

Could this Happen in Your Program?

In the Matter of Neil Larkin*:

A Case Study on Restraint, Traumatic Asphyxia and Investigations

Concluding their investigation without obtaining an autopsy report or detailed staff statements, and in the face of vague and inconsistent witness accounts, it seemed as if the hospital's administration really didn't want to know why Neil Larkin died, or whether other patients were in harm's way.

Neil Larkin

For the past ten years of his life, Neil Larkin was free of the acute exacerbations of paranoid schizophrenia that had so troubled him in his 20s and early 30s. At age 42, he was living in a community residence, attending a day program and mental health clinic, and had not required hospitalization in nearly a decade. With the exception of high cholesterol, he was in good health, and was maintained on a medication regimen of Clozaril and Haldol.

On the day after Christmas, with no warning, Mr. Larkin eloped from his residence by climbing out of his bedroom window. A note which he had left in his room indicated that he was being commanded by voices. He had apparently stopped taking his medications.

The next day, Mr. Larkin was found and brought back to his residence. An on-call psychiatrist at his clinic was consulted, and a decision was made to admit Mr. Larkin to a local hospital that day.

Upon admission, Mr. Larkin complained of hearing the voice of God talking to him. Admission assessments described him as psychotic, paranoid, withdrawn and sexually preoccupied.

Mr. Larkin was restarted on Clozaril. Haldol was later added, and over the next several weeks his medication levels were adjusted as his clinical status dictated. During this period, Mr. Larkin continued to complain of

hearing voices, he also expressed delusions about staff poisoning his food. On occasion, he became hostile, assaultive or extremely anxious, and required additional medications on an "as needed" (PRN) basis.

By early February, however, Mr. Larkin was reportedly in better control and less bothered by the "voices".

Although still somewhat disorganized, he appeared less anxious and, on February 9th, asked to go out for a walk.

The Incident

The next day, Mr. Larkin and a group of patients and staff left the unit to go across campus to the facility's gym. En route, Mr. Larkin attempted to bolt from the group and struck out at staff attempting to stop him.

While one staff member stayed with the other patients, four staff escorted, or essentially carried, Mr. Larkin, who continued to struggle, back to the unit where he was taken to a quiet room. As Mr. Larkin was still

struggling to get away and could not be calmed, four staff restrained him in a prone (face down) position on a mat in the quiet room. Nursing staff were summoned, and Mr. Larkin continued to struggle while being held.

One responding nurse attempted to verbally calm Mr. Larkin, to no avail, while a second nurse doubled-

checked physicians orders for medications and prepared an injection. Upon entering the room and noting that

Mr. Larkin seemed calm, this nurse asked staff to release him. When they did and turned him over, Mr. Larkin

was unresponsive and pulseless. Despite resuscitative efforts, Mr. Larkin could not be revived. By staff

estimates, Mr. Larkin was restrained face down for no more than five to ten minutes.

Investigations

Investigations into Mr. Larkin's death were launched by the hospital, the Medical Examiners Office, police, and this Commission.

In its investigation, the facility interviewed all staff involved in Mr. Larkin's care. Statements secured by the facility from staff involved in the restraint were not all that detailed, and tended to generally recount the events

of the fateful day, as described above. These staff were not asked to describe the restraining techniques, or who held what part of the body, or how. In one brief statement given by a nurse, she described seeing one of the restraining staff, Mr. Becker, with his knee on Mr. Larkins back. But no other staff mentioned this. Nor did it appear that this observation was probed by facility investigators in their interviews with the other staff.

Although the facility concluded that this observation could not be corroborated or reconciled, there was not even a statement by Mr. Becker specifically addressing how he held Mr. Larkin or whether he knelt on his back.

Speculating on the role that medications may have played in the death, the facility completed its investigation before the autopsy report on Mr. Larkin was available. It concluded that staff involved in the restraint acted appropriately.

The Medical Examiners autopsy report, however, indicated that Mr. Larkin died from positional or "traumatic" asphyxia, that is, he was prevented from breathing by restraining staff, a cause of death entirely consistent with the one nurses account of seeing Mr. Becker with his knee on Mr. Larkins back.

