



# FORENSIC PATHOLOGY REVIEW REPORT

ONTARIO FORENSIC PATHOLOGY SERVICE – PROVINCIAL FORENSIC PATHOLOGY UNIT

<b>NAME</b>	FAQIRI, Soleiman
<b>AGE &amp; SEX</b>	30 years / Male
<b>PFPU NUMBER</b>	A2813-2016 R2016-02587
<b>CIS NUMBER</b>	2016-14763
<b>CORONER</b>	Dr. E. Ready
<b>FORENSIC PATHOLOGIST</b>	Dr. M. Bellis
<b>REVIEWER</b>	Dr. Michael S. Pollanen
<b>DATE OF EXAMINATION</b>	December 16, 2016
<b>DATE DEATH PRONOUNCED</b>	December 15, 2016
<b>REPORTED TO</b>	Prabhu Rajan

## SYNOPSIS

This 30-year-old man was remanded to the Central East Correctional Centre in the midst of a schizophrenic episode. He was detained in the facility on December 5, 2016 and ultimately died in a segregation cell on December 15, 2016, after worsening of the psychiatric symptoms. His death occurred during struggle and restraint by Correctional Officers. The events leading to his death in custody included: prone position restraint, blunt impact trauma of the neck and body, handcuffing, shackling, application of a spit hood, and exposure to pepper spray. These events occurred in the context of exertion due to the struggle and in the setting of cardiomegaly. Death is attributed to the combined effects of these co-factors, the most important of which are listed in the cause of death statement.

## CAUSE OF DEATH

1 (a)	Prone position restraint and musculoskeletal injuries sustained during struggle, exertion and pepper spray exposure in the setting of cardiomegaly and worsening symptoms of schizophrenia
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## **QUALIFICATIONS**

Michael S. Pollanen is Chief Forensic Pathologist for Ontario, Canada and Professor and Vice-Chair (Innovation) of Laboratory Medicine and Pathobiology at the University of Toronto. He graduated from the University of Toronto with an MD (1999) and PhD (1995) and completed his residency in 2003. Dr. Pollanen's main academic focus is the application of forensic medicine to Global Health by training forensic pathologists and strengthening forensic capacity in the Global South. He has been involved in case work or training missions in Algeria, Bermuda, Cambodia, Central African Republic, East Timor, Egypt, Haiti, Iraq, Jamaica, Kazakhstan, Palestine, Thailand, Uganda and Uzbekistan. His current research interest is Nodding Syndrome in Uganda. He has published over 100 papers in peer-reviewed journals. Dr. Pollanen is a member of the forensic advisory board of the International Committee of the Red Cross and is a Past President of the International Association of Forensic Science (2014-17). He is a Founder of Forensic Pathology in the Royal College of Physicians and Surgeons of Canada. His professional duties include supervising and directing the Ontario Forensic Pathology Service (9000 autopsies/year), conducting autopsies (>4500 autopsies performed to date), testifying in court (>250 testimonies to date), and directing academic activities in forensic pathology at the University of Toronto. He is also a Deputy Chief Coroner in Ontario.

## **DECLARATION**

I understand that my overriding duty is to the court, both in preparing reports and in giving oral evidence. I have complied with and will continue to comply with that duty. I have done my best, in preparing this report, to be accurate and complete. I have mentioned all matters that I regard as relevant to the opinions I have expressed. My specific qualifications for this case review include conducting many medicolegal autopsies of deaths in custody and case-based research on death in custody and torture with publications including:

- Pollanen MS. The pathology of torture. *Forensic Sci Int.* 2018 Mar;284:85-96.
- Gruspier K, Pollanen MS. *Forensic Legacy of the Khmer Rouge: The Cambodian Genocide.* *Acad Forensic Pathol.* 2017 Aug; 7(3):415-433.
- Cordner S, Pollanen MS. *The West Kingston/Tivoli Gardens Incursion in Kingston, Jamaica.* *Acad Forensic Pathol.* 2017 Aug; 7(3):390-414.
- Pollanen MS. *The Dead Detainee: The Autopsy in Cases of Torture.* *Acad Forensic Pathol.* 2017 Aug; 7(3):340-352.
- Herath JC, Pollanen MS. *Clinical Examination and Reporting of a Victim of Torture.* *Acad Forensic Pathol.* 2017 Aug; 7(3):330-339.
- Pollanen MS. *Fatal rhabdomyolysis after torture by reverse hanging.* *Forensic Sci Med*

Pathol. 2016 Jun;12(2):170-3. doi: 10.1007/s12024-016-9752-6. Epub 2016 Feb 18. PubMed PMID: 26888609.

