Office of the Chief Coroner
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26 Rue Grenville
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December 17, 2007

Mr. Jeremy Wright
City of Ottawa Legal Services
110 Laurier Avenue West
Ottawa, Ontario
K1P 1J1

Re: Inquest into the death of Stephane Michaud
deceased June 5, 2005. Our file number Q2007-44.

Dear Mr. Wright:

Please find enclosed a copy of the Coroner's verdict explanation, verdict, and recommendations of the Coroner's jury from the inquest into the death of Stephane Michaud. We are also attaching a list of the recipients that have been asked to respond to the recommendations.

As you represented a party with standing, the above material is being sent to you for your information.

Sincerely,

Bonita M.B. Porter
B.Sc., Phm., M.Sc., M.D., CCFP
Chief Coroner for Ontario

Legal Services
City of Ottawa
2 7 DEC 2007

BMBP:pc
Encl.

FOR IMPLEMENTATION:

Chief, Ottawa Paramedic Service, 2465 Don Reid Drive, Ottawa, Ontario K1H 1E2
(Recommendations – 3, 5, 6, 8, 9, 11)

Acting President, Canadian Institute of Health Research, 160 Elgin Street, 9th Floor, Address Locator 4809A, Ottawa, Ontario K1A OW9
(Recommendation – 4)

Medical Director, Ottawa Base Hospital Program, Ottawa Hospital, General Campus, SD-Level, 501 Smyth Road, Ottawa, Ontario K1H 8L6
(Recommendations – 5 and 9)

President and Chief Executive Officer, Ottawa International Airport Authority, 1000 Airport Parkway, Suite 2500, Ottawa, Ontario K1V 9B4
(Recommendation – 6)

Deputy Minister, Ministry of Community Safety and Correctional Services, 11th Floor, 25 Grosvenor Street, Toronto, Ontario M7A 1Y6
(Recommendation – 11)

Deputy Minister, Ministry of Health and Long-Term Care, 10th Floor, Hepburn Block, 80 Grosvenor Street, Toronto, Ontario M7A 1R3
(Recommendations – 1, 2, 5, 7 to 11)

Office of The Chief Coroner

Bureau du coroner en chef

Verdict of Coroner's Jury
Verdict du jury du coroner

We the undersigned / Nous soussigné		of / de	
	Corinne Borsellino	of / de	*OSGOODE, Ontario*
	Deborah Bellinger	of / de	*OSGOODE, Ontario*
	Kevin Hall	of / de	*NEPEAN, Ontario*
	Mark Tomkins	of / de	*OTTAWA, Ontario*
	Jeffrey Cober	of / de	*CLARENCE CREEK, Ontario*

the jury serving on the inquest into the death of / dûment assermentés, formant le jury dans l'enquête sure le décès de:

Surname / Nom de famile	Given names / Prénom
MICHAUD	***Stephane***

aged / âgé(e) de **43** held at / qui a été menée à **90 Sparks Street, *Suite 610*** ***OTTAWA, Ontario***

from / du ***Thursday, October 11th, 2007*** to / a la ***Wednesday, October, 31st*** 20***07***

By / Par Dr. ***Benoit Bechard*** Coroner for Ontario / coroner pour l'Ontario

having been duly sworn, have inquired into and determined the following:/ avons enquêté at avons déterminé ce qui suit:

1.	Name of deceased Nom du (de la) défunt(e)	***Stephane MICHAUD***
2.	Date and time of death Date et heure du décès	***June 5, 2005 10:52 am***
3.	Place of Death Lieu de décès	***Ottawa Hospital - General Campus***
4.	Cause of death Cause du décès	***Positional Asphyxia***
5.	By what means Circonstances entourant le décès	***Accident***

Original signed by: Foreman/Président du jury

Original signed by jurors/jurés

The verdict was received on the / Ce verdict a été reçu par moi le day of ***November*** 20 ***07***

Original signed by Coroner

Stephane MICHAUD Inquest.

