

CPP

TCCC

**COMBAT PARAMEDIC/
PROVIDER**

TACTICAL COMBAT CASUALTY CARE COURSE

MODULE 14: EYE 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

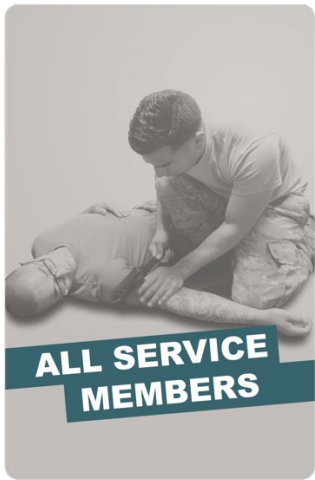
TCCC TIER 4
Combat Paramedic/Provider



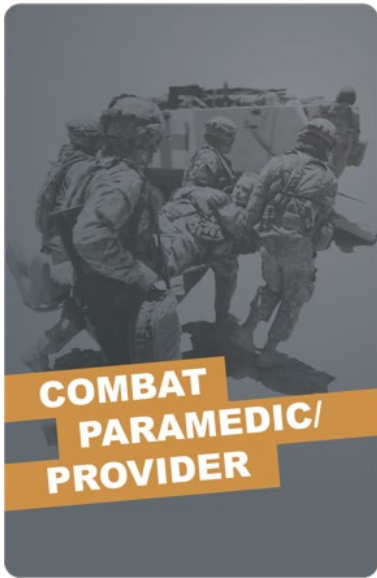
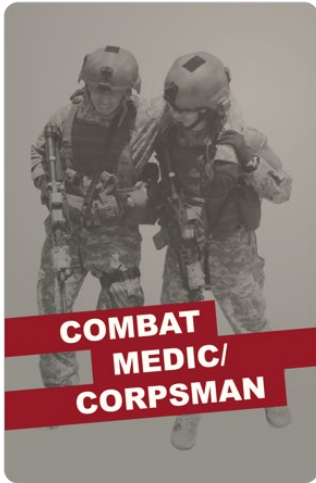
TACTICAL COMBAT CASUALTY CARE (TCCC) ROLE-BASED TRAINING SPECTRUM

ROLE 1 CARE

NONMEDICAL
PERSONNEL



MEDICAL
PERSONNEL



YOU ARE HERE

STANDARDIZED JOINT CURRICULUM



1 x **TERMINAL LEARNING OBJECTIVES**

16 Given a combat or noncombat scenario, perform assessment and initial treatment of penetrating eye trauma during Tactical Field Care in accordance with CoTCCC Guidelines.

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- **16.1** Identify basic care of an eye injury in accordance with CoTCCC Guidelines.
- **16.2** Demonstrate a rapid field test of visual acuity on a casualty with an eye injury.
- **16.3** Demonstrate the application of a rigid eye shield to a trauma casualty in Tactical Field Care.
- **16.4** Identify any evidence-based medicine, best practices, casualty data, and Subject Matter Expert consensus on the management of penetrating eye trauma management techniques in Tactical Field Care