Statements taken by police and shared with the Commission shed additional light on what transpired in the quiet room that day. Almost all staff involved in the restraint reported seeing Mr. Becker with his knee on Mr. Larkins back. One staff member stated that he thought the hold was wrong, but didnt say anything at the time because he was a junior staff member. Another staff member stated that he too put his knee on the patients back, taking his lead from Mr. Becker, whom he believed was more experienced and knew what he was doing. Mr. Becker, himself, admitted that he placed his knee on Mr. Larkins back as a means of maintaining stability as he held the patient down during the difficult restraint.

A Grand Jury reviewed the matter, but handed down no indictments. Detectives on the case informed the Commission that while it was felt something went terribly wrong, causing an unfortunate death, it was not of a criminal nature. The hospital made no attempt to secure statements taken by the police or to speak with law enforcement personnel.

The Commission presented its findings and conclusions to the hospital: Mr. Larkin died of traumatic asphyxia due to improper restraint procedures, and the facilitys investigation into the matter was woefully inadequate. In response, the facility took a number of corrective actions: all staff were retrained in restraint techniques; the

use of the prone-position hold was banned; investigation protocols were revised to ensure receipt and review of autopsy reports in death cases, and to require detailed statements on holds employed by staff during restraint incidents; and a mechanism was created for the exchange of information between the facility and police authorities when incidents rise to the level of a possible crime.

Discussion

On average, every four months the Commission is called upon to investigate the death of a person while being restrained. Some die in psychiatric facilities, others in group homes for individuals with developmental disabilities. Most, over 60 percent in the last three years, died while being held face down on the floor; like Mr. Larkin, they died of an inability to breathe due to positional asphyxia or, more precisely, traumatic asphyxia. Both terms are often used interchangeably.

What is asphyxia or, more specifically, positional and traumatic asphyxia? How does it happen?

Asphyxia refers to the body's diminished ability to intake oxygen and to eliminate carbon dioxide, and it can lead to impairment of vital organs, especially the brain, and death.

Effective respiration, i.e., the exchange of oxygen and carbon dioxide, requires: a) an unobstructed airway; b) sufficiently healthy lungs and blood circulation to allow the proper exchange of gasses as blood passes through the lungs; and c) a functional mechanical or muscular system, in particular the diaphragm and rib cage.

Positional asphyxia refers to a forced position of the body in which the neck is compressed, or the diaphragm and rib cage are prevented from moving to create the bellows effect necessary for air to enter and exit the lungs. Generally, positional asphyxia connotes situations where a person winds up in such a position independently or accidentally, such as when someone who is physically or mentally incapacitated turns over in a hospital bed and becomes wedged between the mattress and bed rails and is unable to remove himself. The term traumatic asphyxia is more indicative of situations wherein the person's placement and inability to escape a position that compromises breathing is caused by the action of others.

In most prone restraint deaths examined by the Commission, the causative factor was the impairment of the mechanical/muscular system necessary for effective respiration. In their training programs, facilities usually emphasize the need to avoid compromising an individual's airway during restraint by any action that causes neck compression, such as by a choke hold or by the position of the body. Yet, it seems that insufficient attention is paid to safeguarding mechanical aspects of breathing, which are jeopardized by prone restraint, as well as other forms of restraint, including bear hugs or supine (face up) restraint with weight put on the chest and/or abdomen.

In normal breathing, chest muscles and the diaphragm, key respiratory muscles, work in concert. During inhalation, chest muscles expand the rib cage, and the diaphragm descends into the abdomen, to create an intra-thoracic suction effect causing air (oxygen) to flow into the lungs. When these muscles relax, the thoracic space reduces, causing air (carbon dioxide) to be exhaled.

In prone restraint, i.e., holding the individual face down on the floor, the ability of these muscles to do their job is somewhat compromised. The chest has difficulty expanding; the diaphragm has difficulty descending into the abdomen.

Placing weight or force on the upper, middle or lower back while the prone restrained individual struggles, further compromises the ability of these muscles to do their job, and effective respiration may not be achieved. The natural response to the sensation of being unable to breathe is for the individual to struggle even more violently against that which is compromising respiration, causing even greater oxygen demands by the body. However, that struggle

is typically met with the application of more force by those restraining, and the mechanics of breathing are further impeded. Oxygen levels spiral downward while carbon dioxide builds as the struggle to breathe and the restraining force escalate.

