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In this issue:

- I. A *first* for the Certification Course...and other training notes.
- II. Is prone positioning really riskier for suspects? No, says new study
- II. New expert report on excited delirium stresses 4-point protocol

### **I. A *first* for the Force Science Certification Course...and other training notes**

**Congratulations** to the graduates of the most recent *Force Science Certification Course!* This particular class, hosted by the Royal Canadian Mounted Police, is the first to be conducted exclusively for one North American agency. 53 RCMP members achieved their Certified Force Science Analyst status during the course as did seven invited guests of the RCMP from five neighboring agencies and organizations. Well done! [If you're interested in potentially having a Force Science Certification Course conducted exclusively for your agency, please drop a note to [training@forcescience.org](mailto:training@forcescience.org).]

**Quick seating update:** One seat remains in the April 16-20 course being conducted in Alexandria and less than 10 remain in the course scheduled for October 22-26, 2012 in Cincinnati, OH. Additional seats are still available in the remaining 2012 courses. To see the current schedule, [CLICK HERE](#).

### **II. Is prone positioning really riskier for suspects? No, says new study**

An exaggeration of the sudden in-custody death problem is generating "persecution and prosecution" of LEOs and their agencies and is resulting in "reactionary changes in policy and procedure that may well be based in conjecture rather than fact," according to new findings by a Canadian research team.

In particular the study group challenges the widely held belief that simply placing a subject face-down in a prone position after a use of force creates a substantial threat to life. In fact, the only subject who died in more than 1,200 consecutive force encounters that the team meticulously analyzed was lying on his side, a position commonly advocated for its presumed safety.

"[S]udden in-custody death," the study concludes, "has more to do with the features of the individual" than with his or her positioning. Even among suspects supposed to be at high risk--the drug and alcohol intoxicated and those with mental illness--there appears to be no

scientific basis for believing that prone positioning is as dangerous as its reputation suggests, the researchers report.

"The true understanding of use-of-force events will come from comprehensive, scientific protocols such as this one, which was carried out under the rigorous conditions of a scientific medical study and supervised by the Institutional Review Boards of the universities involved," Hall told *Force Science News*.

"Rather than focusing solely on 1 type of force or another, the goal of the study is to evaluate *all* use-of-force events to better understand which subjects and situations may represent particular risk."

The investigative team was headed by Dr. Christine Hall, an emergency room physician and a medical faculty member at the University of British Columbia and the University of Calgary. An internationally recognized expert on excited delirium syndrome, Hall is also on the faculty for the certification course in Force Science Analysis conducted by the Force Science Institute.

**ORIGIN OF CONTROVERSY.** Concern about the relationship between suspect positioning and death first arose in the early 1980s after a medical examiner in Washington State analyzed 3 cases in which prisoners were transported while hogtied and concluded that such positioning was associated with sudden in-custody death because of the suffocating effect on breathing and the inability of the subjects to shift to a different position.

More articles warning about "positional asphyxia" and "restraint asphyxia" followed in medical journals and law enforcement publications and positioning became a widespread training and policy issue.

Hall points out that the medical examiner's original work on the effects of positioning was shown to be "fraught with methodological errors," and that other, more sophisticated studies disputed alleged adverse findings. Nonetheless, the debate about suspect positioning "gradually translated into the unsupported idea that any and all prone positioning for any length of time is immediately dangerous."

Moreover, prone positioning came to be regarded "without scientific evidence" as "particularly dangerous" to restrained suspects who are "under the influence of intoxicants such as alcohol and/or stimulants, experiencing mental distress, or in the agitated, incoherent state known as excited delirium," as well as those who have been Tasered.

"When a cause of death cannot be found otherwise, positional asphyxia is often suggested to have [played] a role..." the researchers note.

As the bias against any form of prone positioning intensified, Hall perceived that what was lacking in the debate was a broad-based, detailed examination of real-life incidents to determine exactly what variety of physical positions restrained suspects end up in after force encounters with police and what association there might be between each of these positions and ultimate unfavorable outcomes.

**FORCE POOL.** With the cooperation of police executives in an unnamed Canadian city with more than 1,100,000 population and nearly 2,000 street cops, Hall and her team collected a

vast statistical database across a recent 3-year period. (The city is anonymous in their report to protect privacy, an ethical consideration required by the universities involved.)