04 x **ENABLING LEARNING OBJECTIVES**



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Module 14: Eye Injuries

MARCH PAWS

LIFE-THREATENING

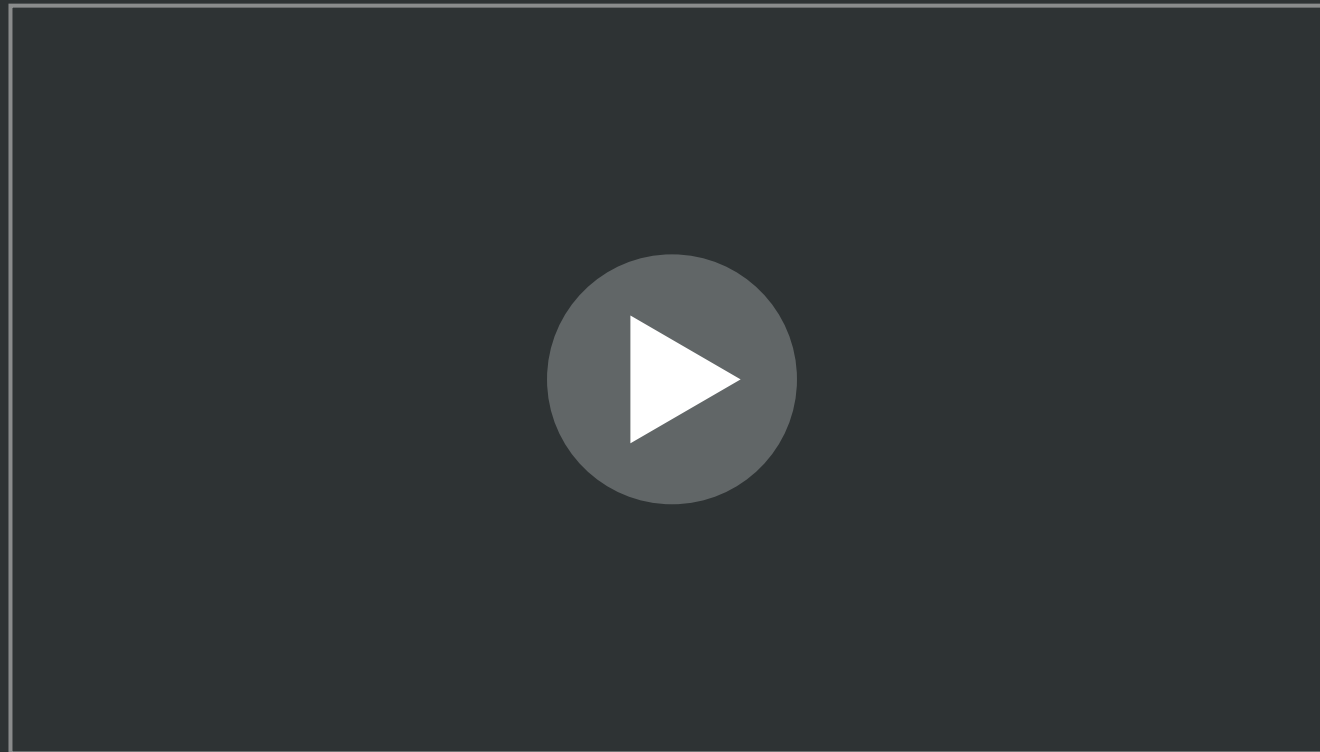
- M** MASSIVE BLEEDING
#1 Priority
- A** AIRWAY
- R** RESPIRATION (*Breathing*)
- C** CIRCULATION
- ▶ **H** HYPOTHERMIA /
HEAD INJURIES

AFTER LIFE-THREATENING

- P** PAIN
- A** ANTIBIOTICS
- W** WOUNDS
- S** SPLINTING



EYE INJURIES OVERVIEW

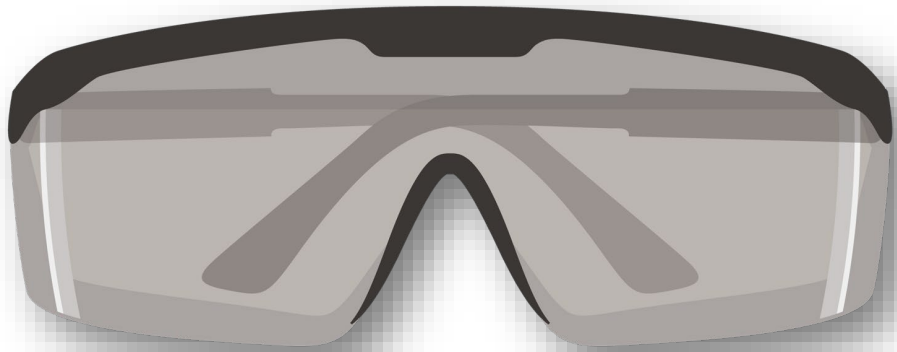


Video can be found on deployedmedicine.com

PREVENTION

PENETRATING EYE INJURY

Using tactical eyewear in the field will generally prevent the eye injury from happening in the first place!



