FORM 37

Rule 60(1)

FINDING INTO DEATH WITH INQUEST

Section 67 of the Coroners Act 2008

Court reference: 2840/06

Inquest into the Death of STUART JUDD

Delivered On:	17 MARCH 2011
Delivered At:	LATROBE VALLEY LAW COURTS
Hearing Dates:	30 AUGUST 2010
Findings of:	FIONA A HAYES
Place of death:	Wilsons Promontary National Park

FORM 37

Rule 60(1)

finding into death with inquest

*Section 67 of the **Coroners Act 2008***

Court Reference: 2840/06

In the Coroners Court of Victoria at Latrobe Valley

I F.A. Hayes, Coroner having investigated the death of:

Details of deceased:

Surname:	Judd
First name:	Stuart MacPherson
*Address:	730 Millar Road Yanakie Victoria 3960

AND having held an inquest in relation to this death on 30th August 2010

at Latrobe Valley

find that the identity of the deceased was Stuart MacPherson Judd

and death occurred on 30th July 2006 at Wilsons Promontory National Park.

from

1a Ischaemic heart disease with complete occlusion of the left anterior descending coronary artery with a ruptured plaque and recent thrombosis. Recent myocardial infarction of 24-48 hours duration.

in the following circumstances:

Mr Stuart Judd was aged 39 years when on 29 July 2006, he set out, in the course of his employment as a Parks Victoria Ranger, to walk the overnight Wilsons Promontory circuit to Sealers Cove, Refuge Cove and back to Tidal River.

Mr Judd reached Refuge Hut in the afternoon and radioed back to base. When asked how he was feeling he stated that he had experienced some pain for the first half hour to an hour after which the pain resolved. That day, he walked on to Sealers Cove where he stayed overnight. He made the following entry in the logbook at the Rangers Hut:

"Arrived from Refuge about 1800hrs. Not feeling too good – have an early night".

The next morning, Mr Judd rang his wife, Larissa Judd, and in the course of that conversation told her that "he felt like crap" and that he wished to return to the doctors on Monday.

At approximately 9.35am on Sunday 30 July 2006, Mr Judd was found by walkers on the track from Sealers Cove to Tidal River. He was not responsive at that time. One of the walkers on the track that morning was a G.P., Dr Louise Alexander, who at 11.20am confirmed that Mr Judd was deceased.

Conditions at the Promontory that day and Mr Judd's location meant that he could not be moved until the next day. Colleagues remained with him overnight until he could be brought out.

In the weeks leading to his death, Mr Judd had complained to his family and colleagues of chest pain on exertion, once while bike riding up a steep hill and once while chopping wood.

On Saturday 22 July 2006, Mr Judd complained to his wife Larissa that he had experienced chest pain that morning while chopping wood, together with some numbness and tingling in his fingers. She arranged for an urgent appointment at their local medical clinic, where they were patients.

On arrival, Dr Costa Vakalopoulos, who had not previously seen Mr Judd, saw Mr Judd immediately. Dr Vakalopoulos took a history, performed a cardiac workup and referred Mr Judd to pathology for an ECG and a blood test. As a result of that consultation, Mr Judd was prescribed Losec for reflux oesophagitis and a discussion took place as to what Mr Judd was to do in the event of any further symptoms.

Mr Judd did not obtain any further medical treatment prior to his death some 8 days later on 30 July 2006.

Stuart Judd was a much-loved son, husband and father. His family were shocked and deeply saddened by his sudden death. His loss is deeply felt. He was also much loved and respected by his work colleagues.

Autopsy

An autopsy was performed by Dr Chris Wilson, reviewed by Dr Norman Sonenberg, Pathologist. The summary of post mortem findings states as follows:

"The deceased demonstrates a large globular floppy abnormal heart. Areas of ventricular myocardium appear abnormal. Both left and right lungs are heavily congested."

The histology results reveal "there is a 90% occlusion of the left anterior descending coronary artery due to atherosclerosis with a ruptured plaque and complete occlusion by recent thrombus".

In relation to the myocardium, the report stated:
"there were areas of old myocardial fibrosis with fibroblasts and collagen replacing myocardial cells. Elsewhere there are areas of recent myocardial infarction with necrotic muscle cells and an early polymorph infiltrate into the dead muscle fibres. The features are of myocardial infarction occurring some 24-48 hours prior to death."

Issue for this inquest

The question for this inquest is whether the cause of Mr Judd's death, namely his heart condition, could have been identified at an earlier stage and whether the medical investigation by Dr Vakalopoulos was sufficient for that purpose.

