

INTRODUCTION

- High-Fidelity training in triage for Mass Casualty Incidents (MCI) is resource intensive and therefore limited in frequency despite knowing that this skill degrades with time.
- Didactic classroom materials offer a non-resource-intensive introduction to foundational concepts, but the extent to which it can prepare providers for real world scenarios is limited.
- Virtual reality (VR) is an effective training alternative, but in its infancy of development and accessibility.
- To bridge the gap between these modalities, we propose a video-enhanced method to didactic training.



RESULTS

- The videos offer a higher-fidelity alternative to written casualty descriptions allowing the learner to visually process casualty presentation that is more representative of reality. The video segments facilitate thinking through specific points in the decision-making process for triage and life saving interventions.



METHODS

- During Uniformed Service University's (USU) annual Operation Bushmaster field exercise we produced video footage of individual casualties along with multiple casualty scenes consisting of several 5-15 second videos capturing various elements of a primary survey.
- The videos will be used to introduce casualties modeled after a real-world scenario to students participating in a table-top triage exercise. Student triage categorization of video patients will be compared to standard written descriptions of casualties.

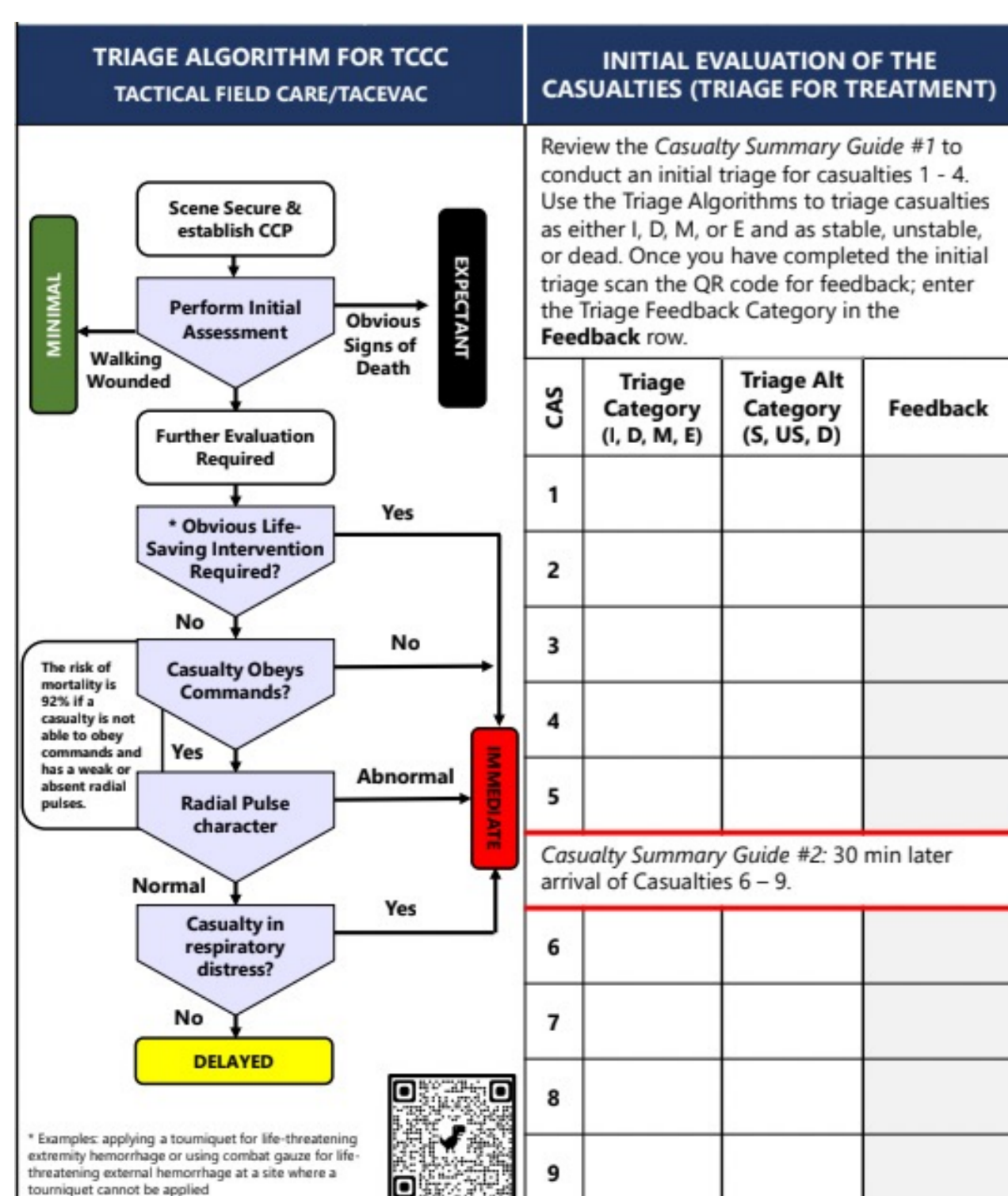
DISCUSSION

- Video enhanced didactic training offers a bridge between written didactic training and exercise or VR training for MCI triage skills acquisition and sustainment. Assessment and validation of this training methodology with various MCI responders is recommended.

REFERENCES

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FEATURE ARTICLES

Tactical Combat Casualty Care Maritime Scenario Shipboard Missile Strike

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ABSTRACT

The types of injuries seen in combat action on a naval surface ship may be similar in many respects to the injuries seen in ground combat, and the principles of care for those injuries remain in large part the same. However, some considerations in the care of combat casualties on a ship at sea must be highlighted, since this care may entail a number of unique challenges and different wound patterns. This paper presents a scenario in which a guided missile destroyer is struck by a missile fired from an unmanned aerial vehicle operated by an undetermined hostile entity. Despite the presence of casualties who require care, the primary