M A R C H



WHEN TO SUSPECT A PENETRATING EYE INJURY

- 1 **Bleeding** surrounding the eye, **inside** the globe of the eye, or **coming from** the globe of the eye
- 2 **Obvious penetration** of **shrapnel** or **foreign bodies** into the globe of the eye or eye socket
- 3 **Objects protruding** from the globe of the eye
- 4 **Swelling or lacerations** of the globe of the eye
- 5 **Protrusion** of the globe of the eye from the eye socket
- 6 **Reduced vision and swelling** of the eye area
- 7 **Misshapen or distorted** parts of the eye from normal

VISION

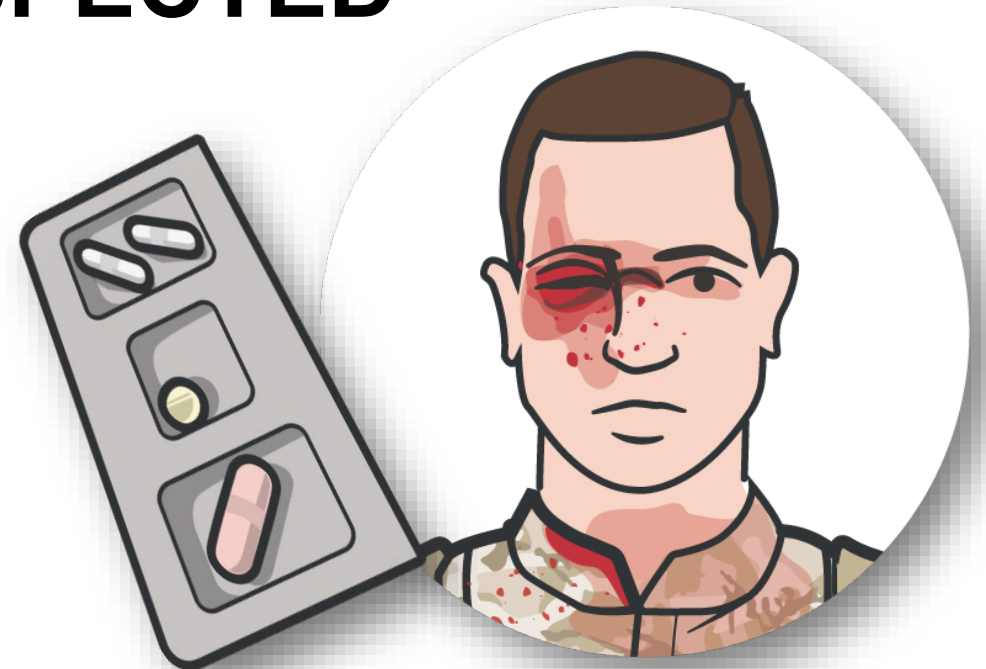


M A R C H



WHEN A **PENETRATING EYE INJURY** IS NOTED OR SUSPECTED

- 1** Perform a **RAPID FIELD TEST OF VISUAL ACUITY** and document findings
- 2** **COVER THE AFFECTED EYE** with a rigid eye shield (NOT a pressure patch)
- 3** **ADMINISTER** the casualty's complete **Combat Wound Medication Pack (CWMP)** or IV/IO/IM antibiotics if unable to swallow
- 4** **REMEMBER** Document all findings (including visual acuity) and treatments on the casualty's **DD Form 1380**



REMEMBER ALL suspected penetrating eye injuries should be evacuated as soon as possible

M A R C H



RAPID **VISUAL ACUITY** TESTING

RAPID VISUAL ACUITY TESTING includes testing the casualty's ability to read print, count fingers, identify hand motion, or differentiate light from dark



S M I T H



M A R C H



Rapid Visual Acuity Testing is NOT a formal vision screening with a Snellen Eye Chart

