
A Restraint Asphyxia "Near-Death" Case Study

Citation:

Miller CD; A restraint asphyxia “near-death” case study. Restraint Asphyxia Newz Directory; August 30, 1998 (<http://www.charlydmiller.com/RA/neardeath01.html>). Updated posting; January 1, 2007 (<http://www.charlydmiller.com/RA/neardeath.pdf>).

BACKGROUND INFORMATION:

This case occurred when I was working as a paramedic for the Denver Health Medical Center (formerly known as "Denver General Hospital") Paramedic Division, the primary provider of 911 EMS and advanced life support response for the City and County of Denver, Colorado. At that time, each DHMC ambulance was staffed with two paramedics. A "Dynamic Dispersal" posting system was employed, wherein DHMC ambulances were perpetually “on the street” during our 10-hour duty shifts, and were posted at geographically-strategic public locations when “between” emergency calls.

PREHOSPITAL CASE EVENTS:

On a day in August, 1998, my partner and I were parked in our ambulance, posted at a “7-11” convenience store. We happened to be monitoring the police district channel for our posted location (something not required, and something not always done by myself or others). Some time around 0100 hours, I happened to hear the police being dispatched to investigate the report of "a man running around naked." Because of my acquaintance with incidents involving restraint asphyxia (“restraint-related positional asphyxia”), I knew that such a situation was often the precursor to events involving restraint asphyxia, so I turned up the police radio volume.

I recall hearing the first-dispatched police officer call for “**HELP**” soon after his arrival.* At that time, I directed by partner to begin heading toward that location, without employing lights and sirens. I knew an Ambulance would eventually be requested because something “abnormal” was going on (“a man running around naked”), and a “medical clearance” would

* The DPD Dispatch record I obtained did not include a notation of the original call receipt time, the time of the original officer going “on scene”, nor the time that the original officer called for “help.”

be required to transport this individual to jail. I also knew that we would be the Ambulance dispatched, because the scene was within the area we were covering. The distance between our posted location and the scene was approximately 10 city blocks.

Several officers responded to the original officer's call for "Help."

At 0132[†] hours, as we continued enroute to the scene, I heard an officer radio a request for a Denver Police Department (DPD) Supervisor to respond to an address approximately two blocks away from the original investigation location. The calling officer was speaking as though he was very short-of-breath, as though he'd just completed a very strenuous chase or struggle. Additionally, the officer requested that an ambulance respond "Code Nine" (**non-emergent**) to the scene. This request indicated that the subject's need for medical attention appeared – in that officer's opinion – to be "minor" or unimportant.

At 0133, DPD dispatchers logged the calling officer's request for an ambulance. (It is likely that they logged and dispatched the request for a DPD Supervisor first, thus the time lag between the officer's call and relaying the ambulance request.)

At 0133.15, Ambulance dispatchers received the call information from DPD dispatch.

At 0134.11, as we were about a block away from the scene, we began to receive dispatch information from our dispatchers.

As we pulled up to the scene, I observed several police officers restraining a naked person, face-down (prone), in the grass of a residential front lawn. Two or three officers were holding the patient's shoulders, trunk, hips, and lower legs down. Another officer was clearly observed to be kneeling, with his left knee pressing down upon the patient's head – the patient's face was turned away from us. I observed yet another officer just completing the attachment of a hobble restraint strap to the patient's handcuffed wrists, thus finishing the steps required to "HOGTIE" the subject.

At 0134.43, I acknowledged receipt of our dispatch information, and immediately announced our arrival "on scene." (This likely surprised and confused our dispatcher! "How can she be on scene already? I just sent her!") Then, I stepped out of the ambulance.

I noticed that there was no noise (yelling or otherwise) coming from the patient. I immediately directed the officers to, "**Hey! Roll him to his SIDE!**" Approximately three officers simultaneously replied to my directive, each of them yelling back to me words such as, "**OH! He's OK! ... He's breathing! ... He was yelling just a *second* ago!**" Still, the officers immediately rolled the patient to his left side, and all officers moved away from the patient's anterior.

[†] The times I obtained from DPD dispatch do not include "seconds" notations.

As I continued my approach, I now could observe the exposed anterior of this slender, young, Caucasian, male. I noticed the presence of some facial bleeding and the lack of obvious chest or abdominal trauma. I noticed that his torso was a mottled pale-purple color and that his face was clearly cyanotic (even in night-lighting). I also noticed NO signs of respiratory effort and NO sounds of breathing. I immediately feared that the patient was already dead. As I reached the patient and began checking for a pulse, I directed the officers to, "**Get EVERYTHING off him, NOW, guys!**"

Finding a carotid pulse of approximately 120/minute, I realized the patient was in **respiratory arrest**, but was still "alive!" Quickly observing the patient's oropharynx, I determined that there were no obvious foreign bodies present, and simply acted to hold his airway open, using a jaw-thrust airway maneuver.

