CORONERS COURT OF THE AUSTRALIAN CAPITAL TERRITORY

Case Title:	**AN INQUEST INTO THE DEATH OF CORRINA ANNE MEDWAY**
Citation:	**[2015] ACTCD 3**
Hearing Date(s):	7-8 September 2015
Date of Findings:	18 December 2015
Before:	Coroner Hunter
Legislation Cited:	*Coroners Act 1997* (ACT)
Cases Cited:	*Onuma v The Coroners Court of South Australia* [2001] SASC 218 *Briginshaw v Briginshaw* (1938) 60 CLR 336 *WRB Transport v Chivell* [1998] SASC 7002
Appearances and Representation:	Ms Amanda Tonkin of Counsel as Counsel Assisting the Coroner. Mr Wayne Sharwood of Counsel for Calvary Private Hospital instructed by Minter Ellison. Ms Katherine Oldfield of Counsel for Dr Andrew Foote instructed by Ken Cush and Associates.
File Number(s):	CD 127 of 2011

CORONERS ACT 1997

IN THE CORONERS COURT
AT CANBERRA IN THE
AUSTRALIAN CAPITAL TERRITORY

FORMAL FINDINGS

An INQUEST having been held by me, **MARGARET ANNE HUNTER,** a Coroner for the Territory, including a hearing conducted at the Coroner's Court at Canberra in the Territory on the 7th and 8th days of September in the year Two Thousand and Fifteen, into the death of:

CORRINA ANNE MEDWAY

I find that Corinna Anne Medway born in June 1978, died at the Canberra Hospital Intensive Care Unit, 1 Dann Close, Garran, in the Australian Capital Territory at 17:03 hours on 22 May 2011.

I further find that the cause of her death was a massive post partum intra cerebral haemorrhage of a spontaneous hypertensive origin.

DATED this 18th day of December, 2015.

M. A. HUNTER OAM

CORONER

CORONER HUNTER:

1. I, Coroner Margaret Hunter, find that Corinna Anne Medway born in June 1978, died at The Canberra Hospital Intensive Care Unit at 17:03 hours on 22 May 2011.

2. I further find that the cause of her death was a massive post partum intra cerebral haemorrhage of a spontaneous hypertensive origin.[1] The finding on autopsy was that of large left parietotemporal haematoma with disruption into the ventricular system and bilateral pulmonary oedema. No identifiable specific cause for the intracranial haemorrhage was identified.[2]

Jurisdiction

3. A Coroner is required to hold an inquest into the manner and cause of death of a person who relevantly "*dies during or within 72 hours after, or as a result of (i) an operation of a medical, surgical, dental or like nature; or (ii) an invasive medical or diagnostic procedure; other than an operation or procedure prescribed by regulation to be an operation or procedure to which this paragraph does not apply* (see section 13(1)(e) of the *Coroners Act 1997* (ACT) ("the Act").

4. Ms Medway comes within my jurisdiction given that she died after surgical intervention for cerebral haemorrhage postpartum after confining twins.

Circumstances

5. Corinna Medway was 32 years of age when she became pregnant with twins. Her estimated delivery date was 26 June 2011. This was Ms Medway's second pregnancy. In her first pregnancy the pregnancy ended at 32 weeks gestation following preterm rupture of the membranes with labour leading to a vagina delivery of a male infant on 14 January 2010.

6. Ms Medway had a medical condition known as Factor V Leiden mutation and also had a pro-thrombin gene mutation. This meant she had an increased tendency for her blood to clot. For this condition she was taking a low dose of aspirin during her pregnancy as a prophylaxis against the clotting factors.

7. During the first two trimesters of her pregnancy her blood pressure was normal; however Ms Medway had a family history on her mother's side of hypertension.

8. Ms Medway was under the care of an obstetrician Dr Andrew Foote. Dr Foote had delivered Ms Medway's first child in January 2010. Dr Foote accepted Ms Medway as a patient in respect of her second pregnancy on 29 October 2010. On that date Ms Medway completed a history form which included that she had

[1] Statement of Dr Halcrow, Exhibit 11, Exhibit11 paragraph 10.
[2] Autopsy report of Lavinia Hallam, Exhibit 17.

a medical condition Factor V Leiden. I also note that she indicated that there was a family history of medical problems/Cancer.[3] I could find no entry in relation to the taking of a family history in the notes produced by Dr Foote. I also note that her Factor V Leiden was heterozygous in that she had only one gene which carried the Factor V Leiden.

9. During the early course of her pregnancy with her twins her blood pressure ("BP") was at a normal level that being a range of between 110/60 and 120/60. This was recorded on Dr Foote's records.[4]

10. On 13 May 2011 at 33 weeks gestation Ms Medway attended at the Yass District Hospital Emergency Department. On arrival she was seen and requested that her blood pressure be taken as she had swelling in her feet and hands and she also complained of pins and needles in her arms. Ms Medway also advised staff that she had a slightly elevated protein reading and that her obstetrician had informed her that she had an abnormal kidney reading.

11. A BP was taken with the result of 148/90 at 12:25 hours and a reading of 145/90 at 13:00 hours. An examination by the VMO was undertaken and he recorded a blood pressure reading of 148/90 at 12:45 hours. The VMO was aware her blood pressure was less on the Tuesday prior, with a reading of 140/76. The VMO was also aware that Ms Medway had not been prescribed anti-hypertensives. The staff at the Yass Hospital contacted Dr Foote who advised them to commence Ms Medway on labetalol 100 mg three times daily. Ms Medway agreed to take the medication.

