REVIEW OF CONDUCTED ENERGY WEAPON USE IN ONTARIO

REPORT OF THE POLICING STANDARDS ADVISORY COMMITTEE

DECEMBER 7, 2009

INTRODUCTION

In 2008, the Minister of Community Safety and Correctional Services directed ministry staff to undertake a review of conducted energy weapons (CEWs) with its policing partners.

The objectives of the review were to:

- Identify policies and procedures in place by Ontario police services regarding the use of CEWs;
- Identify training that has been provided to police service members regarding CEWs;
- Collect CEW use statistics to recognize trends; and
- Provide a foundation for discussion with police partners on operational and policy issues in relation to training, guidelines, deployment, etc.

The research methodology utilized in the review includes consultation with a police expert working group and medical personnel, environmental/jurisdictional scans, best practice review, literature review and a survey of Ontario police service CEW usage.

Recognizing the important role the ministry's policing partners have to play in exploring this area, the ministry engaged members of the Policing Standards Advisory Committee (PSAC), to assist in the review. The Committee provides advice to the ministry regarding professional police practices in relation to matters that are of critical provincial interest. The following stakeholder organizations are represented on PSAC:

Association of Municipalities of Ontario (AMO);
Ontario Association of Chiefs of Police (OACP);
Ontario Association of Police Services Boards (OAPSB);
Ontario Provincial Police (OPP);
Ontario Senior Officers' Police Association (OSOPA);
Police Association of Ontario (PAO);
Ontario Provincial Police Association (OPPA);
Toronto Police Association (TPA);
Toronto Police Service (TPS); and
Toronto Police Services Board (TPSB).

From time to time, sub-committees are established on an ad hoc basis to provide content and subject matter expertise to assist in developing directives and guidelines respecting policy matters.

PSAC members assigned representatives of their organizations to participate in a CEW working group which included members from AMO, OACP, TPSB, OPP, OPPA, PAO, TPA, and TPS.

This report is being submitted to the Minister on behalf of PSAC.

BACKGROUND ON CEW AUTHORIZATION

In Ontario, section 14 of the *Equipment and Use of Force Regulation* (O. Reg. 926/90) (the "Regulation") under the *Police Services Act* permits the Minister of Community Safety and Correctional Services to approve weapons, other than firearms, for use by police officers.

Following field tests conducted by the Ottawa and Toronto Police Services in 2000 and 2001, the TASER[1] was approved for use as a less lethal conducted energy weapon by members of tactical units and hostage rescue teams. Technical specifications and training requirements issued at the time stipulated that only the TASER M26 model was sanctioned for use and that members authorized to use the device had to complete the necessary training through the manufacturer, TASER International.

In 2004, the Minister permitted deployment of the TASER M26 to trained members of preliminary perimeter control and containment teams, as well as trained front-line supervisors or designates acting on their behalf.

In 2005, the TASER X26 model was added as an approved CEW for use by the previously designated groups of officers. Technical specifications and minimum requirements for initial and refresher training remained in effect.

RELEVANT LEGISLATION AND POLICING STANDARDS

The Regulation sets out requirements in relation to firearms, other weapons, use of force training and use of force reporting.

Section 14.3 (1) stipulates that every police service must ensure that members who may be required to use force on other persons receive use of force training at least once every twelve months.

Ministry directives issued via All Chiefs memo in relation to CEWs indicate the following:

- CEW training (initial and refresher) is to be conducted by a manufacturer-certified trainer and this training shall comply with the *Criminal Code*, applicable use of force legislation/regulation, and ministry standards;

- For initial training, officers must receive a minimum of four hours of classroom and practical training, including a written examination; and

- For refresher training, officers should receive a minimum of two hours of training that should be consistent with the direction contained in the Regulation (i.e., received at least every twelve months).

[1] TASER is a brand name (acronym for Thomas A. Swift Electric Rifle) CEW and is manufactured by TASER International, Inc. in Scottsdale, AZ.

Mandatory content for initial training and recommended content for refresher training are also included in current ministry directives.

Topics for initial (user) training must include:

i) How a CEW overrides and controls the central nervous system of a combative subject
ii) Nomenclature of the CEW
iii) Proper finger position for aiming and firing
iv) Proper and safe reloading of the device
v) Proper control of device
vi) Arming of the CEW
vii) Removal and replacement of batteries and power check procedures
viii) Use of mechanical and laser sights
ix) Probe placement
x) Back up use in non-probe mode
xi) The *Criminal Code*, *Police Services Act*, Use of Force Legislation, and relevant case study applications
xii) Local Police Services Board Policy and Police Service Procedure
xiii) Practical Applications
xiv) Evaluation and testing of members to assess competency

Refresher training topics are to include a brief overview of the following issues:

i) Technical data on the CEW, including nomenclature
ii) Effects of the CEW
iii) Proper use of the CEW
iv) Live firing of two cartridges
v) *Criminal Code*, *Police Services Act*, use of force legislation, local police services board policy and police service procedure, and relevant case study applications

Additionally, in accordance with section 14.5 (1) (b) of the Regulation, officers are required to submit a Use of Force Report (Form 1) when a weapon other than a firearm (e.g., CEW) is used on a person.

SURVEY OF CONDUCTED ENERGY WEAPON USAGE BY POLICE SERVICES

A CEW survey, developed with the assistance of the CEW Working Group, was circulated via electronic mail to all 58 municipal police services and the OPP in August 2008.

The survey was organized according to the following subject areas:

1. Policies and Procedures
2. CEW Deployment
3. Accountability and Reporting
4. CEW Training

5. CEW Statistics
6. Equipment and Control

All 59 police services completed the survey and submitted their responses to the ministry either by electronic mail or fax, resulting in a 100% response rate. For a list of respondents, see Appendix A.

This report will provide a qualitative and quantitative analysis of the survey responses. While all police services responded to the survey, gaps exist in the data as a result of variations in the type and amount of information available in each police service. Data collection and record keeping processes within police services vary, which affected the consistency of information provided. It is also unclear whether information was not available within a police service or whether the service chose not to supply it. As a result, the tables in the report will not always reflect information from all police services; however, the number of respondents to each survey question will be provided in order to assist in clarifying the scope of the data.

In some areas of the survey, data is requested from the time CEWs were first authorized for use in 2002 until the time the survey was completed (September 2008). Other questions focused on information from 2007 alone or the time at which police services were responding to the survey.

Information garnered from discussions between the ministry and its policing partners, CEW experts, and related information sources examined during this review will also be referenced to help inform decision making on potential operational and policy changes.

1. POLICIES AND PROCEDURES

Tables 1 and 2 illustrate the extent to which CEWs were used by police services within the province and the specific devices deployed. Table 3 shows the number and proportion of police services with CEW policies and procedures.

Table 1
Authorization of CEWs

	Yes	No
Does the police service currently authorize the use of CEWs? (59 respondents)	57 (97%)	2 (3%)

Table 1 illustrates that as of September 2008, the majority of police services authorized CEW use by designated members. One of the two services that did not authorize CEWs at the time of the survey indicated it was in the process of doing so.

Table 2
CEW Models

	TASER M26	TASER X26
Which CEW model does the police service use? (57 respondents)	4 (7%)	38 (67%)
How many of each model does the service own? (total number of units)	134	2037

According to Table 2, a total of 2171 TASERs were being used within the province as of September 2008. A greater number of police services are using the newer and more modern version X26 device, while fifteen police services had both M26 and X26 models.

Table 3
Policies and Procedures

	Yes	No
Does the Police Services Board have a policy on CEWs? (56 respondents)	27 (48%) Stand-alone: 3 (11%) Part of another policy: 6 (22%) Did not specify: 18 (67%)	29 (52%)
Does the Chief of Police have a procedure on CEWs? (57 respondents)	52 (91%) Stand-alone: 6 (12%) Part of another policy: 12 (23%) Did not specify: 34 (65%)	5 (9%)

Currently there are no ministry directives requiring a police service to have policies or procedures in relation to CEWs. However, as indicated in Table 3, 48 per cent had a Board policy and 91 per cent had a CEW procedure.

Seventeen police services specified that their CEW policy or procedure was part of the service's use of force policies/procedures.

2. CEW DEPLOYMENT

This section addresses the specific members or groups of members within police services who were authorized to use a CEW at the time the survey was completed.

Table 4
Units/assignments authorized to use CEWs

	Tactical Unit/Hostage Rescue Team	Preliminary Perimeter Control and Containment Team	Front-line Supervisors	
Which units/assignments are authorized by the police service to use a CEW? (57 respondents)	19 (33%)	18 (32%)	54 (95%)	
Total number of authorized members in each unit	472	440	3130	Total 4042

According to Table 4, the total number of authorized users in the province at the time of writing was 4042. Although respondents were asked to exclude supervisors assigned to tactical units/hostage rescue teams or preliminary perimeter control and containment teams, some of those members may have been double-counted in the specialized teams and front-line supervisor categories.

According to Statistics Canada, there were 23,610 municipal and provincial police officers in the province as of May, 2008[2]. The percentage of all officers who were authorized CEW users was therefore 17 per cent.

Most police stakeholders support a move toward broader CEW authorization, contending that all primary response officers should be issued a CEW along with the other intermediate weapons (i.e., oleoresin capsicum spray and baton) they are authorized to use. Officers consulted argue that, as all members are issued a firearm (a lethal weapon), they should similarly be issued a CEW (a less lethal weapon). This view was echoed by Commissioner Thomas Braidwood in the inquiry into CEW use in British Columbia when he stated: "I would find it hard to justify recommending a restriction on the assignment of conducted energy weapons if no such restriction applies to the assignment of a service pistol."[3]

The OACP, in its 2008 report on conducted energy weapons, stated that the current restriction of CEW use to supervisors may impact upon a police service's ability to respond safely and promptly to situations where the potential for confrontation and injury often escalates quickly. The report further claims that this problem may be compounded in smaller police services or those that patrol large territories. Such services may find it difficult to ensure a supervisor, equipped with a CEW, is available to provide timely assistance to first responders.[4]

In addition, seven inquest juries from Ontario during the period from 2005 to early 2009 recommended all front-line/primary response officers be authorized to use CEWs. The rationale for these recommendations stems from an acknowledgement that front-line officers may be in a position to facilitate a rapid resolution of violent situations without the use of lethal force and the situations in which a CEW is required are most often encountered by front-line/primary response officers. The presiding coroner of one of the inquests commented that:

> Particularly where ED (excited delirium) may be involved, early control and restraint of the agitated subject will prevent possible serious consequences, and allow for earlier medical intervention and treatment…Use of a Taser, particularly in full deployment (probe) mode, has proven highly effective in gaining rapid control of subjects, avoiding prolonged and potentially dangerous physical confrontations.[5]

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[2] Statistics Canada. *Police Resources in Canada, 2008*, p. 13.
[3] Part 10 Recommendations, "Restoring Public Confidence: Restricting the Use of Conducted Energy Weapons in British Columbia", Braidwood Commission on Conducted Energy Weapon Use, June 2009, p. 317.
[4] Ontario Association of Chiefs of Police, "Report on Conducted Energy Weapons", October 2008, p. 4.
[5] Lucas, Dr. William, Office of the Chief Coroner. "Inquest into the death of Jerry Knight deceased July 17, 2004". June 20, 2008.

Currently, within the Canadian jurisdictions examined, trained front-line members of the Vancouver Police Department, Royal Canadian Mounted Police (RCMP), Sûreté du Quebec Police Service, and municipal services in New Brunswick, Nova Scotia and Alberta may be authorized to carry CEWs. (See Appendix B: Jurisdictional Scan of Law Enforcement Agencies).