focus of a naval vessel that has just been damaged by hostile action is to prevent the ship from sinking and to conserve the fighting force on board the ship to the greatest extent possible. The casualties in this scenario include sailors injured by both blast and burns, as well as a casualty with a non-fatal drowning episode. Several of the casualties have also suffered the effects of a nearby underwater explosion while immersed. Challenges in the care of these casualties include delays in evacuation, the logistics of obtaining whole blood for transfusion while at sea, and transporting the casualties to the next higher level of care aboard a Casualty Receiving and Treatment Ship. As the National Defense Strategy pivots to a focus on the potential for maritime combat, the medical community must continue to maintain readiness by preparing for clinical scenarios that may be unique to maritime warfare.

While the original TCCC paper was published in 1996 after a 3-year joint research effort conducted by US Special Operations Command medical personnel and the Uniformed Services University, it required almost 20 years for to be incorporated into doctrine. TCCC was mandated as the standard for battlefield trauma care in the US military by Department of Defense (DoD) Instruction 1322.24, which also mandated TCCC training for all DoD personnel, both medical and non-medical. The Chief of Naval Operations in 2021 directed how TCCC training should be implemented for all Naval forces. Although the TCCC Guidelines provide evidence-based, combat tested, best-practice prehospital trauma care recommendations for specific injuries that may occur in combat and have been well-documented to reduce preventable deaths in combat casualties, they do not address how the care of the casualty may have to be modified to be appropriate for the specific tactical setting in which the casualty may be sustained. From the inception of TCCC, the need to consider the specific tactical setting in which casualties occur has been emphasized as a key factor in determining the optimal care for those casualties while they are still in the prehospital combat environment. Different tactical settings may necessitate markedly different casualty response plans for the same injury or combination of injuries. This aspect of tactical medicine was addressed through a series of workshops directed at specific operational environments, but shipboard casualties were not included in that early series of workshops. This paper will present a maritime casualty scenario and discuss a proposed

Keywords: underwater blast, TCCC, Tactical Combat Casualty