12. On 14 May 2011 Ms Medway's BP was recorded as 130/80, however she continued to complain of swollen feet and tingling sensations in her hands.[5]

13. On 16 May 2011 at about 05:00 hours Ms Medway was admitted to Calvary Private Hospital with preterm rupture of the membranes. She was admitted under the care of her private obstetrician Dr Andrew Foote. Later on that day at around 08:30 hours, Ms Medway was seen by Dr Foote. The note made in the patient progress notes states at 14:40 hours on 16 May 2011 Dr Foote indicated that if Ms Medway's BP decreased to a diastolic of less than 70 he was to be contacted. At 14:00 hours her BP was 140/60. Staff rang Dr Foote who advised them to withhold the labetalol.

14. The next BP reading was 141/84 at 17:23 hours and at 00:30 hours on 17 May 2011 the BP recording was 132/58 and 135/60, accordingly the labetalol was again withheld. At 05:55 hours Ms Medway's BP reading was 134/66. Ms Medway was next seen by Dr Foote at 14:00 hours on 17 May 2011 and at that time he asked the nursing staff to cease the labetalol.

[3] Exhibit 33.
[4] See Exhibit 33.
[5] Dr Foote's clinic notes found in Exhibit 8.

15. During the course of 18 May 2011 Ms Medway's BP remained within normal limits however there is a record at 20:30 hours indicating that nursing staff had observed pitting oedema on her feet they noted this on the clinical notes. The note read "SB Dr Foote NFO" which I interpret to mean "seen by Dr Foote no further orders" indicating that Dr Foote was aware of the pitting oedema.

16. On 19 May 2011 at 00:20 hours Ms Medway's BP was measured at 150/86 and midwife Crane noted that she had observed pitting oedema to the knees. At 05:45 hours Ms Medway complained of back and shoulder tip pain. Ms Medway considered that it was not contractions causing the pain. At that time her blood pressure was recorded as being 163/88. A note was recorded in the patient notes which indicated that midwife Crane had advised Dr Foote of all symptoms that she had observed including the increased BP, the pitting oedema as well as the upper abdominal back pain and shoulder tip pain. Dr Foote ordered Panadeine Forte for the pain.

17. At 06:35 hours Dr Foote was advised that Ms Medway was having contractions and that Panadeine Forte had been given; he advised that she should be transferred to the delivery suite early. By 10:30 hours her BP was recorded as being 150/70 and it increased during the day. An epidural had been given and was effective and Ms Medway's BP reading at 12:20 hours was 149/63, at 12:30 hours her BP was 151/74, at 13:00 hours 130/67, by 14:00 hours her BP reading was recorded at 148/78 and at 14:30 hours 150/78.

18. At 14:54 hours on 19 May 2011 the first twin was born (Emily) and at 15:07 hours the second twin was born (Grace). Ms Medway was discharged from the birthing suite at 17:30 hours. Her blood pressure was recorded at that time as being 138/76.

19. At 18:00 hours Ms Medway complained to staff of central chest pain, of epigastric pain, and back pain between the shoulder blades. The nursing note states that Dr Foote was in attendance at the time of the observance and complaint. Dr Foote prescribed morphine for the pain which he considered to be musculoskeletal. Ms Medway was given morphine. At 18:05 hours Ms Medway's BP was recorded at 189/91 and was recorded at 18:18 hours as 177/93.

20. Midwife Horsham recorded Ms Medway's BP at 18:15 hours with a reading of 188/100. When she did this she said that Dr Foote was still in the room and was aware of her high blood pressure because he saw that observation himself.[6] Midwife Horsham said that Dr Foote asked that she keep him informed. Midwife Horsham stated that Dr Foote left at approximately 18:20 hours.

21. Nursing staff (midwife Balfour) noted at 18:53 hours that there was no relief from the morphine. The resident medical officer on duty, Dr Lok, was contacted

[6] Exhibit 22A at 18:00 hours.

and requested to review Ms Medway. (I note Dr Lok has no postgraduate qualifications in obstetrics although I do note he spent one year as an obstetrics and gynaecology registrar.) Dr Lok was given a history of Ms Medway's condition including the high blood pressure, as well as chest pain not relieved with 10 mg of morphine. Dr Lok reviewed Ms Medway and examined the observation charts. He noted that the BP readings were very high for Ms Medway however there was no note written by Dr Lok to that effect. Dr Lok spoke with Dr Foote and advised him of the clinical findings he made, including observations which he said would have included Ms Medway's high blood pressure. Dr Lok advised him of the plan that he had considered appropriate and was told to action that plan. Part of the plan was to contact a physician (Dr Choi). Dr Lok rang Dr Choi advising him of the situation including Ms Medway's severe chest pain. Dr Lok's plan included treatment with clexane for a possible pulmonary embolus given her Factor V Leiden status.

22. During the time when Dr Lok was actioning his plan (which included tests to be done on Ms Medway), her partner Ben Ryan came out to tell him that Ms Medway was very drowsy and could not move her arm. Ms Medway was seen by Dr Choi who immediately recognised that Ms Medway was gravely ill with what he considered to be a probable cerebral event. Dr Choi was not aware of the high blood pressure readings prior to this event however indicated that cerebral events of this type cause hypertension.

