CORONERS ACT, 2003

SOUTH  *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 6th, 7th, 8th, 9th, 10th and 13th days of February 2006, 7th day of April 2006, and the 18th day of August 2006, by the Coroner's Court of the said State, constituted of Mark Frederick Johns, State Coroner, into the death of Cosmo Joseph Campanella.

The said Court finds that Cosmo Joseph Campanella aged 20 years, late of 3 Goroke Street, Hallet Cove died at the Royal Adelaide Hospital, North Terrace, Adelaide, South Australia on the 12th day of December 2002 as a result of anoxic brain injury following cardio-respiratory arrest. The said Court finds that the circumstances of his death were as follows:

1. Introduction

1.1. Cosmo Campanella, who was then 20 years of age, died on 12 December 2002 in the Intensive Care Unit at the Royal Adelaide Hospital. There was no post mortem examination. Dr Benjamin Dundon from the Royal Adelaide Hospital Intensive Care Unit gave the cause of death as:

> 'anoxic brain injury following cardio-respiratory arrest'[1]

2. Background

2.1. On 18 November 2002, Mr Campanella was travelling on Walkers Flat Road, Mount Pleasant, when he lost control of the Mercedes sedan he was driving and collided with a tree. A passenger in the vehicle who was sleeping in the back seat was also injured.

[1] Exhibit C2a, p3

Mr Campanella was taken to Mount Pleasant Hospital before being retrieved to the Royal Adelaide Hospital Intensive Care Unit. He had injuries to both lungs, a splenic rupture, and diffuse cerebral injury associated with oedema and intracranial pressure.

2.2. The following CT scans were done at the Royal Adelaide Hospital shortly after Mr Campanella's arrival:

- A chest CT showing gross mediastinal and subcutaneous emphysema. Gas in the subcutaneous tissues seen down to pelvis. Fractured ribs along with a ruptured left diaphragm with small bowel in left haemothorax. There were bilateral pneumothoraces with bibasal collapse and consolidation.

- A head CT showing severe change of diffuse axonal injury involving cerebrum and brainstem but did not indicate skull fractures.

- An abdominal CT showing a ruptured spleen.

- A cervical spine CT showing no cervical spine fracture.

2.3. Mr Campanella underwent a laparotomy to repair the ruptured diaphragm and a right frontal intracranial pressure monitor was installed at that time. The raised intracranial pressure was treated with mannitol and thiopentone. Post-operatively he was treated in the Intensive Care Unit where the ruptured spleen was conservatively managed and he was sedated with midazolam and morphine.

2.4. Mr Campanella remained in the Intensive Care Unit for some days following 18 November 2002. On 27 November 2002 Mr Campanella had a percutaneous tracheostomy. On 5 December 2002 he was transferred from the Intensive Care Unit into the High Dependency Unit. In the evening of the following day he was transferred from the High Dependency Unit into a room in Ward S5. At about 1:30am on 8 December, Mr Campanella was found to be in cardio-respiratory arrest and was transferred back to the Intensive Care Unit after resuscitation. Thereafter his condition continued to deteriorate. Nuclear cerebral perfusion scanning was carried out on 12 December 2002 which showed evidence of brain death. Mr Campanella was declared deceased at 11:30am on 12 December 2002 following examination by Doctors Rob Young and Mark Finnis confirming brain death clinically.

3. Dr Frederiksen

3.1. Dr Steven Frederiksen gave evidence at the Inquest. He also provided a statement a copy of which was admitted as Exhibit C10 in these proceedings. Dr Frederiksen was working in the Royal Adelaide Hospital as a junior Intensive Care Registrar in November and December 2002. He was responsible for some of Mr Campanella's early care in the Intensive Care Unit.

3.2. Dr Frederiksen's evidence relating to Mr Campanella's transfer to Ward S5

As I have previously noted, Mr Campanella remained in the Intensive Care Unit from 18 November 2002 until 5 December 2002. He was transferred from the Intensive Care Unit into the High Dependency Unit on that day, and then in the evening of the following day (6 December 2002) he was transferred from the High Dependency Unit to Ward S5.

3.3. A major issue at the Inquest was the appropriateness of the transfer from the High Dependency Unit to the ward.

3.4. On 6 December 2002, Dr Frederiksen spoke with Doctors Griggs and Zacest to confirm whether Mr Campanella could be transferred to a general ward. Dr Griggs was a Senior Consultant in the Intensive Care Unit and Dr Zacest was the Neurological Registrar. Both of them shared responsibility for Mr Campanella's treatment at that time.

3.5. A note in the hospital records[2] under Dr Frederiksen's hand on that day reads:

> 'For transfer out of HDU. Discussed with Dr Griggs – preference for the ward. Discussed with Dr Zacest – happy for him to go to ward.'

3.6. Both Doctors Zacest and Griggs confirmed that Dr Frederiksen had conferred with them as recorded, and that they were in agreement with the transfer of Mr Campanella to Ward S5.

3.7. Dr Frederiksen's account of Mr Campanella's cardio-respiratory arrest

Dr Frederiksen said that he was on duty in the early hours of the morning on 8 December 2002. He was called to an "arrest call" in Ward S5. He there

[2] Exhibit C11a

participated in the resuscitation of Mr Campanella following his cardio-respiratory arrest. He identified a part of the progress notes in his own hand as follows:

> 'Tonight, last seen 1230am by nursing staff. Found 0130am – arrest call. On arrival – asystole, pupils fixed and dilated. CPR was continued hand ventilation. Large amounts brown matter suctioned – aspiration.
> 4mg adrenaline given down tracheostomy
> 1mg adrenaline IV after gaining access
> Sinus tachycardia commenced at 0155 hours
> Therefore total downtime ? + 25 minutes.'

3.8. Later in the same note Dr Frederiksen writes:

> 'Impression: 1. Aspiration and arrest this am ? time.'

4. Entries in the Progress Notes relating to the cardio-respiratory arrest and its causes

4.1. I note that an entry in the notes on 8 December 2002 by Dr Hockley, Intensive Care Unit Registrar refers the events of the preceding night. The note refers to an extensive discussion with the family regarding, amongst other things, aspiration. It also refers to discussions about the poor neurological outcome associated with a "downtime" of this extent and cardiac arrest.

4.2. A note on the same day by Dr Zacest attributes the cardio-respiratory arrest to "probable aspiration". A note by another Intensive Care Unit doctor later that day refers again to the probability of aspiration as the cause of the arrest.

4.3. The Intensive Care Unit consultant, Dr Edwards, has made an entry later in the day of 8 December 2002 in which he records a discussion with the family about "last night's cardiac arrest, and the process of aspiration in the context of severe head injury and impaired airway protection reflexes". The note states as follows:

> 'The aetiology of the arrest would appear to be aspiration. Copious gastric contents were aspirated from his pharynx, as well as a tracheal suctioning during the resuscitation. The arrest was unwitnessed. Pulmonary embolism was considered but thought very unlikely (given apparently adequate explanation above, deep vein thrombosis prophylaxis and no other supportive evidence).'

4.4. Further reference is made to aspiration in an Intensive Care Unit note on 9 December.

4.5. An Intensive Care Unit note by Dr Finnis on 12 December 2002 refers to the arrest as an "hypoxic cardiac arrest and secondary hypoxic cerebral injury".