The consultation with Dr Vakalopoulos

Dr Vakalopoulos gave evidence at the inquest and provided two statements to the Court; the first was unsigned and undated and was received by the court on 18 August 2006. The second was signed on 23 July 2010. Those statements outline the treatment provided by Dr Vakalopoulos based on the presentation by Mr Judd on 22 July 2006.

In his statement of 23 July 2010, Dr Vakalopoulos stated "Mr Judd volunteered a history of an episode of burning chest sensation whilst riding on his bike up a mountain 10 days prior. He was suffering from an upper respiratory tract infection and complained of tiredness, heaviness and pins and needles in both his arms." Mr Judd was said to have "complained of a similar episode whilst chopping wood on the morning of the consultation, but had no symptoms at the time of consultation." Mr Judd advised Dr Vakalopoulos that he drank 4-5 cups of coffee a day. Dr Vakalopoulos stated, "This burning sensation, in conjunction with bending over chopping wood, suggested reflux symptomatolgy to me at the time. Burning sensation is a classic symptom of oesophagitis or heartburn as it is otherwise known. There was a postural component to the previous cycling episode as well, as he was leaning forward on the bike, which again I considered to be consistent with oesophagitis." Dr Vakalopoulos stated that there were no other gastric related symptoms, no acid brash and no epigastric discomfort. He did not record those findings as he stated "the findings were negative and it is not my usual practice to record negative findings."

Dr Vakalopoulos stated "Mr Judd was a very fit looking man, relatively young and he was symptom free. No other feature suggestive of ischaemic pain was present i.e. he had no heaviness or crushing pain radiating to left arm. For that reasons, I considered the symptoms to be atypical."

From there, he ascertained Mr Judd's cardiac risk factors, namely that there was no family history of heart disease or ischaemic heart disease, history of mild hypertension, was not on medication, did not suffer from diabetes, had a mild history of hypercholesterolemia, was a non-smoker and an active and fit sportsman.

Dr Vakalopoulos also stated that he conducted a "standard examination (cardiac workup)" and of this he stated that he "took his blood pressure, which was normotensive, pulse which was regular and examination of his heart, chest, lungs and abdomen were all normal." His failure to note these findings in his notes was, for him, normal and "it is not my practice to record findings unless they are noteworthy".

Dr Vakalopoulos states that he advised Mr Judd, at this time, that his provisional diagnosis was of oesophagitis but that he could not be 100% sure. He advised that he would prescribe Losec and review him the following week. He then learned that Mr Judd was about to move to Gippsland, upon which Dr Vakalopoulos stated that he reiterated about the importance of attending hospital if symptoms became worse. Mr Judd assured Dr Vakalopoulos that he would seek follow-up treatment in Gippsland.

Dr Vakalopoulos then referred Mr Judd to pathology for an immediate ECG and a blood test for troponin level.

Dr Vakalopoulos' evidence was that he reviewed the ECG results with Mr and Mrs Judd and that the results showed a left axis deviation which Dr Vakalopoulos stated to be "a finding I considered to be consistent with his level of fitness" and otherwise fell within normal range. The results of the blood test, obtained later that afternoon by Dr Vakalopoulos, did not reveal any elevation in the level of troponin in Mr Judd's blood.

Based on the ECG, Dr Vakalopoulos stated that he advised Mr Judd that "his symptoms were unlikely to be ischaemic but that I could not be definitive on that and that if his symptoms got worse he should immediately attend the hospital emergency department.

Dr Vakalopoulos stated that in his view, the cardiac enzymes and the ECG "did not reveal any recent or old ischaemic event."

Dr Vakalopoulos stated that "In summary, I judged Mr Judd to be a low cardiac risk based on an atypical history of pain, a relatively young and very fit individual with no major risk factors, whom I nonetheless discussed at length three options for follow-up over the next week. These were: to come back to the clinic the following week, or to arrange follow up in Gippsland and/or he was to go immediately to the hospital if symptoms became worse."

Expert evidence

Dr Vakalopoulos called an independent expert General Practitioner, Dr John Stanton, to give evidence at the inquest. Dr Stanton also provided an expert report to the court.

Dr Stanton stated his qualifications as follows: "I graduated from Medicine from Melbourne University in 1972. I gained a Fellowship of the College of GPs in 1978. I gained a diploma of the College of Obstetrics and Gynaecology in 1977, a Batchelor of Education from Latrobe University in 1978 and I have worked as a General Practitioner for over 30 years."

Dr Stanton reviewed Dr Vakalopoulos' treatment of Mr Judd and his statement of 23 July 2010. His report also addresses a number of the conclusions reached by another expert, Dr Nicholas Demediuk.