23. Ms Medway was taken to Medical Imaging. She was accompanied by a wardsman, her partner Ben and midwife Ghonim. At this time she was on oxygen via a Hudson mask. A CT scan was performed which indicated a significant haemorrhage in her brain. A short time after her arrival in Medical Imaging a MET (medical emergency team) call was made and Ms Medway was taken to the resuscitation unit in the Emergency Department (part of the Calvary Public Hospital). Ms Medway was intubated and was transferred to The Canberra Hospital for urgent neurosurgery to reduce the swelling and to stop the bleeding.

24. Post surgery Ms Medway's prognosis was extremely poor and the neurosurgeon recommended no further surgery. The neurosurgeon Dr Halcrow informed Ms Medway's family of Ms Medway's poor prognosis. The family agreed that no further treatment would be given and on 22 May 2011 at 17:03 hours Ms Medway was pronounced life extinct.

Issues

25. The issues arising for my consideration as a result of Ms Medway's death were:

    a) Whether Ms Medway should have been considered a high risk patient and admitted to a tertiary Hospital which provided 24-hour specialist obstetric care;

b) The possible development of pre-eclampsia, diagnosis (if any) of that condition, when it developed, and any treatment (both ante and postnatal) after it developed;

c) The diagnosis and treatment (if any) of Ms Medway's significant post-partum pre-eclampsia (more properly described as pregnancy induced hypertension), whether there was a failure to recognise that condition, and whether the failure to treat the high blood pressure at 18:00 hours was prudent; and

d) Whether that failure resulted in Ms Medway's death.

Management of pregnancy induced hypertension

Professor Brennecke

26. Professor Shaun Brennecke was invited to provide a report in relation to Ms Medway's death.[7] The report request included that Professor Brennecke review the adequacy of the care and treatment provided to Ms Medway in respect of the possible development of pre-eclampsia, the diagnosis of that condition, when it developed and the treatment after it had developed.[8]

27. Professor Brennecke has qualifications of BA, B Med Sc (Hons), MBBS, D Phil (Oxon) FRANZCOG. He is the Director, Department of Perinatal Medicine, Royal Women's Hospital Victoria, and is also the Dunbar Hooper Professor of Obstetrics and Gynaecology, University of Melbourne.

28. Professor Brennecke was also requested to opine on issues identified in a letter from Elizabeth Trickett, then Director of the Quality and Safety Unit of ACT Health.

29. Having reviewed the material provided to him by Counsel Assisting, Professor Brennecke noted that prior to Ms Medway's admission to Hospital she became hypertensive and was prescribed labetalol. Professor Brennecke noted that she delivered twins at approximately 17:00 hours on 19 May 2011 and up until this time her BP had been within normal limits.

30. Professor Brennecke noted that Ms Medway had complained on the day prior of back and shoulder tip pain however the pain either abated or was overshadowed by her labour and delivery. He also noted that on 19 May 2011 at around 18:00 hours, Ms Medway again complained of epigastric and chest pain as well as pain in her back and shoulder region. Her blood pressure was measured at that time as 190/90. Professor Brennecke also noted that Dr Foote was aware of the high blood pressure reading as he attended her at that time and noted the pain complained of and the hypertension. Dr Foote immediately considered a diagnosis of musculoskeletal pain and prescribed

[7] Exhibit 19.
[8] Exhibit 19.

morphine for relief of pain. Dr Foote also considered that she may have a pulmonary embolus because of her Factor V Leiden condition. Professor Brennecke reviewed the medical treatment afforded Ms Medway at this time and until her untimely death.

31. Professor Brennecke commented on Ms Medway's treatment postnatally and considered that she had a number of risk factors for pulmonary embolus including her just completed twin pregnancy, her thrombophilic genetic predisposition and her elevated BMI. In his view it was reasonable to consider the epigastric and chest pain symptoms as possibly related to a pulmonary embolus.

32. Professor Brennecke accepted that in that case it was reasonable to commence clexane therapy pending lung imaging studies to confirm the diagnosis. However he said in his report:

> *"notwithstanding the possible diagnosis of pulmonary embolus, the acute exacerbation of Ms Medway's pregnancy induced hypertension from approximately 18:00 hours on 19 May 2011 certainly required acute anti-hypertensive treatment, which unfortunately she did not receive.*"[9]

33. Professor Brennecke went on to say that the BP levels recorded at that time placed Ms Medway at a significant risk of having a cerebral haemorrhage and the prompt lowering of her BP to at least a reasonable recording would have minimised the risk of this "*uncommon but calamitous complication*".[10]

34. Professor Brennecke stated that it was not clear why her hypertension was not treated during this period; further, he opined that an opportunity was lost which may have prevented the cerebral haemorrhage. He also suggested that the giving of the clexane may have made the situation worse despite the fact that it may have at the time seemed reasonable. Had a correct diagnosis been made and her hypertension treated her risk factors would have been minimised.

35. Professor Brennecke was furnished with further material and a second report was written.[11] Professor Brennecke opined that there were several BP lowering medications which could have been safely administered and which would have assisted in the lowering of Ms Medway's hypertension in a timely manner on the evening of 19 May 2011. These medications included hydralazine, labetalol and nifedipine. He also stated that their administration would not be contraindicated in circumstances in which the provisional diagnosis was pulmonary embolism.