JURY RECOMMENDATIONS

We, the jury submit the following recommendations for consideration:

1. *The jury recommends that further practical training and protocols be provided for paramedics across Ontario on Section 8 Psychiatric Disorders in the Basic Life Support Patient Care Standards with particular attention given to the set of symptoms commonly referred to as excited delirium. The training should cover the indicators, life-threatening risks, care, transport and restraint methods associated with the condition.*

   The transport and restraint methods should emphasize the risks and consequences of the prone position and the potential for positional asphyxia.

   Testimony indicated that knowledge about excited delirium and how to deal with it had not previously been well communicated.

2. *The jury recommends that the Ministry of Health and Long-Term Care prepare a Training Bulletin to emphasize the points in the recommendation related to further training and that the bulletin be provided to all paramedic service providers and base hospitals in Ontario, as well as all public and private colleges providing paramedic training in the province.*

   Testimony was given that showed the need for improved communication.

3. *The jury recommends that the Ottawa Paramedic Service hire sufficient paramedics as quickly as possible so as to allow it to respond to life threatening (Code 4) ambulance calls within eight minutes and fifty-nine seconds in the high density area of the City 90% of the time, and within fifteen minutes and fifty-nine seconds in the low density area of the City 90% of the time.*

   Testimony showed that there were no ambulances available at paramedic stations that were close to the airport. The paramedic team that was called had not had sufficient time to recover from their previous call before being called out again.

4. *The jury recommends that medical research organizations such as the Canadian Institute of Health Research conduct research into the causes of the set of symptoms commonly known as excited delirium.*

   Testimony showed that little is known about excited delirium.

5. *The jury recommends that the Ottawa Paramedic Service, the Ministry of Health and Long-Term Care and the Ottawa Base Hospital Program work together to find solutions that will allow increased paramedic continuing medical education - including potentially one further eight hour training day annually and/or alternative training delivery methods - without negatively affecting ambulance response times.*

   We heard testimony from the Paramedic Service and the Base Hospital Program representative that more training is required.

6. *The jury recommends that the Ottawa Paramedic Service and the McDonald-Cartier International Airport Authority institute the placement of an Advanced Care Paramedic, seven days a week, in the terminal building at the Ottawa International Airport.*

   We heard testimony from all parties involved, that the pilot project placing a paramedic at the airport was a beneficial program. The response time would be significantly reduced, treatment could begin while waiting for the ambulance to arrive and ambulances could be called off if not required, leaving them free to respond to other calls.

JURY RECOMMENDATIONS continued:

7. *The jury recommends that the Ministry of Health and Long-Term Care and the Medical Advisory Committee explore the possibility of equipping and training the Advanced Care Paramedics in the field-use of alternative sedatives. In addition, alternative methods of delivery of the sedatives should be explored.*

   We heard testimony from several expert witnesses that other drugs would have been more beneficial in this case. The paramedics were not able to administer the sedative through an IV and the IM injection was not proven to have taken effect.

8. *The jury recommends that the Ottawa Paramedic Service, in conjunction with the Ministry of Health and Long-Term Care, explore the feasibility of any technological solutions that would assist in a field environment with improving the accuracy and the recordings of times on Ambulance Call Reports. This would include a mechanism to monitor scene-time and alert paramedics when a specified amount of time has passed.*

   This recommendation is made because inaccurate times were noted throughout the testimony.

9. *The jury recommends that efforts be made to find solutions that will improve patient transfer from paramedics to staff at emergency rooms in Ottawa area hospitals.*

   As indicated in the testimony from the Chief of Ottawa Paramedic Services, this would assist in improving ambulance availability.

10. *The jury recommends that methods of restraint, other than single handcuffs behind the back, be explored for use on persons in medical distress such as excited delirium.*

    The testimony showed that there are significant challenges and risk of injury when placing a handcuffed person on his or her back.