Extensive media coverage of incidents in which deaths have occurred proximal to CEW use has heightened apprehension about the safety of CEWs. However, police stakeholders generally agree that CEWs have an important role to play in protecting the public and police officers from violent individuals and protecting violent individuals from harming themselves. The lack of empirical evidence firmly establishing a causal link between the use of CEWs and in-custody deaths reinforces the view that CEWs are an appropriate tool for law enforcement. While no force option is without its risks, CEWs are deemed to be an effective intermediate[6] less lethal weapon.

Commissioner Thomas Braidwood stated, for example: "On balance, I concluded that our society is better off with these weapons in use than without them. However, my support for their use is conditional on significant changes being made in when, and the way in which, the weapon is deployed."[7]

As with other use of force options, adequate policies, procedures, training and accountability mechanisms are necessary to ensure they are used in the most appropriate and effective way.

Public education about the benefits and risks of CEWs may also be constructive given the potential for misinformation and sensationalized reporting of CEW incidents.

Table 5
Units/positions to which front-line supervisors are assigned

If the police service authorizes front-line supervisors to use a CEW, which units or positions are they assigned to? (55 respondents)	Patrol Sergeants	Patrol Staff Sergeants	Specialized Traffic	Court Security, Prisoner Transport, Cell Supervision	Drug Investigation
	54	22	11	18	16
	Intelligence/ Surveillance	Training	Other Plainclothes Investigation	Other Front-line Supervisor	
	8	14	13	23	

As indicated earlier in this report, in February 2004, the ministry authorized front-line supervisors or designates acting on their behalf to use CEWs. Clarification of this directive was issued by the ministry via All Chiefs Memo in February 2005. The memo explained that, although the term "front-line" has traditionally been associated with visible, uniformed policing functions such as

[6] Those devices that generally induce subject compliance due to pain or incapacitation and are a level above empty hand control techniques but less than deadly force.
[7] Executive Summary and Recommendations, "Restoring Public Confidence: Restricting the Use of Conducted Energy Weapons in British Columbia", Braidwood Commission on Conducted Energy Weapon Use, June 2009, p. 16.

patrol, the ministry recognized that other uniformed and non-uniformed policing functions may be considered "front-line". As such, the term "front-line supervisors" was not prescriptively defined so as to allow for local deployment models.

The results of Table 5 show, with one exception, all police services authorizing front-line supervisors utilized patrol sergeants in this capacity. The majority of police services authorized front-line supervisors in two or more of the units/positions identified.

Within the category of "other plainclothes investigation", police services identified criminal investigation the most often in addition to street crime, gangs/weapons, central robbery, and break and enter teams.

In the "other front-line supervisor" category, most police services identified acting sergeants or acting supervisors as well as second in command, officer in charge, duty inspector, Deputy Chief, and Chief.

3. ACCOUNTABILITY AND REPORTING

This section addresses CEW reporting and the requirement that medical attention be sought for subjects exposed to CEW use.

Table 6
Reporting displayed or drawn CEWs

	Yes	No
Does the police service require completion of Form 1[8] Use of Force Report or local CEW reporting form when CEW is displayed or drawn but not used on a person? (57 respondents)	36 (63%)	21 (37%)

The Form 1 Use of Force Report (see Appendix G) is the prescribed form to be used by police services to record incidents in which an officer (a) draws a handgun in the presence of a member of the public, points a firearm at a person or discharges a firearm; (b) uses a weapon other than a firearm on another person; or (c) uses physical force on another person that results in an injury requiring medical attention[9].

The objectives of the form are to enable a police service to identify individual and group training requirements and use of force trends as well as to assess the service's use of force policy and procedural requirements.

Form 1 is considered by police stakeholders to be limited as an analytical and statistical tool, and in need of updating. Preliminary discussions have taken place regarding the need to revise the form to more accurately capture current use of force data and use it in a more meaningful way.

[8] See appendix 'G' for Use of Force Report (Form 1).
[9] Police Services Act – R.R.O. 1990, Reg 926 "Equipment and Use of Force", section 14.5 (1).

All Canadian police services examined require some form of reporting of CEW deployments and/or other use of force data (please see Appendix B: Jurisdictional Scan of Law Enforcement Agencies).

Form 1 does not require police officers to indicate whether a CEW was deployed as demonstrated force (i.e., situations in which the CEW is drawn and/or displayed, but not used on a person). However, 63 per cent of police services in Ontario currently require their officers to complete a local reporting form in such situations. In addition, Regina Police and the Vancouver Police Department both require demonstrated force to be reported.

The tactical advantages of demonstrated force are well established and have been cited by many sources. Such displays have had the effect of de-escalating incidents and eliminating the need for further force. In its "Independent Evaluation of the Operational Trial of Taser" report (2004), the Association of Chief Police Officers (United Kingdom) reported that, in 44.8 per cent of all cases, "officers needed to do no more than aim the Taser and use the laser sight for the subjects to become compliant".[10]

Closely aligned to this issue is the matter of public reporting. The current ministry guideline on use of force stipulates police services should make their annual use of force studies available to the community. A number of reviews have made similar recommendations, including the United Kingdom Home Office, Police Executive Research Forum (US), and Quebec Standing Advisory Subcommittee on the Use of Force. Given the current level of public interest and concern regarding police use of CEWs, public reporting may serve to further educate the public, dispel misconceptions and put CEW use into an appropriate context that reflects the realities of policing and the use of force.

Table 7
Obtaining medical attention

	Yes	No	Other
Does the police service require members to obtain medical attention for a person subject to CEW use? (57 respondents)	25 (44%)	6 (10%)	26 (46%)

As illustrated in Table 7, 25 police services (44 per cent) reported that obtaining medical attention was necessary when a person was subjected to CEW use, while six (10 per cent) responded in the negative.

Within the "Other" category, most respondents replied that medical attention was to be sought if it was required.

The need for medical attention and the role of medical personnel in relation to CEW incidents have been widely explored by organizations reviewing CEW use. In addition, a significant body of research has developed over time examining medical issues relating to CEWs such as cardiac, respiratory and metabolic effects, and the benefits and risks associated with use of this weapon. See Appendix E for a sample of this research.

[10] Association of Chief Police Officers (United Kingdom). *Independent Evaluation of the Operational Trial of Taser Final Report*, May 2004, p. 13.

A portion of the medical/scientific research on CEWs seeks to compare the risk of CEW use to other force options available to police. According to a Calgary study entitled "Police/Public Interaction: Arrests, Use of Force by Police, and Resulting Injuries to Subjects and Officers – A Description of Risk in One Major Canadian City", CEWs scored high in safety for both suspects and officers in 562 use of force incidents over a two year period.

The study found "the use of CEWs resulted in fewer citizen and officer injuries than either physical control or the baton. Thirteen percent of CEW use was associated with subject injury requiring some treatment in hospital, and 87% of all CEW uses resulted in no or minor subject injuries."[11] Furthermore, in 96.7% of all CEW uses, "officers received either no or only minor injuries. There were 9.6% fewer officer injuries requiring medical treatment when a CEW was used when compared to when a baton was used."[12]

The report goes on to state that:

> The commonly held belief that the conducted energy weapon carries a significant risk of injury or death for the population of interest is not supported by the data. Within the force modality framework most commonly available to police officers, the CEW was less injurious than either the baton or empty hand physical control.[13]

A study published in the Annals of Emergency Medicine in 2008 examined CEW uses in 1,201 subjects in six U.S. law enforcement agencies during a 36-month period. The study found that 99.75% of subjects "experienced no injuries or mild injuries only"[14] and, of the 492 mild injuries identified, "the majority (83%) were superficial puncture wounds from conducted electrical weapon probes."[15] Other mild injuries occurred in 5.2% of subjects and were primarily related to blunt trauma from falls.[16]

The study concludes that:

> The primary finding that 99.75% of subjects experienced mild or no injuries represents the first assessment of the safety of this class of weapons when used by law enforcement officers in field conditions…This injury profile compares favorably with other intermediate force options available. These findings support the continued use of conducted electrical weapons in settings in which they can be safely substituted for more injurious intermediate force or lethal force options.[17]

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[11] Butler, Chris and Christine Hall. *Police/Public Interaction: Arrests, Use of Force by Police, and Resulting Injuries to Subjects and Officers – a Description of Risk in One Major Canadian City*, Law Enforcement Executive Forum, 2008, pp. 151-152.
[12] Ibid., p. 152
[13] Ibid., p. 153.
[14] Bozeman, et.al. *Safety and Injury Profile of Conducted Electrical Weapons Used by Law Enforcement Officers Against Criminal Suspects*., Annals of Emergency Medicine, 2008, p. 5.
[15] Ibid., p. 5.
[16] Ibid., p. 5.
[17] Ibid., p. 6.

Although the original survey provided to Ontario police services did not solicit information on injuries to officers and subjects associated with CEW use, a supplementary survey was conducted requesting statistical information from a sub-sample of four police services. These services collect specific CEW incident data in addition to that collected as part of use of force reports. This subsequent survey found that in a total of 335 incidents in the four police services in 2008, no subject injuries beyond typical superficial burns or marks that result from CEW use were reported. There were no reported injuries to officers.

Recommended procedures from the organizations reviewed include seeking medical attention for all individuals subjected to probe deployment; medical personnel removing embedded probes; and arranging for emergency medical services to attend all calls for service in which it is anticipated a CEW will be deployed. Please see Appendix C: Scan of CEW Reviews/Reports for a summary of this and other issues addressed in recent reports/reviews.

As part of the examination of potential medical risks associated with CEW use, particular attention has been paid to subjects with specific vulnerabilities, such as young or physically small/thin individuals, the elderly, and pregnant women. Although the use of higher levels of force with these groups of individuals may be unnecessary in most cases, deployment of a CEW may be warranted and the potential for injury (e.g., as a result of a fall) should be considered. Appendix F contains a scan of mitigation policies relating to "vulnerable populations" in various jurisdictions.

4. CEW TRAINING

One of the most critical components in the review of CEW use is the training that is provided to officers authorized to use them. Effective training is essential to ensuring that CEWs are used appropriately, in the right circumstances, and in accordance with well-established use of force principles.

As indicated earlier, ministry directives are in place relating to some elements of CEW training. Tables 8 to 14 summarize training practices within the police services that deliver CEW training.

Table 8
Provision of training

	Yes	Training provided by another police service
Does the police service provide CEW training? (57 respondents)	50 (88%)	7 (12%)

Table 8 demonstrates the majority of police services delivered training to their own members. The remaining services used the OPP or a neighbouring municipal service to deliver their training. Police services of all sizes delivered their own training.

Table 9 **Qualifications for CEW instructors**				
	Ministry certified use of force instructors	Members of tactical units/hostage rescue teams	Members of preliminary perimeter control and containment teams	Other members
What are the qualifications for the service's CEW instructors? (50 respondents)	44 (88%)	10 (20%)	3 (6%)	8 (16%)

It should be noted that the sum of instructors in all of the categories in Table 9 (65) is greater than the number of police services that conduct their own training (50). This discrepancy reflects situations in which CEW trainers perform dual functions (e.g., as trainers and members of tactical units/hostage rescue teams).

Table 9 illustrates that more police services used ministry-certified use of force instructors to deliver CEW training compared to the other groups.

Ministry directives stipulate that initial and refresher training are to be conducted by a "manufacturer-certified trainer", which includes individuals who are trained by "Master Instructors". Master Instructors have received their training through TASER International and deliver train-the-trainer programs across the province to instructors who then provide in-house training to their members.