36. Professor Brennecke commented on the treatment with labetalol commenced on 13 May 2011 after a visit to the Yass Hospital. Professor Brennecke noted that the BP returned to normal after that treatment and he opined that it may be

[9] Exhibit 19.
[10] Exhibit 19.
[11] Exhibit 20.

for that reason that the labetalol was ceased on 16 May 2011, however in his opinion this was an unwise decision because:

> *"as high blood pressure which develops during pregnancy almost always gradually worsens at least at the end of the pregnancy. Once the labetalol treatment was ceased and its blood pressure lowering effects wore off, Ms Medway's BP was likely to rise again, although the epidural anaesthetic administered for pain relief during her labour on 19 May 2011 may have delayed the reappearance of her high blood pressure, as this form of anaesthetic can have a blood pressure lowering effect. After delivery and as the effect of the epidural anaesthetic wore off, Ms Medway's high BP returned and reached new and dangerous heights."*

37. In relation to the family history of hypertension Professor Brennecke opined that:

> *"a family history of hypertension is very common. It is a predisposing factor to pregnancy-induced hypertension, but I wouldn't have, on its own, counted it as a major issue."*[12]

38. In his evidence before me Professor Brennecke was taken to the observation chart for 16 May at 14:30 hours where a note of a recording of the BP was made as 140/60. Professor Brennecke was of the view that that BP was normal with the systolic reading just above normal. In relation to the BP taken on 17 May at 1400 of 154/58 Professor Brennecke indicated that it was in the upper range of normal, the upper limit being 140 systolic, and considered the systolic of 154 as being high. He considered the BP at 20:10 hours of 148/70 as again in the upper level of normal.

39. Professor Brennecke was asked whether those upper readings should have been a cause of concern to Dr Foote given the treatment he prescribed on 13 and 14 May. Professor Brennecke said:

> *"given that there was initial justification for starting antihypertensive treatment, it is a case that once the BP treatment was stopped a few days later, the BP was beginning to creep up again and had reached a level on occasions above the normal."*

40. In response to a question from me Professor Brennecke agreed that labetalol has a long half life and may take a few days to wear off.

41. In terms of the symptoms Ms Medway displayed, Professor Brennecke suggested that high blood pressure and the type of pain that Ms Medway complained of (assuming that the report of the pain and the increasing BP was coincidental), then certainly high blood pressure can affect various parts of the body particularly the liver. Professor Brennecke opined that the liver can swell

[12] Ttranscript page 23.

and cause the sort of pain symptoms that were reported on 19 May by Ms Medway.

42. Professor Brennecke considered the BP readings taken whilst Ms Medway had an epidural anaesthetic and suggested that, assuming that the epidural anaesthesia was effective, pain would have to be ruled out as a cause of the hypertension.

43. It was reported to Professor Brennecke by Counsel Assisting that Ms Medway's BP at approximately 17:30 hours was recorded at 138/76 and that some 35 minutes later it was recorded at 189/91. He stated that it is possible but unusual for such a rapid escalation of BP and it would have been a concern and would require immediate antihypertensive treatment.[13]

44. Professor Brennecke opined that had treatment been given it would have lowered her BP considerably within 30 minutes. He also opined that it would be reasonable to expect that at least two of the three medications he suggested, being hydralazine, labetalol and nifedipine, would have been available in the birthing suites and ward.[14]

45. Professor Brennecke opined that the increasing BP should have been treated and that when Dr Foote attended at 18:00 hours with knowledge of a blood pressure reading of 190/90 an antihypertensive medication should have been ordered and administered.[15]

46. Professor Brennecke considered that there was no downside to the giving of the antihypertensive medication and that the net benefit or cost ratio would be very much in favour of the giving of the medication.

47. In his report dated 24 August 2015 and exhibited in these proceedings,[16] Professor Brennecke dealt with his assessment of the reasoning why Dr Foote ceased Ms Medway's antihypertensive treatment being labetalol. Professor Brennecke suggested that because Ms Medway's BP returned to normal on the treatment, Dr Foote considered the treatment to be then unnecessary and ceased the treatment. In Professor Brennecke's opinion this was an unwise decision and he stated the reason for this as being that when high blood pressure develops during pregnancy it almost always gradually worsens at least until the end of the pregnancy. He opined that once the labetalol was ceased and its blood lowering effects had worn off Ms Medway's BP was likely to rise. In his view the administration of an epidural anaesthetic for pain relief during the labour most likely contained the BP because this type of anaesthetic can have a lowering effect on blood pressure.

[13] Transcript page 29.
[14] Transcript page 30.
[15] Transcript page 30.
[16] Exhibit 20.

48. Given the fact that the labetalol had been ceased and the effects of the epidural were wearing off it is not difficult to understand why the BP increased. The BP did indeed increase and to very dangerous heights.[17]

49. In relation to giving of clexane Professor Brennecke opined that if it was considered that Ms Medway had suffered a pulmonary embolus clexane would have been a treatment, and whether 40 mg or 80 mg had been given it would not have been adverse. However he also stated that it should be kept in mind that once the blood is anticoagulated to a greater or lesser degree then bleeding would be more severe.

50. Professor Brennecke was furnished with the report by Dr McEvoy. Dr McEvoy had opined that Ms Medway had suffered from an amniotic fluid embolism. Professor Brennecke said that he disagreed with the report given by Dr McEvoy, indicating three areas of distinction:

    a) The clinical course over the time between the delivery and the occurrence of the haemorrhage;

    b) The availability of various pathology tests; and

    c) The autopsy result.