- Rajagopalan A, Pollanen MS. Sudden death during struggle in the setting of heterozygosity for a mutation in calsequestrin 2. *Forensic Sci Med Pathol*. 2016 Mar;12(1):86-9. doi: 10.1007/s12024-015-9733-1. Epub 2015 Dec 15. PubMed PMID:26671417.
- Kodikara S Cunningham K, Pollanen MS. Excited delirium syndrome”: Is it a cause of death? *Leg Med* doi.org/10.1016/ Legal Medicine 2012.04.003.
- Dickson BC, Pollanen MS. Fatal thromboembolic disease: a risk in physically restrained psychiatric patients. *J Forensic Leg Med*. 2009 Jul;16(5):284-6. Epub 2009 Feb 7.
- Perera C, Pollanen MS. Sudden death from sickle cell crisis during law-enforcement restraint. *Journal of Clinical Forensic Medicine*. 2007, 14, 297-300.
- Pollanen MS. A Variant of Incaprettamento (Ritual Ligature Strangulation) in East Timor. *American Journal of Forensic Medicine and Science*. 2003, 24, 51-54.
- Pollanen MS. Torture by excision and ingestion of ear helix. *Journal of Clinical Forensic Medicine*. 2002, 9, 184-184.
- Pollanen MS, Chiasson DA, Cairns J, Young J. Unexpected death related to restraint for excited delirium: a retrospective study of deaths in police custody and in the community. *Canadian Medical Association Journal*. 158, 1603-1607, 1998.

## **INTRODUCTION**

Soleiman Faqiri, a 30-year-old man, died in a segregation cell in the Central East Detention Centre on December 15, 2016. A death investigation was undertaken, including a medicolegal autopsy.

An inquest is currently being scheduled, as required under the *Coroners Act*. This forensic pathology review is intended to facilitate the upcoming inquest.

## **METHODOLOGY**

### **ITEMS REVIEWED**

On July 12, 2021, I received an agreed the statement of facts that described the events preceding the death of Soleiman Faqiri. I reviewed the agreed statement of facts for the preparation of this report. In addition, I reviewed material on an external hard drive, including witness statements and all medical/scientific reports and data (e.g., images and microscopic slides) flowing from the postmortem examination.

## **SCOPE AND LIMIT**

1. I have concentrated on providing an opinion about the cause of death using clinicopathological correlation. This involves integrating information from multiple sources including past medical history, death scene, circumstances of death, postmortem findings disclosed by the autopsy, findings from laboratory analyses, and the relevant published literature.
2. I have prioritized primary data sources, rather than secondary sources. I have personally read all available eyewitness statements and reviewed most, if not all, available video footage from the Central East Detention Centre that was provided to me. In addition, I visited the Central East Detention Centre on May 25, 2021, and observed the segregation cell where death occurred.
3. My review included an independent examination of all scene and postmortem images, examination of the histologic sections, and physical examination of the spit hood that had been placed over Soleiman Faqiri's head. I examined the spit hood on May 19, 2021, at the Forensic Services and Coroners Complex.
4. The main limit on my opinion is that the science underpinning the understanding of cause(s) of unexpected death during prone position restraint is not entirely settled in forensic medicine. Because of this, other forensic pathologists could reasonably hold different opinions on how to state the 'bottom line' on the cause of death.

## **RESULTS AND DISCUSSION/OPINION**

### **HISTORY AND CIRCUMSTANCES OF DEATH**

Soleiman Faqiri, a 30-year-old man had a past medical history of schizophrenia. He immigrated to Canada in 1992 as a refugee after fleeing Afghanistan during the Afghan civil war. He sustained a head injury in car crash in 2005 and was diagnosed with schizophrenia shortly thereafter.

Soleiman Faqiri was arrested and subsequently detained in the Central East Detention Centre on December 5, 2016 and died in a segregation cell on December 15, 2016. A review of the available documents and video footage show a steep and relentless deterioration in his psychiatric symptoms during his incarceration. Indeed, the deterioration was obvious not only to a physician who assessed him, but to his family, other inmates and Correctional Officers. Although it was planned to transfer him to a hospital for acute psychiatric care, he died before the transfer could occur.