My partner had already brought our wheeled stretcher to the patient's side as the officers completed removal of the hobble restraint ankle tie and handcuffs. (Our vehicle was only 5 or 10 feet from the patient – hence my decision to move the patient to our ambulance for further treatment.) We placed the patient supine on our wheeled stretcher.

This 20 year-old male was unconscious, flaccid, and in **respiratory arrest**. His left eye was open with a fixed, unfocused gaze – his right eye was dramatically swollen-shut by soft tissue trauma. I engaged the stretcher's upper body safety belt high up on the supine patient's chest (anchored at his armpits), pulled it tight, and then resumed my application of a jaw-thrust airway maneuver. At my direction, the stretcher's lower body safety belt was engaged just above the patient's knees, and pulled very tight.

Just as we were loading the patient/wheeled stretcher into the ambulance, I heard a gasping, gurgling noise and observed a slow, deep, and non-rhythmic rise and fall of the patient's chest – indicating a spontaneous return of his respiratory effort. Some non-purposeful patient extremity movement soon began, and I directed the application of soft bilateral wrist restraints, using double-folded, 6-ply, Kerlix[®] gauze. The patient's right wrist was restrained by being pulled "up" and anchored to the central T-junction at the top of the stretcher frame. The patient's left wrist was tractioned straight, and anchored to the left side of the stretcher frame at a centrally-located T-junction, just distal to his wrist.‡

I did a quick visual exam of the patient's anterior body as my partner prepared to obtain IV access and I prepared intubation equipment. He had right orbit soft tissue trauma, with both upper and lower right eyelids darkly bruised and swollen tightly shut. There was a small laceration on his upper right eyelid, and he had a minor (already drying) amount of blood at each nostril. His left eye was frequently open, but his gaze was unfocused and he remained unresponsive. His left pupil was dilated and reacted slowly to light. His right eyelids were too swollen for me to casually observe his right pupil's response to light. Thus, I had no indication of whether the patient's persistent altered level of consciousness might be due to

‡ See my "All Tied Up & No Place To Go" article:
<http://www.charlydmiller.com/RA/alltiedup1.html>

head trauma, due to drug intoxication, due to post-respiratory arrest effects, or due to a combination of any or all those factors.

By this time, the patient's own respiratory efforts had increased to 26 or 30 breaths per minute. Audible noises indicating fluid in the oral airway were present. I suctioned a small amount of blood and mucous from his oropharynx, immediately correcting those audible airway-fluid noises.

Because of his right orbit trauma, I elected to use his left nare for nasal intubation. I prepared his left nare by instilling neosynephrine spray and lidocaine gel into same. With the patient's good respiratory effort, and his lack of resistance to (awareness of) the painful stimulation of nasal intubation, the patient was quickly and successfully nasally-intubated with a lubricated #7.5 endotracheal tube. Good tube placement was verified by obvious respiratory movement of air through the tube (observation of humid mist within the tube upon each exhalation), and the absence of audible air movement via the oropharynx. Additionally, the patient's skin condition now was no longer mottled or cyanotic in areas – but pale, cool, and moist overall.

With his increasing spontaneous respiratory effort and lack of obvious chest trauma, I elected to administer oxygen via a nonrebreather apparatus attached to the endotracheal tube using a "T-piece" connector, with oxygen run at 15 LPM. Auscultation of the patient's lungs revealed clear, equal bilateral breath sounds with full, equal, bilateral chest excursion. While securing the nasotracheal tube, I directed that Denver Fire Department (DFD) assistance be summoned. In the event that the patient developed a need for assisted ventilation enroute to the hospital, I would need their help.

Meanwhile, my partner had obtained IV access with a 14 gauge angiocath in the patient's left forearm. A full set of blood samples were drawn, and Normal Saline was run at approximately 120 drops/minute via a "Blood-Y" (trauma) IV infusion apparatus.

After intubation and in-line oxygen administration, the patient's skin was cool, dry, and PINK. Soon after that, the patient's physical activity began to become more and more forceful. He began to thrash his head back and forth, in an apparent effort to extubate himself. Endotracheal tube placement became threatened by the patient's violent head thrashing.

