

## Latest Generation Conducted Electrical Weapon Dart Design: Signature Marking and Removal for the Emergency Medicine Professional

**Authors :** J. D. Ho, D. M. Dawes, B. Driver

**Abstract :** Introduction: TASER Conducted Electrical Weapons (CEWs) are the dominant CEWs in use and have been used in modern police and military operations since the late 1990s as a form of non-lethal weaponry. The 3rd generation of CEWs has been recently introduced and is known as The TASER 7. This new CEW will be replacing current CEW technology and has a new dart design that is important for emergency medical professionals to be familiar with because it requires a different method of removal and will leave a different marking pattern in human tissue than they may have been previously familiar with. Features of this new dart design include: higher velocity impact, larger impact surface area, break away dart body segment, dual back-barb retention, newly designed removal process. As the TASER 7 begins to be deployed by the police and military personnel, these new features make it imperative that emergency medical professionals become familiar with the signature markings that this new dart design will make on human tissue and how to remove them. Methods: Multiple observational studies using high speed photography were used to record impact patterns of the new dart design on fresh tissue and also the newly recommended dart removal process. Both animal and human subjects were used to test this dart design prior to production release. Results: Data presented will include dart design overview, flight pattern accuracy, impact analysis, and dart removal example. Tissue photographs will be presented to demonstrate examples of signature TASER 7 dart markings that emergency medical professionals can expect to see. Conclusion: This work will provide the reader with an understanding of this newest generation CEW dart design, its key features, its signature marking pattern that can be expected and a recommendation of how to remove it from human tissue.

**Keywords :** TASER 7, conducted electrical weapon, dart mark, dart removal

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