4.6. Finally, the Intensive Care Unit summary in the hospital notes dated 12 December 2002 gives the diagnoses of anoxic brain injury with brain death secondary to aspiration and cardio-respiratory arrest. The same note refers to the fact that at 0130 hours on 8 December 2002 Mr Campanella was found in asystolic arrest and refers to "evidence found suggesting aspiration had precipitated cardio-respiratory arrest". The same note goes on as follows:

> 'Following arrest neurological state was significantly worse than pre-arrest. Profusion scanning performed 12/12/02 after developed fixed dilated pupils on 11/12. Confirmed brain death and clinical examination confirmed brain death.'

5. Cause of death

5.1. The excerpts from the hospital notes referred to above show that at least so far as the Royal Adelaide Hospital and most of its clinicians were concerned, Mr Campanella's cardio-respiratory arrest was hypoxic in nature and was precipitated by the aspiration of gastric contents. There matters rested until April 2003 when Professor Alnis Vedig of the Flinders Medical Centre provided a report to Counsel Assisting the then State Coroner. The report was dated 24 April 2003 and was admitted in these proceedings as Exhibit C18. A subsequent report was prepared by Professor Vedig which was admitted as Exhibit C18a in these proceedings. In the report of 24 April 2003 Professor Vedig noted[3] that the causes and circumstances leading to the cardio-respiratory arrest were not clear. However, he expressed the view even at that stage that a primary cardiac event leading to secondary respiratory arrest did not seem likely. I will return to that opinion later in these findings.

5.2. At lines 127-128 of Exhibit C18, Professor Vedig notes that tracheal secretions can occlude tracheostomy tubes and obstruction "can be quite precipitate". Obstruction to an airway can lead to severe hypoxia and secondary cardiac arrest within minutes. He states that the gastric contents which were subsequently noted could be explained by the body's reaction to hypoxia and violent respiratory movements. He notes that the hospital notes do not record any evidence of tracheostomy tube obstruction but even at that point he observes that it was possible that the nurses from the ward who attended the arrest may have applied oxygen to the airway with an inflating device thus clearing the tracheostomy tube without realising what had occurred. Professor Vedig acknowledges that the hospital notes offer the explanation for Mr Campanella's

[3] Exhibit C18, lines 110-112

arrest as being primary aspiration of gastric contents into the lungs overwhelming cough defences leading to severe hypoxia and subsequent cardiac arrest. However, he notes that the purpose of a cuff around a tracheostomy tube such as that which Mr Campanella had, is designed to prevent such a scenario. He acknowledges that a tracheostomy cuff can never provide a completely watertight seal but that if properly inflated the cuff should protect against gross aspiration. He also notes that there was not a great deal of evidence to support a large aspiration of fluid into the lungs because:

> 'Gas exchange as evidenced by the concentration of oxygen required to maintain adequate oxygenation returned relatively quickly to his pre-cardiac arrest state. Also a x-ray report dated 09.12.02 covering, as I understand it, some 6 chest x-rays dating from perhaps 02.12.02 indicates that no major lung consolidation was seen.'[4]

5.3. In Professor Vedig's second report, Exhibit C18a, Professor Vedig states:

> 'The cause of the cardiac arrest on the night of the 8/12/02 was most likely occlusion of his airway. This occlusion was most likely, in my opinion, to have been partial or complete obstruction from tracheal secretions. The gastric contents in his pharynx, some of which were aspirated from his trachea, are more likely a consequence of the hypoxia and the subsequent resuscitative efforts following the cardiac arrest.'[5]

5.4. Thus, although in his first report Professor Vedig appeared to entertain the possibility of aspiration while apparently leaning towards the theory of tracheostomy tube occlusion, he strengthened his view in favour of the latter in Exhibit C18a. That subsequent report followed the provision of further information to Professor Vedig, including statements and records of interview of a number of the treating nurses, some of whom subsequently gave evidence at the Inquest, and Doctors Zacest, Frederiksen and Griggs, all of whom subsequently gave evidence at the Inquest. It is noteworthy that in that second report (Exhibit C18a), Professor Vedig remarks:

> 'There is no suggestion in either the certification statement of Dr Benjamin Dundon, or records of interview with Drs W M Griggs, S R Frederiksen of A C Zacest that the death of Cosmo Campanella was in any way caused by a primary cardiac event.'[6]

5.5. This is significant because at the Inquest Dr Griggs advanced, for the first time, the hypothesis that the most likely cause of Mr Campanella's arrest was a primary cardiac event. Ultimately, the Royal Adelaide Hospital's position in the Inquest, according to its final submissions, was that there was "insufficient evidence to make a confident,

[4] Exhibit C18, lines 156-159
[5] Exhibit C18a, lines 236-240
[6] Exhibit C18a, lines 31-34

clear finding that the cardiac arrest was induced by an hypoxic event". Certainly, Dr Griggs advanced the theory that the arrest was due to a primary cardiac event. Dr Griggs was represented by the same Counsel as the Royal Adelaide Hospital, as were a number of other witnesses employed the Royal Adelaide Hospital. While the final submissions of the Royal Adelaide Hospital do not go so far as to press for a finding that the cause of the cardio-respiratory arrest was a primary cardiac event, I was left with the clear impression that certainly Dr Griggs preferred that theory, and the Royal Adelaide Hospital itself pressed the theory as being as equally plausible as the primary hypoxic event posited by Professor Vedig.

5.6. Unfortunately, the Royal Adelaide Hospital adopted the final position in its submissions (paragraph 62) that "the cause of the cardiac arrest will never be known due to the absence of an autopsy". While it is true that an autopsy was not conducted in this case, it is also true that Mr Campanella's family generously consented to the use of his organs for organ donation. One of the organs so donated was in fact his heart. It is difficult to see how an autopsy could have been conducted in the absence of that organ with a view to determining whether Mr Campanella's cardio-respiratory arrest was caused by a primary cardiac event. The Royal Adelaide Hospital was content to leave the Campanella family with the clear impression, as evidenced by repeated references in the hospital notes, that the precipitating event was hypoxia induced by aspiration of gastric contents. In my view, for an institution such as the Royal Adelaide Hospital to subsequently proffer a different cause of death when a family has generously consented to organ donation, and then to point to the lack of an autopsy in support of such a position, can only serve to discourage future organ donation. This is clearly adverse to the public interest[7].

6. The cause of Mr Campanella's cardio-respiratory arrest – hypoxic event or cardiac event

6.1. This subject was a cause of much debate in the course of the Inquest. Dr Griggs, who was one of the treating doctors, gave evidence. He was also interviewed, a transcript of which was admitted as Exhibit C13f. At lines 375 to 408 of Exhibit C13f, Dr

[7] The former State Coroner consented to the transplantation under section 23 of the Transplantation and Anatomy Act 1983. At the time, he consulted with Dr John Gilbert of the Forensic Science Centre. He had further discussions with Dr Ross James. As there was at that time no suggestion of an alternative manner of death, a post mortem was not considered necessary, and the consent was given on 13 December 2002.

Griggs canvassed the various possibilities about the events which precipitated the cardio-respiratory arrest. He noted the theory favoured by Dr Edwards and other clinicians at the hospital, namely the aspiration of gastric contents. He noted a second possibility, namely that there was an obstruction of the tracheostomy tube. And finally, he noted a third possibility of pulmonary embolus. In the end, Dr Griggs, at least in that interview, stated:

> 'So it seems most likely that the gastric content had come – come back up into the – the mouth and managed to get down into the trachea despite the cuffed tube.'[8]

Thus settling upon the aspiration theory.