DO NOT force open a swollen eye to conduct a field visual acuity test



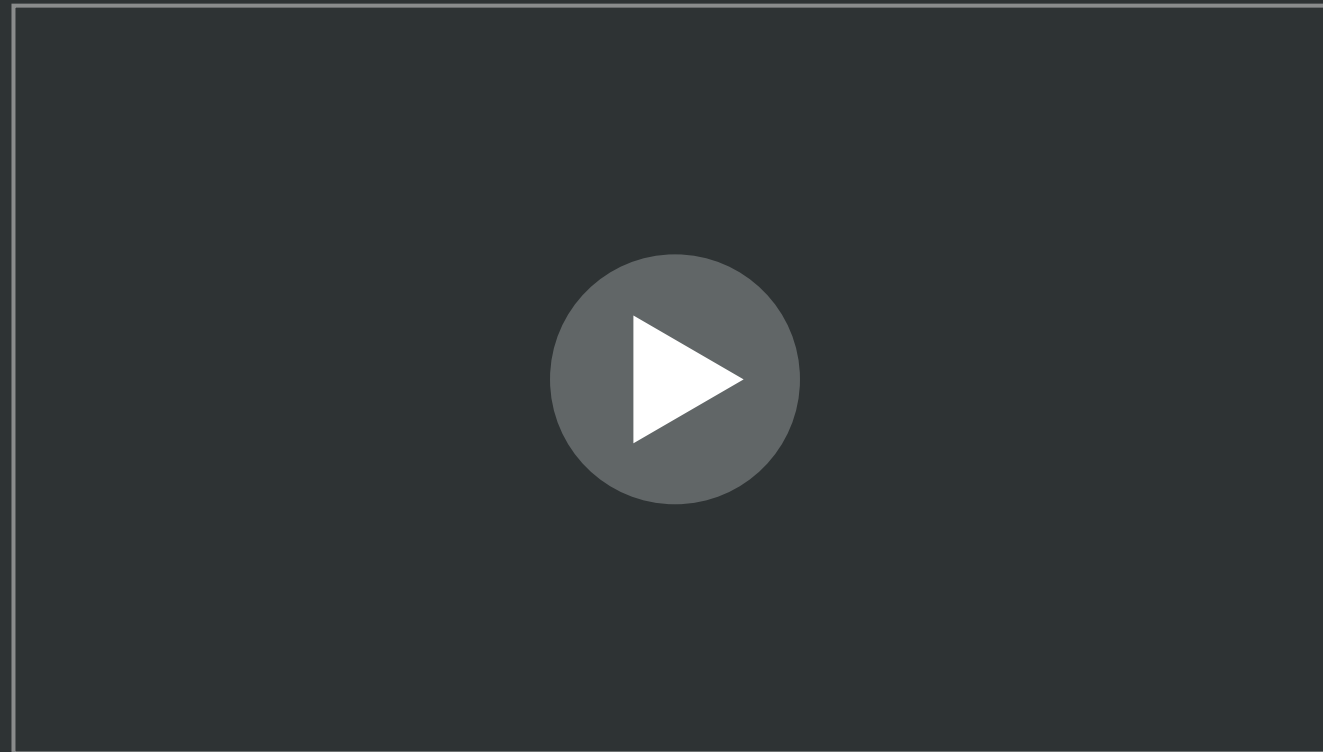
REMEMBER to document all findings (including visual acuity for both eyes) on a DD Form 1380 TCCC Casualty Card



Level of Evidence: B-NR



PERFORMING A RAPID FIELD VISUAL ACUITY TEST



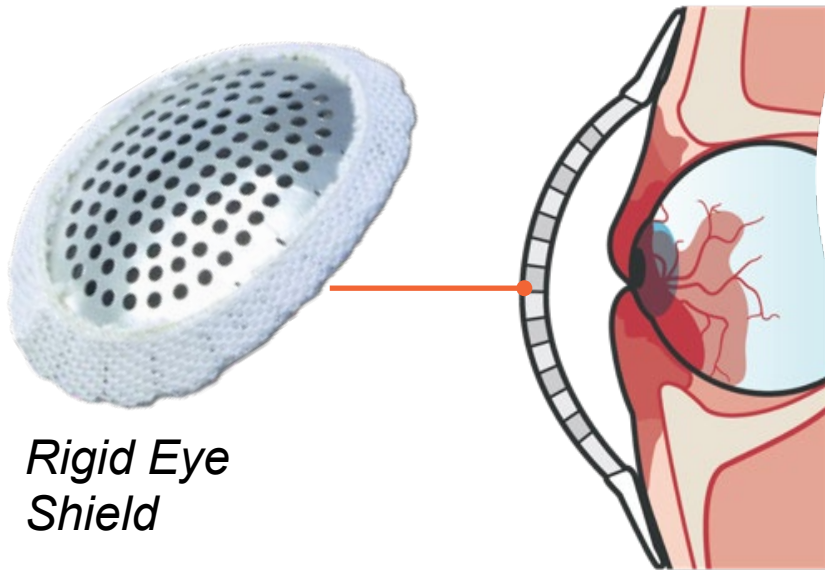
Video can be found on deployedmedicine.com