11. *The jury recommends that a policy be implemented that forbids first responders who are attending to a medical emergency from putting a patient in the prone position particularly with patients exhibiting the set of symptoms commonly referred to as excited delirium.*

    We heard testimony from an anesthesiologist that described the impairment of the respiratory and cardiac systems that is caused when a person is placed in the prone position. This is corroborated in research findings found in a report from anesthesiologists in 1959.

VERDICT EXPLANATION

INQUEST Concerning the Death of

STEPHANE MICHAUD

Location:	90 Sparks Street Unit: 610 Competition Tribunal, OTTAWA, Ontario
Dates of Inquest:	Start date: 11-Oct-2007 End date: November 2nd, 2007
Presiding Coroner:	Bechard, Dr. B.
Coroner's Counsel:	Mr. George Dzioba Ottawa Crown Attorney's Office
Investigating Officer:	Det. Josee Arbour
Coroner's Constable:	Sgt. Hali Adair
Court Reporter:	Mrs. Andrea Johnstone 1317 Q Avenue (English), OTTAWA, Ontario, K1G 0B7 Phone: (613)747-8252 Email: andreajohnstone@rogers.com Mrs. Debi Lascelle 881 Thorndale Drive, OTTAWA, Ontario, K1V 6Y1 Phone: (613)523-5950 Email: jlascelle1221@rogers.com

Received by the Office of
Dr. Bonita Porter
Chief Coroner for Ontario
NOV 2 ? 2007

Parties with Standing:

1. Ms. Jennifer Bionda, Ottawa Paramedic Service Represented by : Mr. Jeremy Wright, City of Ottawa Legal Services, 110 Laurier Ave West,Ottawa, ON. K1P 1J1

2. Chief Vern White, Ottawa Police Service Represented by : Mr. Vince Westwick/ Mr. Dan McKeown, Ottawa Police Service, P.O. Box 9634, Station T, Ottawa ON K1G 6H5

3. Ms. Nathalie Samson, Ottawa Macdonald-Cartier International Airport Authority Represented by : Tara Sweeney / Lisa Dwyer Hurteau, SolowayWright, 427 LaurierAve West, Ottawa ON K1R 7Y2

4. SIU

5. Mrs. Therese Labreche - Michaud, Family Represented by : Mr. Gilles Michaud

6. Mr. Rick Brady, MOHLTC Represented by : Mr. Michael Burke, Ministry of the Attorney General, Crown Law Office- Civil, 720Bay St 8th Floor Toronto, M5G 2K1

7. Mr. Michael Lehman, Ottawa Paramedic Service Represented by : Ms. Laura Scott / David Migicovsky, Perley-Robertson, 1400-340 Albert St. Ottawa ON, K1R 0A5

8. Mr. Steve Cameron, Paramedic Represented by : Mr. John McLuckie/ Ms. Dina Mashayekhi, Jewitt Morrison and Associates, 1505 Carling Ave, Ottawa, ON K1Z 7L9

9. Mr. Marc Antoine Deschamps, Ottawa Paramedic Service Represented by : Mr. John McLuckie/ Ms. Dina Mashayekhi, Jewitt Morrison and Associates, 1505 Carling Ave, Ottawa, ON K1Z 7L9

10. Dr. Justin Maloney, Ottawa Base Hospital Represented by : Mr. Robert Sheahan/ Ms. Stephanie Pearce, Gowling Lafleur-Henderson 160 Elgin St Ottawa, ON K1P 1C3

11. Dr. Atul Kapur, Ottawa Base Hospital Represented by : Mr. Robert Sheahan/ Ms. Stephanie Pearce, Gowling Lafleur-Henderson 160 Elgin St Ottawa, ON K1P 1C3

I intend to give a brief synopsis of the circumstances of the death(s) and the issues presented at this inquest. Where it was felt to be of potential assistance, I have also commented on my understanding of the reasons behind the jury's recommendations. I wish to stress that it comprises my own interpretation of the evidence and of the jury's reasoning. It is not intended to replace the actual evidence presented to the jury, but is provided to assist the reader in interpreting the context in which the verdict and recommendations were made, so that those recommendations can be better understood. This verdict explanation document is not intended to replace the jury's verdict.