I initiated manual restraint of the patient's HEAD, by bilaterally grasping his jaw angles and applying a minimum of "in-line traction" to his head, while simultaneously restraining his jaw with a "jaw thrust" action. This maneuver was successful in controlling his head movement ("restraining" his head and neck), but only with a great deal of physical effort on my part. The patient's head-thrashing efforts were impressively strong, and becoming stronger by the minute.

My partner administered 2 mg of Narcan, IV, without change in the patient's level of consciousness or combativeness. Next, he administered Dextrose 50% 25 G. IV, without change in the patient's level of consciousness or combativeness.

By this time, DFD had arrived, and I directed a firefighter to assume the manual jaw-thrust head-restraint maneuver in the same manner that I had performed it. Re-auscultation of the patient's chest revealed continued good BS bilaterally, with continued misting of the ET tube on exhalation – confirming continued good ET tube placement.

We went enroute to the ED using lights and sirens (“emergent”) at 0151.57 hours. The patient's blood pressure was 174 systolic, by palpation. So, I adjusted his IV flow rate down to TKO. I notified the receiving hospital's emergency department (ED) of our patient's condition and our estimated time of arrival.

During transport, the patient's ECG showed a sinus rhythm at a rate fluctuating between 150 and 160/minute. His electrical axis was normal, his QRS complexes and S-T segments were within normal limits, and no ectopy was observed.

While enroute to the ED, I determined that the patient was “awake” (conscious), but was either unable or unwilling to follow cues or answer questions. Since it is impossible to know – for a fact – whether an emergency victim is “unable” vs. “unwilling” to speak or follow cues, and the emergency care provider must err on the side of the patient’s “best interests,” this patient had to be considered “unable” to respond, thus, “unresponsive to verbal stimuli.”

The patient persisted in very forceful attempts to defeat body restraints and manual jaw/head immobilization enroute. Due to the strategic placement of the two stretcher safety-belt-restraints, and the anchoring of his bilateral soft wrist restraints, the patient was unable to defeat the body restraints. § However, the persistent flexing and relaxing of the patient's arms throughout transport entirely interfered with obtaining an auscultated prehospital blood pressure.

Thankfully, because I was initially concerned that the patient might suddenly develop cardiac arrest, I had directed TWO firefighters to accompany me to the ED with this patient. So, when the patient’s persistently forceful attempts at head movement caused the first head-restraining firefighter to complain of serious finger fatigue (PAIN), another firefighter was available to switch-off and assume head-restraining duty. Additionally, in preparation for ED patient care transfer, I restrained the patient's ankles together using a doubled length of 6-ply Kerlix® gauze.

At 0157.54 hours we arrived at the ED, having traveled a distance of approximately 38 city blocks. There were no further changes in the patient's activity, level of consciousness, or medical condition upon our ED arrival.

§ See my “All Tied Up & No Place To Go” article:
<http://www.charlydmiller.com/RA/alltiedup1.html>

[NOTE: This patient had facial trauma and an altered level of consciousness. Such signs strongly suggest the possibility of a spinal injury mechanism. In hind-sight, I should have applied a cervical collar and performed full-body spinal-immobilization of this patient to a long back board or scoop stretcher. However, in spite of my lack of C-collar application, my care of this patient included full-body restraint (“immobilization”) to my wheeled stretcher, with continued manual restraint of the patient's head (C-spine immobilization). Additionally, it is my opinion that the frequency and strength of this patient’s combative head-thrashing would NOT have been controlled by a C-collar and taped-head-immobilization, anyway! Thus, although my care provision *barely* satisfied the basic requirements of spinal immobilization precautions, it DID SO.

And, I know better NOW!

Whether or not there is any suggestion of a spinal injury mechanism, it is far better to restrain excited delirium victims to a **long back board!** In addition to ensuring the best possible spinal immobilization in every case, restraint to a LBB speeds, and improves the safety of, transferring care to ED personnel.]

SUMMARY OF PREHOSPITAL CHRONOLOGY:

- This individual engaged in extreme physical exertion (due to his state of agitated / excited "delirium") for an unknown period of time in a suburban residential area prior to being noticed. Because most residents were likely asleep at 1 am, the amount of time that the patient was “running amuck” before someone noticed him and called the police could have been anywhere from 5 minutes to an hour.
- I was unable to obtain a dispatch record of the specific times that police were originally summoned (the first 911 call), or the time when the first police officer (and subsequent officers) arrived on the scene.
- Furthermore (Ratz!): Although I very clearly recall hearing the first-arriving police officer radio for “**HELP**” from the scene (long prior to the recorded police officer’s call for a Supervisor and an Ambulance), I have no documentation of that radio transmission’s time. So, I have no documentation of the time that my partner and I headed for the scene.
- 0132.??^{**} hours: A police officer radios police dispatch requesting that a Supervisor and an Ambulance be sent to the scene, in a non-emergent mode.
- 0133 hours: Police dispatch logs the officer's request for an ambulance.
- 0133.15 hours: Police dispatch contacts Ambulance dispatch.
- 0134.11 hours: Ambulance dispatch radios us with scene dispatch information. At that time, we were already approaching the scene, and I was observing the officers completing their HOGTIE restraint application.