Based on the agreed statement of facts, witness statements, and video footage, the timeline of events related to death can be divided into three phases:

### **Pre-altercation and precursor events leading to final altercation in the segregation cell**

In the days leading up to the final altercation in the segregation cell, Soleiman Faqiri's mental health declined. This decline culminated in an episode of bizarre behavior that was documented by video footage in the hours before his death. The video footage shows Soleiman Faqiri nude and in a disorganized and agitated state. The video footage shows him being brought by a Correctional Officer to a cage-like shower stall where he transiently lay nude on the floor of the stall before attempting to shower. After the shower, there is a short sequence of video footage that shows Soleiman Faqiri walking, escorted by several Correctional Officers, toward the segregation cell where he ultimately died. While he was walking to the cell surrounded by Correctional Officers. During this time, he was apparently physically struck, and pepper sprayed by Correctional Officers.

### **Altercation culminating in death in the segregation cell**

Neither the altercation between Correctional Officers and Soleiman Faqiri nor Soleiman Faqiri's death are visible on video footage. The key events in the altercation and his death occurred inside a segregation cell with no video surveillance. There are three sources of information about what happened during the altercation inside the segregation cell: (1) statements made by Correctional Officers; (2) statement made by an inmate; and (3) autopsy findings. All the available information reveals that the altercation included: an exhausting struggle, prone position restraint, blunt injuries, pepper spray deployment, hand cuffing, shackling, and application of a spit hood. I will provide my detailed forensic analysis of these data below.

I will accept the facts as outlined in the statement of agreed facts. The use of force is detailed as follows:

1. The deployment of two bursts of pepper spray to face.
2. "Multiple physical strikes" to body and head by Correctional Officers using their legs and hands.
3. "Restrained face down on the floor of cell" (prone position restraint) by Correctional Officers taking up positions on various parts of the body.
4. Spit hood placed over the head.
5. Legs shackled.
6. Legs retracted to the buttocks while in the prone position by Correctional Officers.
7. Handcuffing behind the back while in the prone position after spit hood and shackles applied.

## **Post-altercation with failed resuscitation and pronouncement of death**

The altercation ended with the death of Soleiman Faqiri in the segregation cell after a failed attempt at resuscitation. The struggle apparently ended at 3:14 pm. Since the altercation inside the segregation cell commenced at just before 3:04 pm the total elapsed time from the start of the altercation (inside the segregation cell) to death was approximately 10 minutes.

## **POSTMORTEM FINDINGS**

Postmortem examination revealed important findings that help to explain how death occurred. The most important findings recorded at autopsy were: findings in the heart and several injuries.

Multiple injuries were present due to blunt trauma. The most significant injuries included musculocutaneous injuries, which were represented by deep bruising into tissues beneath the skin that could not be seen externally and were only revealed by careful and extensive dissection of the body. The major areas of bruising (>5 cm in maximal dimension each) were found involving:

1. Back of head.
2. Lower posterior neck.
3. Upper left chest.
4. Left mid-back.
5. Left buttock.
6. Left upper arm.
7. Right upper arm.

Other significant injuries included:

1. Handcuff marks on the wrists.
2. Shackle marks on the ankles.
3. Bruise on the left side of the neck.

The heart was enlarged, and the left ventricle was hypertrophied with histologic evidence of fibrosis.

Laboratory studies did not provide additional relevant information beyond exclusions (e.g., no toxicologic cause of death).

My review of the histology provides a few additional observations. There is mild chronic bronchitis in the histologic sections of the lungs.

## **POSSIBLE EXTRINSIC AND INTRINSIC CONTRIBUTORY FACTORS**

Based on all available sources of information there are at least eight possible factors contributing to death. Six of the possible contributing factors are extrinsic and two are intrinsic:

### **Extrinsic factors:**

1. Struggle and exertion.
2. Prone position restraint.
3. Musculocutaneous injuries.
4. Neck compression.
5. Pepper spray.
6. Spit hood.

### **Intrinsic factors:**

1. Schizophrenia.
2. Cardiomegaly with left ventricular hypertrophy.

I have analyzed the causal role for each of these potential contributing factors in the context of the available circumstantial and medical information. Ultimately, I give my opinion on which of these potential factors can stand as the cause(s) of his death. To understand my analysis of the potential causes of death it is first necessary to understand the mechanism of death (i.e., the physiologic processes leading to death).