MICHAUD INQUEST
SYNOPSIS

BACKGROUND:
At approximately 08:03 hours on June 5th, 2005, 43-year-old Stéphane MICHAUD arrived at the Ottawa International Airport on Air Canada Flight #113 from Halifax, Nova Scotia at Gate 15.Mr. MICHAUD had a one-way ticket from Halifax to Ottawa.

For unknown reasons, Mr. MICHAUD proceeded to the airport's old terminal and departure area and took a seat near Gate 21. Sometime around 09:00 hours, Mr. MICHAUD started to behave strangely, throwing himself on the ground and injuring himself by diving head first from a bench onto the floor. Mr. MICHAUD was restrained by nearby passengers and airport staff until the arrival of Ottawa Police Service Officers. He was then further restrained and handcuffed by police.
Police and witnesses described Mr. MICHAUD as displaying supernatural strength.
Paramedics from the Ottawa Paramedic Service arrived on scene at approximately 09:28 hours when they commenced their assessment. Mr. MICHAUD was eventually placed on a stretcher at approximately 09:35 hours, and restrained with multiple belts in a prone position, still handcuffed. Shortly after being injected with a sedative at approximately 09:51 hours, Mr. MICHAUD appear to calm down and a few minutes later, at approximately 09:54 hours, he was found to be in distress. In the meantime, a Paramedic Team Leader had arrived at the scene. Paramedics attempted to resuscitate Mr. MICHAUD with the assistance of the police officers, but their efforts failed.
Mr. MICHAUD was transported to the Ottawa Hospital General Campus where he was pronounced dead by the Emergency Physician at 10:52 hours.
On June 6th, 2005, a Postmortem examination was conducted upon the body of Mr. Stéphane MICHAUD. The REPORT OF POSTMORTEM EXAMINATION found the cause of death to be: Consistent with positional asphyxia.

HISTORY OF DECEASED:
Mr. MICHAUD had two University degrees, a Bachelor's Degree in Commerce from McGill University and a Bachelor's Degree in Industrial Engineering from the École Polytechnique University of Montreal.
Mr. MICHAUD never married and had no children.
At the time of his death, Mr. MICHAUD was unemployed and living in Montréal, Québec. His last residence had been "L'Abri en Ville", a facility in Montréal, which offers long-term

housing within the community for people with mental health problems. Sometime prior to his death, Mr. MICHAUD had been informed that he could no longer stay at this residence.

Mr. MICHAUD was diagnosed with "Delusional Disorder" in the fall of 1999, at the age of 37. A few months later he was hospitalized a second time and diagnosed with "Schizoaffective disorder with delusional features". This diagnosis is maintained throughout repeated hospitalizations. His last hospitalization ended on April 14th, 2005.

At the time of his death, Mr. MICHAUD was not taking his prescribed mental health medication and had been traveling to different parts of the country for approximately 3 weeks, only giving news to his long time friend who managed his personal finances in order to have some funds transferred to his account. It is believed that Mr. MICHAUD traveled to Calgary, Winnipeg and Halifax before flying to Ottawa. There were no police contacts with Mr. MICHAUD in those cities. The weeks prior to Mr. Michaud's death remain a mystery.

Stéphane MICHAUD's prescribed mental health medications were:

Seroquel 300mg twice a day ORAP 2mg – once a day Seroquel 400mg once a day
Lithium 1200mg - time taken 22:00

The inquest lasted 12 days and heard testimony from 16 witnesses. 13 exhibits were introduced for their deliberations.

Although technically this inquest was called because Mr. Michaud was in Police Custody at the time of his death, a number of issues needed examining in particular whether positional asphyxia really occurs in restraints in the prone position, its association with excited delirium and what new methods have been devised since Mr Michaud's death to control individuals in that state of agitation. Other issues dealt with response time at the airport by the Ottawa Paramedic Service, the use of chemical restraints as opposed to physical restraints and the difficulties of producing accurate timelines in these stressful situations. We had the benefit of a video recording from the airport surveillance system which allowed us to compare with the timelines available under usual circumstances.

