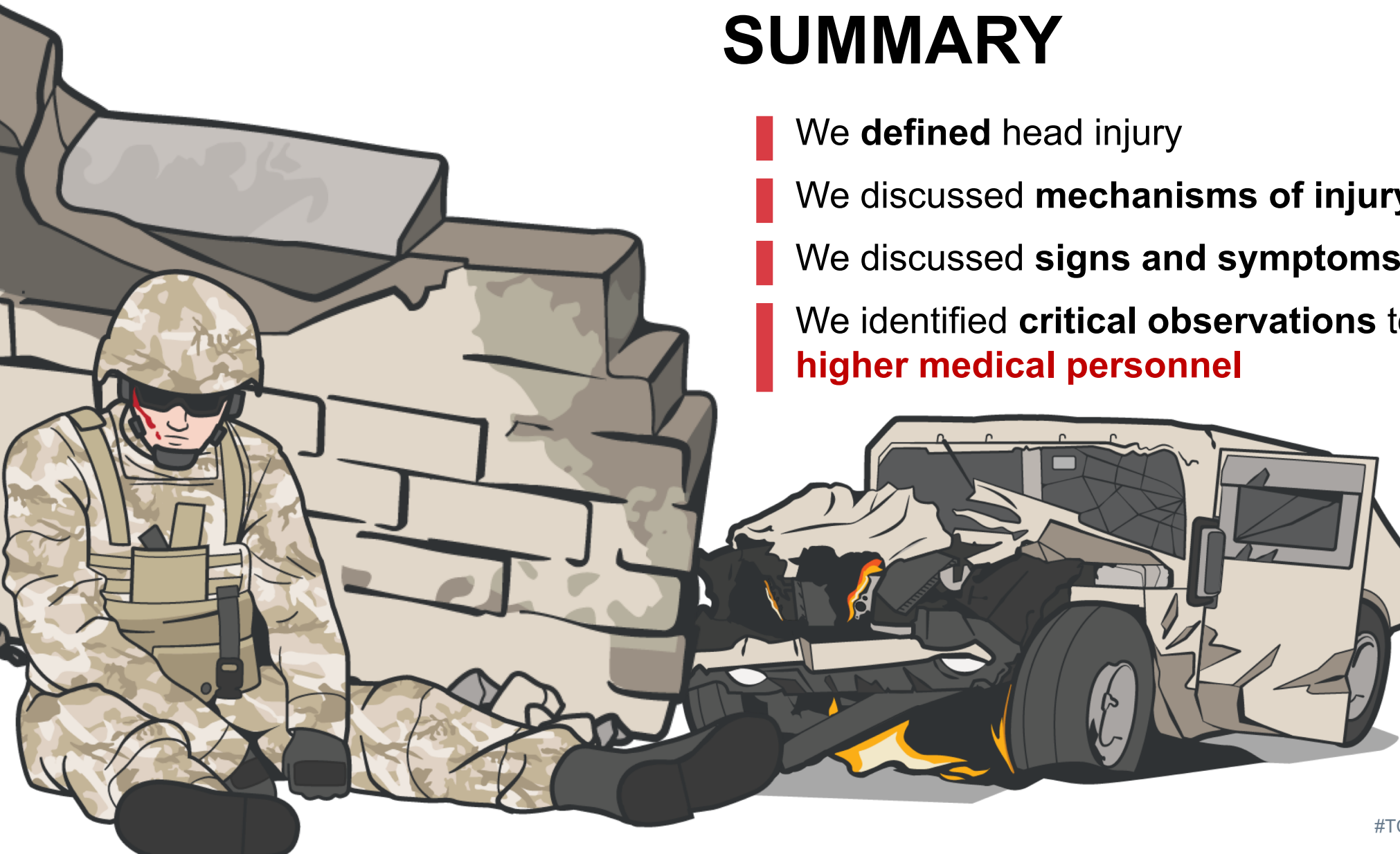
**Defer MACE 2 if any red flags are present. Immediately consult higher level of care and consider urgent evacuation according to evacuation precedence/Tactical Combat Casualty Care (TCCC).**

☐ **Negative for all red flags**  
Continue MACE 2, and observe for red flags throughout evaluation.

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## SUMMARY

- We **defined** head injury
- We discussed **mechanisms of injury**
- We discussed **signs and symptoms**
- We identified **critical observations** to **report to higher medical personnel**



# CHECK ON LEARNING

- What external forces can cause a head injury?
- What are the critical observations that should be reported to medical personnel for trauma casualties with a suspected head injury, in accordance with MACE 2?

# ANY QUESTIONS?