^{**} The times I obtained from DPD dispatch do not include “seconds” notations.

- 0134.43 hours: We are logged as having arrived on scene as I exited the ambulance. Within 15 seconds of that transmission, as I approached the patient, I observed signs of the victim's respiratory arrest.

Time Line Documentation Conclusions:

The police officers reported this individual's combativeness as being impressively violent and strong. Thus, I estimate that the patient was probably being forcefully held in a prone position for up to one minute prior to an officer being "free" to use his radio and summon a supervisor and a non-emergent ambulance.

Clearly, the patient was being forcefully-prone-restrained at the time of the officer's call for an ambulance. We arrived 2 minutes later, at which time the hogtie restraint procedure had JUST been completed. But, the victim was already in respiratory arrest.

- **The patient was in prone hogtie restraint for *less than 1 minute*.**
- **The probable elapsed time between initiation of forceful-prone-restraint ("Take Down") and the onset of respiratory arrest was likely MORE than 2 minutes, but LESS than 3 minutes.**
- **HAD THE PATIENT BEEN "OVERWEIGHT" it is likely that he would have suffered respiratory arrest even FASTER than this victim did!**

Published studies of police-involved deaths attributed to restraint-related positional asphyxia rarely document the time lapse between initiation of forceful-prone restraint ("Take Down") and the time that officers noticed unconsciousness or death. However, when I investigated this issue in 1993; I found five cases that DID report this time period. [Two cases reported by Reay et al.(1) and three cases reported by O'Halloran and Lewman.(2)] According to those cases, the average time that elapsed between Take Down and officers noticing that the subject wasn't breathing and didn't have a pulse (full cardiopulmonary arrest) was **5.6 minutes!** Thus, a time frame of 2 to 3 minutes between Take Down and respiratory arrest is entirely – and reasonably – consistent with previous case studies of restraint asphyxia deaths.

EMERGENCY DEPARTMENT EXAMINATION & TREATMENT FINDINGS:

Controlled physical examination (after chemical-restraint), X-rays, CT scans, laboratory, and toxicology reports, revealed that this patient was a healthy, well nourished, 20 year-old male, with ***no alcohol*** in his system. (I find that amazing! But, it's true.)

No narcotics, cocaine, barbiturates, benzodiazepines, PCP, or methamphetamines were

found in this patient's system. The only "drugs" found in his system were caffeine, marijuana, and psilocybin "mushrooms" – ***NONE of which could have caused his respiratory arrest!***

This patient did not have a skull fracture or a closed head injury. He received 4 "stitches" in his superficial right upper eyelid laceration. He had no significant chest or abdominal trauma. This patient had no history of respiratory disease, no history of ANY chronic medical or psychiatric disorders. Basically, NO medical, traumatic, psychiatric, or toxicological cause for his on-scene respiratory arrest was discovered by Hospital examination and medical evaluation.

Because all OTHER potential causes of respiratory arrest were explored and ruled-OUT, the only remaining explanation for why this patient STOPPED BREATHING and nearly DIED, is that he was a victim of "Near-Death" Restraint Asphyxia.

The MEDICAL DETAILS obtained from the receiving hospital's records of the examinations and evaluations they performed, as well as the care they provided, are offered in a separate PDF file:

<http://www.charlydmiller.com/RA/neardeathHospitalFiles.pdf>

CASE DISCUSSION:

This case exemplifies a *Classic Set-Up* for restraint asphyxia death. The patient experienced each of the "Three Phases of Extreme Muscle Exertion and Energy Expenditure" I identify in my "**Restraint Asphyxia – Silent Killer**" article.

[To learn more about these Phases, see Part 2 of "**Restraint Asphyxia – Silent Killer.**"]

PHASE 1 – The Altered Level of Consciousness Onset Phase:

This previously healthy, 20-year-old male spent an unknown period of time running around a middle-class residential area in a state of "excited delirium" (also called, "agitated delirium"), caused by psilocybin mushroom ingestion. We do not know the actual time of

his Phase 1 onset – the time that he first began performing extremely exertional activity due to his severely altered level of consciousness.