Table 10 **Type of training provided**				
	CEW Instructor	CEW User	CEW Refresher	CEW Familiarization[18]
What types of training does the police service provide? (50 respondents)	11 (22%)	50 (100%)	47 (94%)	35 (70%)

According to ministry training directives, instructor training is to be delivered by a "manufacturer certified trainer" or "Master Instructor". As mentioned above, this is typically conducted through a train-the-trainers program. As Table 10 indicates, 11 services with Master Instructors deliver instructor training and all police services that deliver training provide initial user training. In

[18] Unlike the other forms of training identified, familiarization training is not designed to provide the skills or knowledge required to use a CEW but to provide individuals with an understanding of its capabilities and situational uses. It also assists front-line officers who are not authorized to carry CEWs in understanding how they should respond before, during and after its deployment.

addition, police services that deliver user training are required to deliver refresher training on an annual basis. According to Table 10, 47 of the 50 services provide refresher training.

The survey requested the number of hours provided in each area of training.

Instructor training: eight respondents that provide CEW Instructor training indicated they delivered a 16 hour instructor program. The remaining services offered 20 hour (2 respondents) and 24 hour (1 respondent) instructor training.

User training: as mentioned earlier, ministry directives require a minimum of 4 hours for initial training. Nineteen police services that delivered user training offered an 8 hour course and 15 offered a 4 hour course. Other responses included 6 hours (7 respondents) and 10 hours (4 respondents).

Refresher training: ministry directives require a minimum of 2 hours for refresher training. The largest number of respondents (16 and 18 respectively) indicated they provided 2 and 4 hour refresher training. Other responses included 1 hour (4 respondents), 3 hours (2 respondents), 6 hours (4 respondents) and 8 hours (2 respondents).

Familiarization training: the majority of police services delivering familiarization training offered a one hour training program (19 respondents). Nine of the respondents offered a half hour program. Other responses included 2 hours (3 respondents) and 4 hours (2 respondents).

Table 11
Frequency of training

	CEW Instructor	CEW User	CEW Refresher	CEW Familiarization
Does the police service provide training annually? (50 respondents)	4 (8%)	31 (62%)	44 (88%)	26 (52%)

Ministry directives require that refresher training be consistent with the direction contained in the Regulation which stipulates that use of force training be received once every twelve months. As Table 11 indicates, forty-four of the fifty police services (88 per cent) deliver refresher training annually.

If a police service did not provide the above training on an annual basis, they were asked to specify the frequency of the training.

Instructor training: 4 respondents indicated they offered this training every 2 years; the remaining 2 services offered it as required.

User training: most respondents delivered this training as required or as new officers were hired or assigned (13 out of 17 respondents). Two responses were missing.

Refresher training: as most police services provided this training on an annual basis, only three additional responses were received. One service indicated they delivered this training monthly, one offered it every 1.5 to 2 years and the other did not specify.

Familiarization training: an equal number of services have provided this training once (3 respondents) and delivered it on an as needed basis (3 respondents). Other responses include 'semi-annually' and every 1.5 to 2 years.

Respondents who indicated they provide annual instructor and user training tended to be larger services with a greater need for training to accommodate new users every year and instructors to meet those user training needs as well as refresher and familiarization training demands.

Table 12
Familiarization training

	All sworn members	Other
If the police service provides familiarization training, who receives this training? (37 respondents)	32 (86%)	5 (14%)

As Table 12 shows, of the police services that offered familiarization training, most (86 per cent) delivered it to all of their sworn members. Out of this number, four services delivered familiarization training to auxiliary members and another four delivered it to special constables. The "other" recipients category included general patrol, criminal investigations, court security, communications centre, and public order units.

Some respondents also specified that such training was delivered as part of annual use of force re-qualification training or other annual in-service training.

Table 13
Content of user training

	Relevant use of force legislation, regulation	Local policies, procedures	Practical application	Evaluating and testing
Does the police service address the following topics when delivering CEW user training? (50 respondents)	50 (100%)	50 (100%)	50 (100%)	48 (96%)

The above training content reflects ministry directives. Table 13 demonstrates that, with the exception of two police services, all respondents addressed the required topics in their user training.

Table 14 **Number of trained members**				
	CEW Master Instructor	CEW Instructor	CEW User	CEW Familiarization
How many police services have members who have received the following types of training? (57 respondents)	11 (19%)	50 (88%)	57 (100%)	35 (61%)
Total number of members who have received training	25	298	3,843	19,238

According to Table 14, the total number of members trained to use a CEW was 4166 (excludes those members who have only received familiarization training). However, some members may have been counted more than once if, for example, he/she received both user and instructor training.

The total number of CEW users province-wide was estimated to be 4042 (see Table 4 Units/assignments authorized to use CEWs). The discrepancy between this figure and the total number of trained CEW users outlined in Table 14 above may be attributed to the possibility that members who were initially trained to work in one of the authorized user groups (e.g., tactical units/hostage rescue teams) may no longer be deployed in that capacity. Additionally, some police services trained their members in advance of deploying them to CEW authorized units/positions in order to have an available complement of trained members at all times.

The information collected in the survey illustrates the somewhat divergent elements of CEW training currently being delivered across the province. All stakeholders have agreed current minimum training standards need to be enhanced to ensure validity and currency in relation to the content, duration and frequency of CEW training and to better ensure consistency. It has been suggested that all components of training should be standardized including instructor training, initial user training, refresher/recertification training and awareness/familiarization training.

A sub-working group of the CEW Working Group has been established to develop training standards and a guideline (technically, an addition to the current ministry use of force guideline) to provide operational guidance to police regarding CEW use.

5. CEW USE STATISTICS

This section contains information in relation to police services' authorization of each designated unit/assignment, data around CEW usage and police service statistics. The purpose of these questions was to examine trends in CEW use since initial authorization in 2002.

Table 15
Authorization of unit/assignment use of CEW

When did the police service authorize use of the CEWs for each unit or assignment? (57 respondents)	2002	2003	2004	2005	2006	2007
Tactical unit/hostage rescue team	14	0	3	2	0	0
Preliminary perimeter control and containment team	n/a	n/a	4	6	6	2
Front-line supervisors	n/a	n/a	5	15	22	9

Currently, 19 of the 59 services in the province (32 per cent) have authorized tactical units. As mentioned, the ministry first authorized CEWs in 2002 for tactical units/hostage rescue teams. As demonstrated in Table 15, most police services with tactical teams (14 out of 19) availed themselves of this opportunity in the first year.

In 2004, CEW authorization was expanded to preliminary perimeter control and containment teams and front-line supervisors or designates acting on their behalf. Currently, 30 per cent of services have preliminary perimeter control and containment teams authorized to use CEWs and most police services (51 or 86 per cent) have front line supervisors authorized.

Table 16
Number of CEW uses

Beginning in 2002, or since when applicable, how often were CEWs used? (53 respondents)	2002	2003	2004	2005	2006	2007
	86	176	222	623	935	1405

Fifty-three police services provided data regarding the number of CEW uses during the time period specified. Table 16 demonstrates a steady increase in CEW use from the time police services were first authorized to use CEWs, which corresponds to an overall increase in users over the six-year period. As illustrated in Table 15 above, by the end of 2007, 19 police services had tactical units/hostage rescue teams authorized, 18 had members of preliminary perimeter control and containment teams authorized and 51 had front-line supervisors authorized. Although the number of individuals in each of these groups was not collected for each of the years being examined, thereby precluding the calculation of a user rate, the total number of users in 2008 at the time the surveys were submitted was 4042.

Table 17 **Presence of weapons**				
	Unknown	None	Did carry	Total number of incidents
Of total number of CEW uses in 2007, how often was subject carrying a weapon? (25 respondents)	93 (12%)	536 (69%)	144 (19%)	773

Police services were invited to respond to the question in Table 17 if they had the information readily available. Twenty-five complete responses were received. CEW use was more frequent when the subject did not have a weapon compared to both unknown weapon presence and when the subject carried a weapon.

It should be noted that an additional eight police services provided data indicating that 42 subjects (18 per cent) were carrying a weapon in 232 incidents in which a CEW was used. These responses were not included in the above table as the other values ("unknown" and "none") were not provided.

It is important to view this data within a context that reflects the realities of policing and the use of force by police officers. It is an accepted fact among police trainers and operational experts that the use of CEWs would likely be inappropriate in many, if not most, cases involving subjects armed with dangerous weapons. As a single use weapon in probe mode, the CEW may be ineffective and potentially dangerous against a quickly advancing, armed subject. Subjects may also engage in aggressive, threatening or assaultive behaviour without being in possession of a weapon.

During the initial 2003 field trial conducted in the United Kingdom to assess the possible adoption of the CEW as a use of force option, police officers were instructed only to use the weapon when confronted with an armed suspect. Following the results of the trial and consultation with various stakeholders, it was decided that deployment of a CEW would be acceptable in cases where a subject's behaviour posed a serious risk of violence even if the subject was not in possession of a weapon.[19]

A police officer is legally authorized to use lethal force whenever a subject is threatening a person with serious bodily harm or death. For the 19 per cent of cases involving armed subjects referenced above at Table 17, a lethal force option may have been utilized by the officer if he/she did not have access to a CEW.

Within the Ontario Use of Force Model (2004), a CEW is classified as an intermediate weapon (like the baton and oleoresin capsicum spray). Similarly, in most of the other jurisdictions examined, the

[19] Cited in Commission for Public Complaints Against the RCMP, *RCMP Use of the Conducted Energy Weapon (CEW), Final Report.* June 12, 2008.

CEW is classified as an "intermediate" or "non-lethal/less-lethal" weapon. Policies around use vary from the low threshold of "when actions warrant more than a verbal command but less than escort techniques and balance displacement" (i.e., "soft" physical control techniques) to the higher threshold of only tactical situations or with "aggressive or combative" subjects. (See Appendix B: Jurisdictional Scan of Law Enforcement Agencies).

In his discussion of an appropriate threshold for CEW use, Commissioner Braidwood considered the notion of "proportionality" as well as factors pertaining to the "seriousness of the matter" and "the subject's behaviour". He made the following comment "…I am satisfied that proportionality requires that a fairly high "subject matter" threshold be set. I would preclude deployment of a conducted energy weapon during enforcement of municipal bylaws, provincial laws, and federal regulatory laws, and restrict its use to truly criminal offences."[20] Furthermore, he recommends that "having regard to the medical risks discussed above, and to my sense of proportionality, I believe that a threshold approximating the Criminal Code definition of assault causing bodily harm found in s. 267(b) would be appropriate. It requires demonstrably more dangerous behaviour than "assaultive"…but adopting a "bodily harm" threshold is not so high as to be unreasonably onerous."[21]

Members of the CEW training and guideline sub-working group are in the process of recommending an approach to address the issue of a CEW use threshold for eventual inclusion in the current use of force guideline.

Anecdotal evidence from police services also demonstrates that CEWs have been effective in incidents involving individuals who are attempting or threatening suicide. Officers have deployed a CEW in these cases to prevent an individual from harming him/herself.

Table 18
CEW mode usage

	Probe mode[22] only	Drive stun mode[23] only	Combined probe and drive stun modes	Demonstration mode[24]
Of total number of CEW uses in 2007, how often was CEW used in each mode? (41 respondents)	418	344	65	98

[20] Part 10 Recommendations, *Braidwood Commission on Conducted Energy Weapon Use*, June 2009, p. 296.
[21] Ibid., p. 307.
[22] Two barbed probes are fired from a cartridge attached to the front of the CEW. The probes are tipped with a short dart that has a small barb to ensure that they remain embedded in the subject. They are fired with enough force to penetrate layered clothing and are attached to the CEW by two wires through which electrical current passes into the subject. The result is muscular incapacitation in addition to pain.
[23] Application of the weapon when the cartridge is removed and the device is applied with some pressure to a preferred location on the body. Each trigger pull results in a five-second shock. Pain is inflicted but neuromuscular incapacitation does not occur.
[24] Refers to the drawing/display of the CEW and may include aiming at or training the laser sight on a subject, and/or activating the spark.

