IN THE CORONERS COURT
OF VICTORIA
AT SHEPPARTON

Court Reference: 4106 / 2009

FINDING INTO DEATH WITH INQUEST

Form 37 Rule 60(1)
Section 67 of the ***Coroners Act 2008***

Inquest into the Death of: Joel Aaron Frigo

Delivered On:	13th April 2012
Delivered At:	Shepparton
Hearing Dates:	5th and 6th December 2011
Findings of:	Stella Maria Stuthridge
Representation:	Mr Patrick Casey for the family
	Ms Fiona Ellis for Dr Neerhut
	Mr Daniel Wallis for Benalla Health and Dr Kelly
Police Coronial Support Unit	Leading Senior Constable Christopher Cole

I, Stella Maria Stuthridge, Coroner having investigated the death of Joel Aaron Frigo

AND having held an inquest in relation to this death on 5th and 6th of December 2011
at Shepparton
find that the identity of the deceased was Joel Aaron Frigo
born on 28th April 1979
and the death occurred on 21st August 2009
at Benalla District and Memorial Hospital, 45-53 Coster Street Benalla Victoria 3671
from:

1 (a) Haemopericardium

1 (b) Ruptured dissecting thoracic aortic aneurysm

1 (c) Marfan's syndrome

in the following circumstances:

COMMENTS

Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comment(s) connected with the death:

Role of the Coroner

The *Coroners Act 2008 (Vic)* prescribes my functions. This statutory role is investigative and inquisitorial rather than adjudicative and adversarial. My primary function is to direct the investigation into and make findings concerning the facts.

My secondary role is, if appropriate, to comment on any other matter connected with a death including public health and safety.

It is not the role of the Coroner to lay or apportion blame, but to establish the cause of a death. As a Coroner I am not permitted to include in a finding any statement that a person may be guilty of an offence, or make any specific findings on whether there had been any negligence.

A Coroner is not bound by the normal rules of evidence.[1] Where findings of fact are made, the test is whether there is sufficient evidence to be satisfied on the balance of probabilities. When a Coroner is considering issues of causation, in relation to individuals or entities, acting in their professional capacity, a higher standard of proof is applied.[2] I have applied this standard in these proceedings.

Background

Joel Aaron Frigo was 30 years old. He lived with his parents in Violet Town. He suffered from schizophrenia.

Joel was diagnosed with Marfan's Syndrome in 1991. Marfan's Syndrome is a disease of the connective tissue of the body. The condition can affect the aorta and heart valves.[3] It is a genetic condition and both Joel's father and older brother had aortic surgery due to the condition.

Joel was 6 ft 9 inches tall, he was stooped and his appearance was affected by the Marfan's Syndrome. He had difficulties in the community but was well loved and looked after by his family. He was sometimes obsessive and generally very passive and quiet. His family noted he rarely complained and did not make loud noises.[4]

Joel was non-compliant with medication; for example, the Atenolol he was prescribed to assist with blood flow to his heart.[5] Sometimes Joel had difficulties around medical personnel. His mother noted that he could panic and choose to leave when he became scared.[6]

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[1] *Coroners Act 2008 (Vic), s. 62*

[2] *Coroner's Case No 2912/01*, Coroner Byrne; *Briginshaw v Briginshaw* (1938) CLR 336

[3] Statement of Dr Paul Kelly dated 20 January 2010, pg 1

[4] Family submissions 6 December 2011

[5] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011, pg 10; Statement of Dr Deborah Martin

[6] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011, pg 10

He was a heavy cigarette smoker, drank alcohol and used marijuana.[7] In the weeks leading up to his death, Joel was using marijuana regularly. He had been unwell, suffering with a cough and loose bowels and vomiting.[8]

Circumstances

On the evening of the 20 August 2009, Joel experienced severe chest pain on his left side.

On the morning of Friday 21 August 2009, Jennifer Frigo observed her son gasp and grab his chest. He complained of severe chest, back and arm pain.[9] Mrs Frigo immediately telephoned an ambulance. Mrs Frigo had extensive discussion with the paramedic who attended and the decision was made for Joel to be taken to Benalla Hospital. Joel's family decided not to accompany him to the hospital as they were concerned this would have made him upset.[10]

At approximately 3 pm, the family were advised, by the hospital, Joel would be admitted to the surgical ward. They arranged to bring him some personal items and attended the hospital later that evening.