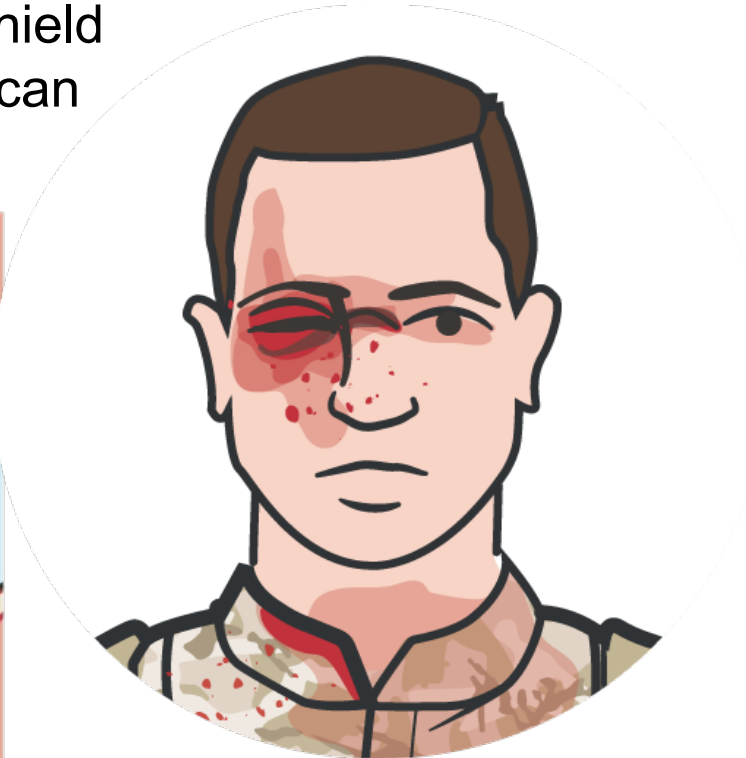
RIGID EYE SHIELD

APPLY A RIGID EYE SHIELD

Alternatively, an improvised eye shield or unit-issued protective eyewear can be used to protect an injured eye



Rigid Eye
Shield



IMPORTANT!

DO **NOT** APPLY PRESSURE

Avoid/prevent manipulation, pressure, or additional trauma to the eye that might cause further damage

Pressure on the eye could force the interior contents of the eye out of the eyeball through a cut or laceration



Level of Evidence: C-LD

M A R C H





APPLYING A RIGID EYE SHIELD

RIGID EYE SHIELD is found in the casualty's JFAK and most medical kits

Secure the rigid eye shield with tape at **45-degree angles** across the forehead and cheek

If rigid eye shield is not available, use an **improvised eye shield** or **tactical protective eyewear** to cover and protect the injured eye



Do **NOT** apply any pressure or cover both eyes unless both eyes are injured

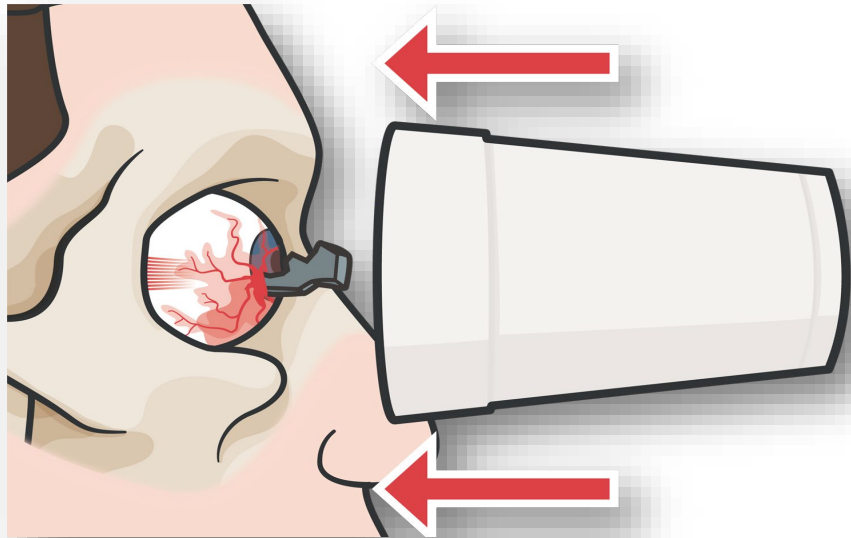




IMPROVISED EYE SHIELD

APPLY AN IMPROVISED EYE SHIELD

An improvised eye shield can be a Styrofoam or plastic cup applied to protect an injured eye



IMPORTANT!