Given the variations in the reporting of CEW use, it is not possible to identify the percentage of incidents in which each mode was deployed based on the total number of uses identified in Table 16. The number of respondents for Table 16 was 53, while only 41 services responded to the specific mode usage question in Table 18.

The results indicated that CEW deployment varied across modes of use. As Table 18 illustrates, CEW deployment in probe mode was significantly more common than other modes. In contrast, the Commission for Public Complaints against the RCMP found that in the cases it reviewed, use of the CEW in drive stun mode was more common than probe mode and in a small number of cases, both modes were deployed.[25]

The Annals of Emergency Medicine mentioned above found approximately two thirds of conducted electrical weapon uses were with the probe mode, one quarter used the drive stun/direct contact mode, and fewer than 10% used both modes.[26]

Other reviews and reports have addressed the ways in which CEWs are currently deployed. The RCMP Complaints Commission found that use of the CEW in probe mode, either alone or in conjunction with drive stun mode, results in a higher likelihood that the subject will receive medical attention as opposed to using drive stun mode on its own. Each successive use of the CEW in either mode also results in a higher likelihood of a medical examination being required.[27]

It is interesting to note that some jurisdictions in Ontario and elsewhere are limiting their use of the drive stun mode as it is considered by many to be less effective, with a higher propensity for causing burn-like injuries. Further review of probe versus drive stun deployment may be warranted.

Table 19
Multiple CEW mode cycles

	Probe mode	Drive stun mode	Combined modes	Total number of incidents
Of total number of CEW uses in 2007, how often was subject exposed to multiple cycles of each mode? (26 respondents)	51 (10%)	71 (14%)	21 (4%)	502

Again, police services were invited to respond to this question if they had the information readily available. As a result, twenty-six complete responses were received and are reflected in Table 19. The purpose of this question was to identify the number of times in which a CEW was deployed more than once in either probe mode or drive stun mode or where both modes were used more

[25] Commission for Public Complaints Against the RCMP. *RCMP Use of the Conducted Energy Weapon (CEW), Final Report.* June 12, 2008.
[26] Bozeman, et. al., p. 8.
[27] Commission for Public Complaints Against the RCMP. *RCMP Use of the Conducted Energy Weapon (CEW), Final Report.* June 12, 2008.

than once in a single incident. Of the total number of incidents, multiple cycles were used 28 per cent of the time, with the majority being deployed in drive stun mode.

The use of multiple cycles has become a contentious issue following limited research that identified potentially adverse effects resulting from continued or multiple applications of a CEW in probe mode. As a result, cautions with respect to multiple and extended use are being included in policies and procedures, and limitations are being placed on this type of use. For example, the Police Executive Research Forum of the United States Department of Justice suggests training protocols should emphasize that multiple activations and continuous cycling of a CEW be avoided where practical, as such use appears to increase the risk of death or serious injury.[28]

The Canadian Police Research Centre (CPRC) also noted the "adverse effects of multiple cycles".[29] The Quebec Standing Advisory Subcommittee on the Use of Force recommends using as few cycles as possible and avoiding continuous cycles exceeding 15 to 20 seconds[30].

Among the police services reviewed during the Braidwood Inquiry, none imposed an absolute cap on the number of cycles permitted, while ten services trained that an officer should only apply the number of cycles reasonably necessary to allow them to safely approach and restrain the subject.[31]

Commissioner Braidwood agrees that it would be inappropriate to impose a "one discharge" rule as there will be circumstances in which a single five-second discharge does not incapacitate the subject. Likewise, he agrees that it would not be appropriate to impose some arbitrary maximum number of discharges.[32]

To include both a subjective and objective component to the decision to deploy a CEW multiple times, Commissioner Braidwood recommends that officers "be prohibited from discharging an electrical current from a conducted energy weapon on a subject for longer than five seconds, unless the officer is satisfied, on reasonable grounds, that: the five-second discharge was not effective in eliminating the risk of bodily harm; and a further discharge will be effective in eliminating the risk of bodily harm."[33]

Proposed operational changes to police service procedures should reflect that, as the amount of force (i.e., number of cycles) increases, the need to seek medical assistance may also increase.

Table 20
Police service statistics

	Total number of arrests	Total number of criminal offences	Total number of calls for service
Police service	176,825	803,000	3,645,527

[28] Cronin, James M. and Joshua A. Ederheimer. *Conducted Energy Devices: Development of Standards for Consistency and Guidance*. U.S. Department of Justice Office of Community Oriented Policing Services and Police Executive Research Forum. Washington, D.C., 2006, p. 23.
[29] Manojlovic, D. et. al. *Review of Conducted Energy Devices*. Ottawa, August 22, 2005.
[30] Standing Advisory Subcommittee on the Use of Force. *Analysis and Recommendations for a Quebec Police Practice on the Use of CEDs*. December 17, 2007, p. 31.
[31] Part 10 Recommendations, *Braidwood Commission on Conducted Energy Weapon Use*, June 2009, p. 313
[32] Ibid., p. 313.
[33] Ibid., p. 314.

statistics for 2007 (50 respondents)			

While 50 police services responded to this question, some did not supply information for every category. Out of the total number of calls for service, the number of criminal offences may be extracted and within this category of incidents, the total number of arrests may be found.

Although police services were not asked to supply specific data on the number of times a CEW was used to effect an arrest, an attempt has been made to ascertain this information from the data supplied. This was accomplished by using responses from the 37 police services that answered both questions pertaining to CEW use in 2007 (Table 16 Number of CEW uses) and the number of arrests (Table 20 Police Service Statistics).

The total number of reported CEW uses for this sub-sample was 810 and the total number of arrests was 176,522. It is therefore estimated that, in the sub-sample of 37 police services, a CEW may have been used in 0.5 per cent of arrests, or approximately once in every 218 arrests.

The Calgary study mentioned earlier found that, in the two-year study period, general police/public interactions were extremely unlikely to result in any use of force. Out of 827,022 interactions, there were 562 use of force events, or 0.07% of all interactions.[34] Arrests occurred in only 4.6 per cent of police-public interactions, and in the vast majority of cases (98.5 per cent) the arrests were accomplished without force.[35]

In comparison to Ontario's data, the total number of times a CEW was used in an arrest during the two year Calgary study was 271 (out of 37,719 arrests) which represents 0.7 per cent of the time or one out of every 139 arrests.[36]

The authors comment that media/publication bias "prevents the public and stakeholder community from forming an informed opinion about the actual risk presented by the CEW or other use of force modalities."[37] Furthermore, "similar biased reporting of events has also led the laypublic to have the impression that police use of force is frequent when compared to the overall number of police and public interactions",[38] which was found not to be the case.

It would also be informative to assess the number of public complaints or criminal charges laid against police officers in relation to their CEW use. As an example, only one complaint was lodged against an OPP member in 2007 that pertained to the officer's use of a CEW. The complaint was deemed to be unsubstantiated and subsequently dismissed. The total number of CEW uses in that year by OPP members was 409.[39]

[34] Butler, Chris and Christine Hall. *Police/Public Interaction: Arrests, Use of Force by Police, and Resulting Injuries to Subjects and Officers – a Description of Risk in One Major Canadian City*, Law Enforcement Executive Forum, 2008 p. 146.
[35] Ibid., p. 146.
[36] Ibid., pp. 146-147.
[37] Ibid., p. 141.
[38] Ibid., p. 141.
[39] Data received from Operational Policy and Strategic Planning Bureau, OPP, September 22, 2009.

Between December 2001 and December 2007, the RCMP Public Complaints Commission made 22 findings relative to CEW use or threatened use. Of those findings, fifteen "found no fault with the conduct of the RCMP and the Commission made seven (7) adverse findings. Therefore, the Commission was satisfied with the RCMP's conduct in 68 percent of the allegations and found misconduct in 32 percent".[40]

6. EQUIPMENT AND CONTROL

The next group of questions was intended to solicit information about best practices currently in place within police services to track CEWs and cartridges.

Table 21
Issuance of CEWs

	Personal issue	Community pool	Both
Does the police service use personal issue or community pool to issue CEWs to authorized members? (56 respondents)	17 (30%)	50 (89%)	11 (20%)

Table 21 shows that most police services utilized a CEW community pool. Although respondents did not specify, it is assumed that, in services using both systems, specialized units such as tactical teams were personally issued CEWs, while supervisors used a community pool.

Table 22
Tracking CEWs

	Yes	No or n/a
With personally issued CEWs, does the police service record the serial number or unique identifier of CEWs assigned to each member? (17 respondents)	17 (100%)	0 (0%)
With a community pool, does the police service record the serial number or unique identifier of CEWs assigned to each member? (50 respondents)	39 (78%)	11 (22%)

Table 22 indicates the majority of police services used some method to track CEWs. The various methods included serial numbers being recorded in notebooks, log books, sign-out sheets, and cruiser computer units. For three police services, tracking hadn't been implemented as the service only had one CEW. In another service, one CEW was exclusively issued to the group of patrol

[40] Commission for Public Complaints Against the RCMP. *RCMP Use of the Conducted Energy Weapon (CEW), Interim Report.* December 11, 2007, p. 18.

sergeants while the other was reserved for acting patrol sergeants. Spark test results and battery charge levels were also recorded in some services.

Table 23 **CEW cartridge control**		
	Yes	No or n/a
Does the police service have a process to control how CEW cartridges are assigned to members? (56 respondents)	26 (46%)	30 (54%)

As shown in Table 23, most police services did not have processes in place to control cartridge assignment. Those services that did so provided examples such as recording serial numbers in notebooks and log books, as well as data being maintained by training units and cartridges being issued and recorded by the Chief of Police.

The above responses provide useful best practice information to consider during the development of an operational guideline.

CONCLUSION

This report only touches on the extensive amount of information and research currently available on CEWs. However, on the basis of the examination of recent reports/studies and data on police use of CEWs from jurisdictions within Canada and around the world, PSAC believes CEWs to be an appropriate law enforcement tool. As with every use of force option available to police officers, the need for accountability, supervision, effective training and clear operational guidance are of paramount importance.

The results of the survey reveal variations between police services in their operational procedures for CEWs and in the provision of CEW training across the province. For example, police services differ in their reporting practices, obtaining medical attention following CEW use, deployment, and equipment control processes. In addition, there are variations in the duration and frequency of the CEW instructor, user, refresher and familiarization training programs, particularly in areas that are not governed by ministry directives.

It is therefore worthwhile for the ministry and its policing partners to pursue further discussion and work in these areas in an effort to achieve consistency in practices across the province.

It is not the goal of this report to make specific recommendations regarding policy and operational changes to the use of CEWs by police officers in the province of Ontario. Rather, it is hoped the information contained in this report will be used by police and ministry partners to inform future decisions about CEW deployment, the development of a CEW guideline and CEW training standards.

As mentioned, a sub-working group has been established to begin work on training requirements and an operational guideline. Ongoing discussions between the ministry and policing partners centre around other policy areas such as CEW authorization and deployment in relation to the types of circumstances in which a CEW may be used.

Efforts of both the sub-working group and CEW Working Group should be directed to further exploring these issues and developing a consistent approach to resolving them.