In my view, the reasonable mechanisms of death include: (1) anoxia (a lack of oxygen in his blood, starving his brain of the oxygen it needed to function); (2) arrhythmia (an abnormal heart beat causing his heart to stop beating); or (3) a combination of both mechanisms because they are not mutually exclusive and both processes can operate detrimentally in concert. Based upon the duration of the final altercation in the segregation cell (~10 minutes), there was potential elapsed time for both arrhythmic and asphyxial mechanisms of death. The specific results of my analysis of the potential causes of death are as follows:

## **Cardiomegaly with left ventricular hypertrophy**

Increased heart mass is a well-recognized substrate for generating fatal cardiac arrhythmias<sup>1</sup>. Soleiman Faqiri had this condition. In routine forensic pathology practice, we often attribute death to such a mechanism. Death is usually sudden and unexpected. The circumstantial correlates for death by this mechanism vary considerably. However, it is generally accepted that any process that results in a substantial surge of catecholamines can trigger fatal arrhythmias, particularly in the context of other contributory variables (e.g., local tissue hypoxia from myocardial ischemia). Overall, this is the most probable ‘final common pathway’-type mechanism that explains death in this case. Indeed, many of the factors described below can act to induce this final common pathway.

## **Struggle and exertion**

The eyewitness accounts and the numerous injuries present on the body at autopsy indicate a violent struggle occurred in the segregation cell. Furthermore, the protracted duration of the struggle led to significant exertion and exhaustion by the Correctional Officers who were restraining Soleiman Faqiri. In my view, this is a good indication that Soleiman Faqiri was exerting himself at a similar level of intensity during the struggle. This struggle and exertion would have contributed to a catecholamine surge, affecting his heart. Furthermore, an increased demand for oxygen would have resulted from this physical activity, which possibly played into a predisposing set of conditions leaving Soleiman Faqiri vulnerable to hypoxia stemming from prone position restraint, as discussed below. Overall, struggle and exertion are key factors in death.

## **Musculocutaneous injuries**

During the struggle inside the segregation cell, Soleiman Faqiri sustained multiple injuries. Multiple musculocutaneous injuries were present due to blunt trauma caused by some combination of Correctional Officers striking Soleiman Faqiri, or his body hitting the ground or stationary objects during a violent struggle with the Correctional Officers. None of the injuries were individually fatal. But, in combination, the injuries were a significant contributing factor in death. The most significant injuries were deep-seated muscle contusions. The injuries would have contributed to the catecholamine response. The way that the musculocutaneous injuries most likely contributed to catecholamine surge was due to pain.

I note that the scalp injuries correlate with eyewitness testimony related to head injuries. But, internal craniocerebral injuries were not apparent. Therefore, there is no anatomical evidence that traumatic brain injury contributed to death.

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<sup>1</sup> Cunningham et al.



## Prone position restraint

It has been known for over 25 years that the most common correlate of sudden death in cases such as the death of Soleiman Faqiri is prone position restraint<sup>2</sup>. In the view of many forensic pathologists, restraint in the prone position can lead to impaired breathing to the point of causing fatal ‘restraint asphyxia’ or ‘positional asphyxia’. Based on my review of the literature and casework, it is clear to me that prone position restraint *can* be a causal factor in death<sup>3</sup> due to restricted breathing causing hypoxia.

However, some experiments conducted with prone position restraint of healthy human subjects have not shown significant oxygen desaturation (hypoxia)<sup>4</sup>. There is limited application of these data to the death of Soleiman Faqiri for two reasons:

First, none of the experiments actually model the extrinsic and intrinsic conditions that occurred during the struggle inside the segregation cell. At best, the experimental data are cautionary about interpreting the effect of prone restraint. At worst, the experimental data are misleading because it is the wrong model for the medicolegal question.

Second, the experiments *do* actually reveal an effect on respiratory function, but this is not reflected in oxygen desaturation under the conditions of the experiment. In contrast, it is reasonable to conclude that the impaired respiratory function would be significant in the extreme conditions to which Soleiman Faqiri was exposed. Indeed, we must rely upon expert opinion on this point because this factual issue cannot be resolved by experiments with human subjects due to ethical considerations.

Furthermore, prone position restraint would also contribute to the catecholamine response in the setting of struggle and exertion. Overall, prone position restraint could have a double effect in this case: pro-arrhythmic and asphyxial. Thus, prone position restraint must be considered to be a causally relevant factor in death.

