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TRAINING BULLETIN

Vol. VII, Issue No. 3 March 2004

UNDERSTANDING THE DYNAMICS OF POSITIONAL OR RESTRAINT ASPHYXIA

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During the 1960-1980 period when I was directly involved in municipal policing, both as a sworn member and as a police attorney, we were accustomed to dealing with PCP influence arrestees and other combative persons by restraining them and utilizing the common "hog-tie" method, or the more recent version, know as the "Total Appendage Restraint Procedure" ("TARP").

I.
DEVELOPMENT OF THE RESTRAINT PROCEDURES

The purpose and benefit of these restraint methods was simply to immobilize the arms, hands, legs and feet of violently resistive or combative arrestees. Also, those who, by virtue of their ingestion of hallucinogenic, mind-altering or-de-sensitizing chemicals, needed to be "rendered safe" for transportation in a police car, by virtual immobilization of body limbs that might otherwise be employed to assault or resist officers, or to flee from arrest or containment. Anyone who has ever confronted a "duster" (a person who is under the influence of PCP or "angel dust") knows that so long as the person's "appendages" remain unrestrained and unsecured, he or she constitutes a serious physical threat, regardless of size, weight and age differentials.

In the quest for a quick and simple method to restrain and secure such persons, law enforcement officers were trained in two basic control techniques: (1) the "swarm" or "gang tackle"; and (2) the application of the "hog-tie" or "TARP" procedure to restrain and secure arms, hands, legs and feet. This required only one pair of handcuffs fastened to the person's wrists secured behind his back, combined with a short cord or lanyard looped around the person's ankles and secured to the handcuffs by a closed snap-hook attached to the end of the cord or lanyard. The short length of the cord or lanyard guaranteed that the person's ankles, now tightly bound together with the loop, would be situated about six (6) to ten (10) inches from the closed snap-hook attached to the handcuffs. The tension created thereby would cause the loop around the ankles to tighten, and the ankles and feet to be drawn closer to the buttocks, if the person pulled his handcuffed hands and wrists upward or away from the feet and ankles.

Conversely, the restraint device caused the handcuffs to pull down sharply and painfully if the person tried to move his feet and ankles downward or away from handcuffed wrists and hands.

It was a *near*-perfect restraint technique. The person was most often left resting on his abdomen and chest, or loaded onto the backseat of the police car in the same position, for transportation. Nobody thought that the restraint procedure was particularly or unusually dangerous or injurious to the arrestee.

But then in the '80's and '90's, the alarm was sounded following investigation of sudden and unexplained "in-custody deaths". The term "positional asphyxia" became as common to the police vocabulary as "contact and cover" and "target acquisition". Agencies began barring officers from using the "hog-tie" and "TARP" procedure because the restraint methods were believed to be implicated in a fair number of sudden and unexpected custody deaths. It was believed that by pulling the arms back to the small of the back, together with pulling the ankles and feet toward the handcuffed wrists, and then "positioning" the "hog-tied" person on his abdomen and chest, whether upon the sidewalk, or upon the bench-style back seat of the police car, or upon the gurney in the ambulance, restrained persons - - especially obese or heavy individuals - - were exposed to unnecessary risk of injury or death. It was believed that the person's body weight, together with the "rocking horse" positioning, would cause the chest to compress to the extent that the person could not breathe, and would suffocate without notice to the officers, leading to cardiac arrest and death. But, "excited delirium" and cocaine-induced cardiac arrest also figured prominently in many in -custody deaths.

However, with the widely-embraced ban on these restraint procedures, we believed that "positional asphyxia" was the problem that led to many of these deaths.

Medical professionals, particularly emergency room doctors and pathologists, weighed in on both sides of the developing controversy. Some embraced the idea that "positional asphyxia" was a probable outcome if a totally-restrained person were left even momentarily, on his or her abdomen and chest.

Others concluded that the restraint procedure was not the culprit. Rather it was "excited delirium", cocaine-induced sudden death or pre-existing heart or respiratory conditions, that were mostly responsible for these deaths. Despite some medical research papers during the late 1990's which opined that "police hog-tie procedures" do not cause these sudden in-custody deaths, law enforcement policymakers, as well as oversight boards and commissions, were determined to erase the "hog-tie" and "TARP" restraint procedures from the patrol officers "catalogue" of options to deal with violently combative, assaultive and unpredictable behaviors.

