



Pathology Biology Section – 2011

G132 TASER® XREP™: A Case Study

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After attending this presentation, attendees will become familiar with the TASER® XREP™ device, a new less lethal tool for law enforcement.

This presentation will impact the forensic science community by alerting the community to the existence of a new TASER® weapon, and the need for caution in handling it.

TASER® XREP (eXternal Range Electronic Projectile) is a self-contained wireless electronic control device that deploys from a 12-gauge pump action shotgun. It delivers a neuromuscular incapacitation (NMI) bio-effect similar to that of the handheld TASER® X26™. The TASER® XREP™ can be delivered to a maximum effective range approaching 100 feet. The battery supply is incorporated into the main chassis and provides the power to propel the XREP projectile.

The TASER® XREP™ device consists of a triple-redundant incapacitation system, each part of the system generating a highly refined NMI waveform that incapacitates the subject. The system completes the circuit when the front probes make skin contact combined with the cholla electrodes, conductive hand trap, or rear facing barbs. The system is composed mainly of the following:

- a. Nose Assembly – the entire detachable nose section which includes the nose frame, frontal probes, fracture pins and reflex engagement electrodes
- b. Conductive Hand Trap Wire – connects the engine to the frontal probes (the insulated wire is wound with the conductive wire)
- c. Cholla Electrodes – electrodes attached to the chassis. The electrodes are constrained beneath the sheath during flight, extend after impact, and are conductive.

The nose assembly contains four forward-facing barbed electrodes. When the TASER® device is deployed, the nose assembly impacts the subject and the frontal probes make contact with the skin and are stuck to the body. The energy from the impact breaks a series of fracture pins that release the main chassis of the XREP projectile, which remains connected to the nose by a nonconductive tether. A conductive hand trap wire also connects the frontal probes to the TASER® XREP™ engine and has capacity to deliver NMI. The projectile autonomously generates NMI for 20 continuous seconds. As the chassis falls away, six cholla electrodes automatically deploy to deliver the NMI effect over a greater body mass. The subject instantly loses muscular control of the body and cannot perform coordinated action. The subject usually falls to the ground. After the signal stops, the subject typically regains all muscle control. Whereas other less-lethal weapons rely on pain compliance to stop the subject, with neuromuscular incapacitating weapons pain may be short-lived and may aggravate the subject even further or cause serious long-lasting injuries.

This case is that of an actor suspected of fatally stabbing a former coworker and wounding two others during a violent rampage about a week earlier. On discovering that he was a wanted suspect, the police tried to apprehend him. He fled to a nearby hill and stood on the cliff wielding a samurai sword. A 20-page handwritten suicide note was

discovered in the abandoned vehicle of the suspect. In the note he indicated sunset as the time he would end his life. A daylong standoff with police ensued with extensive news media coverage. Helicopters hovered over the scene most of the time. Crisis negotiators were called in. They joined in the efforts to get the suspect to surrender. For about eight hours (9:30 a.m. to 5:00 p.m.) he stayed on the edge of the cliff with his sword, taunting and threatening the police. With the approach of dusk, a decision was made to subdue him with a less than lethal weapon. The TASER® XREP™ device was deployed. He was hit and he plunged off the edge of the cliff to his death about 45 feet below.

Autopsy findings, mode, and health and safety issues will be reviewed.

Electronic Control Device, Neuromuscular Incapacitation, Police