Mrs Frigo describes the visit as follows:

> "Joel is hunched over sitting on the edge of the bed in the dark. We put the lights on and he complains that he would rather have them off as they hurt his eyes. We ask him about everything that had happened and he says that he had a bung in his arm and that they are giving him antibiotics, as they believe he has a chest infection. I ask Joel if he would prefer to lie down.....He says that he is very tired but that he can't lie down as the pain is too bad. We try to encourage him to maybe sit on the recliner chair that was also in the room but he also declines with the same response. So after an hour or so we talk to Joel about coming in tomorrow after breakfast to check in on him again as he is very unwell and we feel bad that

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[7] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011, pg 9

[8] Statement of Dr Paul Kelly dated 20 January 2010, pg 2

[9] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011, pg 9

[10] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011, pg 10

> he can't relax enough to lie down and maybe have a sleep.....We are very upset to see him in so much discomfort and as we walk to the Nurses station we are met by the Nurse in charge. We ask what Joel is being treated for and she repeats what Joel had told us and that was, that the Doctor had diagnosed him with having a bout of pleurisy. He is being treated with antibiotics and will be kept in hospital until they feel that the treatment is taking effect maybe a couple of days. At this news – I say to the Nurse that my husband had been misdiagnosed with having pleurisy for 12 years before Dr Brownstein diagnosed him with having a leaking aortic valve in his heart."[11]

The family left the hospital. They were contacted at approximately 10 pm and advised Joel had passed away.

A post mortem was conducted by Dr David Ransom. Dr Ransom found Joel had died of haemopericardium [blood filling the sac around the heart] caused by a ruptured dissecting thoracic aortic aneurysm.

Treatment at the Hospital

Benalla and District Memorial Hospital is a small regional hospital. Dr Paul Kelly was the on call doctor for the hospital. Dr Kelly had met Joel before, he was aware Joel, and his family, had a history of Marfan's Syndrome.[12] Joel arrived at Benalla Hospital at around 11.30 am. He was complaining of left anterior chest pain and cough. He had been unwell for some days. He admitted to heavy alcohol and cannabis use. Dr Kelly examined Joel and considered the most likely diagnosis was a chest infection and pleuritic chest pain. Dr Kelly stated he had considered a diagnosis of rupture of the aorta but formed the opinion that was not the problem.[13]

Joel was admitted to hospital and treatment for a chest infection was commenced. Dr Kelly ordered a chest x-ray and blood screen.

The chest x-ray showed no evidence of pleurisy or of an aortic rupture. The radiologist, Dr Neerhut gave evidence that a chest x-ray could be of assistance in assessing an ascending aorta. She stated

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[11] Statement of Jennifer Frigo dated 25 January 2010; adopted in evidence by Mr Graeme Frigo in evidence on the 5 December 2011; pg 11

[12] Statement of Dr Paul Kelly dated 20 January 2010, pg 1

[13] Statement of Dr Paul Kelly dated 20 January 2010; pg 2

that when she viewed the x-ray she looked at all aspects of the x-ray and saw no abnormality. In particular, there was no evidence of a pulmonary collapse or fluid. The aorta appeared normal. She commented that x-ray is not the preferred option for assessing an ascending aorta due to other bodily structures being in the way. She noted a CT scan is normally recommended to asses the aorta. She gave evidence that a CT scan was readily available at Benalla Hospital.

Nurse Jakowlew provided a statement and gave evidence at the inquest. She was aware of Joel's diagnosis of chest infection and that he suffered from Marfan's Syndrome. She gave evidence that Joel presented as a good patient who did not appear to complain. Nurse Jakowlew confirmed she had a conversation with the family where they raised his Marfan's Syndrome with her and the miss diagnosis of Joel's father years earlier. Mrs Frigo emphasised to Nurse Jakowlew how sick her son appeared. This alarmed the nurse, but she noted that Joel did not appear to her to be that sick. When Nurse Jakowlew next took Joel's blood pressure, she checked his pressure in both arms.[14]

Early in her shift, Joel had described his chest pain as 2-3 out of 10. At 6pm, she documented her discussion with Joel about his pain. Joel said his chest pain was 7-8. He had had Panadol at 5pm. She asked if he wanted anything else for the pain and he said no. Nurse Jakolew thought it was odd that he described quiet severe pain but did not require any further medication. She noted Joel was able to go outside for a cigarette unassisted.