However, due to the time of day (midnight to 0100 hours) and the type of neighborhood he was in (upper-middle-class residential area), it is reasonable to presume that the patient could have engaged in his extreme physical exertion for anywhere from 5 minutes to an hour prior to someone noticing him and becoming concerned (irritated) enough to call the Police. Furthermore, he could have been performing extremely exertional activity *elsewhere*, prior to his arrival in this neighborhood, for an additional amount of time.

NOTE: This call occurred in the month of August – a warm, "summer" month. However, in Denver, Colorado, temperatures often dip well below 50° Fahrenheit after the sun goes down, even in August. Oblivious to the cold temperature, this patient had removed all of his clothing, and was "running all over the place" while naked.

Since so many excited delirium victims strip off their clothing while running amuck, many researchers hypothesize that "hyperthermia" may be associated with excited delirium. However, no one has ever obtained the body temperature of an excited delirium victim prior to them dying due to restraint asphyxia.

PHASE 2 – The INTERVENTION INITIATION PHASE:

Police officers ("Interveners") arrived. Attempts to control the patient with verbal cues were completely unsuccessful. Several additional officers were summoned, a brief chase ensued, and the patient had to be forcefully "tackled" in order to take him into custody. Thus, the patient experienced a Second Phase of Extreme Physical Exertion while running from, and being tackled by, the Police. His extreme physical exertion continued while he struggled with police *after* being "tackled" and taken down to the grass.

His wrists were handcuffed behind his back, but he persisted in extremely violent, very threatening, physical exertion. Police officer initiation of forceful prone restraint occurred. The officers report him screaming and calling out unintelligible phrases during this time.

Once the patient was forcefully-prone-restrained by enough officers to keep him "controlled," one of the officers took his radio off of his belt and called for his supervisor, additionally requesting that an ambulance respond to the scene, in a non-emergent mode.

It is unclear whether the patient's facial trauma was present *before* Police intervention, or whether it occurred *during* Police intervention. Similarly, the patient's multiple superficial body abrasions and contusions could have occurred either *prior to* Police contact, or *during* the Police tackle and subsequent wrestling match.

PHASE 3 - CONTINUED STRUGGLE PHASE:

In spite of handcuff application and multiple officers forcefully restraining his body in a prone position, this individual persisted in violent attempts to escape restraint, presenting a continued threat of harm to himself and others. At this point, the officers decided that maximum restraint (hobble and hogtie restraint) was required. If sustained forceful prone restraint did not occur prior to this time, it certainly began now. And, whenever forceful prone restraint was initiated and sustained, from that moment on, the patient's physical ability to breathe became seriously impaired.

As we approached the scene, I observed one officer kneeling with one knee pressed against the patient's head while it was turned to the left side – pushing it into the grass. It is possible that this forceful head-to-the-side-maneuver may have produced carotid vagal stimulation similar to that of a "choke hold." Carotid vagal stimulation slows the heart. The longer vagal stimulation is continued, the slower the heart beats – until it stops.

Upon my arrival, however, the patient had a pulse somewhere around 120 per minute. Thus, I am NOT inclined to consider "vagal stimulation" a contributing factor to the patient's respiratory arrest.

I observed at least two officers using their hands and body weight to push the patient's trunk down while he was prone. With his chest and abdomen forcefully compressed to the ground, this patient was unable to easily expand his chest or move his diaphragm (the major muscle of respiration). Thus, every breath that this patient attempted to take during the forceful-prone-restraint employed by DPD officers required an incredibly extreme effort.

Since he had already experienced phases one and two of extreme energy expenditure, this patient had very little (if any) physical energy left with which to breathe even before the most forceful phase of restraint application began – the hobble restraint, followed by the Hogtie restraint. Once his chest and abdomen were prevented from easily moving, this lethally-exhausted patient rapidly became entirely unable to breathe. In fact, even prior to the hobble restraint being fully connected to his posteriorly-bound, handcuffed, wrists, this patient entered respiratory arrest. In other words, he stopped breathing, and began to DIE, *before* he was hogtied.

Simultaneous to causing extreme muscle fatigue and excessive lactic acid production, the violent physical activity that occurs during all three of these extreme energy expenditure phases causes excessive production of various body chemicals and hormones ("catecholamines"). The systemic hypercatabolic ("catecholamine overdose") state that results from all these chemicals and hormones being continuously produced further weakens all of the body's muscles – *especially the respiratory muscles*.