RECOMMENDATIONS

PSAC believes CEWs are an effective less lethal intermediate weapon for law enforcement and their use should be continued.

Current ministry directives regarding CEW usage are adequate until such time as standardized training and new operational guidelines are implemented as per the recommendations below.

Further to this, PSAC requests the Minister of Community Safety and Correctional Services endorse the following:

1. The ministry, in consultation with policing partners, should establish training standards for users and instructors including requalification requirements.

2. The ministry should amend the current provincial Use of Force Guideline to include policy and procedural guidance to police services on CEWs, in consultation with policing partners. Areas to be examined should include: deployment/tactical considerations, restrictions on use, post-deployment procedures, reporting and accountability, and equipment control.

3. The ministry should undertake further analysis and consultation with policing partners in relation to the members of police services who should be authorized to use CEWs.

4. The ministry should consult further with policing partners on the types of circumstances in which a CEW may be used, consistent with the Ontario use of force model.

5. The ministry, in consultation with policing partners, and in keeping with the original objectives of the form, should revise the Form 1 Use of Force Report to capture the most current and appropriate use of force information, including CEW use.

6. The ministry should prepare and disseminate communications material to assist in informing the general public about the risks and benefits of CEW use.

APPENDIX A:
POLICE SERVICE SURVEY RESPONDENTS

Amherstburg Police Service
Aylmer Police
Barrie Police Service
Belleville Police Service
Brantford Police Service
Brockville Police Service
Chatham-Kent Police Service
Cobourg Police Service
Cornwall Community Police Service
Deep River Police Service
Dryden Police Service
Durham Regional Police Service
Espanola Police Service
Essex Police Service
Gananoque Police Service
Greater Sudbury Police Service
Guelph Police Service
Halton Regional Police Service
Hamilton Police Service
Hanover Police Service
Kawartha Lakes Police Service (City of)
Kenora Police Service
Kingston Police Service
LaSalle Police Service
Leamington Police Service
London Police Service
Midland Police Service
Niagara Regional Police Service
North Bay Police Service
Ontario Provincial Police
Orangeville Police Service
Ottawa Police Service
Owen Sound Police Service
Oxford Community Police Service
Peel Regional Police Service
Pembroke Police Service
Perth Police Service
Peterborough – Lakefield Community Police Service
Port Hope Police Service
St. Thomas Police Service
Sarnia Police Service
Saugeen Shores Police Service
Sault Ste. Marie Police Service
Shelburne Police Service
Smiths Falls Police Service
South Simcoe Police Service
Stirling-Rawdon Police Service
Stratford Police Service
Strathroy-Caradoc Police Service
Thunder Bay Police Service
Timmins Police Service
Toronto Police Service
Waterloo Regional Police Service
Wawa Police Service
West Grey Police Service
West Nipissing Police Service
Windsor Police Service
Wingham Police Service
York Regional Police Service

APPENDIX B:
JURISDICTIONAL SCAN OF LAW ENFORCEMENT AGENCIES

Law Enforcement Agency	Classification	Deployment Policy	Reporting	Authorized Users
Australia (Australian Federal Police, Northern Territory Police, Queensland Police)	Less-lethal/Non-lethal	The Northern Territory Police authorize use to defend themselves or others, to disarm/restrain violent subjects and to prevent self harm or to control an animal.	Queensland Police have introduced mandatory reporting and an independent review of each incident in which a CEW is removed from a holster.	Federal Police: limit CEW use to the Specialist Response and Security Team and the Tactical Response Team. Queensland Police have begun rolling out the issuing of CEWs to all front-line officers.
Alberta	Less lethal/ intermediate weapon	While in the lawful execution of their duties, police officers may use a CEW if the officer subjectively believes that the subject will likely cause injury to the police officer, subject, or bystander. Further, the use of the CEW must also be objectively reasonable in light of Environmental Factors, Subject Factors, and Officer Factors. At all times, the force used must be reasonable; CEW use will be subjectively and objectively reasonable as an alternative to direct physical contact with a subject when, due to the Environmental Factors, Subject Factors, and Officer Factors involved, there is a real likelihood of injury to the officer, subject, or bystanders;	A report is required in the following circumstances: displaying a CEW to gain compliance; use of the CEW in contact stun mode; use of CEW in probe mode; and accidental discharge, other than into a designated loading station.	CEW is available to trained front-line officers.
Calgary Police Service	Intermediate Weapon	A CEW can be used to "gain control of violent, assaultive and difficult to control subjects when other use of force options are ineffective or inappropriate under the circumstances."	CEWs are considered part of the use of force reporting process whereby each deployment is reviewed.	CEW is available to front-line officers.
Cincinnati Police Department	Non-lethal alternative	The CEW can be used when actions warrant more than a verbal command but less than escort techniques and balance displacement.	Quarterly, supervisors are to download the previous three months of deployment data from the CEW. Activations longer than ten seconds and/or three or more consecutive activations, warrant that the supervisor provide a brief response on the download sheet, justifying the activation.	All patrol officers are equipped with CEWs.

Law Enforcement Agency	Classification	Deployment Policy	Reporting	Authorized Users
Edmonton Police Service	Intermediate Weapon	The CEW can be deployed when a subject is actively resisting (or higher), coupled with the potential for violence; the perception of violence; or, with knowledge that the subject has been violent in the past. When a subject is compliant or poses no physical threat, the CEW should not be deployed in probe or stun mode. If a subject is fleeing, this cannot be used as sole justification for the use of a CEW.	A Control Tactics Report must be completed and submitted for every deployment.	CEW use is not restricted to specialized units; rather, it allows CEWs to be used by officers who have completed the appropriate training.
Los Angeles Police Department		CEW use is permitted against aggressive or combative subjects. CEW use is not permitted on passive subjects. The use of push stun mode is discouraged but officers can use it if other options are not possible.		
Miami Police Department		CEW use is authorized in "situations involving a violent combative subject, an emotionally disturbed person, a person suffering from the symptoms of Excited Delirium or a subject under the influence of a mind-altering drug".	All CEW deployments are recorded in a log and supervisors must sign the log in order to verify the information is accurate. The Internal Affairs Division reviews all CEW deployment reports in order to ensure compliance with policies.	
New Brunswick	Intermediate	Once an officer determines that physical force is needed, the level of force used will depend on the officer's perception of resistance and whether that resistance poses a threat of serious injury or death to the officer and/or the public.	A Use of Force report is to be filled out after all CEW deployments.	Municipal services have the option of authorizing any trained officer.
Nova Scotia	Intermediate Weapon (all police services in the province)	RCMP-see below All municipal agencies preclude CEW use if it can be reasonably believed that incapacitation may lead to serious injury or death. It is also required that all agencies require a verbal warning that a CEW will be used before deploying it. Sheriff Services authorizes use when "alternative control tactics have been or would likely be ineffective or where it would be unsafe for officers to approach a subject to apply restraints." Correctional Services authorizes use when "lesser measures of control have been ineffective."	All agencies in the province must file a report after CEW usage	As of early 2008, within municipal police services, the number of authorized users ranged from 32% to 100% of total officers, with six of eight services authorizing over 70% of their officers to use CEWs.

Law Enforcement Agency	Classification	Deployment Policy	Reporting	Authorized Users
Regina Police Service	Intermediate Weapon	CEW use is restricted to tactical situations. The policy states that if two five-second discharges are not sufficient to gain control, members should consider other use of force options.	All CEW use, whether it is just pointed at a subject or actually deployed, must be reported and the information from the CEW download is to be sent to the Use of Force Committee for review.	CEW use is restricted to SWAT team members in tactical situations.
Royal Canadian Mounted Police (RCMP)	Intermediate Weapon	The RCMP has restricted CEW use to incidents involving threats to officer and/or public safety.	The RCMP has introduced enhanced use of force reporting and requires quarterly and annual reports on CEW usage.	Currently, only those front-line officers who complete the CEW User Course are authorized to use CEWs.
Seattle Police Department	Less-lethal device	In push stun mode, the CEW is "viewed as a lesser use of force than OC spray and on par with pain compliance techniques such as wrist locks…", while probe stun mode "is viewed as a greater use of force than pain compliance techniques, but a lesser one than punches, kicks or the use of impact weapons."	Any use of a CEW must be written up in a Use of Force report by the officer. All CEW usage is tracked on a department-wide basis and a bi-annual TASER Use Update is made available to the public on their website.	All users equipped with a CEW must go through mandatory training.
Sûreté du Québec	Intermediate Weapon	Authorized deployment can occur after a subject has refused to comply and an assessment is made of the subject's potential for violence, the degree of risk for injury to themselves or others, if the subject possesses a weapon, the benefits of using a CEW as opposed to other use of force options and the device's capabilities in the circumstances.	Officers must immediately notify their supervisors to report every CEW use.	Police services in the province can gain authorization for their officers to use CEWs through completing the relevant training at the École nationale de police du Québec.
Victoria Police Department	Intermediate Weapon	CEW deployment is authorized if the subject is believed to be a danger to him/herself or others and needs to be immediately controlled; or it is believed the subject will be actively resistant/assaultive toward police or others, or poses a threat of serious bodily injury or death to the officer or others.	Officers must complete a Subject Behavior Report after the deployment of a CEW as soon as practicable, although this requirement does not include the use of a CEW as demonstrated force.	
Vancouver Police Department	Intermediate Weapon	The CEW is authorized for use "when lower levels of force have been ineffective and/or inappropriate, and the use of higher levels of force may not be justified and/or appropriate."	A Use of Force report should be completed after all CEW deployments. This reporting requirement includes CEWs used as demonstrated force	Members of the Emergency Response Section and experienced patrol members who apply, and are recommended by their supervisors, are authorized to use CEWs after completion of the appropriate training

APPENDIX C:
SCAN OF CEW REVIEWS/REPORTS

Policies and Procedures	Training	Authorized Users	Medical Attention/Issues	Classification	Reporting	Key Details
Advisory Panel to Minister of Justice on use of CEDs by Law Enforcement Agencies in Nova Scotia, March 2008						
Prescriptive set of provincial use of force standards and procedures is necessary	Need provincial use of force training standard; standards for certification and recertification including use of force strategies, communication, persons with mental disorders Instructor accreditation not to be based solely on manufacturer criteria	Can't make recommendation because of insufficient data	Province to establish panel of mental health and medical experts to address issue of excited delirium	Limit use to violent or aggressive resistance or active threat that may cause serious injury to police, subject or public	Create a provincial database for comprehensive review of use of force incidents Use of force incident information should be submitted to central (national) body	Variation in policies across province Provincial Governance Standard vague Current accountability framework inadequate No central repository of CED data use
Commission for Public Complaints Against the RCMP, June 2008						
Data collection and analysis practices are ineffective and inefficient Clearer operational guidelines re: at risk populations and role of EMS are needed; establish Use of Force Coordinators in all divisions	Recertification timelines should be lessened from every three years to every two years	Corporals or above in urban settings; constables with at least 5 years operational experience in rural settings (exemption for specialized response teams)	Medical attention should be sought for subjects in all circumstances	Intermediate, but recommended impact (combative behavior at minimum)	Enhance current reporting; publicly release quarterly and annual reports	Should be used with cases of excited delirium only when combative behavior, or a risk of death/grievous bodily harm is present