DO **NOT** APPLY PRESSURE

Avoid placing dressings or bandages between eye shield and injured eye



Level of Evidence: C-LD

M A R C H



ADMINISTER ANTIBIOTICS

If the casualty is conscious, ensure administration of the complete **combat wound medication pack (CWMP)** including **400 mg MOXIFLOXACIN** tablet by mouth

If the casualty is unconscious or in shock and cannot swallow, administer **1-gram ERTAPENEM** IV/IM/IO

Antibiotics should be administered as soon as possible after wounding



IMPORTANT CONSIDERATION:

Topical antibiotic drops or ointments are not recommended for penetrating eye injuries in TCCC



Know unit members' allergies prior to deployment and determine alternate antibiotics, as needed



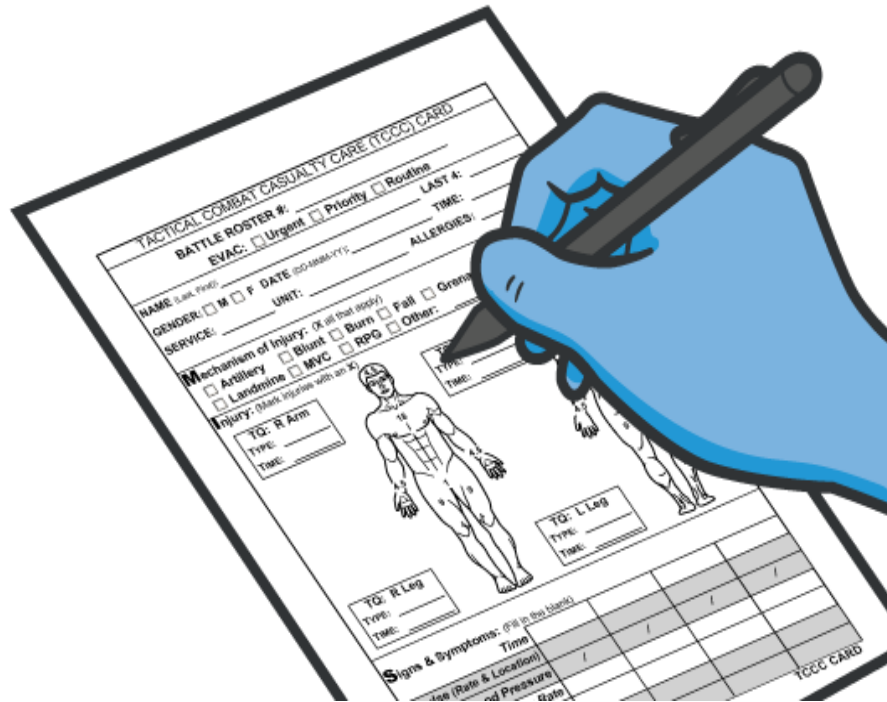
Level of Evidence: B-NR

M A R C H





DOCUMENT TREATMENT



Document all findings and treatments on the DD Form 1380 and attach it to the casualty