51. Professor Brennecke opined that amniotic fluid embolism is a rare and a lethal complication of childbirth. However the classic symptoms of an amniotic embolism are low blood pressure rather than high blood pressure, as well as difficulties in breathing such as the patient turning blue. He also stated that it was at delivery when an amniotic embolus occurs. I note that in Dr McEvoy's report he attached an article on amniotic fluid embolism which stated in the table headed "Signs and symptoms of amniotic fluid embolism" that 100% of patients had low blood pressure, cyanosis occurred in 83% of patients, and chest pain in 2%.[18]

52. Given Ms Medway's BP had increased significantly up to five hours post birth, her BP did not go down at any time to low levels, and she did not exhibit any signs of cyanosis nor signs of coagulopathy, it is unlikely that she had an amniotic fluid embolism. Professor Brennecke also noted that there were no findings of this condition in the post-mortem examination. The more probable diagnosis was pre-eclampsia given that her BP rose and her liver enzymes rose sharply suggesting liver dysfunction, which can be linked to her symptoms as a part of pre-eclampsia. The liver dysfunction could also potentially explain the chest pain and shoulder tip pain.

53. Professor Brennecke said that platelet levels can fall in pre-eclampsia syndrome. Ms Medway had blood tests which indicated her platelets levels were falling. Ms Medway also had coagulation studies conducted between

[17] Exhibit 20.
[18] P 46 of O&G Magazine vol 15 No1 attached to Exhibit 21

21:00 and 22:00 hours that evening that were all normal so there was no evidence of coagulopathy indicative of an amniotic fluid embolism.

54. In regard to Dr McEvoy's opinion that even if Ms Medway had been treated there was insufficient time to ameliorate the hypertensive situation, Professor Brennecke opined that it was sufficient time, given a two-hour window was available to have lowered her BP with antihypertensive treatment to within normal levels.

55. Professor Brennecke confirmed that the World Health Organisation recommendations in relation to pre-eclampsia and eclampsia recommend (at page 27 paragraph 22 of the recommendations) *"in women treated with antihypertensive drugs, antinatally, continued antihypertensive treatment postpartum is recommended"* and *"treatment with antihypertensive drugs is recommended for severe postpartum hypertension".* Professor Brennecke also remarked that he accepted those recommendations as best practice.[19]

56. Professor Brennecke stated that these recommendations are similar to those found in most literature on Australian Obstetrics and Gynaecology,[20] for example, the Australian and New Zealand Journal of Obstetrics and Gynaecology which is distributed to all of those who belong to the College. Professor Brennecke expected most practicing gynaecologists and obstetricians would be familiar with the guidelines.[21]

57. I note that Dr Foote is a member of the Royal Australian College of Obstetricians and Gynaecologists

58. Professor Brennecke gave evidence that the SOMANZ [Society of Obstetric Medicine of Australia and New Zealand] guidelines have been in existence for 20 years, particularly in relation to hypertensive disorders in pregnancy. These guidelines were available in 2008 and were reviewed in 2014. These guidelines are consistent with the guidelines from the World Health Organisation.

59. Professor Brennecke referred to the 2014 SOMANZ guidelines in relation to severe hypertension in pregnancy as stating:

> *"severe hypertension requiring urgent treatment is defined as the systolic blood pressure greater than or equal to 170 mmHg, this represents a level of BP above which the risk of maternal morbidity and mortality is increased. This degree of hypertension requires urgent assessment and management. ... Increasing evidence exists that cerebral perfusion pressure is altered in pregnant women, making them more susceptible to cerebral haemorrhage, post area reversible encephalopathy syndrome and hypertensive*

[19] Transcript page 33.
[20] Transcript page 33.
[21] Transcript page 34.

encephalopathy. It is universally agreed that severe hypertension should be lowered promptly albeit carefully to prevent such complication."[22]

60. It was also noted that the guidelines provide a number of useful definitions including the definition for hypertension in pregnancy, which they define as a systolic pressure of or greater than 140mmhg and/or diastolic pressure of or greater than 90mmhg. Of note the statement immediately below that definition states *"these measurements should be confirmed by repeated readings over several hours."*

61. I note that Professor Brennecke was not cross examined as to either his report or his evidence in the proceeding. I am satisfied that his evidence and the conclusions he draws should be accepted.

Dr McEvoy

62. Dr Michael McEvoy was asked by Dr Foote's legal representatives to provide a report in relation to the treatment and care by Dr Foote during Ms Medway's confinement. [23] Dr McEvoy was provided with a copy of the Calvary Hospital clinical notes, the coronial inquest brief, the report from Professor Brennecke, and statements from midwives Horsham, Balfour, Crane and Ghonim.

63. In his report he briefly summarised a chronology seemingly derived from the material he was provided with. [24] Dr McEvoy provided some general comments such as a statement that in his view twins at 34 ½ weeks in a woman with no hypertension and no proteinuria could be delivered at a facility such as Calvary Private and that he was in agreement with Professor Brennecke on this.

64. Dr McEvoy then went on to answer the questions posed by the letter of 12 August 2015 from Dr Foote's legal representatives. The first question posed was in relation to the Factor V Leiden where Dr McEvoy correctly described it as being a genetic mutation which can result in increased clotting tendency. Dr McEvoy also recognised that Ms Medway had only one of the pair of genes for this condition. He also opined that generally pregnancy outcomes are good if the patient has no symptoms.