Policies and Procedures	Training	Authorized Users	Medical Attention/Issues	Classification	Reporting	Key Details
Analysis and Recommendations for a Quebec Police Practice on the Use of CEDs, December 2007						
Identifies relevant elements that should be included in a Quebec policy practice on use of conducted energy devices	Departments to ensure officers receive necessary training under supervision of an accredited monitor from école nationale de police du Québec Annual requalification		Consider highly agitated person as medical emergency Restrictions on use, including multiple cycles Tactical considerations, operational risks Medical assessment for subjects of neuromuscular incapacitation	To control an individual whose resistance presents significant risk to own safety or others; to protect officers or others from imminent threat of bodily harm	Every use should be reported, specifically stating the deployment mode	Components addressed: medical; operational, management; and training
Standing Committee on Public Safety and National Security, June 2008						
RCMP should revise its policy on use of Tasers to include clear and strict usage guidelines, as is the case for firearms, that will include clear restrictions on multiple discharges	RCMP should modify its training on Taser use to place more stress on the potential risks of death and injury and on the gaps in the knowledge about this technology and its effects Re-certification at least every two years Training should be improved on mental health and addiction issues and reflects current research, particularly		Wherever possible, the RCMP should make use of psychiatric support staff to assist in providing assistance when an intervention is expected to involve a person suffering from mental illness or drug addiction	RCMP should restrict Taser use by classifying it as an "impact weapon" rather than an intermediate weapon, so that its use can be authorized only in situations where the subject is displaying assaultive behaviour or posing a threat of death or grievous bodily harm to the police, himself or the public	RCMP should include in its annual report to Parliament data on the use of Tasers and other use-of-force methods and should include: the number of officers accredited to handle Tasers; the number and nature of incidents involving Tasers; the type of use; the number of complaints received; the injuries related to its use; and the	The Taser has its place in police work and can save lives in situations that would otherwise involve deadly force RCMP Taser use policy is too permissive. Shortcomings exist in training and the three-year re-certification is inadequate There are shortcomings in mental illness/addictio n training and services

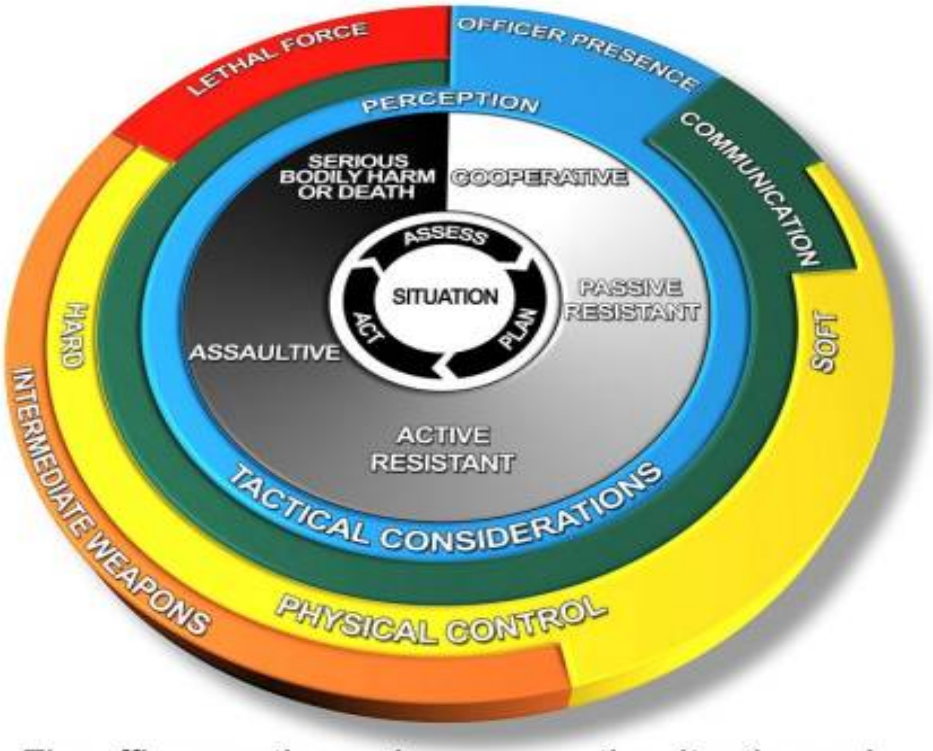
Policies and Procedures	Training	Authorized Users	Medical Attention/Issues	Classification	Reporting	Key Details
	regarding the relationship between mental health disorders, addiction and use of the Taser				number of deaths soon after Taser use	There are gaps in knowledge and independent research, accountability and transparency and civilian oversight
US Department of Justice (Police Executive Research Forum Report) - Conducted Energy Devices: Development of Standards for Consistency and Guidance, November 2006						
Agencies should create stand-alone policies for CEDs and ensure integration with use of force policy	Annual re-certification Training curriculum should be developed and ensure integration with use of force policy		Multiple deployments, continuous cycling should be avoided CEW should not generally be used against at-risk populations CEWs should not be deployed on sensitive areas Medical attention for all subjects Other safety/medical considerations	Should only be used against persons who are actively resisting or exhibiting active aggression or to prevent harm to self or others Should not be used against passive individuals	Every deployment of CEWs, including accidental discharges, should be included in use of force reports	Report provides information to law enforcement profession to enable them to make purchasing and deployment decisions, develop new or improved CED policies, and foster safe encounters between police and violent subjects
Canadian Police Research Centre (CPRC): Review of Conducted Energy Devices, August 2005						
Police services and/or government should not develop policies that specify the types of scenarios in which a CEW may or may not be	Proper training and use of CEWs can/has reduced the risk of harm to both police officers and suspects		Existing studies indicate risk of cardiac harm is very low It is dangerous to deploy multiple cycles and to deploy to a subject's head, neck or genitalia	Intermediate	Police services and governing bodies should consider developing CEW usage reporting procedures, forms or databases	Definitive research or evidence does not exist to implicate a causal relationship between use of CEDs and death Excited

Policies and Procedures	Training	Authorized Users	Medical Attention/Issues	Classification	Reporting	Key Details
deployed						delirium is now more accepted as a contributor to deaths proximate to CEW use
Association of Chief Police Officers (United Kingdom): Independent Evaluation of the Operational Trial of Taser, May 2004						
CEW usage allowed when the subject was armed or when use of a firearm would be warranted which was viewed as being too restrictive	Taser should only be used by specially trained firearms officers who are highly skilled at making judgments under stress Scenario based training is valuable	Taser use should be extended to a limited range of other non-firearms incidents	Subjects arrested without any serious injury to the subject or officers	Less lethal option	Officers completed an evaluation questionnaire each time a CEW was deployed Forms may not have been completed for every deployment, if the CEW was not actually used	Operational benefits: helps de-escalate potentially violent situations, can reduce risk of harm to officers, can sometimes be used with more precision than alternatives such as irritant spray and baton gun
Braidwood Commission on Conducted Energy Weapon Use, July 2009						
Province-wide standards be set regarding approved models; circumstances for use; qualifications; training; and reporting CEW be deployed only during enforcement of a federal criminal law Threshold for use: if the subject is causing bodily harm or the	Crisis intervention training be implemented for recruits and serving officers Police Academy train all officers in CEWs as component of use of force training and include medical risks Voluntary CEW exposure during training be prohibited	Evidence does not justify limiting assignment to certain categories of officers Decisions should be made by individual agencies	With emotionally disturbed people, de-escalation/crisis intervention techniques should be used before CEW unless such techniques will not eliminate risk of bodily harm CEW use should be prohibited in cases of self-harm unless subject is causing or will cause imminent bodily harm to self Prohibit discharges longer	Intermediate	Province wide incident report form be developed for every CEW deployment including display mode Province-wide electronic system for reporting and analysis of CEW incidents Review of incidents to inform policy and training	Lack of consistency in police service policies re CEWs; policies do not address all issues Lack of consistency in training; confusion between policy issues and training matters; dependence on manufacturer's training materials CEWs can cause cardiac

Policies and Procedures	Training	Authorized Users	Medical Attention/Issues	Classification	Reporting	Key Details
officer is satisfied on reasonable grounds that the subject's behaviour will imminently cause bodily harm Even if this threshold is met, CEW use is prohibited unless officer satisfied no lesser force option has been or will be effective in eliminating the risk of bodily harm and de-escalation and/or crisis intervention techniques have not been or will not be effective			than 5 seconds unless 5 second discharge not effective in eliminating risk of bodily harm and further discharge will be effective in eliminating risk Paramedic assistance be requested in every medically high-risk situation including; deployment across chest, discharge longer than 5 seconds, deployment on emotionally disturbed, elderly, or pregnant person or person with medical condition that may be worsened by deployment. All officers have external defibrillators available.		Report published annually on CEW use by police	effects Paramedic assistance is necessary in high risk cases De-escalation is best response to mentally ill Multiple deployments increase medical risks Government should set standards for approved models, use, qualifications, training, reporting A national research program on CEWs should be developed with focus on risk and best practice recommendations

APPENDIX D:

ONTARIO USE OF FORCE MODEL



The officer continuously assesses the situation and selects the most reasonable option relative to those circumstances as perceived at that point in time.

APPENDIX E

MEDICAL/SCIENTIFIC STUDIES

1. Police/Public Interaction: Arrests, Use of Force by Police and Resulting Injuries to Subjects and Officers- A Description of Risk in One Major Canadian City by *Chris Butler and Christine Hall, Law Enforcement Executive Forum, 2008.*

Description: This study documents the frequency of use of force by police, as compared to citizen arrest, along with injuries sustained by citizens and police, categorized by use of force options.

Findings:
- Use of force occurs in only 0.07% of public/police interactions
- Arrests result in 4.6% of all public/police interactions
- 98.5% of all arrests are done without use of force
- The use of CEWs resulted in fewer citizen and/or officer injuries than either physical control or the baton
- 87% of all CEW uses resulted in no or minor citizen injuries, while 96.7% of all CEW uses resulted in either minor or no officer injuries
- The belief that the CEW carries a significant risk of injury or death is not supported by this study's data

2. Conductive Electrical Devices: A Prospective, Population-Based Study of the Medical Safety of Law Enforcement Use by *Alexander L. Eastman, MD, Jeffery C. Metzger, MD, Paul E. Pepe, MD, MPH, Fernando L. Benitez, MD, Sgt. James Decker, Kathy J. Rinnert, MD, MPH, Craig A. Field, PhD, MPH, and Randall S. Friese, MD, Journal of Trauma, Injury, Infection and Critical Care, 2008.*

Description: This study examines police compliance with policies on the proper use of CEWs and tracks associated medical events following CEW application.

Findings:
- 426 CEW activations over a 15-month period
- Officers followed policy in all cases and thus, subjects received immediate medical evaluation following CEW deployments.
- Only one subject required further treatment, and later died of severe toxic hyperthermia, despite immediate on-scene intervention.
- 5.4% of deployments were deemed to prevent police's use of lethal force.

3. TASER X26 Discharges in Swine Produce Potentially Fatal Ventricular Arrhythmias *by Robert J. Walter, PhD, Andrew J. Dennis, DO, Daniel J. Valentino, MD, Bosko Margeta, MD, Kimberly K. Nagy, MD, Faran Bokhari, MD, Dorion E. Wylie, MD, Kimberly T. Joseph, MD, Roxanne R. Roberts, MD, Society for Academic Emergency Medicine, 2008.*

Description: This was a laboratory investigation using a swine model, the primary goal of which was to determine if CEW discharges could capture cardiac rhythm and produce fatal ventricular dysrhythmias, independent of metabolic or respiratory acidosis.

