

Facts about stun guns and their use in Canada

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The Advanced Taser M26, manufactured by Taser International, is one of two types of stun guns used by police forces. (Jim Slosiarek/The Gazette/Canadian Press)

What are Tasers?

Tasers are hand-held weapons that deliver a jolt of electricity through a pair of wires propelled by compressed air from up to 10.6 metres away.

The jolt stuns the target by causing an uncontrollable contraction of the muscle tissue. The target is immobilized and falls to the ground — regardless of pain tolerance or mental focus.

Taser stands for "Thomas A. Swift Electric Rifle." It is named after a series of children's science-fiction novels written in the early 20th century featuring the young genius inventor Tom Swift.

Who makes them?

Arizona-based Taser International makes virtually all of the stun guns being used today. The technical term for a stun gun is a "conducted energy device" (CED) or "conducted energy weapon" (CEW).

Taser International says more than 14,200 law enforcement agencies in more than 40 countries use its devices. Since early 1998, more than 406,000 Taser brand immobilizers have been sold to law enforcement agencies.

There are two main types of stun guns made by Taser used by law enforcement agencies:

- M26: A high-powered weapon marketed to police forces to stop "highly combative individuals." A burst of compressed nitrogen launches two small probes attached to the device by conductive

wires. From as far as 10.6 metres, the device transmits electrical pulses through the wires to immobilize a person. Also has a laser sight for aiming.

- X26: A smaller model introduced in 2003. Launches two small probes as far as 10.6 metres.

The company also makes stun guns for personal use:

- C2: Introduced in 2007, smaller than its predecessors and comes in nine colours. Launches two probes as far as 4.5 metres.
- X26C: Modelled after the X26 but formatted for personal use. Has a range of 4.5 metres.
- Advanced Taser M18/M18L: Modelled after the M26 with a range of 4.5 metres.

What is 'excited delirium?'

Excited delirium has been cited as a factor in the deaths of several people who were shocked by stun guns.

According to some psychologists, a person with excited delirium acts agitated, violent, sweats profusely and is unusually strong and insensitive to pain. Then, the victim's heart races and eventually stops beating.

In the United States, Tasers are not considered firearms and are legal for civilian use in most states. Some cities, counties and states do restrict — or ban — their use by people who are not police officers. The company will not ship its product outside the United States unless the person placing the order holds a valid import/export permit.

In Canada, however, Tasers are a prohibited weapon. Only one company can import them into Canada under a special permit, and they can only sell the devices to law enforcement agencies, said RCMP Cpl. Greg Gillis, who trains police officers in how to use Tasers. Each Taser sale is registered and tracked, much like a handgun, he said.

In 2007, 85 per cent of the company's \$100.7 million US in revenue came from sales within the United States.

What are the benefits of stun guns?

Tasers are supposed to allow police officers to subdue violent individuals without killing them. A police officer can "take down" a threatening suspect without worrying that a stray bullet might kill or injure an innocent bystander.

"There's no question that there are certainly lots of documented examples in Canada where had we not had the Taser and had to respond with more traditional options, that it could have resulted in a higher level of force," said Gillis. "For example, the firearm: ... with a firearm, there are only two outcomes ... it's going to be a permanent injury or a loss of life."

"We don't speak often enough about the number of lives that have been saved, the number of people that are up and walking around today that might not have been had it not been for a Taser," says Steve Palmer, executive director of the Canadian Police Research Centre. The CPRC is a partnership among the Canadian Association of Chiefs of Police, the RCMP and the National Research Council of Canada.

What are the drawbacks?

The company says there are none and that Taser devices are among the safest use-of-force options available. Critics argue that there hasn't been enough research into the safety of stun guns.

Amnesty International says that between 2001 and August 2008, 334 Americans died after Taser shocks. The stun gun was deemed to have caused or contributed to at least 50 of those deaths, Amnesty says, citing medical examiners and coroners. Most suspects were unarmed, and many were subjected to repeated or prolonged shocks, according to Amnesty.

The human rights group has called for governments to limit the use of stun guns or suspend their use.

In November 2007, the UN Committee Against Torture released a statement saying "use of Taser X26 weapons, provoking extreme pain, constituted a form of torture, and ... in certain cases, it could also cause death."

In June 2008, Taser International lost its first civil suit. The company was ordered to pay more than \$6 million in damages after a California jury found that shocks from the company's devices contributed 15 per cent to the Feb. 19, 2005, death of Robert Heston. The 40-year-old was zapped three times.

The verdict found the company negligent for failing to warn police that prolonged deployment of the stun gun could increase the risk of cardiac arrest.

The exact cause of death has often been contentious in cases involving Tasers.

In July 2005, for example, a Chicago medical examiner ruled that the death of a man in February 2005 was the result of being shot with a Taser by Chicago police. Media reports said it was the first time a death had been linked directly to a police stun gun, although the medical examiner said the victim also had a lot of methamphetamine in his system.

On Oct. 14, 2007, Robert Dziekanski, 40, of Pieszyce, Poland, died at Vancouver International Airport after being shocked five times with a Taser by RCMP officers.

Airport security called the RCMP for help after Dziekanski allegedly was pounding on windows and throwing chairs and computer equipment.

Initially, the Mounties speculated that he died from a rare condition called excited delirium. Excited delirium is described as an agitated state in which a person experiences an irregular heartbeat and suddenly dies. It can happen to psychiatric patients and people using drugs such as cocaine. But critics charge that excited delirium is not a valid medical term.

A coroner concluded Dziekanski died as a result of the stress from both the Taser stuns and the struggle with police as they pinned him to the ground and handcuffed him.