65. The second question posed was in relation to the normal blood pressure of a pregnant woman at 34 weeks gestation. Dr McEvoy indicated that 140 systolic and equal to or less than 90 diastolic is within normal range. Dr McEvoy further opined that BP variations may occur particularly at time of labour and delivery as well as postnatally. Low blood pressure can occur from blood loss or epidural anaesthesia as well as other conditions. Dr McEvoy also indicated that increases in blood pressure can occur with severe pain or use of medications for delivery of placenta such as oxytocics.

[22] Transcript page 34.
[23] Exhibit 21.
[24] Exhibit 21 pp 2-4.

66. Dr McEvoy described pregnancy induced hypertension otherwise known as pre-eclampsia or toxaemia. Dr McEvoy suggested that the cause is unknown and describes symptoms as complaints of swelling of ankles and water retention, increased blood pressure and protein levels, and urine being increased. In his report he stated:

> *"the three main features on examination are retention of fluid (oedema), BP greater than 140/90, and protein in the urine on dipstick testing."*[25]

67. I note Dr McEvoy also considered that complications of this nature can cause amongst other things swelling of the liver and significant pain in the upper abdomen. He also stated that swelling of the brain can result as well as cerebral haemorrhage which would be a rare event and fatal. The incidence of cerebral haemorrhage would approach a statistic of one in 1 million.

68. More importantly he outlined the management which would amongst other things support the body's functions by ensuring good kidney function, preventing convulsions, and treating the BP.[26]

69. Dr McEvoy was asked whether Ms Medway suffered from pregnancy induced hypertension and he considered the information that he had at the time however he stated that there were no symptoms of oedema nor was there any proteinuria. (This of course is not accurate because there are records which indicate that she had proteinuria and swelling at least as early as 13 May 2011.)

70. Based on the information he had it was his view that she did not suffer from pregnancy induced hypertension or pre-eclampsia because she only had one of the two/three relevant factors of high blood pressure, fluid retention (oedema) and/or proteinuria. Dr McEvoy opined that Ms Medway did not suffer from pre-eclampsia and it remains a moot point as to whether she did have pre-eclampsia or pregnancy induced hypertension by definition. He believed that at the time and prior to 18:00 hours on 19 May. [That is not an accurate reflection of the established facts in relation to her symptomology].

71. Dr McEvoy agreed that the decision by Dr Foote on 16 May to cease the labetalol was appropriate.

72. The further questions answered by Dr McEvoy were answered on the basis that Ms Medway did not suffer from pregnancy induced hypertension (pre-eclampsia). It appears that Dr McEvoy was not briefed with material which suggested the existence of the three symptoms required for that diagnosis.

73. Dr McEvoy also opined that even if a diagnosis of pregnancy induced hypertension or indeed just treatment of the hypertension was to be considered it would have taken a considerable amount of time to order and then deliver

[25] Exhibit 21 page 6 line 274
[26] Exhibit 21 page 6 line 285

proper treatment. Ultimately Dr McEvoy concluded that the calamitous outcome was not foreseeable and in his view the only criticism to be made is that Dr Foote was not fully informed.

74. Dr McEvoy gave evidence in proceedings before me. His report was tendered in evidence as well. Counsel Assisting asked whether Dr McEvoy agreed with Professor Brennecke's opinion that the more probable diagnosis was that Ms Medway had pre-eclampsia. Dr McEvoy volunteered "*I believe that this patient had pre-eclampsia, most definitely. I've never disputed that no.*"[27] (However I note that he stated in his report that she did not strictly have pre-eclampsia by definition.)

75. Dr McEvoy was also asked questions in relation to whether he would be concerned that Ms Medway's BP when she returned from the birthing suite was 138 systolic and then at 18:05 hours was 180/91 - should they have set alarm bells ringing for Dr Foote. Dr McEvoy stated that given the BP was relatively stable when she left the birthing suite and given she was complaining of severe epigastric pain with a high blood pressure of 189/91, which was definitely abnormal and above the SOMANZ guidelines, he stated with the caveat (albeit possibly requiring one or two more checks) she should have had some treatment at that stage and clarified that it was treatment for the hypertension.

76. Dr McEvoy also considered that the cause of her symptoms could have been an expanded liver as described by Professor Brennecke or could have been a pulmonary thromboembolism given her high risk because of obesity (Dr McEvoy also referred to her cardiac condition however no such condition was ever suggested or reported.)[28]

77. Dr McEvoy when questioned also agreed that from 18:05 hours onwards urgent treatment of Ms Medway's hypertension was required.[29] In relation to the treatment and the timing of that treatment Dr McEvoy said that he would have expected another reading or two before embarking on treatment but certainly at the level of hypertension she suffered it would be important treatment.

78. In a question where it was suggested that the hypertension could have been treated in 30 minutes Dr McEvoy answered it was depended on the cause: whether it was severe pain, or something else that may have been the cause. The question was clarified in relation to it being related to pre-eclampsia and he said he would be more alert to that.[30]

79. In answer to a question from me in relation to the time frame between when the first extreme blood pressure reading was observed and treatment should have occurred Dr McEvoy said 15 to 20 minutes or so, half an hour or so but given that the BP was below the SOMANZ recommendations for treatment before

[27] Transcript page 36 line 25.
[28] Transcript page 37 line 1.
[29] Transcript page 37 line 16.
[30] Transcript page 37 line 30–40.

that and given her risk factors for pre-eclampsia, one would be alert and perhaps have treated. I further inquired, given her high blood pressure which was treated with labetalol by Dr Foote, the fact she had suffered pitting oedema of hands and legs with those symptoms, would that be consistent with pre-eclampsia especially given the significant increase in blood pressure on 19 May and should antihypertensive treatment have been given immediately.