Findings:

- In this swine model, using a transcardiac vector, 2 40-second TASER X26 discharges produced myocardial capture that usually reverted spontaneously to sinus rhythm post-discharge.
- Capture continued for the duration of the discharge and in one animal degenerated into fatal ventricular fibrillation.
- These effects are independent of body mass within the range tested (25-71kg) or of the coexistence of systemic acidosis.
- Since the aberrant rhythms usually resolved immediately or within several seconds after the discharge ended, such events would go undetected if they occurred in humans exposed to discharges in the field.
- If similar capture of myocardial rhythm occurs in humans exposed to transcardiac discharges, it seems reasonable to speculate that this could be a factor in some of the TASER-related sudden deaths that have been reported.

4. Cardiac Stimulation with High Voltage Discharge from Stun Guns by *Kumaraswamy Nanthakumar MD, Stephane Massé Peng MASc, Karthikeyan Umapathy PhD, Paul Dorian MD, Elias Sevaptsidis, Menashe Waxman MD, Canadian Medical Association Journal, 2008*.

Description: A review of studies, with opposing theories, which have evaluated the potential of CEWs to stimulate cardiac muscles.

Findings:

Evidence that 'stun guns' cannot stimulate the heart:

- Studies that support this claim base their arguments on clinical scenarios that are often unreflective of the reality of scenarios.
- Two studies by Lakkireddy et al, and McDaniel et al, both studying swine, use a CEW with a controlled output power, allowing the authors to specify a safety margin.
- McDaniel et al found no evidence of perturbations while Lakkireddy et al showed that heart rate was influenced by CEW use if the barbs embedded to form a vector crossing the heart.
- Other studies have recorded electrocardiogram findings before and after, but not during, the CEW discharge, which does not rule out the possibility of a change in heart beat during the discharge.

Evidence that stun guns can stimulate the heart:

- The authors of this review conducted a test on a closed-chest anesthetized pig using X26 and M26 model TASERs. It was found that the blood pressure was occasionally abruptly lost during stimulation.
  - A total of 150 discharges on 6 pigs were studied and their findings suggest that the location of the barbs had a 'crucial influence' on stimulating the heart.
  - The discharges across the heart stimulated the myocardium while the barbs placed away from the chest and across the abdomen did not stimulate the heart.
  - The authors additionally simulated an excited state by injecting the pigs with epinephrine (makes the heart more prone to arrhythmias), where 13 of 16 discharges resulted in myocardial stimulation (1 induced ventricular fibrillation (VF), 2 caused ventricular tachycardia)
- It is suggested that additional research studies, involving humans, are needed to resolve conflicting theoretical and experimental findings.
  - The authors suggest that although there have been deaths following CEW use, whether a link exists is unknown.

- It is also concluded that there is no conclusive evidence to show whether 'stun gun' stimulation can result in cardiac arrhythmias late after discharges

5. Cardiac Monitoring of Human Subjects Exposed to the TASER by *Saul D. Levine, MD, Christian M. Sloane, MD, Theodore C. Chain, MD, James V. Dunford, MD, and Gary M. Vilke, MD, Journal of Emergency Medicine, 2007.*

Description: This study evaluated cardiac rhythm changes utilizing cardiac monitoring during the deployment of the TASER (CEW) on 105 volunteers. This prospective, observational study evaluated law enforcement volunteers who had continuous cardiac monitoring before, during and after CEW exposure.

Findings:
- With an average CEW exposure time of 3 seconds, there were no changes in cardiac morphology for any of the 105 subjects.
- There was a mean increase in heart rate of 15 beats per minute, while there were several subjects (n=7) who experienced a decrease in heart rate and 10 subjects who experienced no change in heart rate after CEW exposure.
- None of the subjects collapsed, had cardiac arrest or had continued discomfort after CEW exposure.
- The authors of this study recognized limitations, such as the relatively small sample size and the selection of subjects unlikely to have the characteristics of subjects actually exposed to CEWs by law enforcement.
- Additionally, there was not any prolonged monitoring of study subjects to determine any long-lasting effects, if any.
- It was also noted that the use of a single lead of electrocardiographical (ECG) data may not provide data as accurate as that which could be collected with a 12-lead ECG.

6. Physiological Effects of a Conducted Energy Weapon on Human Subjects by *Gary M. Vilke, MD, Christian M. Sloane, MD, Katie D. Bouton, BS, Fred W. Kolkhorst, PhD, Saul D. Levine, MD, Tom S. Neuman, MD, Edward M. Castillo, PhD, MPH,Theodore C. Chan, MD, Annals of Emergency Medicine, 2007.*

Description: A follow-up to the aforementioned study which involved 32 law enforcement volunteers (27 men, 5 women) with a 12-lead ECG.

Findings:
- Based on the perceived limitations of the single lead ECG in their previous study, the authors utilized a 12-lead ECG in this study.
- The authors conclude that a 5-second CEW deployment on healthy subjects does not result in statistically significant changes in ventilatory or blood characteristics of physiologic stress.

7. A Medical Review of the Physiological Effects of Conducted Energy Devices (CED) provided to the City of Houston Police Department by *Christian M. Sloane, MD, Theodore C. Chan, MD, and Gary M. Vilke, MD.*

Description: This report provides a review of the medical and physiological effects of conducted energy weapons (CEW).

Findings:

- Published research on the health effects and safety of CEWs on humans is limited.
- CEWs don't appear to have permanent effects on the muscular system, outside of the increased possibility of strains and the potential for muscle breakdown with repeated use.
- CEWs may have the potential to cause bone fractures in subjects with osteoporosis.
- Although there weren't any reported adverse effects, the actual effects of CEW deployment on the central nervous system and brain are unknown.
- CEWs don't appear to cause cardiac rhythm problems, although the available data is limited.
- Based on available data, there doesn't appear to be any negative effects of CEW deployment on the human respiratory system.

8. Respiratory Effect of Prolonged Electrical Weapon Application on Human Volunteers *by Jeffrey D. Ho, MD, Donald M. Dawes, MD, Laura L. Bultman, MD, Jenny L. Thacker, MD, Lisa D. Skinner, MD, Jennifer M. Bahr, MD, Mark A. Johnson, BS, James R. Miner, MD, Society for the Academic Emergency Medicine, 2007.*

Description: This study examines the respiratory effects of CEW deployment. The study had a total of 52 law enforcement subjects, where 34 received one 15-second exposure and 18 received 3 consecutive 5-second exposures. CEW electrodes were manually placed to ensure consistent placement from subject to subject.

Findings:

- Limitations perceived by the authors of this study included the small sample size, the pre-placed electrodes, and the differences between volunteer characteristics and the characteristics of subjects exposed in real-world law enforcement deployment scenarios.
- The main conclusion of this study suggests that prolonged CEW application did not impair respiratory parameters in this population of volunteers. Further study is recommended to validate these findings in other populations.

9. Safety and Injury Profile of Conducted Electrical Weapons Used by Law Enforcement Officers Against Criminal Suspects *by William P. Bozeman MD, William E. Hauda MD, Joseph J. Heck DO, Derrel D. Graham Jr. MD, Brian P. Martin MD, MS, James E. Winslow MD, Mph., Annals of Emergency Medicine, 2008.*

Description: This prospective, multicentre, observational trial tracked a consecutive case series of all CEW uses against 1,201 criminal suspects in 6 US law enforcement agencies over a 36 month period. Review of each use included physician review of police and medical records. Injuries were classified as mild, moderate or severe.

Findings:

- 99.75% of the subjects experienced no injuries or mild injuries only
- Of the 492 mild injuries, 83% were superficial puncture wounds from CEW probes
- Other mild injuries occurred in 5.2% of subjects and were primarily related to blunt trauma from falls
- 0.25% of subjects sustained significant injuries; 2 were head injuries from falls related to CEW use; 1 subject experienced rhabdomyolysis of unclear relationship to CEW use
- 2 suspects died unexpectedly; CEW use was not determined to be causal or contributory to death by the medical examiner in either case
- None of the significant head injuries or deaths occurred after numerous (3 or more) CEW discharges

- The risk of injury compares favourably to other force options available to officers and these findings support the overall safety of CEW use
- Subjects exposed to a CEW discharge should be assessed for injuries and appropriate medical evaluation should be provided when nontrivial injuries are evident/suspected
- Underlying conditions (e.g., medical or psychiatric conditions that may cause or contribute to behaviour leading to law enforcement intervention) may require medical assessment and treatment independent of CEW exposure

10. Report of the Council on Science and Public Health: Use of Tasers by Law Enforcement Agencies, American Medical Association (AMA), 2009.

Description: Reports on studies using human or animal subjects were selected from a literature search from 1985 to March 2009 and reviewed to address the technology of conducted electrical devices , the evidence on their direct physiological effects and data on the morbidity and mortality associated with their use by law enforcement personnel.

Findings:
- Swine models have demonstrated the ability of Tasers to induce ventricular arrhythmias
- Limited Taser discharges applied to healthy human volunteers generally appear to be safe
- Higher risk situations for restraint-related fatalities seem to be associated with pre-existing cardiovascular disease in individuals who have taken psychostimulants or other drugs and engage in a struggle against police and then are subjected to restraint (with or without Taser use)
- Sudden in-custody deaths of combative and agitated individuals have been attributed to "excited delirium" which is not a validated diagnostic entity but a generally accepted entity in forensic pathology
- CEDs have a role to play in law enforcement and prudent use can save lives during interventions that would otherwise involve the use of deadly force
- If deployed according to an appropriate use of force policy, and used in conjunction with a medically driven quality assurance process, Taser use by law enforcement appears to be a safe and effective tool to place uncooperative and combative subjects into custody
- Treating CEDs as "only a substitute for deadly force, would endanger officers and negate the benefit that has been demonstrated"
- Training protocols should emphasize that multiple activations and continuous cycling of CEDs appear to increase the risk of death or serious injury

APPENDIX F
MITIGATION POLICIES REGARDING 'VULNERABLE POPULATIONS'

1) TASER Policy and Training Recommendations, Minneapolis Civilian Police Review Authority (CRA), February 2006.

Description: The CRA favours a more detailed CEW policy that provides clear guidelines to officers for appropriate use of CEWs.

Conclusions/Recommendations: One of the recommendations suggests the need to provide clear limits on CEW use on 'at-risk individuals':

- The CRA suggests a ban on CEW use on vulnerable populations, including children, the elderly, frail or injured, the mentally ill, and pregnant women, unless exigent circumstances exist.

2) Policy Position of Canadian Mental Health Association (CMHA), Ontario, on CEWs, June 2008.

Description: CMHA Ontario is concerned about the use and safety of CEWs, as well as the propensity of law enforcement officials to deploy CEWs on people experiencing a mental health crisis or demonstrating signs of emotional distress.

Conclusions/Recommendations: CMHA Ontario suggests that Ontario's Use of Force Model does not make allowance/ offer guidance to police officers when encountering individuals who may be experiencing a mental health crisis and by virtue of their condition may not appear cooperative, due to hallucinations, delusions or other symptoms. However, other options are available, and mental health crisis intervention is the preferred approach for police to de-escalate such encounters.

Recommendations by CMHA Ontario Regarding use of CEWs:
1. A group of specially selected officers in every police service in Ontario be trained in mental health crisis intervention and other appropriate de-escalation techniques.
2. Police services in Ontario co-develop and participate in mental health crisis intervention teams to serve the needs of their community.
3. Police services in Ontario limit their use of CEWs to situations where the alternative would be use of deadly force. CEWs should only be used as a last resort after all other de-escalation techniques have proven unsuccessful.
4. Police services monitor and publicly report the incidence and outcomes of CEW use.
5. Independent research is conducted into the safety of CEW use, including the effects on persons experiencing a mental health crisis.

3) Conducted Energy Device Review, Nova Scotia's Department of Justice, March 2008.

Description: The following information highlights policies from municipal police services, correctional services and sheriff services, as they relate to vulnerable groups.

