

Surface Application of Taser Stun Guns Does Not Cause Ventricular Fibrillation in Canines

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Electrical devices commonly called stun guns have been used for many years as non-lethal weapons in law enforcement and for personal protection. They apply a very high voltage (~50 kV), low current (1-10 mA), pulsed waveform (~10 μ s pulses at 12-15 Hz, for 5 to 30 s), which incapacitates the subject. Our goal here was to estimate the risk of inducing ventricular fibrillation via the external application of these weapons in an animal model.

Methods - Our protocol involved the administration of 236 shock discharges from either an Air Taser or an Advanced Taser (Taser International, Scottsdale, AZ) to anesthetized canines (n = 5, 54.2 \pm 5.2 pounds). Shocks were administered via probes that were placed in and on areas of the thorax, which would maximize the potential for adverse cardiac electrical interactions. Taser units tested were full power devices intended for use on human subjects.

Results - 236 discharges of the Taser units through external electrodes resulted in 0 episodes of ventricular fibrillation. In one animal, we could intermittently pace the heart, when both Taser probes were placed directly over the heart.

Conclusions - We created high-risk simulations of real-life uses of these weapons, and failed to induce ventricular fibrillation with external application of the Tasers. Therefore, it may be inferred that the risk of inducing ventricular fibrillation by the normal use of these Tasers in healthy humans is very small.

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