II.
THE DEATH CAUSATION CONTROVERSY

So, we come to the central questions presented in this paper: (1) do total restraint procedures *cause* "positional" or "restraint" asphyxia? (2) if not, what is the explanation for these sudden in-custody deaths?

I think it is safe to say that the total restraint procedures do not, by themselves, cause death. Rather, the procedures do place the arrestee in a dangerous situation as a consequence of the *positioning* of his or her immobilized body.

But if we examine the dynamics of positional or restraint asphyxia, we can see how the "total restraint procedure" is conducive to loss of the

ability to breathe sufficiently enough to sustain life.

III.
THE DYNAMICS OF POSITIONAL AND RESTRAINT ASPHYXIA

But here is the *real point* of this paper: any restraint procedure that forces the trunk and upper legs, and the lumbar and thoracic parts of the back of a prone person downward and inward, bear an impermissible risk of asphyxia. This *includes* the "gang-tackle" and "swarm" techniques.

If we analyze and understand the dynamics of the asphyxia event itself, we can readily see why these various techniques should be discouraged.

Although it is certainly not the first sudden in-custody death case we have reviewed or litigated, a recent matter we handled makes an excellent case in point that death *can be caused* by the use of these procedures.

This is the situation: an otherwise normal and healthy young man in his late twenties suffered from bi-polar or manic-depressive disorder. If properly medicated, he could successfully accommodate his affliction and get along reasonably well in life. But if his daily medications (including Lithium) were not properly renewed and given, he would rapidly deteriorate, and constitute a serious risk, threat, or liability (termed "decompensation"). It developed that this fellow, while incarcerated and deprived continuously for 2 to 3 weeks of his daily medications, did predictably suffer a substantial psychotic breakdown, following several days of "notice" by prison staff, that he was in increasingly acute need of medication.

This triggered a single episode of violently aggressive behaviors. The guards sought to restrain him sufficiently so that he could be transferred to the institution's psychiatric ward.

In an effort to restrain him safely for transport, guards applied a crude form of the "gang tackle" technique, and quickly moved to handcuff his wrists behind his back, and apply "leg irons." But even after the restraints were in place, he continued to thrash about on the concrete floor in a prone position.

Wishing to further immobilize the young man, the guards (about five) applied a combination of body weight and forceful pressure to his back, trunk and legs, while one guard stepped on the chain between the ankle restraints, even after the prisoner quit moving they held him there until an EMT arrived.

The EMT directed the guards to "roll him over" for a quick, preliminary exam. When they did, they saw that his face and head were dark blue or purple in color. He had *no pulse.* CPR failed to revive him. Although temporarily resuscitated later in the prison ER and transported to a local trauma center by Code 3 ambulance, the young man expired. It is believed the cause of death was positional or restraint asphyxia - - yet, no "hog-tie" or "TARP" method was used. It appears most likely that he suffocated during the approximately 3 to 7 minute period of restraint, while most of his body was being forced down by considerable weight and pressure over his back, trunk and legs.

Understanding how this can occur requires a little understanding of the mechanics of human respiration or breathing.

Everyone understands that the breathing requires the inhalation of oxygen-laden air. In order to expand the chest and lungs to accommodate the air coming in, the diaphragm moves downward, displacing for a second or two, the abdominal viscera downward. The chest and lungs are then permitted to expand. Now, if due to external weight, force and pressure, the chest and lung area

cannot expand sufficiently to pull in enough air, the person may be on his or her way to dying. If the external forces continue to be applied at the same or greater level, and the person *exhales*, those forces will further decrease the space inside the lungs and chest, allowing less and less air to be taken in. With each exhalation, the force and weight compress the space even more. The person is likely panic-stricken because he cannot breathe. He may thrash around even more, so that *more* force is required to hold him steady. Thus, suffocation comes more rapidly. This is the so-called "python effect", where breathing is continuously suppressed and the person loses consciousness. Cardiac arrest follows quickly. This scenario demonstrates that in-custody deaths from restraint asphyxiation can occur even without any restraint methods or hardware applied. The problem is that sufficient compression of the trunk, legs, abdomen and chest can make it *impossible* to breathe. In fact, pressure and weight applied to the *small* of the back may cause the abdominal viscera to remain immovable, so the diaphragm cannot push down to permit the chest and lungs to expand.