## Neck compression

There are two separate lines of evidence that suggest externally applied pressure on the neck could have contributed to death. First, there is an eyewitness account of neck compression by application of a knee. Second, there is a bruise on the left side of the neck. However, there are other observations that suggest that if neck compression did occur it was not likely a ‘stand-alone’ determinable cause of death for three reasons. First, the classical injuries of neck compression were

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<sup>2</sup> O’Halloran & Lewman and Pollanen et al.

<sup>3</sup> Strommer et al.

<sup>4</sup> Vilke.

not found at autopsy. Second, there were no significant petechial hemorrhages of the eyes or face. Third, the neck bruising is too lateral to be considered typical of the effects of fatal neck compression. Overall, neck compression cannot be entirely excluded as a factor in death, but the postmortem findings do not readily support it as highly probable. The neck bruising is probably more reflective of a blunt trauma to the neck.

### **Pepper spray**

Pepper spray is an irritating lacrimating agent used to subdue and distract, in the setting of interaction with police or Correctional Officers. In this case, pepper spray was deployed. Pepper spray is generally considered to be relatively safe. However, in this case there are three considerations to mention. First, pepper spray can aggravate underlying respiratory disease<sup>5</sup>. Mild chronic bronchitis was present in this case, possibly subclinical. Thus, there may have been a deleterious effect on respiratory function. Second, there is one case of sudden cardiac death attributed to pepper spray in the published literature (successfully resuscitated)<sup>6</sup>. Third, pepper spray could easily cause a catecholamine surge due to its distressing and irritating effects. Overall, pepper spray deployment does appear to be a factor in death, if only by the latter mechanism.

### **Spit hood**

My examination of the spit hood showed it to be a gauze-like thin mesh head/face covering. It was not copiously stained with vomitus. It was porous and permeable. Thus, in this case, it is unlikely that the spit hood interfered with breathing in a manner that contributed to death. Furthermore, aspiration of stomach contents (obstructing the airway) due to pooling of vomit in the hood is reasonably excluded as a factor in this case for two reasons. First, the spit hood was not copiously soiled with vomitus. Second, there was no stomach contents in the air passages at autopsy. This was confirmed by histologic examination of the lungs. On this basis, I cannot conclude that the spit hood contributed to death.

However, it is true that the spit hood covered the face after the pepper spray was deployed. This does raise the possibility that this could have prolonged the irritating effect of the pepper spray. This is an open question from a forensic pathology perspective.

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<sup>5</sup> NIJ review.

<sup>6</sup> Arora.

**Schizophrenia**

Schizophrenia can predispose to sudden cardiac death<sup>7</sup>, although it is uncertain how this happens. Thus, schizophrenia may be a relevant intrinsic pre-existing risk factor in this case, in the same manner as cardiomegaly. In addition, it is also clear from the medical literature that acute psychosis is often a factor that forms part of a situational crisis in custody that leads to restraint. This occurs much less frequently in emergency rooms or psychiatric wards than with police, or in detention.

**DECIDING THE CAUSE OF DEATH**

In my opinion, the foregoing analysis makes it clear that death cannot be attributed to any singly ascertained factor or injury. It is equally clear that death was caused by the combination of several ascertainable extrinsic and intrinsic cofactors. The most likely mechanism of death was cardiac arrhythmia occurring due to a convergence of several pro-arrhythmic influences, all causing catecholaminergic stimulation on a heart with increased mass that was prone to arrhythmia. Furthermore, hypoxia/asphyxia caused by positional restraint is also a reasonable cofactor because hypoxia may exacerbate arrhythmia. Another open consideration for the cause of death is ‘pure’ restraint asphyxia but this would depend entirely on eyewitness statements that would unequivocally support that possibility. The present eyewitness evidence does not do so.

In conclusion, the factors that rise to causal relevance, in my view, are enumerated in the cause of death statement provided below.

**CAUSE OF DEATH**

1 (a)	Prone position restraint and musculocutaneous injuries sustained during struggle, exertion and pepper spray exposure in the setting of cardiomegaly and worsening symptoms of schizophrenia
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Dated on August 5, 2021




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MICHAEL S. POLLANEN MD PhD FRCPC

*This report has been peer reviewed.*

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<sup>7</sup> Christiansen et al.