How much electricity does a Taser use?

News reports will often quote the voltage delivered by a Taser — up to 50,000 volts. That sounds like a lot of electricity, but it's a misleading way of expressing the power a Taser uses.

Voltage and current

Electricity is the flow of electrons through a wire or other conductor. Voltage and current are two separate ways of measuring electricity.

Voltage is the amount of force that is driving a flow of electrons. If you imagine electricity as water flowing through a pipe, the voltage is the water pressure in the pipe.

Current, measured in amperes or amps, is the rate of flow of electrons through a wire, similar to the rate of water flow in a pipe, measured in litres per second.

It's possible for an electrical circuit to have high voltage, but low current. It would be analogous to a dentist's water jet used to remove plaque: high pressure, but low flow.

A low-voltage, high-current circuit would be analogous to a storm sewer. A great deal of water passes through but at low pressure.

Tasers work by passing electricity through a pair of wires. Weighted barbed hooks at the ends of the wires are propelled toward the target by compressed air.

Tasers are designed to incapacitate a person through up to five centimetres of clothing. Taser International says the electrical pulse is delivered at a high voltage because the electric current has to pass through clothing and air — neither of which is a good conductor of electricity — to make a complete circuit with the target's skin.

Taser International also says that while its device can deliver up to 50,000 volts, it does not deliver that much voltage to a person's body. The company says its Advanced Taser M26 delivers an average of 1,500 volts.

As well, the high-voltage pulse of a Taser is said to carry only a small current, typically 0.002 to 0.03 amps.

By comparison, electrical outlets in Canada deliver 120 volts of electricity, and the current they carry depends on the appliance that's plugged into them. A 60-watt light bulb, for example, pulls 0.5 amps, while a toaster pulls about five amps.

It's possible to suffer a fatal shock from a household electrical socket, at just 120 volts, if enough current passes through the body.

Tests conducted for CBC News/Radio-Canada, however, found that some stun guns produced higher-than-advertised current.

The procedures, conducted by U.S.-based lab National Technical Systems, found that 10 per cent of the X26 model Tasers produced more electrical current than the weapon's specifications.

In some cases, the current was up to 50 per cent stronger than specified. The X26 Tasers were manufactured before 2005 and are one of the most commonly used models.

Taser International said CBC made scientific errors by failing to spark-test the weapons before firing them, a process the company recommends police officers do on a regular basis. But engineers who reviewed the testing protocol for CBC said the tests were based on solid practices.

What's the Canadian perspective?

Since Dziekanski's death, Taser use in Canada has come under intense scrutiny.

The RCMP in May 2010, released new stun gun restrictions, indicating officers are only permitted to use the weapons in cases where a person is causing bodily harm or an officer has "reasonable grounds" to believe a person will "imminently" harm someone.

RCMP officers must also give a verbal warning "where tactically feasible" before using their stun guns, according to the new policy.

In December 2009, Paul Kennedy, head of the Commission for Complaints Against the RCMP, the RCMP watchdog agency, had released a damning report on the conduct of RCMP involved in the Dziekanski's death. Specifically, Kennedy criticized the RCMP's training practices and use of force guidelines, saying the force appears to have dropped historic guidelines directing officers to minimize intervention and use the least amount of force required to get the best results.

The city of Montreal also held public hearings about police use of stun guns in April 2010. A report is expected later in the year.

What has the Braidwood Inquiry recommended?

Former B.C. Appeal Court Justice Thomas Braidwood will issue his final report into the use of Tasers in B.C. in June 2010. (CBC) A provincial public inquiry into the use of Tasers and the death of Dziekanski began on May 5, 2008, in Vancouver under commissioner Thomas Braidwood, a retired B.C. Appeal Court justice. In a preliminary report made public July 23, 2009, he concluded that stun guns can be deadly and that the B.C. provincial government had abdicated its responsibility to establish province-wide standards for their use.

After the release of the first report, the B.C. provincial government said it would act immediately to adopt Braidwood's recommendations.

The Braidwood Inquiry in its final report, released in June 2010, concluded the RCMP was not justified in using a Taser against Dziekanski.

"This tragic case is, at its heart, a story of shameful conduct by a few officers," Braidwood said.

The report called for an independent provincial body to investigate police actions and warned that public confidence in the RCMP was flagging.

Taser International said in August 2009 that it would challenge Braidwood's preliminary findings at the Supreme Court of British Columbia. The case is scheduled to be heard in July 2010.

How many police forces use stun guns?

Across Canada, 73 law enforcement agencies were using CEWs by the end of 2008.

In 2008, the RCMP, which introduced Tasers into its arsenal in 2001, had 2,800 Tasers and 9,100 officers who were trained to use them.

Figures compiled by the Canadian Police Research Centre suggest that most mid-size police forces use stun guns between 50 to 60 times a year on average. They were used 51 times in 2006 by police officers in Quebec.

Statistics prepared by RCMP officers show that Mounties drew or threatened to draw their Tasers more than 1,400 times in 2007, up from 597 in 2005.

Public concern is growing over the increasing use of Tasers in light of mixed reports on their safety and the lack of details surrounding incidents of Taser deployment by law enforcement agencies. Many of the incident reports released publicly by the RCMP are incomplete, with several key areas left blank.

In March 2009, the RCMP watchdog released new figures showing RCMP officers used stun guns 1,106 times in 2008, about 30 per cent less than the previous year. The numbers included incidents when officers drew Tasers from their holsters but didn't fire.

Read more: <http://www.cbc.ca/canada/story/2009/03/18/f-taser-faq.html#ixzz1C2ATfoan>