Without officers being aware of the researchers' interests, certain study-related entries were embedded in the department's standard electronic form that must be filled out after any use of force above soft-hand control. Among other things, officers had to specify the apparent cognitive condition of the subjects they encountered and their "final resting position...once physical control had been achieved...and while awaiting further disposition": i.e., either prone (face-down) or not prone (face-up, side-lying, sitting, kneeling, or standing). The department involved does not specify a favored position in policy, so there was no motive for officers to shade their responses, Hall points out.

Forms involving suspects at least 18 years old and all "general police duty" uses of force beyond merely "a bent wrist or straightened elbow to gain compliance" were then parsed for particulars. "We did not pick and choose between subjects, events, or outcomes," Hall says, "but included all uses of force over 3 consecutive years."

The pool the researchers analyzed ended up being 88% males. Some 40% appeared drunk at the time of police contact; 10% were judged to be drug-intoxicated; 9% seemed mentally distressed; and 28% demonstrated some combinations of those states.

In all, out of 1,566,908 interactions between police and subjects across the study's 3 years, force was used in only 1,269 contacts. "[C]ontrary to current suggestion that police use of force is rampant, 99.92% of all police-public interactions [recorded by the agency studied] did not involve police use of force," the researchers report. "This finding did not vary across 3 years of study."

**RISK OUTCOMES.** In terms of positioning, nearly 43% of subjects ended up prone in their final resting pose after their force encounter. About 57% were not prone. All were handcuffed, but none was leg- or ankle-restrained or hogtied. "[E]ven though prone positioning was very common," the researchers noted, none of the "hundreds of subjects in the prone position" died.

Indeed, with only 1 death [a not-prone subject] discovered in the entire study, statistically "there was no [significant] difference in the death rate between prone and not-prone positions."

Suspects with drug/alcohol intoxication, mental illness, or some combination thereof were essentially evenly distributed between prone and not-prone positioning. Despite the prevalent suspicion that such individuals are at greater risk, "no subject died in the prone position even with a large number of abnormally behaving individuals" in the force pool.

Of the large number of subjects against whom a Taser was used, about 29% ended up prone, 25% not-prone. Again, positioning did not determine how these suspects fared, the researchers emphasize.

The 1 subject who died during the study "was an individual who was assessed by officers on the scene as having both drug intoxication and mental distress, had undergone a single contact stun exposure with a CEW, and had many abnormal characteristics before and after police involvement at the scene," the study report says. "This subject was placed in the

side-lying position at the conclusion of the use-of-force event, prior to cardiopulmonary collapse.

"[He] displayed multiple features of excited delirium. The details...are strikingly similar to other in-custody death occurrences both in and out of the prone position and...with and without CEW application."

**BOTTOM LINE.** Hall points out that this is believed to be the "only study to document the incidence of sudden in-custody death across all use-of-force modalities" in a major urban police agency.

Besides dispelling some persistent myths about the risk of prone positioning, she feels the findings are important for confirming the overall rarity of sudden in-custody death. It's "profoundly low in the real-world environment of police use of force which includes many abnormally behaving individuals in varied circumstances."

Media publicity of in-custody deaths without an appreciation of their context "results in the presumption of a falsely elevated prevalence" of these occurrences, she writes in the study report. "This, in turn, generates persecution and prosecution of individual police officers and police agencies at great personal and societal cost, fear and mistrust for the police in the public eye, and results in reactionary changes in policy and procedure that may well be based in conjecture rather than fact."

**RECOMMENDATIONS.** Hall acknowledges that all research studies have some limitations. Because hogtying was not used in any of the encounters her team studied, the researchers could not assess its specific danger to prone subjects, if any, for example. Also, while they were aware that "weight force" was very likely applied to the back of some of the proned subjects, they were not able to determine how often that occurred. That variable will be evaluated in the future.

"[R]egardless of the low incidence of sudden in-custody death, further study is required," the team reports. Hall's objective is to "determine what, if anything, can predict sudden in-custody death in order to improve the outcomes for people undergoing police use of force."

Meanwhile, the researchers caution that suspects restrained in a prone position--any position, actually--should not be abandoned "for protracted lengths of time." Suspects always bear close observation.