She stated that when she next checked Joel at approximately 9 pm he said he had chest pain of 10 out of 10. She initially thought he had the pain scale around the wrong way as Joel did not exhibit any of the usual symptoms of severe pain, such as being pale, sweaty or uncomfortable. She again checked his blood pressure on both sides and found a small difference and an increase in his blood pressure. She decided to contact Dr Kelly and advised him of the increase in pain and her observations. Dr Kelly recommended more pain relief and to re-assess shortly. Nurse Jakowlew administered pain relief. Shortly after, she observed Joel go outside for a cigarette.

[14] Nurse Jakowlew gave evidence that taking the blood pressure from both sides of the body can provide evidence of a leaking aorta. This was confirmed by Professor Rawlins.

Meanwhile, Dr Kelly gave evidence he had re-considered his advice to Nurse Jakowlew. He became concerned about Joel's pain, elevated blood pressure, and decided to drive into the hospital to re-examine Joel.

At 9.45 pm, Nurse Jakowlew decided to check on Joel. She found the door to his room was blocked. Once she gained entry to the room she found Joel on the floor and unresponsive. Emergency procedures were commenced. Dr Kelly arrived shortly after and pronounced Joel as deceased.

Expert Opinion

Professor Morton Rawlin provided a report to the Coroner and attended to give evidence during the inquest. Professor Rawlins described an aortic dissection in the following terms:

> "In a dissection the wall of the artery which made up the layers, the inner layer becomes damaged, a little split forms, and there is pressure. In an artery – the blood starts to flow into the wall of the artery. The wall of the artery is held in place for a time by the muscular tissue and the blood slowly spills into the area between the muscle and the lining of the artery. This gradually gets bigger. Potentially this reduces the flow of blood. The leaking area becomes weak…the blood takes the path of least resistance and here it flowed into the sac around Joel's heart and inflated the sac until his heart stopped beating. The process is very rapid"

He further commented, "In patients with Marfan's Syndrome the collagen and elastin fibres are not normal, they are more easily split due to minor trauma." Professor Rawlin's assessment was that the history and physical examination of Joel appeared normal in most respects and importantly on admission his femoral pulses had no delay. A femoral pulse delay would normally be a sign of aortic difficulties. Professor Rawlin noted the observations of pulses by Nurse Jakowlew and expressed the view he would have had the pulses re-checked and thought carefully about the patient and given clear instruction on what to watch for. He gave evidence of the difficulty of assessing a patient's pain. In the circumstances, he did not think an immediate CT scan was called for. Professor Rawlins felt the assessment and treatment by Dr Kelly was appropriate bearing in mind Joel's presenting complaint, physical examination and the investigations that were undertaken.[15] Professor Rawlin commented that the identical circumstances could have happened in a large

[15] Report provided to the Coroner, pg 90-91 in the Coronial Brief

metropolitan hospital. Professor Rawlin informed the court that once an aortic dissection had begun a patient is 'almost impossible to save.' He notes that after the family visited and Nurse Jakowlew had raised concerns that at that point it was too late to have rescued the situation.

Initial Diagnosis

At the inquest, Dr Kylie Siauw gave evidence. Ms Siauw was a trainee doctor, undertaking placement at the Benalla Hospital on the day of Joel's admission. When Joel arrived at Accident and Emergency at Benalla Hospital, Ms Siauw conducted a preliminary examination. Ms Siauw in her statement said she

> "was aware of Joel's condition of Marfan's Syndrome and his current chest pain complaint I was immediately concerned that he might have been suffering from an aortic dissection."[16]