Dr. Reay et al report, "Energy that is expended by the contractile machinery (the arms, legs, back and abdomen) of the body is subtracted from the respiratory muscle needs. Muscle fatigue may induce the central nervous system to shunt energy to contracting muscles. A deficit in energy supply to respiratory muscles can influence their performance. A decrease in chemical energy supply to respiratory muscles will hasten their failure as well as the failure of other muscle groups."(1)

Additionally, Dr.s O'Halloran and Lewman conclude, "First, the psychiatric or drug-induced state of agitated delirium coupled with police confrontation undoubtedly places catecholamine stress on the heart. Second, the hyperactivity associated with agitated delirium coupled with struggling with police and against restraints undoubtedly increases the oxygen delivery demands of the heart and lungs."(2)

Translation of the preceding two paragraphs:

Such extreme energy expenditure causes serious muscle fatigue; causes energy-depleting chemicals and hormones to be dumped into the person's circulatory system; increases the workload of, and stress suffered by, the heart; increases the NEED for oxygen; but diminishes respiratory system function and the ability to obtain oxygen.

CASE STUDY CONCLUSIONS:

This case study's patient went into respiratory arrest only because he was subjected to forceful-prone-restraint following a prolonged period of extreme physical energy expenditure due to excited/agitated delirium.

I arrived in time to "save" him only because I accidentally was listening to police radio traffic, recognized a set-up for restraint asphyxia, and headed to his location before being "dispatched" there. Had I waited to be dispatched, this patient would have been in full cardiopulmonary arrest well before my arrival on scene.(1, 2)

If this patient had entered full cardiopulmonary arrest prior to being rolled off of his belly, it would have been impossible for me – or **any other** medical professional – to have resuscitated him.(1-4, 6)

If this patient had died, the City and County of Denver's Police Department would have been sued for "wrongful death." Every Police Officer on scene during the application of the restraint that caused his death would have been subjected to this "civil" suit. Even officers – or OTHERS – who were simply "observing" the restraint would have been subjected to this "civil" suit, because they "failed to intervene" prior to his death.

If this patient had died in 1998, it is unlikely that these Officers (or Others present) would have faced Homicide charges – "manslaughter" or the like. Were such a similar

incident to occur TODAY, however, every Officer or Other who was present WOULD face such CRIMINAL charges!††

The ONLY reason that no litigation accompanied this individual's case, was because he didn't DIE. Since he didn't die, **NO ONE** – other than the emergency responders and ED personnel – **EVER even KNEW** that he had been in respiratory arrest at one point. None of these individuals felt it “necessary” to offer this information to the patient or his family. Thus, to this day, the patient and his family remain *entirely* **OBLIVIOUS** to the fact that he was "*almost dead*" at one point!

MY GREATEST CONCERN

Regarding This Case:

This NEAR-DEATH incident involved several Denver Police Department officers, and is documented as having come to the attention of at least one DPD Supervisor.

Did this incident result in any DPD restraint procedure changes?

... any DPD restraint training or protocol changes?

... or, any other DPD action designed to prevent a similar incident from occurring?

NO! It Did Not!

DPD personnel knew that this person almost died ONLY because of the restraint they performed. DPD knew that I wrote & posted its original Case Study within days of the incident. Yet, DPD did NOTHING to prevent similar incidents – or deaths – from occurring.

No "Law Suit" = No Action.

Law Enforcement Officers (security and correctional officers), Fire and EMS personnel are responsible for the protection of citizens, the protection of ourselves, *and* the reasonable protection of individuals threatening the safety of citizens and ourselves! In order to provide such protection, we often must employ restraint. But, anyone who assumes the responsibility of applying restraint is ALSO responsible for doing so in a manner that does NOT result in injury or Restraint Asphyxia death.

There are Two “VITAL TIPS” for how **Law Enforcement Officers** (security and correctional officers) can avoid causing restraint asphyxia deaths. If any law enforcement, security, or correctional (prison) service adopts these two Vital Tips as part of their restraint protocol, their risk of personnel causing restraint asphyxia will become almost non-existent.

†† See “**Ex-guards, nurse charged in camp death**”

http://news.yahoo.com/s/ap/20061128/ap_on_re_us/boot_camp_death, and other, similar, headlines from around the world.

Vital Tip #1.

BE AWARE of SITUATIONS that Commonly Precede RESTRAINT ASPHYXIA Deaths

This first VITAL TIP is Simple, but “Expensive.”

All personnel must be adequately educated (during initial training, and during periodic “refresher” training) so that they can immediately recognize situations that cause an individual to be at High Risk for Restraint Asphyxia. Thus, when encountering any of the following six (6) situations, educated restrainers (as well as observers) will know to be Extra Careful.