Include results of rapid visual acuity test

Include any medications administered and the time administered

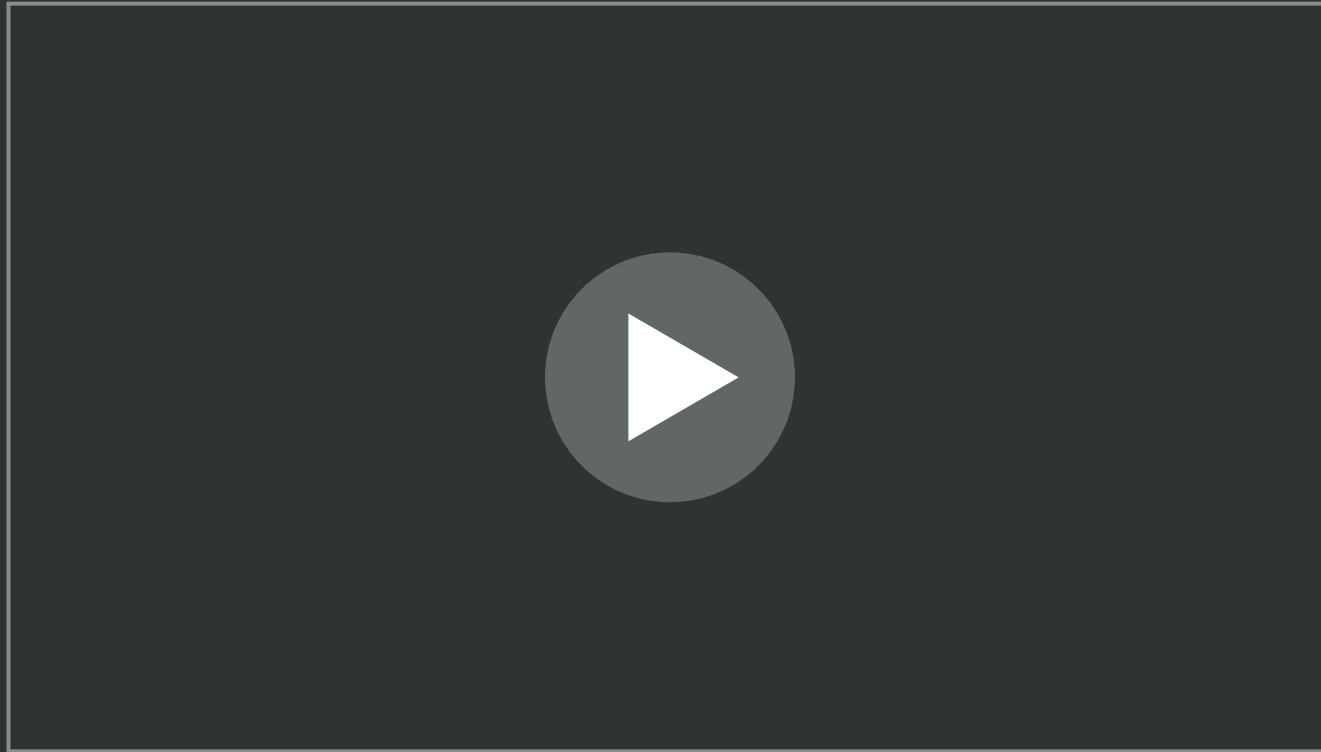


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Module 14: Eye Injuries

APPLYING THE RIGID EYE SHIELD



Video can be found on deployedmedicine.com



ASSESSING THE EVIDENCE FOR GUIDELINES

Level of Evidence	AHA Recommendation System Terminology Explanation	Why the AHA Classification System?
A	Evidence from multiple randomized clinical trials (RCT) with concordant results or from HIGH-QUALITY meta-analyses.	<ul style="list-style-type: none">• The level of evidence recommendations allow readers to quickly glean information on the strength, certainty, and quality of evidence supporting each recommendation.• A recommendation with Level of Evidence (LOE) C does not imply that the recommendation is weak.• Although, RCTs are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.
B-R	Evidence from moderate-quality trials, or a meta-analysis of moderate quality (RCT) followed by an R to denote RANDOMIZED studies	
B-NR	Evidence from moderate-quality trials, or a meta-analysis of moderate quality followed by NR to denote NON-RANDOMIZED studies	
C-LD	There is no convincing evidence and is followed by LD to indicate LIMITED DATA	
C-EO	There is no convincing evidence and is followed by EO if the consensus is based on EXPERT OPINION , case studies or standards of care.	



EVIDENCE SUPPORTING TCCC EYE TRAUMA ASSESSMENT AND INITIAL TREATMENT STRATEGIES

Subject Category	Study Types	Level of Evidence
Perform Rapid Field Test of Visual Acuity	Retrospective, Observational Studies	B-NR
Apply a Rigid Eye Shield	Subject Matter Expert Consensus	C-LD
Initiate Early Antibiotic Therapy	Retrospective, Observational Studies Subject Matter Expert Consensus	B-NR



SKILL STATION

Eye Injuries (skills)



Rapid Field Visual Acuity Testing



Application of a Rigid Eye Shield



SUMMARY

Knowledge Topics

- Basic care of an eye injury
- Use of a pressure patch is NOT recommended to treat eye injuries
- Eye injury treatment strategies are evidence-based

Skills and Abilities

- Perform the Rapid Field Test of Visual Acuity
- Apply a rigid eye shield



CHECK ON LEARNING



What kind of dressing should be used on penetrating eye trauma with an impaled object?