6.2. When Dr Griggs gave evidence at the Inquest, he entertained for the first time a possibility which he had not previously referred to, namely that of a primary cardiac event[9]. In the course of that passage of evidence, Dr Griggs commenced by noting that there was no doubt that there was a cardiac arrest. He went on to state that there was some doubt whether it was due to an hypoxic event. He expressed the view that the changes that occurred in Mr Campanella in the hours leading up to the event were:

1. His temperature – but that in itself was not sufficient to warrant a return to the Intensive Care Unit.

2. Pulse – this had gone up to 130 during the day and was back to 120 in the afternoon. However, the level of the pulse rate was not such as to warrant a return to the Intensive Care Unit.

6.3. Dr Griggs acknowledged that in the afternoon of 7 December 2002 it appeared that Mr Campanella was suffering from an infection. However, antibiotics had been prescribed as advised by microbiology results and that was, according to Dr Griggs, an appropriate way to manage him.

6.4. As he did in the interview, in evidence Dr Griggs then went on to consider the possible causes of the cardio-respiratory arrest. He noted that they consist of the blockage of the tracheostomy tube, the aspiration of gastric content and thirdly, pulmonary embolism. He stated that pulmonary embolism is the single highest cause of potentially avoidable deaths in trauma patients.

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[8] Exhibit C13f, lines 399-402
[9] Transcript, page 161-169

6.5. Dr Griggs then referred to the effects of hypoxia. He noted that the heart can stop as a result of not having enough oxygen but that it can survive for 20, 30 or 40 minutes or more without oxygen. However, the brain can only tolerate 3 or 4 minutes without oxygen. It followed that people whose heart stop as a result of asphyxia will have, long before their heart stops, suffered severe damage to the brain.

6.6. Dr Griggs then noted that it took 20 to 25 minutes for the clinicians to achieve a heartbeat in Mr Campanella after his arrest which Dr Griggs regarded as being "longer than one might expect with a hypoxic thing"[10]. Dr Griggs then went on to note that after the cardio-respiratory arrest, there were references in the notes to neurological findings such as the following:

- Currently eyes opening spontaneously per Dr Edwards.
- On the 9th pupil reaction with right pupil sluggish reacting left pupil reactive.
- Spontaneous breathing according to the notes of Dr Thomas.

6.7. Dr Griggs noted that these findings are indicative of signs of brain function which he would find a "little bit surprising in the face of a hypoxic cardiac arrest"[11].

6.8. Next, Dr Griggs considered the possibility of an occlusion of the tracheostomy tube. In this respect he noted that the evidence of occlusion which might have been expected immediately after the arrest – namely occlusion of the tracheostomy tube – was not found. Against this, Dr Griggs noted that it was possible that the tracheostomy tube may have been cleared inadvertently during resuscitation. However, he remarked that the material which usually causes a blockage can be quite hard to shift and speculated that it is surprising that if there had been a blockage, no evidence was found of it after the resuscitation attempts.

6.9. Dr Griggs then proceeded to discuss what would have been expected if the precipitating event had been aspiration. He noted that to cause the level of hypoxia necessary to stop the heart required what Dr Griggs referred to as a "pretty big aspiration, it requires a lot of stuff"[12]. He then said that he would expect that the effects of this much fluid in the lungs would be visible on a chest x-ray the next day and that there would be changes caused to Mr Campanella's oxygen exchange the next day. He stated that neither of those were the case – in other words the chest

[10] Transcript, page 163
[11] Transcript, page 163
[12] Transcript, page 165

x-ray of the following day did not reveal evidence of fluid on the lungs consistent with an aspiration of a large amount of gastric contents, and the oxygen exchange of the following day was sufficiently high to be inconsistent with damage to the lungs of the kind that would have been caused by aspiration the previous day. These factors offered evidence in his opinion inconsistent with the theory of aspiration. Dr Griggs acknowledged that this was a view also held by Professor Vedig.

6.10. Dr Griggs noted that a third possibility was that of pulmonary embolism. However, he noted also that Mr Campanella was undergoing prophylactic treatment to reduce the risks of embolism, because he was having the blood thinning agent enoxaparin. He also noted that if the pulmonary embolus is of such a magnitude that it causes the heart to stop, it may be very difficult to get the heart to start at all.

6.11. At this point, Dr Griggs stated:

> 'But there's another cause that hasn't been considered in the case notes and hasn't been considered by Professor Vedig, or doesn't appear to have been, which is one that I have thought about on reflection'.[13]

Dr Griggs then explained that possibility to be bruising of the heart, or myocardial contusion, which may have been sustained by the injuries suffered by Mr Campanella in the original motor vehicle accident.

6.12. Dr Griggs then observed that Mr Campanella's heart was in fact transplanted. He said that in the transplant process the heart is closely examined to ensure that it is suitable for transplant. He stated that in this process an electrocardiogram is performed and also an echocardiogram. The first of those tests measures the electrical activity of the heart, and the second is an ultrasound of the heart. He stated that both the echocardiogram and the electrocardiogram were abnormal. The echocardiogram showed that there was some abnormality in the electrical activity of the heart, which according to Dr Griggs may have been associated with a myocardial contusion, although he also noted that it might simply be a function of the effects of the cardiac arrest. However, the echocardiogram showed a focal effect on the heart, namely a part of the heart that was not beating quite as well as the rest. This was not sufficient to stop the clinicians performing the transplant but it was certainly an abnormality. Dr Griggs speculated that this focal abnormality may have represented the site of a

[13] Transcript, page 167

myocardial contusion and that this may have been a cause of a sudden heart arrhythmia which led to the arrest. Dr Griggs concluded by observing:

> 'On balance, I think a cardiac event is probably more likely, because of the neurological state the next day, because there was some neurological function, no guarantee, and because of the absence of supporting evidence for the two potential hypoxic events; a blocked tube and aspiration'.[14]

6.13. Dr Griggs then went on to say:

> 'I think it was unpredictable and potentially unavoidable'.[15]

7. Professor Vedig's evidence in relation to cause of death

7.1. Professor Vedig is the Head of the Department of Critical Care Medicine and the Senior Director of Critical Care at the Flinders Medical Centre. He gave evidence at the Inquest and provided the reports to which I have already referred, Exhibits C18 and C18a. Professor Vedig gave evidence that described the nature of a cuffed tracheostomy tube such as that which was used in Mr Campanella's treatment[16]. Professor Vedig stated that it is a tube with a cuff around it. The cuff is designed to apply pressure to the internal lining of the trachea forming a seal between the trachea and the tracheostomy tube. It is intended to prevent an air leak when pressure is applied to the whole chest through the tracheostomy tube, and also to prevent stomach contents, if regurgitated, finding their way down into the lungs. Professor Vedig noted that he considered that occlusion of the tracheostomy tube was more likely than acute aspiration[17]. He stated that it would be unexpected to see a massive aspiration pass the cuff in a tracheostomy tube[18]. He also noted in this context the lack of damage to the lungs after the event and the return of gas exchange function. It will be recalled that both of these were the subject of comment to similar effect by Dr Griggs.

7.2. Professor Vedig noted that Mr Campanella had had a pulmonary angiogram some days earlier, and had an ultrasound on his legs also, and that there were no evidence of clots at that time[19]. This was a further plank in his argument that a pulmonary embolism was unlikely. He stated that the echocardiogram which was taken in preparation for the cardiac transplantation showed no evidence of right heart failure

[14] Transcript, page 168
[15] Transcript, pages 168-169
[16] Transcript, page 501
[17] Transcript, page 503
[18] Transcript, page 504
[19] Transcript, page 586

which he would have expected had a pulmonary embolism been the precipitating factor in the cardiac arrest[20]. He stated that such right heart failure is not rapidly reversible and persists for many days and sometimes months. Hence it would have been readily apparent in the echocardiogram taken a few days later.