Contributing to traumatic asphyxia in prone restraint is exhaustion or muscle fatigue. Restraint should be used only as a last resort to ensure safety in the face of agitated, aggressive or delirious behaviors that threaten the well-being of the individual or others. In these states, however, the individual's body is burning larger amounts of oxygen than when at rest, the respiratory system is working in overdrive. At the point that restraint is

deemed indicated, muscles necessary for respiration are tiring; prone restraint only offers further mechanical challenges to these muscles in their already over-taxed state as they attempt to oxygenate the body.

Other factors that may play a role or hasten death by traumatic asphyxia are pre-existing problems compromising the health of the individuals respiratory and circulatory systems, such as lung and heart disease; drugs, prescribed or otherwise, which may suppress respiratory function; and metabolic changes that occur in the presence of decreased oxygenation and increased energy expenditure.

Death from traumatic asphyxia can occur within five minutes of the "take down."

Considerations

The need for physical restraint, more often than not, reflects a failure in the planned, therapeutic approaches to assist an individual maintain control over ones self or ones environment, ones internal and external stimuli. It also presents imminent danger for the individual and staff. Too often, the Commission and its Medical Review Board have been called upon to examine cases in which physical restraint could have been avoided in the first place had better behavior and/or treatment plans been in place and had staff received better training in non-physical de-escalation techniques. Facilities are urged to consider whether their existing policies and practices promote avoidance of restraint; the safest use of techniques when restraint is absolutely necessary; and thorough post-restraint investigation and analyses to reduce the need for restraint and risk of harm in the future.

Among the questions facilities should consider are:

- Are all staff trained in non-physical-contact methods of de-escalating situations and events which, if left unchecked, may lead to the need for restraint?
- Are these methods tailored to the unique needs of the individual consumer and part of an overall treatment or behavior management plan that not only addresses the management of negative behaviors, but also teaches and reinforces pro-social behavior? In addition to behavioral matters, are pre-existing medical issues carefully considered in the development of the plan? Is the individual and/or his significant other involved in the

development of the plan, including methods for de-escalation or calming, as well as the preferred emergency intervention?

- Does the service milieu, be it a psychiatric unit or a group home, have the essential environmental features (quiet spaces, private rooms, etc.) and personnel necessary to carry out treatment/behavior plans?

If restraint becomes necessary as a last resort in managing dangerous behaviors:

- Are all staff trained in proper restraint techniques and holds?
- Is prone restraint, or other restraint holds that can compromise breathing, permitted? Should they be?
- If prone restraint is permitted, are staff aware of the attendant risks of respiratory compromise and instructed to reposition the individual to a safer position ASAP?
- Are sufficient staff made available to carry out the restraint properly? Is a senior staff member, preferably a clinician, charged with being present, directing and supervising the restraint?
- Are all precautions taken to avoid compromises of the individuals respiratory function?
- During the restraint, are the individuals vital signs, comfort and safety monitored? Are calming techniques continued and are efforts made to release the individual as soon as safely possible?

Following the restraint, does the facility conduct investigations into clinical and administrative aspects of the event, with a view toward reducing the need for restraint and risk of harm in the future by making appropriate treatment plan modifications and providing staff with additional support and education? Do these inquiries or analyses probe:

- Antecedent factors that led to the restraint which could be addressed to avoid restraint in the future?
- The adequacy and effectiveness of calming techniques employed by staff and how such techniques may be improved?
- The actual hands-on techniques used to restrain the individual and whether these were appropriate, or in need of refinement so as to ensure safety in the future?
- The opinions of clinicians and staff involved in the restraint, and the individual who was restrained, on how restraint can be avoided in the future or, if needed, executed in the safest, most dignified manner?

Finally, in restraint situations, or any incident in which police become involved, does the facility have a mechanism in place permitting the exchange of information in such a way that, while not compromising the integrity of law enforcement activities, allows the facility to take appropriate administrative or clinical action to safeguard its clientele?

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Note: The names of all service recipients and providers in this case study are pseudonyms.