



D45 Atypical Wounding Patterns Caused by Rocket Propelled Grenades

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After attending this presentation, attendees will understand atypical wounding patterns resulting from the rocket propelled grenade.

This presentation will impact the forensic community and/or humanity by demonstrating how not all wounding patterns of grenades result in explosive injury patterns. This poster describes unusual wounds resulting from the rocket propelled grenade.

Background: Shoulder fired rocket propelled grenades have proved to be a potent weapon in the continuing conflict in Iraq. It can be considered one of the most successful antitank grenade launchers ever made. The RPG 7, (Rocket Propelled Grenade), launcher is a Soviet manufactured anti-tank weapon introduced to the battlefield in 1961 to replace the previous models following several revisions. It is robust, simple, lethal and one of the most common and effective infantry weapons currently in use. It is a shoulder fired, recoilless, muzzle loading, reloadable weapon. With a shape-charge warhead it is capable of defeating armor in all known armored vehicles. Its use was noted on the battlefields of Somalia, Iraq and Afghanistan. It is found in forty countries with manufacturing carried on in at least nine countries. The RPG 7 consists of a launcher and a rocket or warhead. The warhead is loaded into the front of the launcher. The effective range is considered to be from 150 to 300 meters however 50 meters is realistic with the untrained operator or when accuracy is warranted.

RPG damage is a factor of design, velocity, and distance. The grenade travels at a rate of 295 m/s with a range of 900 to 1100 meters. The blast radius is four meters. The resulting wounds are manifested as primary, secondary, tertiary, and quaternary blast injuries, but in some case a single unique ballistic wound is observed. Typical wounding patterns result from the physical and physiological response transmitted by blast and stress waves through the body with pathophysiological alterations. The use of modern body armor provides protection to the chest and abdomen from direct and secondary blast injury. The result is fragmentation wounding patterns. Atypical wounding patterns caused by RPG's result in a ballistic appearance.

Purpose: Illustrate atypical wounding patterns of grenades with a built-in rocket propulsion system.

Design: Retrospective review of unusual cases of ballistic wounding from RPG's on the battlefield.

Sample/Setting: Examples taken from battlefield fatalities will be shown to demonstrate wounding patterns.

Results: Typical wounding mechanisms result in fragmentation due to the explosive nature of blast response. Ballistic wounds produced by RPG's are infrequent and may result in perforating wounding patterns.

Conclusion: The RPG-7 is a simple, inexpensive, and readily available weapon and poses a significant threat to soldiers on the battlefield. The effectiveness of this weapon traditionally produces explosive injuries and infrequently a ballistic injury may occur.

Grenade, Ballistic, Wounding Pattern