In his evidence, Dr Stanton states that he would have treated Mr Judd in exactly the same way that Dr Vakalopoulos did. "He presented with atypical chest pain. It was appropriate to exclude an acute myocardial infarction and to this end, Dr Vakalopoulos ordered both an ECG and cardiac enzyme. Both these tests were normal and given the low index of suspicion then it was reasonable to prescribe a medication such as Losec, which is potentially both diagnostic and therapeutic. If the pains had ceased with the prescription of this medication it sort of indicates that the problem was in fact reflux oesophagitis.

On the issue of whether a stress ECG should have been ordered by Dr Vakalopoulos, Dr Stanton stated "I don't believe there was enough of a history to diagnose angina and to warrant further cardiac investigation at this point."

In relation to the diagnosis of reflux oesophagitis, Dr Stanton stated that Mr Judd's reported symptoms of a burning sensation in the chest on exertion, heaviness in the arms, tiredness, pins and needles, were consistent with oesophagitis. In addition, he stated that posture can be of significance and Mr Judd's reports of pain on exertion while cycling up a hill and while chopping wood, would have a postural significance, which would be consistent with a diagnosis of reflux oesophagitis.

In relation to Dr Vakalopoulos' assessment of cardiac risk in Mr Judd as low, Dr Stanton agreed that Mr Judd's level of fitness, his relatively young years, his symptom free presentation, the absence of a heavy or crushing pain radiating to the left arm, the absence of a family history of heart disease would in combination suggest a reduced likelihood of a cardiac origin to his condition.

In addition, Dr Stanton agreed that the standard examination results of no hypertension, no signs of cardiac enlargement and a regular pulse all led to a conclusion of decreased risk of there being a cardiac origin to Mr Judd's condition.

In considering Mr Judd's history of pain on the morning of the consultation and the negative troponin results, Dr Stanton stated that he would have expected to see an elevation in the troponin level in the 3.5 hours between the experience of the pain and the blood test. The absence of any elevation justified the exclusion of an acute myocardial infarction, but did not exclude a diagnosis of angina.

In addition, as to whether Dr Vakalopoulos ought to have gone on to explore the possibility of angina, Dr Stanton supported the prescription of Losec for reflux oesophagitis, with a warning to return for review in a few days if symptoms remained unchanged.

In cross-examination by Mr Halley, Counsel for Mr Judd's family, Dr Stanton stated that in any assessment of risk he would take into account any evidence of left ventricular hypertrophy, which he accepted could be indicated by the left axis deviation found on the ECG. However, he went onto say that "left axis deviation is very commonly reported as a normal deviation."

Dr Stanton also agreed with Mr Halley that the reported symptom of heaviness extending to both arms may be found with cases of pain of cardiac origin, and that it is not a usual characteristic of oesophagitis. In addition, he stated that tiredness and fatigue can be consistent with a cardiac condition, but also stated that Mr Judd presented with a respiratory infection which could have made him tired and a general feeling of unwellness may be associated with oesophagitis. He also stated that the absence of the classical reflux symptom being present at night while lying down lessens the likelihood of reflux oesophagitis being the correct diagnosis.

Dr Stanton also agreed that there was a deficiency in the medical notes in relation to the history about the commencement, duration and cessation of the pain experienced by Mr Judd, a history that he himself would have taken.

The Coroner's Court sought an independent opinion from an expert General Practitioner, Dr Nicholas Demediuk. Dr Demediuk provided a report dated 16 November 2007 and gave evidence at the inquest.

Dr Demediuk set out his qualifications as " Batchelor of Medicine and Batchelor of Surgery 1976 from the University of Melbourne. I am a Fellow of the Royal College of General Practitioners. I hold a Diploma in Obstetrics from the Royal Australian College of Obstetricians and Gynaecologists. I've got a Batchelor of Education from Latrobe Uni. I am the Chair of the College of GPs Professional Standards Committee in Victoria. I have been a lecturer at the Faculty of Medicine, Department of Obstetrics and Gynae, Monash Uni and I've practised in general practice since 1978 and currently practice mainly at 323 Cheltenham Road, Keysborough."