"[T]he best way for non-medically trained pre-hospital personnel to monitor the [well-being] status of any human being is through observation of the face...," the researchers suggest. Therefore it is "advisable to assign 1 officer to monitor the restrained subject's face for signs of distress/difficulty."

This study was funded by the Canadian Police Research Center. The results appear in the latest issue the *Journal of Forensic and Legal Medicine*, under the title "Incidence and outcome of prone positioning following police use of force in a prospective, consecutive cohort of subjects." [Click here](#) for a brief abstract that's available free of charge. The full 7-page study paper can be ordered for a fee at that site.

*[Our thanks to Chris Lawrence of the Ontario Police College and a member of the Force Science certification faculty for alerting us to the publication of this study.]*

### III. New expert report on excited delirium stresses 4-point protocol

An international panel of experts, including 2 MDs involved in Force Science training, has recommended a 4-step protocol as offering the best hope for a successful outcome when dealing with suspected cases of excited delirium. Already in use by some progressive departments in the US and Canada, the endorsed procedures should serve as "models for other communities," the panel says in a pending report.

The core elements, along with supportive descriptive information, have been incorporated in a quick-reference card for first responders that is reproduced in the report:

1. **Clearly identify** ExDS [excited delirium syndrome] cases, based on common signs and symptoms;
2. **Rapidly control** the afflicted individual with adequate law enforcement personnel;
3. **Sedate** the subject (by EMS personnel) immediately after police control is established;
4. **Transport** him or her to a medical facility for follow-up treatment and evaluation, with documentation of the case.

"[T]hese protocols have helped save lives," one panel member was quoted.

The 34-member panel was assembled by the Weapons and Protective Systems Technologies Center at Pennsylvania State University under a National Institute of Justice directive to evaluate existing research about excited delirium and its role in in-custody deaths, with the goal of providing guidelines for law enforcement and corrections personnel.

Among other leading researchers and practical authorities on the subject, the panel includes Dr. Christine Hall of the University of Vancouver and the Vancouver Island Health Authority and Dr. Matthew Sztajnkrzyer of the Mayo Clinic, both faculty members of the certification course in Force Science Analysis.

At this writing, the 50-page report, "Special Panel Review of Excited Delirium," is under peer review at NIJ and an official publication date has not been set. Once reviewed, the NIJ will determine how to best disseminate the document. Meanwhile, some panelists have published a synopsis of the group's findings, available for a fee. [Click here](#) for details.

After a thorough review of existing evidence, the panelists agreed on a number of critical points:

- Although it may not be identified consistently in medical literature as excited delirium, "the syndrome is indeed real" and, in Hall's words, is not something "made up by cops" to explain force encounters gone bad. The National Assn. of Medical Examiners and the American College of Emergency Physicians recognize it as an identifiable condition.
- The ExDS "clinically recognizable features" include "extreme mental and physiological excitement, extreme agitation, hyperthermia, hostility, exceptional strength, and endurance without apparent fatigue." The syndrome has been identified by researchers as "associated with sudden death," although a majority of persons experiencing it are believed to survive.

- "Prior chronic drug use," particularly of cocaine and methamphetamine, may damage the heart to the extent that it becomes "predisposed" to failure under the stress of struggling and being restrained.
- Because ExDS is "a medical problem masquerading as a police call," as 1 panelist put it, the initial response needs to be "a multi-disciplinary effort," involving dispatchers, officers, and EMS personnel. Dispatchers need to be trained to ask pertinent questions and officers need to know signs and symptoms to distinguish an ExDS encounter from "rowdy bar behavior" and get medical aid on the scene promptly.
- While verbal techniques may be attempted, "rapid and overwhelming" physical tactics are likely to be necessary to gain control of ExDS subjects. As 1 police training video notes, the goal "is to restrain the subject with the minimum amount of fight" because "the more they fight, the greater the chance for a negative outcome." A conducted energy device (Taser) can be "a fast way to restrain."

In conclusion, the report states that the 4-step protocol "will likely continue" to save lives. The panel expects that this will be confirmed as agencies collect data on these incidents, including "saves" and not just those that end in in-custody death.

Whether these recommendations "will reduce lawsuits is uncertain," the report notes, "but they will likely help agencies defend against them, especially if they adhere to a policy of copious documentation--both at the scene and at autopsy."