7.3. Professor Vedig gave evidence that a primary cardiac event was in his opinion extremely unlikely[21]. He considered that there was no evidence of it in the subsequent echocardiogram. Professor Vedig stated:

> 'The primary cardiac event I think is extremely unlikely. There'd be no particular reason that Mr Campanella would have had an event like that. There was no evidence subsequently in the electrocardiogram, in the pattern of his recovery in terms of blood pressure and pulse rate… So I think that's highly unlikely.'[22]

7.4. Professor Vedig stated that he thought a myocardial contusion was an unlikely explanation for the cardiac event because the associated arrhythmia usually occurs at an earlier point and rarely without other things happening such as bleeding around the heart[23]. He further noted that it was the more unlikely because the heart was in fact transplanted. His opinion as expressed at T508 was that the most likely cause of the cardio-respiratory arrest was an hypoxic event, most likely caused by blockage of the tracheostomy tube itself.

7.5. Counsel for the Royal Adelaide Hospital mounted a very spirited campaign to persuade Professor Vedig as to the plausibility of the theory of the primary cardiac event. Counsel for the Royal Adelaide Hospital put to Professor Vedig that had Mr Campanella been starved of oxygen for 15 minutes or more one would expect to see a very serious deterioration in neurological function afterwards[24]. Professor Vedig responded that the answer depended upon where one started from in the sense of the patient's neurological condition prior to the cardiac arrest. He stated that if the patient was essentially normal, there might be a very significant decrease in neurological function, but where his neurological condition was already significantly affected, as in Mr Campanella's case, the effect may not be so marked.

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[20] Transcript, page 588
[21] Transcript, page 504
[22] Transcript, pages 505-506
[23] Transcript, page 508
[24] Transcript, page 588

7.6. Counsel for the Royal Adelaide Hospital put to Professor Vedig that if the neurological signs following the cardiac arrest were not suggestive of a serious deterioration in neurological function compared with the level of that function prior to the arrest, that fact was an indication that oxygen had not been kept from Mr Campanella's brain for as long as 15 minutes. Professor Vedig's response was that he could not tell how long oxygen had been missing from Mr Campanella's brain: that it could have been as little as 5 minutes or it could have been 15 minutes. He stated that it was not possible to determine this in the setting of Mr Campanella's previous (impaired) neurological condition.

7.7. The questioning by Counsel for the Royal Adelaide Hospital was founded on the proposition that Mr Campanella's neurological condition prior to and subsequent to his cardiac arrest were not very dissimilar. Therefore, so the argument went, it was unlikely that he had been deprived of oxygen for a significant period. Therefore, it followed that the cause of the cardiac arrest was more likely to be a primary cardiac event rather than an hypoxic event, because the latter would necessarily involve a longer period of deprivation of oxygen.

7.8. This argument obviously has a theoretical attraction. However, I suspect that it falls under its own weight eventually. As Professor Vedig observed, Mr Campanella was found in full cardiac asystole[25]. That by itself led to swelling of the brain sufficient to lead to Mr Campanella's eventual brain death. That was a major injury, which simply cannot be denied. Thus to attempt to attach a high level of significance to an asserted minor difference between Mr Campanella's pre-arrest neurological condition and his post-arrest neurological condition would appear to be a barren exercise when one considers the reality that within four days after the cardiac arrest Mr Campanella was brain dead.

7.9. Professor Vedig explained the presence of encouraging neurological symptoms after the cardiac arrest in the following way:

> 'I think that the changes, the issue of - we are not necessarily talking about somebody eye opening and having consciousness like he had before, we are simply talking about eye opening as an irritative focus. We are talking about respiration as not controlled

[25] Transcript, page 590

> voluntary respiration. It's a major primitive drive. That observation in post cardiac arrest patients is common.'[26]

7.10. In the end, Counsel for the Royal Adelaide Hospital was not successful in his attempts to persuade Professor Vedig to accept the likelihood and plausibility of a primary cardiac event. It is not surprising that Counsel for the Royal Adelaide Hospital was keen to gain Professor Vedig's acceptance of the likelihood of a primary cardiac event; such an event may have been far less predictable than the hypoxic event which was favoured initially by the clinicians at the Royal Adelaide Hospital (namely aspiration) or the theory favoured by Professor Vedig, namely tracheostomy tube occlusion. Either of those events may have been preventable by close monitoring of Mr Campanella.

8. Conclusion as to cause of death

8.1. As I have already stated, the Royal Adelaide Hospital's position on cause of death came down to the assertion that "the cause of the cardiac arrest will never be known due to the absence of an autopsy" from which it follows that the Royal Adelaide Hospital would press for a finding that Mr Campanella's cause of death was undetermined.

8.2. The Court's duty, under section 29(a) of the Coroners Act, is to make a finding as to the cause of death. While, in an objective sense, the Royal Adelaide Hospital is correct in saying that the definitive pronouncement that may have followed an autopsy is not available, this does not excuse the Court from the duty to make a finding, if possible.

8.3. In my opinion it is possible to arrive at an opinion as to cause of death on the balance of probability in this case, and I now proceed to do so.

8.4. The theory of aspiration of gastric contents leading to hypoxia can be eliminated at once. This was the view of all concerned having regard to the x-ray results the next day and the gas exchange figures. The theory of pulmonary embolus may be eliminated for the reasons that he was on prophylactic anti-coagulation therapy and he had undergone an ultrasound earlier.

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[26] Transcript, page 609

8.5. I believe that Dr Griggs' theory of myocardial contusion – a focal injury to the heart – is simply inherently unlikely when one considers that the heart was transplanted. The heart was subjected, no doubt, to close physical examination by the transplant team, and the abnormal electrocardiogram and echocardiogram to which Dr Griggs referred would have caused the transplant team to be particularly cautious. Furthermore, as Professor Vedig noted, a myocardial contusion causing arrhythmia would be more likely to have occurred much earlier and nearer to the time of the original motor accident. The irregularities noted on the electrocardiogram and echocardiogram reports were explicable by reference to the cardiac arrest and the efforts used during resuscitation.

8.6. That leaves Professor Vedig's favoured cause, namely hypoxia due to occlusion of the tracheostomy tube. The only arguments against this proposition were the lack of physical evidence of a blockage during or in the immediate aftermath of the arrest call; and the intricate theory advanced by Counsel for the Royal Adelaide Hospital which was founded on what he asserted to be insignificant neurological differences in the pre-arrest and post-arrest states.

8.7. As I have already said, the latter theory foundered on the fact that brain death ensued within days of the arrest, thus demonstrating tragically the neurological significance of the event. The absence of evidence of the material that blocked the tube is readily explained; it may simply have been missed by the staff involved in the arrest call who were preoccupied with resuscitation efforts and unlikely to pay close attention to the state of the tracheostomy tube, the possibility that the blockage was dislodged in the early stages of the resuscitation efforts and the cause of the blockage lost.

8.8. I prefer the view, for those reasons, that the tracheostomy tube became occluded. This may have occurred over time, or it may have been an acute event - Professor Vedig said either of these options would be possible. The occlusion led to hypoxia, and consequently to cardiac arrest. As a result of these things, Mr Campanella suffered an anoxic brain injury which led to his death. I so find.

9. <u>The appropriateness of the transfer from the High Dependency Unit to Ward S5</u>

9.1. Professor Vedig expressed the opinion in his reports that the transfer from the High Dependency Unit to Ward S5 was inappropriate. This was the subject of vehement disagreement by Dr Griggs, and also Doctors Jones and Zacest. Dr Griggs maintained

that there was little, if anything, to be gained by retaining Mr Campanella in the High Dependency Unit. His view was that there was no form of medical treatment that was available in the High Dependency Unit or the Intensive Care Unit for Mr Campanella that could not be provided on the ordinary ward. Accordingly, Dr Griggs firmly maintained that it was perfectly appropriate to transfer Mr Campanella.