Dr Demediuk concluded in his report of 15 November 2007 that while he partly agreed with Dr Vakalopoulos that Mr Judd was a low risk of cardiac disease, and with his conclusion that the tests conducted excluded an "acute event", he stated that

> *"the presentation was significant enough to warrant a more comprehensive history, examination and investigation (in particular a stress ECG) and not leave this to be possibly performed some time in the future. The tests performed certainly were not of the type to exclude angina which should have been investigated for, either immediately, or at the very least as soon as the results in of the initial tests were known. In addition, specific warning that if symptoms recur Stuart should cease physical exertion and ring 000 should have been given and recorded in the medical record along with consideration of the prescription of aspirin and glycerol trinitrate tablets or spray till the stress ECG was performed."*

At the time of writing his report, Dr Demediuk did not have access to Dr Vakalopoulos' statement of 23 July 2010, in which he outlines Mr Judd's report of chest pain on the day that he attended the clinic. Dr Demediuk stated that that report increased his suspicion that Mr Judd was suffering from angina pectoris, a form of ischaemic heart disease. He stated that the second episode would have caused him to order tests to "exclude acute myocardial infarction which is the end result of ischaemic heart disease progressing through angina".

Of the ECG results, Dr Demediuk stated that he would have expected a normal ECG if what Mr Judd had experienced that morning was in fact angina. He also stated that the event 10 days earlier might not have been an acute event, as there would be an expected result on the ECG, but if it had been angina, that would not have appeared in the ECG. Dr Demediuk also posited the possibility that the event on the morning of the presentation could have been an acute event with a non-ST elevation.

In relation to the question of Dr Vakalopoulos' assessment of risk, Dr Demediuk's position was that "once you've got a person with symptoms the onus is actually on you to investigate the symptoms and come to a diagnosis." He went on to say that, "he has got symptoms, so the risk side of things goes out the window." Dr Demediuk's position was that Dr Vakolopoulos had not excluded cardiac disease because he had not done the stress ECG. "He came up with a diagnosis of reflux but he didn't exclude the diagnosis of ischaemic heart disease."

The central difference in approach between Dr Demediuk and Dr Vakalopoulos, who in this respect was supported by Dr Stanton, was that Dr Demediuk stated that he would have made that decision based on the symptoms reported by Mr Judd, even if pain free at the time of consultation. He would not, he stated, have assessed or relied on Mr Judd's risk factors to assess likelihood of the pain being cardiac in origin.

Of the diagnosis of oesophagitis, Dr Demediuk's evidence was that while Mr Judd's symptoms were atypical in many respects, he did not agree with Dr Vakalopoulos' diagnosis that Mr Judd was suffering from reflux oesophagitis. His evidence was that he would have been concerned enough about Mr Judd's presentation on 22 July 2006 to immediately ring 000 for an ambulance to transport Mr Judd to hospital for the appropriate cardiac tests. Dr Demediuk stated that the identification of oesophagitis as a possible cause and the treatment recommended were fine, but that it should have been part of the broader diagnosis, rather than the only diagnosis

The medical experts agree on the following items:

- Mr Judd presented to Dr Vakalopoulos with atypical chest pains
- Some of Mr Judd's symptoms were consistent with reflux oesophagitis
- Chest pains present with reflux oesophagitis can mimic cardiac origin chest pains;
- The troponin level would be normal if Mr Judd had a cardiac event 10 days previously, if he had angina and if he had reflux oesophagitis.
- The troponin level would be expected to be elevated if there had been a cardiac event that morning, but there would have to have been a period of time

between the event and the test, the recommended time for which is four hours from the event. The test in Mr Judd's case was carried out at 3.5 hours from the event. The troponin test was not repeated after 4 hours.

- The tests carried out by Dr Vakalopoulos did not test for angina.
- The clinical notes kept by Dr Vakalopoulos were deficient in that they did not record his findings in relation to his cardiac or gastrointestinal examination.

I accept the evidence that Dr Vakalopoulos appropriately identified, considered and discussed with Mr Judd the possibility that the pain he had experienced could be cardiac in nature and that if symptoms persisted, despite the Losec, he should seek follow-up treatment.

On the basis of the expert evidence from Dr Stanton and Dr Demediuk, the tests carried out by Dr Vakalopoulos were reasonable at that time to investigate the likelihood that the pain experienced that morning was an acute myocardial infarction. However, those tests were not sufficient to establish whether Mr Judd suffered from ischaemic heart disease, particularly in the context of two separate events. Although the diagnosis of reflux oesophagitis was open to Dr Vakolopoulos, the optimal medical management of Mr Judd would have been to refer him for further testing, including a stress ECG. This would have had the effect of either establishing or excluding the possibility of ischaemic heart disease. Had this occurred prior to Mr Judd setting out on his walk at Wilson's Promontary, Mr Judd may well have been aware of the nature of his heart condition and in receipt of treatment. This, in turn, may well have prevented his death.

Comments

General practitioners should record in their notes both positive and negative findings from consultations.

Signature:

Date: 17/3/11

Coroners Court of Victoria