VERDICT OF CORONER'S JURY

Name of deceased:	Stephane Michaud
Date and time of death:	June 5, 2005 10:52 am
Place of death:	Ottawa Hospital - General Campus
Cause of death:	Positional Asphyxia
By what means:	Accident

JURY RECOMMENDATIONS

1. The jury recommends that further and practical training and protocols be provided for paramedics across Ontario on Section 8 Psychiatric Disorders in the Basic Life Support Patient Care Standards with particular attention given to the set of symptoms commonly referred to as excited delirium. The training should cover the indicators, life-threatening risks, care, transport and restraint methods associated with the condition.

The transport and restraint methods should emphasize the risks and consequences of the prone position and the potential for positional asphyxia.

Testimony indicated that knowledge about excited delirium and how to deal with it had not previously been well communicated.

Coroner's Comment: The Basic Life Support Patient Care Standards in effect at the time of Mr Michaud's death were different than those in effect at present. I believe the Jury wanted more emphasis on the points that they raise in this recommendation.

2. The jury recommends that the Ministry of Health prepare a Training Bulletin to emphasize the points in the recommendation related to further training and that the bulletin be provided to all paramedic service providers and base hospitals in Ontario, as well as all public and private colleges providing paramedic training in the province.

Testimony was given that showed the need for improved communication.

Coroner's Comment: I believe that the Jury thought that there is a need to see that this new information be disseminated to all paramedics and not only those at the training stage.

3. The jury recommends that the Ottawa Paramedic Service hire sufficient paramedics as quickly as possible so as to allow it to respond to life threatening (Code 4) ambulance calls within eight minutes and fifty-nine seconds in the high density area of the City 90% of the time and within fifteen minutes and fifty-nine seconds in the low density area of the City 90% of the time.

Testimony showed that there were no ambulances available at paramedic stations that were close to the airport. The paramedic team that was called had not had sufficient time to recover from their previous call before being called out again.

4. The jury recommends that medical research organizations such as the Canadian Institute of Health Research conduct research into the causes of the set of symptoms commonly known as excited delirium.

Testimony showed that little is known about excited delirium.

Coroner's comment: We heard testimony that excited delirium is not recognised as a psychiatric diagnosis and that this cast doubt on its existence. We also heard that it is a useful descriptive term that is understood by the people who have to deal with it. It could be that this is more a physical illness that is triggered by certain mental states as well as some forms of intoxication.

5. The jury recommends that the Ottawa Paramedic Service, the Ministry of Health and Long Term Care and the Ottawa Base Hospital Program work together to find solutions that will allow increased paramedic continuing medical education - including potentially one further eight hour training day annually and/or alternative training delivery methods - without negatively affecting ambulance response times.

We heard testimony from the Paramedic Service and the Base Hospital Program representative that more training is required.

Coroner's comment: The testimony was that there was a need of at least 8 more hours of continuing education to keep the paramedics abreast of the expanding curriculum that they have to absorb. In particular learning about new drugs and the precautions associated with their administration.

6. The jury recommends that the Ottawa Paramedic Service and the McDonald Cartier International Airport Authority institute the placement of an Advanced Care Paramedic, seven days a week, in the terminal building at the Ottawa International Airport.

We heard testimony from all parties involved, that the pilot project placing a paramedic at the airport was a beneficial program. The response time would be significantly reduced, treatment could begin while waiting for the

ambulance to arrive and ambulances can be called off if not required, leaving them free to respond to other calls.

Coroner's comment: The was a one and a half year project where an advanced care paramedic was stationed at the airport and acted as a first responder starting the patient intervention while the ambulance was on its way. One of the benefits quite apart from the early intervention, was that the assessment performed by this paramedic allow him to cancel the ambulance in a significant number of cases. This was a useful sidebar to the main goal of this placement.

7. The jury recommends that the Ministry of Health and Long Term Care and the Medical Advisory Committee explore the possibility of equipping and training Advanced Care Paramedics in the field-use of alternative sedatives. In addition, alternative methods of delivery of the sedatives should be explored.

We heard testimony from several expert witnesses that other drugs would have been more beneficial in this case. The paramedics were not able to administer the sedative through an IV and the IM injection was not proven to have taken effect.

Coroner comments: We heard testimony that chemical restraints are prefera ble to physical restraints who tend to promote more violence from the patient
8. The jury recommends that the Ottawa Paramedic Service, in conjunction with the Ministry of Health, explore the feasibility of any technological solutions that would assist in a field environment with improving the accuracy and the recordings of times on Ambulance Call Reports. This would include a mechanism to monitor scene-time and alert paramedics when a specified amount of time has passed.

This recommendation is made because inaccurate times were noted throughout the testimony.

Coroner's comment: Because we had the benefit of the video surveillance tape with its own time stamp, we were able to appreciate how inaccurate the other times quoted proved to be. This inaccuracy tends to make the performance of time-sensitive tasks more problematic and review of the cases for quality assurance more difficult.

9. The jury recommends that efforts be made to find solutions that will improve patient transfer time from paramedics to staff at emergency rooms in Ottawa area hospitals.

As indicated in the testimony from the Chief of Ottawa Paramedic Services, this would assist in improving ambulance availability.

Coroner's comment: We heard testimony about the lengthy transfer time from the care of the paramedics to the care of the emergency room personnel.

10. The jury recommends that methods of restraint, other than single handcuffs behind the back, be explored for use on persons in medical distress such as excited delirium.

The testimony showed that there are significant challenges and risk of injury when placing a handcuffed person on his or her back.

Coroner's comment: We heard testimony that new methods of immobilising the individual with multiple pairs of handcuffs for intance would allow the patient to be put on his back with his hands by his side instead of being lying on his hands.

11. The jury recommends that a policy be implemented that forbids first responders who are attending to a medical emergency from putting a patient in the prone position particularly with patients exhibiting the set of symptoms commonly referred to as excited delirium.

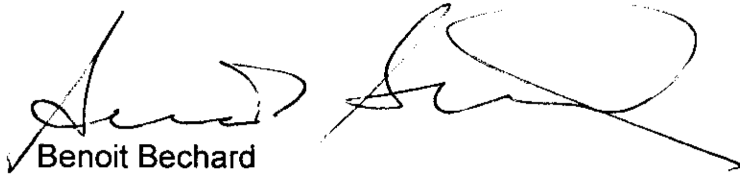
We heard testimony from an anaestheologist that described the impairment of the respiratory and cardiac systems that is caused when a person is placed in the prone position. This is corroborated in research findings found in a report from anaestheologists in 1959.

Coroner's comment: We heard that the forensic literature questioned the existence of positional asphyxia because it has not been replicated consistently in laboratory conditions. It remains that surgeons and anesthetists have known for a long time the deleterious physiological effect of placing an impaired patient in the prone position without insuring that there is no pressure on the abdomen to allow free diaphragmatic ventilation and unimpaired vena cava return.

In closing, I would stress once a-gain that this document has been prepared solely for the purpose of assisting the reader in understanding the inquest jury's verdict and recommendations. It does not replace the verdict and recommendations, but rather consists of my comments and recollections of the evidence presented, upon which I believe the jury based its conclusions. If any party feels that I have made a gross error in my recollection of the evidence or a conclusion of the jury please bring it to my attention. If any further information or

clarification is required please contact the Inquest unit at the Office of the Chief Coroner.

Respectfully submitted,



Benoit Bechard
Acting Regional Supervising Coroner Eastern Region
Submitted on November 14, 2007 in Kingston, Ontario

November 20, 2007