9.2. On the other hand, Professor Vedig took the view that Mr Campanella required closer monitoring and nursing care than would be available on the ward and therefore should have remained in the High Dependency Unit.

9.3. Unfortunately, this debate was complicated and obscured by remarks made by Dr Zacest in his original record of interview[27]. I will deal with those shortly.

9.4. In my view, much of the debate about the wisdom or otherwise of the decision to transfer Mr Campanella from the High Dependency Unit to the ward is really beside the point. Professor Vedig made an associated point which, in my opinion, was more pertinent than the wisdom or otherwise of the transfer from the High Dependency Unit to the ward.

9.5. The point that he raised was that regular suctioning of the tracheostomy tube is not itself an entire protection against obstruction. Professor Vedig, referring to an obstruction of the tracheostomy tube stated:

> 'It can occur - I mean the intensive care with one-to-one nursing and a doctor there all the time, it can occur in two seconds; it isn't present, the next minute it is present and it's a major sort of issue, and that can occur with endotracheal tubes and tracheotomy tubes, it doesn't make any difference from that point of view, so the issue is having somebody who can respond to it, but it's just much more likely to occur if you have lots of secretions.'[28]

9.6. Professor Vedig stated that what was really required was constant monitoring:

> 'Even in the High Dependency with the one to two, for instance, ratio which is not as clear-cut as I'm stating, people go off for tea, lunch, and in that circumstance you might be looking after four patients, for example, you can't see all four but they are monitored. An alarm will go if the oxygen level dropped and the ECG would be a late sign, but the alarm would go on oxygen levels dropping, for example, and so that's why people are

[27] Exhibit C14
[28] Transcript, page 536

> monitored so you can pick up those things at the earliest possible times, and that is within seconds of it beginning to occur.'[29]

9.7. Professor Vedig acknowledged that it did not matter where Mr Campanella was; whether in the High Dependency Unit or Ward S5, he required continuous monitoring of oxygen saturations.[30] He noted that with continuous monitoring of oxygen saturations a fall in Mr Campanella's oxygen levels would have been sensed in seconds and there might have been a response.

9.8. Professor Vedig was cross-examined at length about whether there was a significant difference between the regularity of tracheal suctioning on Ward S5 and that which was provided in the High Dependency Unit. In the end, he agreed to the proposition that the theoretical regularity of suctioning in both of those areas of the hospital may have been no different. However, this misses his stronger point, namely that continuous oxygen monitoring may have alerted staff to Mr Campanella's stricken condition sooner.

9.9. Professor Vedig acknowledged that a gradual occlusion of the tracheostomy tube will lead to modified, laboured breathing which will be readily heard by nursing staff. However, he made the point repeatedly that a tracheostomy tube can also undergo what he described as an acute occlusion, in other words, an occlusion that occurs suddenly and without prior warning such as laboured, noisy breathing.

10. Was Mr Campanella's neurological condition deteriorating prior to his transfer from the High Dependency Unit to Ward S5

10.1. Professor Vedig was of the opinion that the transfer from the High Dependency Unit to Ward S5 was premature for several reasons, one of which was that his neurological condition was deteriorating in the days immediately prior to his transfer. Furthermore, in Professor Vedig's reading of events, this neurological deterioration was not neurologically explicable and it was therefore likely to be attributable to an infective process that was affecting Mr Campanella's body. Professor Vedig noted that in this period two infective sources were present. There was an Acinetobacter infection of Mr Campanella's urinary tract. There was a Klebsiella infection of his trachea. On the afternoon of 7 December 2002 a blood test was reported showing a

[29] Transcript, page 537
[30] Transcript, page 543

white cell count that was extremely high. However, this report was not considered by any of the treating clinicians in the period between its production and Mr Campanella's arrest at 1:30am the following morning. It was noted by one of the nursing staff that Mr Campanella's temperature was 39.6 degrees at 2100 hours on 7 December. These matters were all, in the opinion of Professor Vedig, indicative of a sepsis that was affecting Mr Campanella. Most importantly from Professor Vedig's point of view, the tracheal secretions being produced by Mr Campanella were increasing during this period thus heightening the risk of occlusion of his tracheostomy tube.

10.2. Each of these theories was addressed carefully in evidence by Dr Griggs. Dr Griggs expressed the view that in fact Mr Campanella's neurological condition was not deteriorating in a marked way in the days preceding his transfer from the High Dependency Unit. Doctors Griggs, Jones and Zacest considered the neurological changes during this period to be attributable to the ordinary course of Mr Campanella's neurological condition. Dr Griggs also made the point that the blood cultures were not indicative of a major sepsis and that the Acinetobacter and Klebsiella infections were being appropriately managed by antibiotics.

10.3. At the end of the day, these arguments related to the wisdom or unwisdom of the transfer of Mr Campanella from the High Dependency Unit to Ward S5. However, in my opinion, the issue ultimately became one of the closeness of the monitoring regime that was provided. Whether Mr Campanella was on Ward S5, or in the High Dependency Unit, I can see no reason why he could not have been provided with continuous oximetry monitoring. It was put to Professor Vedig that the possibility of a blockage in a tracheostomy tube was something which every patient who has a [31]tracheostomy in place might face[32]. The apparent implication of the question was that it might, on Professor Vedig's argument, be necessary for all tracheostomy patients to be placed on oxygen and cardiac monitors. Professor Vedig responded that this was not correct. He noted that not all tracheostomy patients suffer from such a severely altered conscious state as Mr Campanella was. He pointed out that patients who have tracheostomies for what he described as "throat reasons" namely ear, nose and throat patients, will have a reasonably unimpaired level of consciousness. Such

[31]

[32] Transcript, page 550

patients would not be at risk from an occlusion from a tracheostomy tube. They would be more likely to be able to alert staff, or even to remove the tube themselves. Professor Vedig said even when such patients were asleep they would be likely to wake very quickly. He stated that an occlusion like that in such a patient would cause the patient to wake before unconsciousness resulted.

10.4. I find Professor Vedig's reasoning quite persuasive in this regard. In my opinion, whether or not it can be said that Mr Campanella might have been saved had he been monitored by oxygen oximetry, I am persuaded that it would be sensible for all tracheostomy patients with a significantly impaired conscious state to be provided with constant oxygen monitoring whether on the wards or in the High Dependency Unit or the Intensive Care Unit. I believe the evidence demonstrates that when they are in either the Intensive Care Unit or the High Dependency Unit, such continuous monitoring is always applicable.

10.5. Indeed, Dr Griggs acknowledged that continuous pulse oximetry would have been available on Ward S5 although it was not used at the relevant time for Mr Campanella[33]. Dr Griggs stated:

> 'Yes, if there had been a pulse oximeter on at the time of the cardiac arrest event, and they do give false alarms and whatever, and it had alarmed, and someone had heard it...'

10.6. I take Dr Griggs to be acknowledging, albeit reluctantly, that, at the very least, a patient such as Mr Campanella might have a better chance of surviving an hypoxic event if he were provided with pulse oximetry. Dr Griggs maintained that he could not see anything "in prospect" that would have persuaded him that Mr Campanella should have had pulse oximetry. Nevertheless, I remain of the view that patients with lowered conscious states and tracheostomy tubes should be placed on such a regime.

