Effects of Taser Use on the Human Body

The use of Tasers by law enforcement agencies in general, and by police officers in particular, has become one of the most controversial issues in the area of criminal justice policy. The real question is the extent to which the use of Tasers is and should be authorized?

There are a number of premises upon which all interested parties should be able to agree. First, it is preferable to incapacitate a violent individual than to kill that individual. Second, the use of Tasers should be permitted to the extent that such use is necessary to protect officer safety while minimizing the risk of physical injury to suspects and third, police officers should have some understanding of the effects that using a weapon is likely to have upon a suspect before deploying the weapon.

The vast majority of Tasers purchased and used by law enforcement agencies are manufactured by Taser International (www.taser.com), which makes two models, the M26 and the X26. Both models can be used in one of two modes, which produce different effects on the body.

When used in firing mode, both the M26 and X26 fire two probes up to a distance of 21 feet. They are programmed to deploy five-second bursts of electricity, although the charge can be prolonged indefinitely if the operator’s finger remains on the trigger. The probes are attached to copper wires, which remain connected to the weapon. The shock can be repeated countless times, so long as both probes remain attached to the subject. Both models have laser sights for accurate targeting and a built-in memory to record the time and date of each firing. Both models operate on 26 watts of electric output. Both models deliver a 50,000-volt shock, which is designed to override the subject’s central nervous system, causing uncontrollable contraction of the muscle tissue and instant collapse. The primary difference between the two models appears to be in design. The X26 is 60% smaller than the M26.

When used in “drive-stun” mode (at point blank range), the Taser attacks the sensory nervous system. Rather than causing a complete override of the central nervous system, the weapon is essentially used as a pain-compliance technique. In this mode the Taser is used without the air cartridge. It applies shocks directly to the subject’s body, skin, or clothing.

The warnings are: The TASER device can cause strong muscle contractions that may cause physical exertion or athletic-type injuries to some people. These muscle contractions can result in strain-type injuries such as hernias, ruptures, or other injuries to soft tissues, organs, tendons, ligaments, nerves, joints and stress/compression fractures to bones, including vertebrae.
Taser probes can cause significant injury if deployed into sensitive areas of the body such as eyes, throat, or genitals. If a Taser probe becomes embedded in an eye, it could result in permanent loss of vision.

There are several things worth noting about these warnings. First, an officer will find it nearly impossible to anticipate whether a subject suffers from any of the conditions listed. No officer would be able to discern that an individual suffers from a pre-existing injury or condition.

There are three concerns regarding the possibility of a Taser delivering a fatal shock. (1) A shock could occur during a “vulnerable period” of a heart beat cycle. This means that there is a section of a heart beat cycle during which an electro-shock is highly likely to cause ventricular fibrillation, a “state in which the heart muscles spasm uncontrollably, disrupting the heart’s pumping function and causing death. (2) Certain individuals, such as children, elderly, people with pre-existing cardiovascular problems, drug users and individuals who take certain psychiatric medications, are naturally more susceptible to ventricular fibrillation than healthy young adults. (3) Multiple and/or prolonged applications of a Taser can increase the risk of cardiac arrest either by simply increasing the chances that a charge will shock the heart during the vulnerable period or by increasing the level of acid in the blood, which, in turn, decreases respiration and increases the risk of ventricular fibrillation.

Tasers pose some grave risks that warrant significant research and study.

For additional information contact risk management services at 1-800-228-0986 and select “safety and risk control” from the available options.

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