1. Anytime someone has been running around in an abnormal ("crazy") manner, expending extreme physical energy for any period of time before you respond (even only “a few minutes”) – **that person is at High Risk for Restraint Asphyxia.**
2. Anytime you have to chase and/or tackle someone, then also have to wrestle with them while they're on the ground to get them minimally restrained and “controlled” – **that person is at High Risk for Restraint Asphyxia.**
3. All “overweight” individuals (people with “big bellies”) **are at far greater Risk for Restraint Asphyxia than are slender individuals – in ANY situation, and in ANY restraint position.**
4. Anytime a subject seems “**immune**” to pepper spray, or Freeze-Plus P (a combination of pepper spray and CS – tear gas!), or the like^{††} – **that person is at High Risk for Restraint Asphyxia.**
5. Anytime a subject seems “**immune**” to TASER® strikes(!)^{§§} – **that person is at High Risk for Restraint Asphyxia.**
6. When a subject’s wrists have been handcuffed behind her/his back (with or without ankle restraint), but that does not seem to be “*enough restraint*” to protect citizens and providers from the individual's violent combativeness – **that person is at High Risk for Restraint Asphyxia.**

^{††} See Part Two of my “**Restraint Asphyxia – Silent Killer**” article:
<http://www.charlydmiller.com/LIB06/2004RASKparts1&2.pdf>

^{§§} See my TASER information Collection:

<http://www.charlydmiller.com/LIB07/2006TaserCollection.html>

Any situation involving even only ONE of those six criteria is a situation that COULD result in restraint asphyxia, if the excited delirium victim is subjected to forceful-prone-restraint for more than a minute or two.

Any situation involving MORE than one of those six criteria is a situation that WILL result in restraint asphyxia, if the excited delirium victim is forcefully-prone-restrained beyond the parameters of Vital Tip number Two.

Vital Tip #2. HOLD YOUR BREATH!

**VITAL TIP number Two is SO very simple,
I'm ashamed to admit that I didn't think of it until sometime in 2004!**

Only in movies (or on TV) are significantly violent people handcuffed with their wrists in front of their body. In "real life," someone who has been handcuffed with their wrists in front of their body has just been given a very lethal WEAPON to use against officers and others. So, in real life, a significantly violent individual must be forcefully-prone-restrained in order to be handcuffed with his **wrists behind his back**.

Given that FACT, here is the explanation of **VITAL TIP number Two**:

**The MOMENT a subject is placed in a forceful-prone-restraint,
the person "in charge" of the restraint should begin to HOLD HER/HIS BREATH!
The moment the breath-holding person needs to breathe,
guess who is IN – or ALMOST IN (if you're lucky) – RESPIRATORY ARREST?!**

1. For instance: The officer who is applying the handcuffs should **HOLD HER/HIS BREATH**, beginning at the MOMENT the subject is placed PRONE! If the handcuffing-officer needs to breathe *before* the handcuffs have successfully been applied, **guess who is IN – or ALMOST IN (if you're lucky) – RESPIRATORY ARREST?!**
2. If the handcuffs have not been successfully applied when the handcuffing-officer needs to breathe, BEFORE breathing, the officer should immediately STOP the procedure and command that the subject be rolled to her/his side.
3. The subject should immediately be assessed for respiratory arrest. If the subject is not breathing, rescue breathing should immediately be performed. (Do not delay artificial respiration provision to obtain a "barrier" device.) And, emergency medical services should immediately be summoned.

4. If the side-positioned subject is still breathing (is conscious ***and*** attempting speech), two or more minutes should be allowed for the subject (and the handcuffing-officer) to become re-oxygenated. Other officers should maintain manual restraint of the side-positioned individual during this time.
5. After two or more minutes of re-oxygenation, the handcuffing procedure should begin again, with the handcuffing-officer **AGAIN HOLDING HER/HIS BREATH** while doing so. ... And so on!
6. Once handcuffing is accomplished, the subject must immediately be rolled to her/his **SIDE**, and **KEPT ON** her/his **SIDE**.
7. If other forms of additional restraint application require returning the subject to a prone position, the **“HOLD YOUR BREATH”** rule applies to **THOSE** restraint procedures, as well!

This is NOT an “unusual” kind of protocol. Paramedics and other Advanced Life Support Providers have been trained – since before the early 80’s (when I was first trained) – to **HOLD THEIR BREATH while performing INTUBATION**: the procedure required to place a breathing tube into someone’s airway! If the “intubater” needs to breathe before intubation is accomplished, the patient has been without ventilation and oxygenation for **TOO LONG**. The intubater must stop the procedure, ventilate and oxygenate the patient for two or more minutes, then begin the intubation procedure again.