10.7. In the result, I do not consider that I am able to conclude one way or another as to the appropriateness of the transfer of Mr Campanella from the High Dependency Unit to Ward S5. However, I do have serious concerns with the level of nursing care that was provided in the afternoon and evening of 7 December 2002 on Ward S5.

[33] Transcript, page 217

11. Nursing care available on Ward S5

11.1. This subject was dealt with in the evidence primarily of Nurse Harvey who gave evidence at the Inquest. Nurse Harvey is an enrolled nurse and she was working on Ward S5 in December 2002. She was working on the afternoon shift on 7 December 2002 between the hours of 1430 and 2300[34]. Counsel for the Royal Adelaide Hospital questioned Nurse Harvey about the absence of any notes about tracheal suctioning[35]. She stated that the mere fact that something is not noted does not mean that the relevant work was not done by her as the nurse. She also asserted that, although there was no note to the effect that suctioning was carried out, there was no possibility that she did not do the suctioning. Nurse Harvey asserted that she would have checked Mr Campanella's tracheostomy tube at least every hour[36]. However, it was pointed out to her that she had not once recorded the fact that she had suctioned the tracheotomy site during this period. Her response was that she could not explain why she had not recorded it but that she would have done it. She acknowledged that she made a number of other records in the relevant documentation relating to Mr Campanella. She acknowledged that it was surprising that although she had had time to do those notes, she entered nothing in relation to tracheotomy care. She was unable to provide any explanation for her failure to do so.

11.2. Nurse Harvey acknowledged that she had no present recollection of the events of December 2002 at the time of giving her evidence. She finally conceded that she could not be certain that she would have carried out regular suctioning of Mr Campanella[37] .

11.3. Of course, this is extremely important. Professor Vedig in his evidence stated that a failure to carry out suctioning of the tracheostomy tube for a period of hours prior to Mr Campanella's collapse would be extremely significant. However, he also stated that he would find it inconceivable that Mr Campanella was not provided with suction during this period even though the record does not show it. He stated that if Nurse Harvey asserted that she would have done the suctioning, he believed that that would

[34] Transcript, page 406
[35] Transcript, page 410
[36] Transcript, page 427
[37] Transcript, page 436

have happened. He could not conceive that suctioning would not have occurred during those hours.

11.4. Mrs Sharon Campanella also gave evidence at the Inquest. She is Cosmo Campanella's mother. She gave evidence that on the afternoon of 7 December 2002 she went to the hospital to see Mr Campanella, and she arrived at approximately 1:45pm. She stated that no nursing staff came near Mr Campanella until about four o'clock in the afternoon. At that time she went to the nurses station and advised the nurses that Mr Campanella needed suctioning. She said that Nurses Koronis and Harvey were in the nurses station at that time. She stated that the nurses came together and attended to Mr Campanella. During this time Mrs Campanella and other members of her family left the room to afford Mr Campanella some privacy. Mrs Campanella stated that between 4:00pm and when she left the hospital at 6:30pm no nursing staff or any other person came into Mr Campanella's room. She stated that throughout her time in his room she was bathing him with cold water because she considered that he was very hot. Mrs Campanella stated that she remained in the room for the entire period after four o'clock until she left at 6:30pm[38]. No nursing attendances were made during that period. She stated also that she had briefly left the room in the period between 1:45pm and 4:00pm, but that other family members had been present during that period in the room. No nursing staff attended during that period either.

11.5. I have no reason not to accept the accuracy of Mrs Campanella's evidence in this regard. It does appear that, whether Mr Campanella actually required the suctioning or not during the afternoon of 7 December 2002 between 1:45pm and 6:30pm, no suctioning was carried out except at 4:00pm when it was requested specifically by Mrs Campanella. This causes me to have serious doubts about the reliability of Nurse Harvey's assertions that she would have checked Mr Campanella in relation to his tracheostomy tube at two hourly intervals or more regularly. According to Mrs Campanella's account, that simply did not happen. Unfortunately, it is not possible, by reference to any independent source, to verify what took place between 6:30pm and the end of Nurse Harvey's shift.

[38] Transcript, page 720

11.6. Nurse Harvey also gave evidence that she understood that, as an enrolled nurse, she was not authorised to perform "above cuff" suctioning. This was contrary to the understanding of other witnesses. In any event, the only recorded suctioning for the afternoon and evening of 7 December 2002 happened to be for above cuff suctioning at 4:00pm. Nurse Harvey's understanding of the limits of her own authority, together with the fact that she attended at 4:00pm with Nurse Koronis (who would, on Nurse Harvey's understanding have been authorised to do above cuff suctioning), is consistent with the account as described by the records. I also note that the night shift nurse who took over from Nurse Harvey said that she did not have time to attend to Mr Campanella closely during the interval between the start of her shift and his arrest.

11.7. It is sufficient to say that I have no great confidence that Mr Campanella was regularly suctioned during that period as asserted by Nurse Harvey. However, I am unable to find to the contrary. Nurse Harvey is able to draw support from her own failure to make proper records in the Royal Adelaide Hospital notes. This is completely unacceptable and I hope that the Royal Adelaide Hospital will ensure that there is no repetition of such poor record keeping. At the very least, I would have expected that the hospital would have made efforts to obtain a statement from Nurse Harvey very soon after the event with a view to ascertaining whether or not she had carried out the relevant care notwithstanding her failure to record it. She should have been required to place a detailed retrospective account of her shift on the medical record. The fact that this did not happen does not reflect at all well on the Royal Adelaide Hospital.

12. Dr Andrew Zacest

12.1. As I have already noted, certain comments made by Dr Andrew Zacest in his record of interview were of particular significance in the debate about the adequacy or otherwise of the care available on Ward S5. When interviewed by Senior Constable Elliott[39], Dr Zacest stated that his usual position when a patient is to be sent from the High Dependency Unit to a ward is that he wants the patient to be sent to his neurological ward:

> 'where my nursing staff are well trained in tracheotomy care. But in the last one to two years the plastic surgical ward has been accredited for care of these patients, and although I'm not happy with it, I appreciate that patients have to get sent to that ward

[39] Exhibit C14

> because the neurosurgical ward is full. I usually try and insist that it's on R5 and use whatever leverage I can to get the patients on R5, but that is not always possible. So it's not an ideal arrangement…'[40]

The plastic surgical ward being referred to by Dr Zacest in that interview was in fact Ward S5 to which Mr Campanella was transferred from the High Dependency Unit.

12.2. Later in this interview, Dr Zacest stated as follows:

> 'I have to say for the record that I'm not entirely happy and haven't been with their level of expertise compared to the R5 nursing staff, and this issue has been raised by consultants and myself with the CNC on a number of occasions.'[41]

This passage refers to the nursing staff on Ward S5.

12.3. Unfortunately, Dr Zacest gave a different account when giving oral evidence at the Inquest. He stated that he was employed at the Royal Adelaide Hospital in December 2002 as a Neurosurgical Registrar. At the time of giving evidence he was practising as a Neurosurgical Registrar at the Westmead Private Hospital in Sydney.

12.4. In evidence Dr Zacest attempted to explain his previous comments at interview by saying that the level of *neurosurgical expertise*[42] was "not surprisingly better" on the neurosurgical ward than it was on Ward S5[43]. Dr Zacest acknowledged that on a number of occasions he did make attempts to have patients transferred from Ward S5 to his neurosurgical ward. Dr Zacest rationalised his remarks at interview by stating that he really wanted to make the point at interview that the *neurosurgical nursing expertise*[44] of staff on Ward S5 was his concern but that he had no wish to criticise the competency of that staff to look after tracheotomies[45]. He also stated that his intention was to comment on the expertise or experience of neurosurgical nursing rather than tracheotomy care and he considered that Professor Vedig had generalised his remarks in a way he had not intended.

12.5. In my view, Dr Zacest was quite disingenuous in this passage of evidence. At line 328 of the record of interview[46] he volunteered the point that the nursing staff in the

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[40] Exhibit C14, lines 327-335
[41] Exhibit C14, lines 360-364
[42] My emphasis
[43] Transcript, page 247
[44] My emphasis
[45] Transcript, page 256
[46] Exhibit C14

neurosurgical ward are "well trained in tracheostomy care". He then referred to the fact that in the last one to two years the plastic surgical ward (S5) had been accredited for care of these patients. He then stated that "although I am not happy with it, I appreciate that patients have to get sent to that ward because the neurosurgical ward is full". He then referred to his insistence that his patients be treated on Ward S5 if possible and his use of "leverage" to get patients onto Ward R5. He describes it as not an ideal arrangement.

12.6. These comments are clearly made in the context of tracheotomy care. They are not simply made in relation to neurosurgical expertise. Dr Zacest specifically mentioned the fact that his staff on the neurosurgical ward were well trained in tracheostomy care. He then drew a distinction between the staff on that ward and the staff on Ward S5 who had only been recently accredited, according to Dr Zacest, for the care of such patients. I cannot see that it is possible to draw any conclusion other than that Dr Zacest was referring specifically to tracheotomy care in that passage. For him to suggest otherwise in his evidence at Inquest was, to say the least, quite disingenuous. Dr Zacest at least acknowledged:

> 'I accept that there is a change in the way I've said things.'[47]

This may not be adequate, but a least it amounts to an acceptance of the inconsistency.

12.7. Unfortunately, when pressed by Counsel for the Royal Adelaide Hospital, Dr Zacest retreated from that position in the following passage:

> 'Mr Livesey: His Honour asked you a question about whether you were surprised at Associate Professor Vedig's interpretation of some of your remarks. Would it be fair to say that insofar as Associate Professor Vedig has suggested that you have some general concern about the nursing care afforded tracheostomy patients on Ward S5, Associate Professor Vedig is wrong about that.
>
> Dr Zacest: Yes.
>
> Mr Livesey: You hold no such views.
>
> Dr Zacest: No I don't.'[48]

12.8. This is an extraordinary passage of evidence. I cannot see how this does not amount to a direct contradiction of what Dr Zacest said in his record of interview at line 328

[47] Transcript, page 259
[48] Transcript, page 267

and following. Furthermore, Dr Zacest was candid enough to acknowledge as much at transcript page 259 where he stated that he could see how Professor Vedig might have arrived at the interpretation of his remarks that the Professor did.

12.9. In my opinion this does not reflect well on Dr Zacest. After he was questioned by Senior Constable Elliott he had an opportunity to consider his record of interview. He did so and according to Exhibit C8a, statement of Senior Constable Elliott dated 18 August 2004, Dr Zacest's transcript of interview was sent by Senior Constable Elliott to Dr Zacest on 22 April 2004 by registered post to Dr Zacest's home address. On 11 May 2004 Senior Constable Elliott received a letter of amendments to his interview from Dr Zacest. No amendment was made to the passages referred to above. It follows that Dr Zacest had every opportunity to consider his remarks in his record of interview and amend them if he wished to do so. He did not.

12.10. I regard Dr Zacest's account in his record of interview as more reliable, particularly in light of the evidence of Mrs Campanella about the level of care provided on Ward S5 on the afternoon of 7 December 2002.

12.11. During closing submissions, I specifically drew Dr Zacest's inconsistency to the attention of his Counsel, and invited submissions as to what I should make of it. Counsel's response was to submit that I should prefer Dr Zacest's oral evidence where it conflicts with anything he may have said at the interview. Counsel also acknowledged that there was what he described rather euphemistically as a "softening of his (Dr Zacest's) criticism when he gave his oral evidence". He could hardly avoid the concession that Dr Zacest had altered his position – Dr Zacest had conceded as much himself. I pointed out to Counsel for Dr Zacest that I was not asking which version of Dr Zacest's evidence I should prefer, but rather, what I should make of the fact that he told Senior Constable Elliott something from which he resiled in oral evidence. I was offering an opportunity for Dr Zacest's Counsel to explain why the two versions differed; not which I should prefer, as if they had come from two different witnesses. In the end, Counsel for Dr Zacest offered no justification for the differences, beyond the suggestion that when being questioned by a police officer there may not have been an opportunity for Dr Zacest to formulate a "reasoned response"[49]. This overlooks the fact that Dr Zacest did have the opportunity to reflect

[49] Transcript, page 676

on his interview and to make amendments. He did not take the opportunity thus offered him to change his interview on this issue, which he must have known would be regarded by the Royal Adelaide Hospital and some of its staff as controversial.

12.12. I reject the proposition that I ought to prefer Dr Zacest's later position to his earlier position. I believe that Dr Zacest did have serious concerns about the level of care available on Ward S5 in comparison with that on Ward R5. Furthermore, this concern extended to tracheostomy expertise. I am unable to say whether his views were justified. Mrs Campanella offered a glimpse of the level of care available on one afternoon. Dr Zacest's boldness at interview dissolved into blandishments in evidence. In the meantime he had succeeded in exciting in Professor Vedig and various others, including the Campanella family, suspicions which could not be proven at the Inquest.

12.13. This is unsatisfactory. However, for the reasons referred to earlier, it was not necessary for me to reach a conclusion about the adequacy of care in Ward S5 in light of Professor Vedig's opinion about continuos oximetry monitoring in a patient in Mr Campanella's circumstances.

13. Prognostication on neurological outcome

13.1. Professor Vedig stated, in his first report[50], that Mr Campanella "was expected to survive. On transfer to the general ward at approximately 2000 hours on the 6.12.02 Cosmo Campanella would have been assessed as a survivor of the early consequences of his trauma …"

13.2. This turned out to be an uncontroversial remark. Indeed it was accepted by Professor Jones[51]. However it provoked Counsel for the Royal Adelaide Hospital to go to some efforts to criticise Professor Vedig.

13.3. Counsel for the Royal Adelaide Hospital was at pains to show that, had he lived, Mr Campanella may have been in a vegetative state for the remainder of his life. On the other hand, Professor Jones allowed the possibility of a good recovery[52]. He also

[50] Exhibit C18
[51] Transcript, page 77. Professor Jones was a Consultant Neurosurgeon who had some involvement in Mr Campanella's treatment.
[52] Transcript, page 83

stated that the consequences would most likely have been some level of disability[53], but he did not rule out the possibility of a vegetative state[54].

13.4. In what, according to the Royal Adelaide Hospital's written submission, were "extreme views", Professor Vedig would not agree that a persistent vegetative state was a possibility[55].

13.5. To the extent that this was an exercise in challenging Professor Vedig's credibility, it did not succeed. The ultimate result for Mr Campanella, had he survived, was irrelevant in these proceedings. These proceedings were to ascertain the cause or circumstances of Mr Campanella's death. Prognostications about what would have happened had he not died are irrelevant. This line of questioning was unhelpful and I suspect that it was distressing for Mr Campanella's family.

14. The Inquiry under section 64D

14.1. Towards the end of the Inquest I asked Counsel for the Royal Adelaide Hospital to inform me whether or not a Root Cause Analysis Inquiry was conducted in this case. Had such an inquiry been conducted, I might have expected that it would have examined, for example, the concerns expressed by Dr Zacest to Senior Constable Elliott about nursing care on Ward S5. Nurse Harvey may have been questioned about the absence of regular notes about tracheostomy suctioning.

