

Force Science News #102**In this issue:****New study ranks risks of injury from 5 major force options**

How would you rank the relative risk for officers and suspects suffering injury from these 5 force options:

- Empty-hand control techniques
- Baton
- OC spray
- Conducted energy weapons (Tasers)
- Lateral vascular neck restraint.

If you judged OC to be the ³safest² and baton to be ³most injurious² to both officers and offenders, you're in agreement with the findings of a new study of force encounters involving officers on a major municipal department.

The study, the first of its kind in Canada, was conducted by S/Sgt. Chris Butler of the Calgary (Alberta) Police Service and Dr. Christine Hall of the Canadian Police Research Center.

They analyzed 562 use-of-force events that occurred across a recent 2-year period as officers effected the arrests of resistant subjects in Calgary, a city of more than 1 million population. The threatened or actual use of firearms were omitted from the review, as were handcuffing, low-level pain compliance techniques like joint locks and pressure points, K-9s, and tactical responses such as chemical agents, flashbangs and less-lethal projectiles.

Here's what they discovered:

• **OC, used in roughly 5% of force-involved arrests, produced the lowest rate of injury.** More than 80% of sprayed subjects sustained no injury whatever. About 15% had only minor injuries (³visible injuries of a trifling nature which did not require medical treatment²) and some 4% had what the researchers termed ³minor outpatient² injuries (some medical treatment required but not hospitalization). No cases resulted in hospitalization or were fatal.

Officers involved in OC use fared even better. They suffered no injury in nearly 89% of cases and only minor damage the rest of the time.

The pepper spray involved was Sabre Red, with 10% oleoresin capsicum.

- **Batons, deployed in 5.5% of force-involved arrests, caused the greatest rate of higher-level injury.** Fewer than 39% of subjects receiving baton contact remained uninjured. More than 3% were hospitalized and nearly 26% required outpatient treatment, combining to be ³most injurious,² according to the researchers. About 32% of batoned subjects sustained minor injuries requiring no treatment.

Of officers involved in baton incidents, nearly 13% required outpatient treatment. Some 16% sustained minor injury and the rest were uninjured.

In Calgary, the baton used is the Monadnock Autolock expandable with power safety tip.

- **Empty-hand controls, applied in 38.5% of the force events, also ranked high for more serious injuries.** For purposes of the study, physical controls included ³nerve motor point striking and stunning techniques, grounding techniques such as arm-bar takedowns, and other balance displacement methods.²

Nearly 14% of these subjects required outpatient medical care and about 4% had to be hospitalized. Almost 50% had minor injuries and about 33% remained uninjured.

Among officers, 1% required hospitalization and 4.5% needed outpatient aid. The vast majority (77.8%) were uninjured and nearly 17% had minor injuries.

Judging from these findings, the researchers conclude, agencies need ³to seek out alternatives to hands-on physical control tactics and the baton if they wish to reduce the frequency and seriousness of citizen and police officer injuries.²

- **The second safest force mode for suspects proved to be the lateral vascular neck restraint.** Used in 3% of force-related arrests, the LVNR left more than half (52.9%) of offenders uninjured. About 41% sustained minor injuries and less than 6% required minor outpatient treatment. There were no hospitalizations and no fatalities.

Officers applying a LVNR remained uninjured more than 76% of the time and those who were hurt suffered only minor injuries.

- **Conducted energy weapons also scored high in safety for both suspects and officers.** The Taser X26, the CEW issued to Calgary officers, was the most frequently deployed of the 5 force options studied, being used against nearly half (48.2%) of resistant arrestees. About 1% ended up hospitalized, about 12% needed minor outpatient treatment and more than 42% had only minor injuries. Nearly 45% sustained no injuries and there were 0 fatalities.

Of officers using Tasers, about 83% were uninjured and about 13% sustained minor injuries. Only about 2% and 1% required outpatient medical attention or hospitalization respectively.

³The commonly held belief² that CEWs carry ³a significant risk of injury or death³ is not supported by the data.² Indeed, they are ³less injurious than either the baton or empty-hand physical control,² which often would be alternative options where electronic weapons were not available.

In a 14-page report of their study, Butler and Hall point out that ³[N]o use of force technique available to police officers can be considered ³safe^{1 2} in the dictionary sense that it is free from harm or secure from threat of danger. ³[E]very use of force encounter between the police and a citizen carries with it the possibility for injury for one or all of the participants, however unexpected that injury might be.²

The best that can be hoped for is an appropriate, proportional balance between ³the degree of risk of harm² and the ³resistance faced by police² that requires the use of force.

The public has been fed ³a large amount of³ incomplete or incorrect information and even intentional artifice² about some force options, the researchers charge. Their study, they say, may help eliminate the resulting confusion. Plus, knowing the level of injury likely to result from a given force method can aid trainers and administrators in developing ³sound policies and practices.²

³This study is a great snapshot about force and its associated injuries and is a valuable addition to the discussion of force issues in Canada and elsewhere,² says Dr. Bill Lewinski, executive director of the Force Science Research Center at Minnesota State University-Mankato.

³Hopefully, the researchers will now be encouraged to probe further into some of the issues they touched on, exploring in greater depth the decision-making that led officers to apply various types of force, the level of emotional and physical intensity generated by subjects receiving the force, the causes of injuries to both officers and subjects, and so on. There is still much to be learned in these areas.²

As part of their study, Hall and Butler compiled statistics on the broad overview of force encounters among Calgary officers, which closely mirror findings regarding U.S. law enforcement.

For instance:

- Out of more than 827,000 police-public interactions, the 562 instances which ended up involving use of force represented less than 1% (.07%) of the total. (Other studies have pegged that figure in the U.S. at 1.5%.)
- Arrests occurred in only 4.6% of police-public interactions, and 98.5% of the time the arrests were finessed without force.

- Roughly 88% of all subjects requiring force were under the influence of drugs and/or alcohol or ³some degree of emotional illness.² Almost 94% of resistant offenders requiring force were male.

- The researchers found ³a notable pattern of relationship between the number of officers present and the frequency and nature of injuries sustained by both citizens and officers.² Namely: ³[M]ore injuries occurred in circumstances where only one officer was present.²

The researchers state bluntly that ³biased reporting of events has led the lay-public to have the impression that the police use of force is frequent when compared to the overall number of police and public interactions.²

They mentioned also a bias that results in ³extensive media coverage of events where subjects have died² after use of a CEW and a ³lack of publication of CEW uses without an adverse outcome.²

Such skewed reporting ³prevents the public from forming an informed opinion about the actual risk presented² by various force modalities, they stated.

The study's official jaw-breaking title is: ³Public-Police Interaction and Its Relation to Arrest and Use of Force by Police and Resulting Injuries to Subjects and Officers; a Description of Risk in One Major Canadian Urban City.² It is expected to be posted online in mid- to late-August by the Canadian Police Research Center at www.cprc.org

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Visit www.forcescience.org for more information.

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