Dr Siauw then discussed with Dr Kelly her observations and concerns about Joel. Dr Siauw said she specifically raised the possibility of an aortic dissection with Dr Kelly. Dr Kelly confirmed in his evidence this conversation occurred. Dr Kelly expressed the view at the time that a chest infection was more likely. In cross examination, it was put to Dr Siauw that as she suspected a dissecting aorta then because of the dangers involved, tests were necessary to eliminate the risk. Dr Siauw was firm in her view that a more detailed history and assessment of Joel would have been necessary for her to have formed the view that such tests were necessary. She had not reached the conclusion that such test were necessary, only that because it was a possibility that she should discuss it with someone more senior, which she did. Dr Siauw remembered that during her discussion with Dr Kelly his view was that it was more likely that Joel had a chest infection. Dr Kelly clearly stated in evidence that in all the circumstances and even after Dr Siauw raised the issue, he did not think a dissecting aorta was a reasonable diagnosis. He conceded in cross-examination that in retrospect that was incorrect.

Professor Rawlin gave evidence that the pain Joel experienced over several days was indicative of tissue damage but at the same time, he notes 'it could have been a common cold.'

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[16] Statement of Dr Kylie Siauw dated 1 September 2012, pg 1

Pathology Results

At approximately 6pm, Dr Kelly received the pathology report on the blood examinations he had ordered earlier in the day. That report indicated there was a raised white cell count but no markers suggestive of inflammation or infection. During detailed cross- examination, Dr Kelly stated the results as he interpreted them were not inconsistent with his diagnosis of a chest infection. He stated that in retrospect he was 'horribly wrong.' Dr Kelly conceded in his evidence that the pathology results could 'be indicative of inflammation or tissue damage' and that this could be consistent with a dissecting aorta. He also maintained that in the context of Joel's presentation the interpretation of the pathology result was appropriate. When advised by Nurse Jakowlew that Joel's pain was 10 out of 10, he ordered further pain relief and decided to attend the hospital to re-assess Joel.

Professor Rawlin expressed the view the pathology results were indicative of 'tissue degrading' in the patient.

Assessment of Pain

Dr Kelly gave evidence that at the time he saw Joel he had no concerns with Joel's ability to explain his symptoms. He listened to Joel and examined him. Dr Kelly conceded during cross examination that the most relevant symptom in assessing a patient with a dissecting aorta is the nature and intensity of pain. The observations by Dr Siauw, Dr Kelly and Nurse Jakowlew of Joel during his time in the hospital did not appear to indicate someone in severe pain. Joel's mother's observations of her son was he was extremely unwell and in a high level of pain. Dr Kelly conceded in evidence that if he had spoken directly to the family his assessment of Joel may well have changed.

In this case, the evidence supports the view that Joel's demeanour was not consistent with someone experiencing the levels of pain a person would normally experience during an aortic dissection. This complicated interpretation of his symptoms. It is important to remember that during his time at the hospital he was able to walk around unaided, and on one occasion declined further pain relief. Further, at approximately 9pm when Joel reported severe pain and Nurse Jakowlew telephoned Dr Kelly, Professor Rawlins view is that the situation was so advanced that no medical intervention was likely to change the out come.

CT Scan

Dr Kelly gave evidence of having received the chest x-ray report, which indicated there was no evidence of chest infection or pleurisy. Dr Kelly made it clear several times during his evidence that if he suspected an aortic dissection he would have ordered a CT scan and organised for Joel to be urgently transferred to a hospital that could provide surgical intervention as soon as possible. In submission the family expressed concern that the most dangerous and real danger of a dissecting aorta was not investigated or ruled out by Dr Kelly. In particular, they are concerned that considering the family history no CT scan was ordered. Professor Rawlins noted in cross-examination that in the first stages of a dissecting aorta it may not be detected with a CT scan as often the dissection is not visible until the ballooning commences.

In all the circumstance it is important to remember aortic dissection is rare and that once rupture has commenced the chances of survival are grim.

Conclusion

I am satisfied that the death of Joel Aaron Frigo was caused by haemopericardium [blood filling the sac around the heart] caused by the ruptured dissecting thoracic aortic aneurysm. I am satisfied that his Marfan's Syndrome contributed to his death.

I am satisfied that Joel's death was not contributed to by his schizophrenia, or difficulties with alcohol and a cannabis.

Signature:

Stella Maria Stuthridge

Date: 13th April 2012

Coroners Court of Victoria