14.2. Had a Root Cause Analysis Inquiry been convened by the Royal Adelaide Hospital, it would have been clothed in secrecy by virtue of section 64D of the South Australian Health Commission Act 1976. However, it was relevant to know if such an inquiry had occurred, and if so, who had been questioned. Obviously, the information provided to a root cause analysis inquiry would have been directly relevant to the issues in the Inquest.

14.3. Section 64D applies to persons or committees, who are authorised by the Governor to have access to confidential information for the purposes of researching causes of mortality and morbidity and improving the quality of health services. Confidential information is defined as information relating to a health service in which the identity

[53] Transcript, page 77
[54] Transcript, page 84
[55] Transcript, page 628

of the patient or person providing the service is revealed. The section has two main aims. Firstly, it provides that a person who provides confidential information to an authorised person breaches no laws or principle of professional ethics in so doing, thereby removing a potential prohibition on the gathering of root cause analysis data. Secondly, the section prohibits an authorised person from divulging confidential information, including to a Court.

14.4. It should be emphasised that when I raised the question with Counsel for the Royal Adelaide Hospital of whether a section 64D inquiry had happened in this case I was not asking for the content of any such inquiry. I was merely asking about the fact of an inquiry and the persons interviewed. There are many reasons why this is a legitimate inquiry.

1. The Coroner's Court is required to ascertain, the cause and circumstances of particular events, in this case, Mr Campanella's death.

2. The Court has a duty to satisfy itself that information that is relevant to the inquiry into cause and circumstance is obtained and tendered before the Court for consideration.

3. The fact of, and the content of information gathered during an inquiry purportedly pursuant to section 64D are relevant at Inquest.

4. The Court may arrive at the view, after due inquiry, that a hospital inquiry purportedly convened under section 64D, was not convened or conducted in circumstances that satisfied the requirements of section 64D. In that circumstance, section 64D would not operate to preclude divulgence to the Coroner's Court of the earlier inquiry and its content.

5. It is true that public interest immunity may then need to be considered; but there is no way of knowing what the outcome of a claim for public interest immunity might be until the relevant material is seen by the Court and the question of public interest immunity ruled upon.

6. If it is found that section 64D has been properly enlivened, there is still the fact that it has happened to be considered. That in itself is relevant at an Inquest. It shows that the significance of an event has been appreciated by a

hospital and proper inquiries of its own instituted. This is relevant in a consideration of the likelihood that the event may occur again, and any recommendation that the Coroner's Court might make under section 25(2) of the Coroners Act 2003.

14.5. I should point out that the Coroners Act 2003 expressly acknowledges section 64D[56]. However, that provision simply provides that the Coroners Act 2003 does not derogate from section 64D; it does not affect anything I have said so far.

14.6. As I have observed, section 64D protects confidential information. That is defined as information relating to the health service in which the identity of the patient or person providing the service is revealed. The Royal Adelaide Hospital, in its written submissions, went so far as to claim that it would be contrary to section 64D to reveal whether a section 64D investigation has occurred because that would necessarily reveal the identity of the patient or the person providing the service. Nevertheless, the Royal Adelaide Hospital disclosed the fact that a review was conducted by the Neurosurgery Department under section 64D.

14.7. I do not agree with the Royal Adelaide Hospital's far reaching submissions as to disclosure of the fact that a section 64D inquiry has occurred. The confidential information protected by section 64D is information "relating to a health service".

14.8. A "health service" is defined in section 64D as follows:

> '(a) any service designed to promote health; or
>
> (b) any therapeutic or other service designed to cure, alleviate or afford protection against any mental or physical illness, abnormality or disability; or
>
> (c) any paramedical or ambulance service; or
>
> (d) any prescribed service;'

14.9. I do not consider that the information that a section 64D inquiry has been conducted is "information relating to a health service" within that definition. The conduct of a section 64D inquiry is not, in itself, the provision of a health service. I acknowledge that there is an argument that health service includes a service designed to promote health, and that an inquiry into an adverse event that is intended to prevent repetition might be described as a service designed to promote health. However, I consider that section 64D is aimed at protecting the content of the inquiry, not the fact of the

[56] see section 23(6)

inquiry itself. To construe the provision as widely as suggested by the Royal Adelaide Hospital would be to go much further than necessary to achieve that aim. It may even defeat the aim, by preventing the promulgation within the broader health system of the message that a section 64D inquiry is designed and intended to promote. This might be avoided, I suppose, by the Governor authorising every person employed within the hospital system under section 64D, but again, that would not seem to be within the spirit or intent of the section.

14.10. Finally, the contention of the Royal Adelaide Hospital would have a further negative consequence. A court would be precluded from satisfying itself that section 64D had been properly enlivened, thus preventing it from obtaining access to information that might be highly relevant, and not the subject of true protection under section 64D. A recent example is the case of R v C, DR& ORS [2006] SASC 158. It is interesting to note that the fact of a section 64D inquiry was divulged to Justice Sulan in that case by the Flinders Medical Centre. No objection of the kind raised by the Royal Adelaide Hospital appears to have been made.

14.11. In the result, the Royal Adelaide Hospital did, as I have noted, advise that a section 64D inquiry was convened. However, the Court was not informed who was interviewed or questioned. This was unsatisfactory. However, I have elected to complete the Inquest on the basis of material currently available in the interests of finality.

15. Conclusions, findings, recommendations

15.1. I find that Mr Campanella died from an anoxic brain injury caused by a cardiac arrest caused by hypoxia resulting from occlusion of his tracheostomy tube.

15.2. I am unable to conclude whether the tracheostomy tube occlusion arose from a lack of care on Ward S5. Nurse Harvey's failure to record what she did or did not do as regards tracheostomy care in the hours preceding the occlusion make it impossible for me to draw a link between the occlusion and a theoretical lack of care on the ward, notwithstanding my concerns arising from Mrs Campanella's evidence of cursory nursing efforts during the afternoon of 7 December 2002 and Nurse Harvey's incorrect understanding of her role in "above cuff" tracheostomy care.

15.3. Dr Zacest's criticisms of the nursing care afforded on Ward S5 in his interview with Senior Constable Elliott were, if not withdrawn, at least cast into doubt by his belated and unconvincing attempts at the Inquest to explain that he really meant something quite different from what he actually said to Senior Constable Elliott. His statement cannot safely be relied on to provide a basis for inferring that nursing care on Ward S5 was generally inadequate, thus supporting an inference that lack of nursing care on Ward S5 was the cause of the occlusion. His change of heart on such a crucial issue leaves the matter in doubt.

15.4. I reject the submission of the Royal Adelaide Hospital that the Court is not permitted to be informed whether or not a Root Cause Analysis Inquiry has been conducted under the secrecy provisions of section 64D of the South Australian Health Commission Act 1976. It is regrettable that, despite the Court's specific request, the Royal Adelaide Hospital failed to inform the Court as to the participants in the section 64D inquiry that was, according to the hospital, convened.

15.5. Had Mr Campanella been subject to constant oximetry monitoring, there was a chance that the occlusion might have been detected and corrected in time to prevent his arrest. Accordingly, I recommend, pursuant to section 25(2) of the Coroners Act 2003 that tracheostomy patients whose conscious state is significantly impaired, be subject to constant oximetry monitoring.

Key Words: Hospital treatment; Hypoxia; Tracheostomy tube; Oximetry monitoring; Nursing Care; Cause of Death and Transplantation

In witness whereof the said Coroner has hereunto set and subscribed his hand and

Seal the 18th day of August, 2006.

State Coroner