When should a pressure dressing be used in treating traumatic eye injuries?



True or False: The Snellen Eye Chart is used for performing a rapid field visual acuity test?



True or False: Only the injured eye should be covered with an eye shield?



True or False Topical antibiotics and drops are authorized antibiotic treatment for the CPP in TCCC?



ANY QUESTIONS?

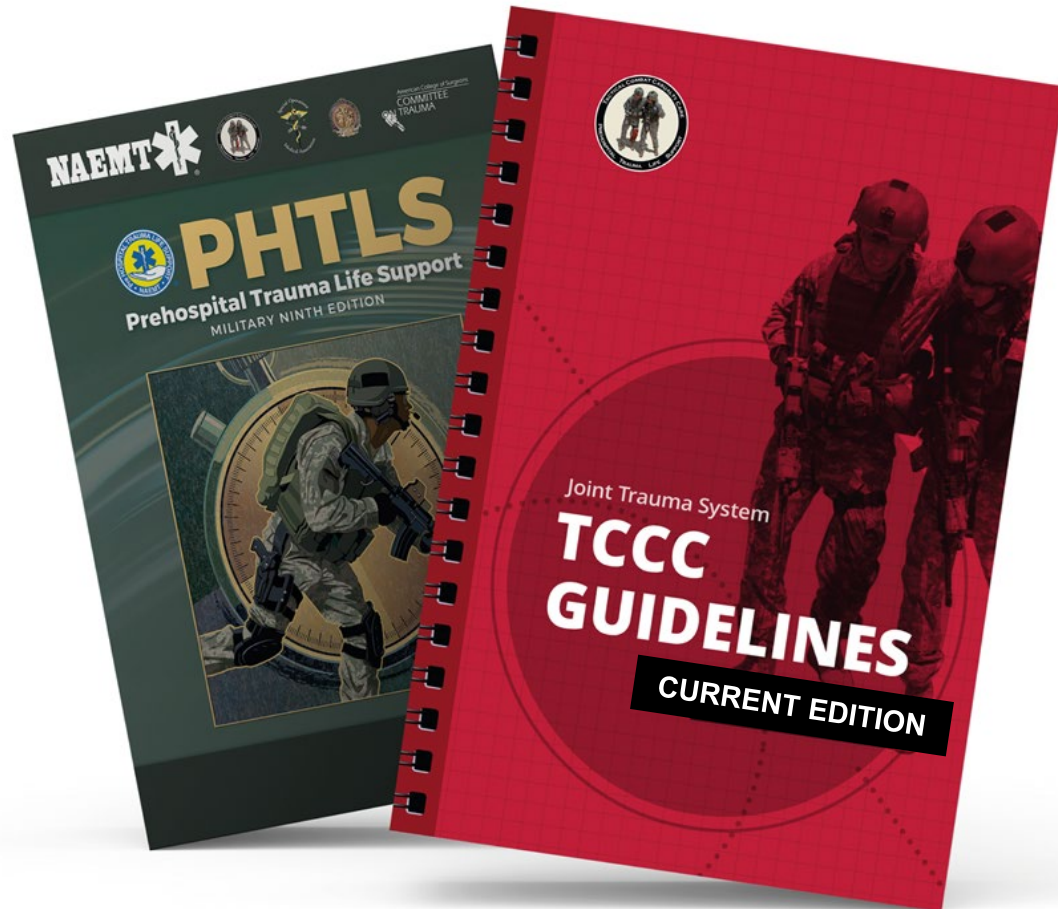


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Module 14: Eye Injuries

REFERENCES



TCCC: Guidelines

by JTS/CoTCCC

These guidelines, updated regularly, are the result of decisions made by CoTCCC in exploring evidence-based research on best practices.

PHTLS: Military Edition, Chapter 25

by NAEMT

Prehospital Trauma Life Support (PHTLS), Military Edition, teaches and reinforces the principles of rapidly assessing a trauma patient using an orderly approach.