80. Dr McEvoy suggested that the symptoms didn't fit the SOMANZ guidelines and that the only recorded elevation of her blood pressure was 140/90 [which in fact is incorrect] and in the presence of having twins her BP would require monitoring, however he observed that from the time of the labetalol treatment for the next few days she did not have hypertension and in his view he would not have treated her for hypertension.

81. Dr McEvoy however then went on to say that with a reading of 189 systolic that certainly requires treatment.

82. Counsel Assisting asked Dr McEvoy whether a recording of 163/88 which was recorded on 19 May at around 12:.20 hours was significant. He agreed that the recording does fit the criteria according to the SOMANZ guidelines.

Dr Foote

83. Dr Andrew Foote gave evidence before me on 8 September 2015. He provided a statement and medical notes which were exhibited.[31] In questions asked of him by his legal representative (which focused particularly on 19 May 2011) Dr Foote indicated that at around 18:00 hours he saw Ms Medway, that she was quite distressed with centralised epigastric pain, and she was sitting up leaning forward and in obvious discomfort. Dr Foote said he was unsure what was happening but considered that Ms Medway had either musculoskeletal or uterine contractions driving up the systolic blood pressure, rather than the diastolic blood pressure. He concluded that she had a high systolic blood pressure reading and that in his view morphine was a proper treatment. Dr Foote further stated that he asked the nursing staff to watch closely and contact him if there were any concerns.

84. Dr Foote stated that he spoke with Dr Lok who had been asked to review Ms Medway. He stated that Dr Lok told him the BP was still up, she was having significant pain, and he was concerned she was having a pulmonary embolus given her Factor V Leiden deficiency. Dr Lok advised that he had commenced clexane and Dr Foote asked whether he could ask Dr Choi a physician to review Ms Medway. Dr Foote stated that he asserted that he would be coming in to see Ms Medway.

[31] Exhibit 9.

85. In answer to questions in relation to a reasonable hypothesis of Ms Medway's condition Dr Foote said:[32]

> *"classically if it was pre-eclampsia I had extensive experience in that and they present with a pounding headache and diminished consciousness. So that was never presented to me. I never witnessed that and that was never presented to me in the phone calls with Dr Lok.*"

86. Dr Foote also suggested that given the presentation pulmonary embolus could not be excluded and he said amniotic fluid embolism was considered as well. I also note that he considered that the nurses failed to hand over information to Dr Lok which may have assisted him.

87. Dr Foote was subject to cross examination by Counsel Assisting and indicated that as of 10 May 2011 he did know that Ms Medway had complained of swelling to her hands plus lower legs as well as pins and needles in her arms.[33] Dr Foote indicated that he had made a handwritten note of it.[34]

88. Dr Foote was taken to page 78 of Exhibit 8A, and he identified that the document was his clinical notes. When asked a question about a BP of 120/65 Dr Foote commented that in his view it was low however a BP of 130/60 was normal.[35]

89. Dr Foote denied that he indicated to Ms Medway she had mild pre-eclampsia; he stated that he would have ordered tests first and waited for the results. In response to a question from me I questioned him about what the blood tests would show, and he said the urate level was the most sensitive marker and that the results showed that her urate level was elevated.[36]

90. Dr Foote was asked whether he discussed elevated blood pressure with Ms Medway on 10 May 2011. Dr Foote answered by suggesting that it was not clear that the BP was elevated and in his view it was borderline and he wanted to get blood results. I note the Dr Foote did not answer the question but after some clarification indicated that his usual practice is to clarify the definition of the raised blood pressure as over 140/90 in conjunction with blood tests. Dr Foote said he could not do that at the time. [I took his response to mean that he had not discussed with Ms Medway that she had mild pre-eclampsia].

91. Dr Foote was taken to the Yass Hospital notes where an entry indicated that her blood pressure was 148/90 with a range to 156/90, that Dr Foote was advised and that he put Ms Medway on anti-hypertensive medication being labetalol. It was suggested that Dr Foote had told Ms Medway that she had a high kidney reading however he denied that stating that he couldn't possibly

[32] Transcript page 38 line 14.
[33] Transcript page 41 line 33.
[34] Transcript page 42 line 8.
[35] Transcript page 43 line 17.
[36] Transcript page 43 line 41.

have because he hadn't the test results back.[37] Dr Foote agreed that when the results were back they showed abnormal kidney reading.

92. It was suggested that Dr Foote prescribed labetalol because Ms Medway was suffering from pre-eclampsia, however he denied that and stated that in his view it could have been as a result of a number of things including essential hypertension aggravated in third trimester of pregnancy.[38] Dr Foote agreed that Ms Medway did not have a history of hypertension in her first pregnancy. Counsel Assisting suggested that Dr Foote had diagnosed and treated Ms Medway for pregnancy induced hypertension which he ultimately accepted as correct.[39]

93. Dr Foote also accepted that there were proteins in her urine although it was only a trace recorded,[40] and he agreed with Professor Brennecke that it was not significant because it usually requires two ++ of proteins to be significant.