Conclusions/Recommendations:

- A number of municipal agencies include the following categories of individuals as persons who must never be the subject of CEW deployment:
  - persons in wheelchairs who do not have a weapon
  - persons in control of a vehicle
  - pregnant women, the elderly and/or persons who are likely to be injured by a fall
  - handcuffed prisoners

- Other agencies do not specifically exclude these groups, but indicate that "good judgment must be used and all other options carefully considered before using the CEW on those persons."

- The Nova Scotia Correctional Services policy states that the CEW may not be used when:
  - medical information indicates the offender is confirmed pregnant, has suffered a recent serious head injury, or has had recent major surgery
  - the offender is frail, in restraints (handcuffs, shackles), is at a dangerous elevation or has been exposed to a potential flammable hazard (gasoline, etc).

- The Nova Scotia Sheriff Services policy states that the CEW may not be used:
  - where the CEW operator cannot, for safety or other reasons, approach the subject within effective range of the CEW;
  - against persons in wheelchairs who do not have a weapon;
  - persons in control of a vehicle;
  - pregnant women, the elderly and/or other persons who are likely to be injured by a fall; and,
  - handcuffed persons.

4) Operational Use of TASER by Authorized Firearms Officers Policy, Association of Chief Police Officers (ACPO – United Kingdom), July 2007.

Description: The policy and operational guidance documents include references to research and statements made by the Defence Scientific Advisory Council's Sub-Committee on the Medical Implications of less-lethal technologies (DOMILL) regarding Taser technology.

A DOMILL statement from May 2007 identifies children and adults of smaller stature as being at potentially greater risk from the cardiac effects of CEW currents than normal adults of average or large stature. DOMILL recommends that authorized firearms officers should be particularly vigilant in identifying any CEW-induced adverse responses in this subset of the population.

Conclusions/Recommendations:

- DOMILL anticipates there will be an increase in the numbers of children subjected to CEW use
  - It has reviewed 10 cases of the exposure of persons under the age of 18 to CEW in Great Britain up to December 2006, under firearms authority. The medical effects reported that could be attributed directly to the CEW were the expected minor wounds from the probe barbs.
- There is limited information globally on the relative vulnerability of children to CEWs, from either operational data or experimental studies on animals.
  - One study, focusing on the risk of a serious cardiac event as it may relate to a reduction in the body weight of pigs suggests, if extrapolated to humans, that the safety factor for induction of ventricular

fibrillation by CEW discharge in children at the younger range of the pediatric population may be lower compared with that in the adult population

- Until more research is undertaken to clarify the vulnerability of children to CEW currents, children and persons of small stature should be considered at possible greater risk than adults of average or large stature and this should be stated in guidelines and training modules
- Thus, the DOMILL recommends that guidelines be amended to identify children and adults of small stature as being at potentially greater risk from the cardiac effects of CEW currents than adults of average or large stature

5) TASER Study, American Civil Liberties Union of Northern California (ACLU-NC), September 2005.

Description: In 2005, the ACLU-NC sent Public Records Act requests to several police and sheriff departments throughout Northern and Central California. The requests were sent to every department that employs 100 or more sworn officers as well as departments that were known, or believed from news reports, to use CEWs. In total, requests were sent to 79 agencies.

Conclusions/Recommendations: After surveying police services in California, the ACLU-NC found that most of the police departments surveyed had no policies protecting vulnerable people, including pregnant women, children and adolescents, and the elderly, from CEW deployments.

- Only 23 departments (43% of police departments surveyed) have any policy prohibiting or regulating the use of CEWs on pregnant women
- Only 19 (35%) have a policy regulating CEW use on the elderly
- 10 (19%) have a policy restricting the use of CEWs on juveniles
- One department only allows the use of the CEW on the pregnant and elderly "in cases where deadly force is the only alternative"
- Another department provides that "the TASER generally should not be deployed against young juveniles"

6) Analysis and Recommendations for a Quebec Police Practice on the Use of Conducted Energy Devices, Standing Advisory Subcommittee on the Use of Force, December 2007.

Description: This analysis is mandated to identify all relevant elements that should be included in a Quebec police practice on the use of CEWs.

Conclusions/Recommendations: Within the medical recommendations section, it is recommended that before using CEWs:

- Police officers consider a highly agitated person as a medical emergency, as the state of delirium cannot be diagnosed or treated until the person has been controlled and assessed by medical staff;
- Police officers call upon medical services, if possible, before intervening physically with this type of person;
- Police officers recognize persons at risk: pregnant women and persons who are elderly, thin or of small stature.

7) A Medical Review of the Physiological Effects of Conducted Energy Devices (CED) provided to the City of Houston Police Department, Christian M. Sloane, MD, Theodore C. Chan, MD, and Gary M. Vilke, MD, date unknown.

Description: This report provides a review of the medical and physiological effects of conducted energy weapons (CEW).

Conclusions/Recommendations: This review highlights the following:

- The effect of CEWs on pregnant women is unknown. It is suggested that a conservative approach be taken to the evaluation of any pregnant women who are subjected to CEW deployment.
- The authors suggest there is not enough data regarding the effects of CEW deployment on children and the elderly.
- It is also suggested that those suspected to be under the influence of stimulant drugs, in a state of excited delirium, and those with an implantable cardiac pacemaker or internal defibrillator, along with pregnant women, children and the elderly, all warrant particular attention and medical evaluation following CEW deployment.

8) Impact of conducted electrical weapons in a mentally ill population: a brief report, Ho JD, Dawes DM, Johnson MA, et al. American Journal of Emergency Medicine 2007.

Description: This is a review of a database maintained by TASER International of voluntarily-reported law enforcement CEW use since 1999. The database includes narratives of law enforcement contact circumstances, subject mental health, whether lethal force could have been justifiable as determined by the reporting officer based on individual department policy, or whether the subject posed an imminent danger to himself. The database was queried and descriptive statistics were applied to the data.

Conclusions/Recommendations:

- 10,608 CEW uses were recorded in 72 months
- 2,452 uses involved mentally ill subjects
- 1,111 (45.3%) of those uses involving mentally ill subjects were situations where lethal force would have been justified or in situations where the subject posed an imminent lethal danger to himself
- Although this data is subject to reporting limitations, the results suggest that in a significant number of law enforcement contacts with mentally ill persons, escalation of the contact to lethal force or suicide was prevented by a CEW
- Further investigation is recommended to better understand the impact and benefits of CEW use in contacts with the mentally ill population

APPENDIX G: USE OF FORCE REPORT (FORM 1)

(Check more than one box in each section, where appropriate) | Police Service | Location Code (if applicable)

Part A

Date (day/month/year) | Time Incident Commenced (24 hr.) | Time Incident Terminated (24 hr.)

☐ Individual Report | Length Of Service (years completed) | Rank | ☐ Team Report | Type of Team | # of Police Officers Involved

Type Of Assignment
- ☐ General Patrol
- ☐ Foot Patrol
- ☐ Traffic
- ☐ Investigation
- ☐ Drugs
- ☐ Off-duty
- ☐ Other (specify)

Type Of Incident
- ☐ Robbery
- ☐ Break and Enter
- ☐ Domestic Disturbance
- ☐ Other Disturbance
- ☐ Traffic
- ☐ Suspicious Person
- ☐ Serious Injury
- ☐ Homicide
- ☐ Weapons Call
- ☐ Alarm
- ☐ Other (specify)

Police Presence At Time Of Incident
- ☐ Alone
- ☐ Police Assisted (specify #) _____

Attire
- ☐ Uniform ☐ Civilian Clothes

Number of Subject(s) Involved In Incident
- ☐ One ☐ Two ☐ Three ☐ Other (specify #) _____

Type Of Force Used (Include all options used during incident & rank in sequence of use)

		Was Force Effective? Yes	No
Firearm - discharged	___	☐	☐
Firearm - pointed at person	___	☐	☐
Handgun- drawn	___	☐	☐
Aerosol Weapon	___	☐	☐
Impact Weapon - Hard	___	☐	☐
Impact Weapon - Soft	___	☐	☐
Empty Hand Techniques - Hard	___	☐	☐
Empty Hand Techniques - Soft	___	☐	☐
Other (specify)	___	☐	☐

Reason For Use Of Force
- ☐ Protect Self
- ☐ Protect Public
- ☐ Effect Arrest
- ☐ Prevent Commission of Offence
- ☐ Prevent Escape
- ☐ Accidental
- ☐ Destroy an Animal
- ☐ Other (specify)

Alternative Strategies Used (If Applicable)
- ☐ Verbal Interaction ☐ Cover
- ☐ Concealment ☐ Other (specify)

Type Of Firearm Used (If Applicable)	No. Of Rounds Discharged (If Applicable)
☐ Revolver	___
☐ Semi-automatic	___
☐ Rifle	___
☐ Shotgun	___
☐ Other (specify)	___

Distance (Between you & subject at the time the decision was made to use force)
- ☐ Less than 2 metres
- ☐ 2 to 3 metres
- ☐ 3 to 5 metres
- ☐ 5 to 7 metres
- ☐ 7 to 10 metres
- ☐ Greater than 10 metres

Weapons Carried By Subject(s)

1	2	3	
☐	☐	☐	Unknown
☐	☐	☐	None
☐	☐	☐	Revolver
☐	☐	☐	Semi-automatic
☐	☐	☐	Rifle
☐	☐	☐	Shotgun
☐	☐	☐	Knife/Edged Weapon
☐	☐	☐	Baseball Bat/Club
☐	☐	☐	Other (specify)

Location Of Subject's Weapon (At time decision was made to use force)

1	2	3	
☐	☐	☐	In-hand
☐	☐	☐	At hand
☐	☐	☐	Concealed on person

Number of Rounds Fired By Subject(s) (If Applicable)

Total Number: _____

Location Of Incident

Outdoors
- ☐ Roadway
- ☐ Laneway
- ☐ Yard
- ☐ Park
- ☐ Rural
- ☐ Motor Vehicle
- ☐ Other (specify)

Indoors

Private Property
- ☐ House
- ☐ Apartment
- ☐ Hallway

Public Property
- ☐ Financial Institution
- ☐ Commercial Site
- ☐ Public Institution
- ☐ Other (specify)

Weather Conditions
- ☐ Clear
- ☐ Sunny
- ☐ Cloudy
- ☐ Rain
- ☐ Snow/sleet
- ☐ Fog
- ☐ Other (specify)

Lighting Conditions
- ☐ Daylight
- ☐ Dusk
- ☐ Dark
- ☐ Good Artificial Light
- ☐ Poor Artificial Light
- ☐ Other (specify)

Person Injured	Medical Attention Required Yes	No	Nature Of Injuries Minor	Serious	Fatal	Unknown
1. Self	☐	☐	☐	☐		
2. Other Police Officer	☐	☐	☐	☐	☐	☐
3. Subject	☐	☐	☐	☐	☐	☐
4. Third Party	☐	☐	☐	☐	☐	☐

Narrative: (If no occurrence report) - *Do not include personal names or information.*

If more space is required please continue on back of form.

Reviewed by Supervisor ☐ Yes ☐ No | Reviewed by Training Analyst ☐ Yes ☐ No | Recommended Post Traumatic Incident Counselling ☐ Yes ☐ No | Recommended Other Training ☐ Yes ☐ No | Date (day/month/year)

Part B

Officer Involved (name, rank & badge #)

Date of last use of force refresher training

Would you like to participate in an interview with a training sergeant/analyst to discuss this incident and/or use of force training? ☐ Yes ☐ No

Additional training recommended by: ☐ training analyst ☐ supervisor

Type of training recommended: