INQUEST
CONCERNING THE DEATH
OF
JOHN WILLIAM MATHERS
(dob 14 October 1976)

An inquest has been held concerning the death of John William Mathers. These are the findings and comments that relate to public health and safety and the administration of justice. There has been a long delay in holding the inquest. I extend my sincere condolences to the family of John Mathers on their sad loss of their young, robust son, brother, father and friend.

At about 11.15 am on Friday 12 December 2003, John Mathers was riding a black Kawasaki ZXR 600 motorcycle along Moss Street Slacks Creek. His front headlight was illuminated. A white Nova hatch-back sedan driven by Shaun Linsay Kelley was travelling from the opposite direction. The sedan executed a right hand turn across the path of Mr Mathers' vehicle to enter commercial premises. The driver of a vehicle travelling behind Mr Kelley had a clear vision of the motorcycle. Mr Kelley did not see the motorcycle.

Mr Mathers applied severe braking to avoid a collision. This is obvious from the observations of Mr Marment who saw the motorcycle bouncing along the road surface with the back wheel right off the road surface. Once the back wheel left the road surface, Mr Mathers lost control of the motorcycle. Mr Mathers and his motorcycle collided with the passengers side of the Nova hatch-back. Mr Mathers became airborne, landed on the road surface and slid for a distance along the road. His motorcycle also became airborne, landed on the road and slid along the road coming to rest between 10 and 20 metres away from Mr Mathers and a further distance away from the point of impact.

The motorcycle sustained damage along the left hand side and to the top of the fuel tank. There is no obvious damage to the right hand side of the motorcycle. The sedan sustained damage along the left hand side in the vicinity of the rear door. The rear window was smashed. Black marks from the bike or the helmet appear on the side of the sedan. A large dint is obvious in the roof of the sedan. The dint in the roof seems of similar configuration to the damaged fuel tank of the motorcycle.

No forensic expert was engaged by the police to review the damage to both vehicles, the trajectory of both Mr Mathers and his bike, and the markings on the road. Police witnesses indicated that experts may have been able to consider these facts and make determinations about speed and other relevant contributing factors to the collision. Such evidence is not available to this inquest. Both vehicles were found to be in satisfactory mechanical condition and no defects were found in either that may have contributed to the cause of the collision. Police determined the evidence was not sufficient to charge Mr Kelley with any offence, criminal or traffic.

It is suggested that the reason Mr Kelley did not see the motorcycle was because the motorcycle was travelling at excessive speed so that it came upon him without warning. Mr Marment estimates the motorcycle was travelling at about 90 kph. He heard the motor revving with a loud constant pitch. Mr McClune saw the

motorcycle travelling really fast before it reached the collision scene and saw the motorcycle leaning right over as it came out of a bend like a racing bike on a race track. Mr Braithwaite also formed the impression that the motorcycle was under heavy acceleration as it passed the irrigation shop.

The evidence of Mr McClune, Mr Marment and Mr Braithwaite all rely on fleeting impressions of the motorcycle. There is nothing to suggest that any of these witnesses have any training or skill in estimating speed. I accept that the motorcycle was loud and black and travelling at some speed. I do not accept Mr Marment's estimate of speed as an accurate one. The evidence does not establish that Mr Mathers was speeding over the speed limit in that area.

Mr Marment first saw the motorcycle when it was 40 metres away. In the time Mr Marment travelled around the hatch-back the motorcycle had been under very heavy braking for some time. The motorcycle collided with the hatchback shortly after Mr Marment travelled around the hatch-back to the left. The evidence as a whole does not support the proposition that Mr Kelley did not see the motorcycle because of speed. As the vehicle travelling behind and slightly to the left of Mr Kelley did see the motorcycle and as there was no other visual obstruction in the area, it would appear that the motorcycle was visible from the position of Mr Kelley. It would also appear that he did not see the motorcycle.

Queensland Ambulance Service was called at 11.17am. They were on the scene and with Mr Mathers at 11.20am. They treated Mr Mathers with oxygen, bandages, compression bandages to his legs and a cervical collar. Mr Mathers was transported to Logan Hospital and arrived there at 12.10pm. His injuries were considered and a decision made that it would be too dangerous to transport him to a hospital better qualified to deal with the serious and dangerous trauma he had suffered. He was given X-rays and scans. He was then in an unstable and serious condition. His injuries were severe and extensive.

His injuries included a fractured pelvis, severe injuries to his left leg including a severed artery, a fractured patella, an injury to his right knee, chest trauma with multiple abrasions and rib fractures, a punctured lung, a ruptured spleen, internal bleeding, and a suspected head injury.

He went to the operating theatre at 1.45pm for an urgent laparotomy and exploration of his leg injuries. He had been diagnosed with a ruptured spleen and surgeons were concerned that they may need to amputate his leg. When a chest tube was inserted by anaesthetists at the commencement of the surgery a gush of air came out through the chest drain. The anaesthetist in charge determined that the Simms Level 1 infuser would not be used as he was aware of the dangers of using that machine without an air detector clamp.

A safety warning had been sent to the hospital by the distributors of the equipment in November 2002. It warned of dangers if the machine was used without the air detection clamp. There is a known medical risk of air embolism with the use of the infuser due to the speed of the infusion when there is any access for air. This risk also exists when manual pressure methods are used.

The instructions of Dr Federov were properly communicated to some staff. Other staff came to assist. They did not know of the instructions about the machine. They used the machine. They had not read the manual for the machine and they

were not adequately experienced in the use of the machine. It was chaotic, noisy and stressful during surgery in view of the critical condition of Mr Mathers at that time.

Page 2 of the manual for the machine clearly states a warning that if specified warning procedures are not followed correctly, patient death may result. Page 11 of the manual has three such warnings – to remove all air from solution bags, for the machine not to be used with commercial IV solution bags less than 1 litre with air, and for the machine not to be used with autotransfusion bags. The staff using the machine had not read these warnings. They had not been trained about these dangers. The manual for the machine includes laminated cards that are provided for attachment to the machine with the same three warnings. The laminated cards with the warnings were not attached to the machine.

Air from saline bags was not removed. There is no evidence to factually prove that a half used bag was inserted into the machine. There is no evidence to factually prove that a bag was not replaced after it emptied. There is no evidence to factually prove the chain of events that lead to air being seen by medical staff in the line connecting the machine to Mr Mathers.

Surgeons performed surgery on Mr Mathers. His spleen was removed and several large laparotomy packs were applied to stem the significant bleeding. His condition had been improving during surgery but it suddenly deteriorated unexpectedly. Medical staff saw air in the line from the infuser. The line was immediately shut off and proper emergency procedures followed to attempt to resuscitate Mr Mathers. The procedures included inversion on the operating table, administration of adrenaline and atrophine and external cardiac massage. Air was then aspirated from his heart. Internal cardiac massage and direct intracardiac adrenaline were administered. All efforts failed to resuscitate him. He suffered a cardiac arrest. He was pronounced dead at 3.25pm.

An autopsy was performed on 16 December. A post mortem examination certificate was issued stating that the cause of death was Air Embolus due to or as a consequence of Ruptured Spleen (Surgery) due to or as a consequence of Motorcycle Accident (Rider). No evidence heard at the inquest calls into question those findings. I therefore make those findings as to what caused Mr Mathers to die.

Medical opinion about the cause of the air embolism is divided. Dr Nankivell is of the opinion that the embolism was caused by air entering Mr Mathers' lung that had been punctured by his broken ribs. He has presented emergency medical material to support his opinion. All others doctors involved in the surgery and the pathologist who conducted the autopsy prefer the diagnosis or opinion that the embolism was caused by air in the line of the infuser entering Mr Mathers. It is possible that the embolism was caused by a combination of factors.

The findings of the autopsy are consistent with air entering the blood circulation through an intravenous infusion pump. However the cause of the embolism was not apparent at autopsy. The autopsy failed to discover a patent inter-ventricular septum in Mr Mather's heart. Only visual tests were applied to the inspection of his heart. A discovery of this defect would provide a medical explanation for the distribution of air in Mr Mather's brain at autopsy. It would appear that the visual

test at autopsy may not be conclusive to determine the presence of such a defect in his heart.

It is clear that Mr Mathers sustained significant and life threatening injuries in the motorcycle collision. It is also clear that all medical staff involved in his treatment applied a great deal of dedicated and diligent professional effort in treating him. It is also clear that every medical officer involved in the treatment of Mr Mathers in the operating theatre that day have been affected and traumatised by his demise. The emotional impact upon them was evident as each gave evidence.

A number of factors after the collision led to his prospects for recovery being compromised. Medical evidence, particularly that of Dr Nankivell, point to a number of factors about the treatment received by Mr Mathers that warrant comment to be made at the conclusion of this inquest for consideration by the Honourable Minister for Queensland Heath and the Commisioner of the Queensland Ambulance Service that relate to public heath and safety and the administration of justice. I therefore make the following comments:-

1. Mr Mathers was transported by ambulance to the Logan Hospital. It was the nearest hospital. However he could have been taken to the Princess Alexandra Hospital which is property equipped and staffed to deal with cases of significant emergency trauma. Mr Mathers chances of recovery would have been improved with urgent medical treatment from a properly equipped emergency trauma hospital. When he arrived at Logan Hospital some time was spent assessing whether he was sufficiently stable to be transferred to Princess Alexandra Hospital. With hindsight, his chances for full recovery would have been improved if he had been taken directly to the Princess Alexandra Hospital. It may therefore be appropriate for this case to be reviewed by Queensland Ambulance Service with a view to developing a protocol for the transport of patients suffering severe life threatening trauma to the nearest hospital with appropriate emergency trauma services, rather then simply the nearest hospital.
2. It is clear that at least two members of staff used medical equipment, the Level 1 Infuser, without adequate training, without reading the manual, without being aware of safety warnings, and without checking with the supervising anaesthetist that it was appropriate for the device to be used. It is also clear that laminated warnings about the use of the devise were not attached to the device as recommended by the distributor of the device. Better policies and procedures seem necessary to address these problems.
3. It is clear that the instructions of the senior anaesthetist not to use the infuser was communicated to some but not all staff in the operating theatre. Better policies and procedures seem necessary to address this problem.
4. Dr Nankivel gave evidence that a surgeon with his experience and knowledge could have diagnosed the need for appropriate urgent surgery within seconds. There was a delay of more then an hour before he was consulted. He said in evidence he was eating his lunch while Mr Mathers' condition deteriorated. There would seem to be a need for better policies and procedures on admission of critical cases in hospitals not adequately equipped to deal with severe trauma cases for the most senior surgeon available to be immediately consulted.

5. A safety alert had been issued to the Logan Hospital about the use of the Infuser without an air detector clamp. The clamp had not been acquired by the hospital. It would appear that an audit of equipment currently used in public hospitals is needed to identify all equipment subject to safety alerts to ensure that warnings are attached to the equipment or in appropriate cases for the equipment to be removed from use.
6. In view of the issued warnings and available information about the risks of the infuser, it would appear necessary to conduct an audit of all Level 1 Infusers in operations in Queensland public hospitals to ensure that the required air detection clamps are acquired and available for use.
7. The autopsy report was not sent to the hospital. It would appear that a formal process that ensured that an autopsy report be sent to the hospital concerned in cases of death during surgical procedures would benefit morbidity review.
8. There was an unacceptable delay in the provision of statements from medical staff to police investigators. It would appear that a better process could be adopted to prevent delays of the magnitude in this case.
9. The evidence heard in this case seems to suggest that tests other then visual tests may be needed to determine conclusively whether there is any patent inter-ventricular septum of the heart of patients who die from air embolus.
10. In this case antemortem samples of admission blood were requested of the hospital as part of the autopsy process. Those samples were not supplied. It would appear that a review of the processes involved in such requests may improve compliance with the requests by pathologists conducting autopsies.

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S L CORNACK - CORONER
12 October 2006

For Coroner's Office Use:
File No:
Name of deceased

Combined Form 20 & 28
Version 1
QUEENSLAND
CORONERS ACT 2003
(Sections 45, 46, 51 and 97(2))

RECORD OF CORONERS FINDINGS AND COMMENTS AND NOTICE OF COMPLETION OF CORONIAL INVESTIGATION

I, SL CORNACK
(print name of coroner)

☐ State Coroner
☐ Deputy State Coroner
☑ Coroner

at: BEENLEIGH (Court location) Telephone No. 3884 7500

have completed my investigation and make the following findings/ findings and comments (Note: comments can only be made when an inquest is held).

A ☐ **Findings - Suspected Death** (applicable only if a suspected death is being investigated - see section 45(1))

I find that the suspected death of (Name) (DOB)

(Residential Address)

☐ did not happen

☐ did happen

(Note: If the finding is that the suspected death did not happen then Part B does not have to be completed – see section 45(2) and (3). If the finding is that the suspected death did happen then Part B must be completed.)

B ☑ **Findings - Death** (applicable where a death or suspected death has happened (see section 45(2) and (3) and whether or not an inquest is held)

I find about the death of:

Details about the deceased (complete known details):					
Surname:	MATHERS	First Names:	JOHN WILLIAM	Sex:	MALE
Last Residential Address: 10 HAKEA STREET					
Suburb:	MARSDEN	Postcode:	4132		
Date of Birth:	14 OCTOBER 1978	Age of deceased:	27		

that:

1. This is how the person died:

A sedan turned across the path of the motorcycle ridden by Mr Mathers. Despite heavy-braking, he collided with the sedan, became airborn and fell to the roadway. He suffered serious and extensive injuries. He was transported to Logan Hospital where he underwent emergency surgery to remove his ruptured spleen.

Whilst still in theatre, he suffered an aromatic collapse and cardiac arrest as a result of a massive air embolus. All attempts to resuscitate him failed.

(print the circumstances of the death - section 45(2)(b))

2. This is when the person died: 3.25pm on 12 DECEMBER 2003
(print when the person died - section 45(2)(c))

For Coroner's Office Use:
File No:
Name of deceased

3. This is where the person died: LOGAN HOSPITAL, ARMSTRONG ROAD, MEADOWBROOK QLD

(print where the person died - section 45(2) (d) - this should include (where possible) whether or not the deceased person died in Queensland. This is important for the registration of the death in Queensland.)

4. This is what caused the person to die:

1(a) AIR EMBOLISM due to

1(b) RUPTURED SPLEEN (Surgery)

1(c) MOTORCYCLE ACCIDENT (Rider)

(print what caused the person to die - section 45(2) (e) - this will usually (but does not have to be) the medical cause of death as disclosed by the autopsy.)

5. An inquest was not held

✓ An inquest was held on 14 AUGUST & 9,10,11 OCTOBER 2008 at BEENLEIGH MAGISTRATES COURT

A. Comments *(applicable only if an inquest is held – section 46)*

I am of the view that

☐ the death was not reasonably preventable

☐ there are no procedural or systemic reforms likely to reduce the occurrence of similar deaths

☐ the inquest has not raised any issues pertinent to public health or the administration of Justice.

or

x The following comments are designed to reduce the incidents of similar deaths

I make the following comments *(use attachments if necessary)*:

1. Mr Mathers was transported by ambulance to the Logan Hospital. It was the nearest hospital. However he could have been taken to the Princess Alexandra Hospital which is properly equipped and staffed to deal with cases of significant emergency trauma. Mr Mathers chances of recovery would have been improved with urgent medical treatment from a properly equipped emergency trauma hospital. When he arrived at Logan Hospital some time was spent assessing whether he was sufficiently stable to be transferred to Princess Alexandra Hospital. With hindsight, his chances for full recovery would have been improved if he had been taken directly to the Princess Alexandra Hospital. It may therefore be appropriate for this case to be reviewed by Queensland Ambulance Service with a view to developing a protocol for the transport of patients suffering severe life threatening trauma to the nearest hospital with appropriate emergency trauma services, rather then simply the nearest hospital.
2. It is clear that at least two members of staff used medical equipment, the Level 1 Infuser, without adequate training, without reading the manual, without being aware of safety warnings, and without checking with the supervising anaesthetist that it was appropriate for the device to be used. It is also clear that laminated warnings about the use of the devise were not attached to the device as recommended by the distributor of the device. Better policies and procedures seem necessary to address these problems.
3. It is clear that the instructions of the senior anaesthetist not to use the infuser was communicated to some but not all staff in the operating theatre. Better policies and procedures seem necessary to address this problem.

For Coroner's Office Use:
File No:
Name of deceased

4. Dr Nankivel gave evidence that a surgeon with his experience and knowledge could have diagnosed the need for appropriate urgent surgery within seconds. There was a delay of more then an hour before he was consulted. He said in evidence he was eating his lunch while Mr Mathers' condition deteriorated. There would seem to be a need for better policies and procedures on admission of critical cases in hospitals not adequately equipped to deal with severe trauma cases for the most senior surgeon available to be immediately consulted.
5. A safety alert had been issued to the Logan Hospital about the use of the infuser without an air detector clamp. The clamp had not been acquired by the hospital. It would appear that an audit of equipment currently used in public hospitals is needed to identify all equipment subject to safety alerts to ensure that warnings are attached to the equipment or in appropriate cases for the equipment to be removed from use.
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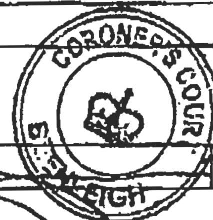
B.



Date of Notice and of findings and comments 12 OCTOBER 2006

Signature of person making the findings and comments: Place: BEENLEIGH

☑ Copy of Combined Form 20 & 28 forwarded to the Registrar, Birth Deaths and Marriages pursuant to section 97.

(Note: Notice to Registrar, Birth Deaths and Marriage not required where finding that suspected death did not happen - see section 97(2))

☑ Copy of Combined Form 20 & 28 forwarded to the District Officer of Police for notification purposes

Forwarding of findings and comments (general):

These findings and comments *(if applicable)* have been given to: *(tick appropriate boxes)*

☑ The following family member who has indicated that he / she will accept the document for the deceased person's family *(applicable whether or not an inquest is held - section 45(4) (a) and section 46(2) (a) of the Coroners Act 2003)*.

☐ Spouse (including de facto spouse): ______________________ of:

For Coroner's Office Use:
File No:
Name of deceased

______________________ telephone: ______________________

☐ Adult child because a spouse not reasonably available: ______________________

of: ______________________ telephone: ______________________

× Parent because a spouse or adult child not reasonably available: ANNE COLLINS

of: 52 THORNHILL DRIVE, GREENBANK QLD 4124 telephone: 3297 5805

☐ Adult sibling because a spouse, adult child or parent not reasonably available: ______________________

of: ______________________ telephone: ______________________

☐ Nearest adult relative because a spouse, adult child, parent or adult sibling is not reasonably available:

______________________ of: ______________________

______________________ telephone: ______________________

☐ ATSI family member because the deceased was an ATIS person and spouse, adult child, parent or adult sibling is not reasonably available: ______________________ of:

telephone:

☐ The Children's Commissioner *(only if the comments relate to the death of a child. Applicable pursuant to section 46(2)(e) of the Coroners Act 2003).*

☐ ______________________
(print name)

being a person with a sufficient interest who appeared at the inquest *(applicable only where an inquest is held – section 45(4) (b) and section 46(2) (b) of the Coroners Act 2003).*

☑ The State Coroner *(only if the coroner is not the State Coroner. Applicable whether or not an inquest is held - section 45(4) (c) of the Coroners Act 2003).*

× Hon Stephen Robertson being the Minister who administers the government entity

Queensland Health
(print name of government entity) *that deals with the matters to which the comment relates (applicable only if an inquest - section 46(2) (d) of the Coroners Act 2003).*

× Mr Jim Higgins being the Commissioner of the:

Queensland Ambulance Service
(print name of government entity)
that deals with the matters to which the comment relates *(applicable only if an inquest - section 46(2)(d) of the Coroners Act 2003)*

Extra requirements for forwarding findings and comments *(if applicable)* for deaths in care and deaths in custody *(section47 (2)).*

These findings and comments *(if applicable)* have also been given to: *(tick appropriate boxes)*

☐ The Attorney-General

☐ ______________________ being the Minister who administers:
(print title of Minister)

- ☐ For a death in care, the:
  - ☐ *Residential Services (Accreditation) Act 2002*
  - ☐ *Disability Services Act 1992*
  - ☐ *Health Services Act 1991*
  - ☐ *Mental Health Act 2000*
  - ☐ *Adoption of Children Act 1964*
  - ☐ *Child Protection Act 1999*
- ☐ For a death in custody the:
  - ☐ *Police Powers and Responsibilities Act 2000*
  - ☐ *Corrective Services Act 2000*

- ☐ *Crime and Misconduct Act 2001*
- ☐ *Justices Act 1886*
- ☐ *Juvenile Justice Act 1992*

____________________________ the chief executive officer of the:
(print title of chief executive officer)

____________________________ Department in which the following Act is administered:

(print name of Department)

☐ For a death in care, the:

- ☐ *Residential Services (Accreditation) Act 2002*
- ☐ *Disability Services Act 1992*
- ☐ *Health Services Act 1991*
- ☐ *Mental Health Act 2000*
- ☐ *Adoption of Children Act 1964*
- ☐ *Child Protection Act 1999*

☐ For a death in custody the:

- ☐ *Police Powers and Responsibilities Act 2000*
- ☐ *Corrective Services Act 2000*
- ☐ *Crime and Misconduct Act 2001*
- ☐ *Justices Act 1886*
- ☐ *Juvenile Justice Act 1992*

Note: The combined Form 20 and 28 is made pursuant to section 49(3) of the Acts Interpretation Act 1954.