A recent published opinion of an appellate court upholding liability against deputies for positional or restraint asphyxia death featured excerpts of the testimony of Dr. John Cooper, M.D., a forensic pathologist. The court found this expert testimony to be compelling, and to support the jury's determination of liability based upon the manner of death:

> *"For one thing he is face down in...a prone position [and, as the videotape made by the deputies shows,] his face is against the ground. And at one point one of the officers has a knee on his head...So there is probably some small element [ ] in this case of actual obstruction of the airways...[T]hat is not the main problem here. [¶] The main problem ... is that the chest has to expand or we can't breathe. And there [are] several elements of chest expansion. And in this case, there is a big need for breathing because the subject is very agitated, worked up, and he is burning a lot of energy. [¶] ... The diaphragm - - when we breathe in, the diaphragm moves down - - to create kind of a vacuum and the air comes into the lungs. But when we are excited and we are working and fighting for air, then we also use what are known as the intercostal muscles which are the muscles between the ribs. So between the diaphragm and the costal muscles, we create this bigger space that air's being flow [n] into and flown out of.*
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> *"In this kind of mechanical asphyxia, the problem is, first of all, the prone position makes it a little bit difficult, and then you've got some degree of weight of the officers [with] at least one of them ... kneeling on his chest [sic] and that compromises the ability of the chest to expand by action of the intercostal muscles. We are also dealing with a fairly large person with ... quite a bit of contents [in] his abdominal cavity which tend to, if you are in a prone position, tends to push the diaphragm up and not allow the diaphragm to come down. [¶]...*
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> *"Being forced down in a prone position pushes .... all contents up further against the diaphragm. So*

*this is really our main problem, and this is the primary problem in that the chest can't expand diaphragmatically and it can't expand with intercostal muscle action. Finally, then we have the hands behind, and then we are bringing the legs up locking and tying them to the hands in this hog-tying procedure which, by immobilizing the shoulders in this way, it just accentuates these other elements of the chest not being able to *792 expand. [¶] And that is why the hog-tying procedure is so dangerous because it really locks in that fixedness of the chest cavity. And so this is what positional asphyxia is..."* Nelson v. County of Los Angeles *(2003) 113 Cal.App.4th 783, 791-792.*

IV.
THE LESSONS

1. Regardless of the technique or device used to restrain and immobilize the person if it is necessary to place him or her in a prone position, get the wrists and legs restrained as quickly as possible, and then roll the person onto the side or back, so that breathing will continue unimpaired.

2. If possible, restrain and secure the person while he or she is supine, not prone.

3. One team member, preferably a supervisor, needs to remain somewhat disengaged so that he or she can orally direct the others. Team members must permit the leader to coordinate efforts.

4. Always assign at least one team member to safely and carefully monitor the person and watch for any changes in breathing and consciousness.

5. Have a plan; have a back-up plan. Make sure an EMT or paramedic is close by or on the way to you.

6. Any employment of this restraint technique should be individually documented by each team member, and immediately reviewed by an *uninvolved* supervisor. The investigation should follow the customary "use of force" investigation protocol.

7. In cases where the restrained person continues to struggle even after wrist and leg restraints are in place, and it is necessary to transport the person to a medical facility on a gurney or long backboard, soft 4-point restraints (such as gauze) can be snugly fastened to the gurney or backboard to keep the person safely immobilized on his or her back in a supine position. If transport is to be in the police car, keep the person sitting up, not laying on the chest and abdomen.

8. Consult with local paramedics or EMT personnel to devise protocols and methods for handling these difficult situations. These professionals are trained in how to restrain violent persons without impairing breathing.

9. Remain alert to developing use of force and restraint methodology to make sure agency members are taught in accord with the currently-accepted policies and techniques.

PLEASE STAY OUT OF HARM'S WAY!
-Michael P. Stone, Esq.-