[From the above, you can understand why I’m so ashamed of failing to recognize that this same oxygenation-protection “rule” applies to law enforcement handcuffing procedures prior to 2004!]

Assigning an arbitrary “time” limit for the length of time that a forceful-prone-restraint procedure (such as handcuffing) can be performed does NOT work. In real life situations, restrainers are entirely unable to accurately judge the amount of time that is passing, especially when involved in violent struggle with a subject. Furthermore, not every “subject” can survive for the same amount of forceful-prone-restraint application time. Please remember; the people who take the longest amount of time to successfully handcuff are violently-struggling **OBESE** subjects. And, simply being **OBESE** makes those individuals even more at **High Risk** for restraint asphyxia.

Only by adopting Vital Tip #2 as a protocol can law enforcement officers avoid causing restraint asphyxia during handcuffing procedures.

Restraint Requirements For FIRE and EMS PERSONNEL:

When police officers restrain someone, all that is required is enough restraint-immobilization to prevent the threat of harm to the individual or others. Medical personnel (Fire and EMS), however, require **TOTAL-BODY restraint-immobilization – in a SUPINE position.**

SUPINE restraint to a long back board is required to assure that spinal immobilization is accomplished – something that almost every excited delirium victim’s “mechanism-of-injury” requires. This also will improve the safety and swiftness of patient transfer to emergency department personnel.

SUPINE restraint is also required so that restraint does not interfere with thorough examination and care provision. Prone and lateral (side) forms of restraint significantly interfere with thorough assessment and care provision. They also fail to meet spinal immobilization requirements.

Successful and safe restraint of patients in a supine position requires an understanding of restraint kinetics and the use of very specific restraint techniques. Such techniques are thankfully quite simple and easy to accomplish! Unfortunately, very few emergency medical care providers receive TRAINING in such techniques. Failure to provide such training has become a serious liability for Fire and EMS services around the world.

[To read about the safest and most effective methods of Patient Restraint, see Parts 1, 2, & 3 of my "All Tied Up & No Place To Go!" article.]

IN SUMMARY:

- This Case Study demonstrates that Respiratory Arrest can occur within 2 to 3 minutes of “Take Down” (initiation of forceful-prone-restraint, or any other form of restraint that causes abdominal-excursion interference), even when the victim is a slender, entirely “healthy” individual.
- Restraint Asphyxia deaths do NOT have to occur. Even when forceful restraint causes respiratory arrest, the victim can survive. But, ONLY if respiratory arrest is noticed, restraint discontinued, and intervention provided, *prior to* the victim’s heart stopping.
- The only way to avoid causing Restraint Asphyxia deaths is to EDUCATE our personnel, and to ensure that they have realistically-effective protocols to follow that will prevent them from causing restraint asphyxia death.

REFERENCES:

[All 6 of these references can be found in my Restraint Asphyxia Library]

1. Reay DT, Fligner CL, Stilwell AD, Arnold J: Positional asphyxia during law enforcement transport. *Am J Forensic Med Pathol*, 1992;13(2):90-97.
2. O'Halloran RL, Lewman LV: Restraint asphyxiation in excited delirium. *Am J Forensic Med Pathol*, 1993;14(4):289-295.
3. Stratton SJ, Rogers C, Green K: Sudden death in individuals in hobble restraints during paramedic transport. *Ann Emerg Med*, May 1995;25:710-712.
4. Hick JL, Smith SW, Lynch MR: Metabolic acidosis in restraint-associated cardiac arrest: a case series. *Academic Emerg Med*, March 1999, Volume 6, Number 3.
5. Park KS, Korn CS, Henderson SO. Agitated delirium and sudden death: two case reports. *Prehosp Emerg Care*. 2001;5:214-216.
6. Katz LM, Wang Y, Rockoff S, et al. Low-dose Carbicarb improves cerebral outcome after asphyxial cardiac arrest in rats. *Ann Emerg Med*, Apr 2002, 39(4) p359-365.

ASSOCIATED READING:

The Hospital Records related to this case:

<http://www.charlydmiller.com/RA/neardeathHospitalFiles.pdf>

Miller, CD. "All Tied Up & No Place To Go":

<http://www.charlydmiller.com/RA/alltiedup1.html>

Miller, CD. "Restraint Asphyxia – Silent Killer" Parts One & Two:

<http://www.charlydmiller.com/LIB06/2004RASKparts1&2.pdf>

TASER information Collection:

<http://www.charlydmiller.com/LIB07/2006TaserCollection.html>

The Restraint Asphyxia Library: <http://www.charlydmiller.com/RA/RALibrary.html>