94. Dr Foote agreed that Ms Medway was seen at the delivery suite at the Calvary Private Hospital on 14 May because of his concerns in relation to her blood pressure and he wanted to follow her up. He agreed that her blood pressure taken on that day at 130/80 was normal and that he wasn't concerned about the fact she had swollen feet and tingling sensations in both her hands although he did take them seriously.[41] At that appointment Dr Foote recommended that she be seen in a further two days time. Ms Medway was admitted to Calvary Private Hospital on 16 May because of a premature pre-term rupture of membranes.

95. Dr Foote was taken through the hospital notes, particularly the entries he made in relation to 16 May 2011, and when asked about the BP of 125/75 Dr Foote answered that it was a low blood pressure however upon questioning from me he agreed that it was indeed a normal BP both systolic and diastolic.[42]

96. Dr Foote agreed that he had Ms Medway on labetalol and that her blood pressure was normal on it. Dr Foote agreed that Ms Medway was taking the medication for pregnancy induced hypertension.[43]

97. Dr Foote also agreed when questioned that he did see Ms Medway on 16 May at 08:45 hours. He was taken to a note which indicated that if the BP diastolic pressure becomes less than 70 to contact him. When questioned about a blood pressure reading of 130/64 at 10:15 hours he suggested that it was getting somewhat low and so he decided to withhold a dose of labetalol.

[37] Transcript page 46 line 1.
[38] Transcript page 46 line 26.
[39] Transcript page 47 line 5.
[40] Transcript page 47 line 8.
[41] Transcript page 48 line 20.
[42] Transcript page 50 line 19-42.
[43] Transcript page 51 line 1-5.

98. In questions by both Counsel Assisting and myself about the fact that Dr Foote considered Ms Medway's BP of 130/64 to be low I note earlier he had agreed with me that 130/60 was normal.

99. Dr Foote was asked whether there was any other symptomology that would suggest she had low blood pressure other than the reading, and he stated there was no note however it was his recollection that the nurses were worried.[44] Dr Foote indicated that he has a direct memory that that is what they told him despite the fact that there is no notation in relation to that issue.[45]

100. Counsel Assisting questioned Dr Foote in relation to this issue and he agreed that he did not raise this in his letter to the Coroner nor did he write it in his notes. Dr Foote indicated that it was the note where the midwife had written if diastolic less than 70 to call him and I should consider that as indirect evidence that he was concerned. Dr Foote indicated in a question by Mr Sharwood as to what she understood he said he answered that both he and the nurses were concerned.[46]

101. Dr Foote was then taken to an entry on 16 May 2011 at 14:40 hours where a BP reading was recorded at 140/60 whilst Ms Medway was being treated with labetalol. Dr Foote could not explain but stated that he thought the diastolic was getting too low. However Dr Foote had already indicated that the systolic of 140 was borderline.

102. Dr Foote was then taken to a recording on that same day at 17:23 hours of 141/84 and he agreed that the BP was then starting to creep up. The reading on 17 May in the early hours of the morning of 132/58 and 135/60 was suggestive, he said, of the BP starting to become low and he agreed that her blood pressure was fluctuating. He said that he ceased the labetalol because her blood pressure reading was normal. He also agreed that at 14:00 hours, 20:00 hours and 08:00 hours on 17 May labetalol was also withheld. [I would assume that the BP was normal because she was on labetalol.]

103. It was suggested to Dr Foote that on 17 May at 14:00 hours Ms Medway's BP was 154/58 which was around the time he ceased the labetalol. He suggested that he was not made aware of that reading however he also agreed that he does check the observation charts when he visits a patient.

104. It was suggested to Dr Foote that in the early hours of 19 May, the day she confined, that Ms Medway's blood pressure readings were 150/86 and 163/88 and at that time Ms Medway was complaining of upper abdominal and back pain as well as shoulder tip pain and that he had been advised about this situation. Dr Foote accepted that it was correct that he had been advised.[47]

[44] Transcript page 53 line 20– – 43.
[45] Transcript page 54 line 1– – 7.
[46] Transcript page 54 line 10– - 35.
[47] Transcript page 57 line 9– – 17.

105. When questioned as to whether that would have concerned him that she was experiencing pregnancy induced hypertension Dr Foote stated it was something he needed to think about, but he believed she may have been in labour at the time. It was suggested that it was drawn to his attention also at that time that she had pitting oedema and further elevation of BP and that given those circumstances pregnancy induced hypertension needed to be considered.

106. Dr Foote confirmed it needed to be considered and then said the diastolic wasn't typically over 90 and that pregnancy induced hypertension was not his leading diagnosis however he had considered it. Dr Foote also considered that Ms Medway was in labour, however he agreed that an epidural tends to reduce hypertension and he agreed with that proposition when put to him.[48]

107. Dr Foote was taken through Ms Medway's elevated systolic blood pressure readings at 12:10 hours, 12:30 hours and again at 14:30 hours. Dr Foote accepted they were elevated. The twins were then born and the blood pressure was 138/76 and at about 17.30 hours she was moved from the birthing suite to the ward.

108. Dr Foote stated that he was in the hospital at around 18:00 hours when he happened upon one of the midwives who ran into him in the corridor, and she asked him to review Ms Medway as Ms Medway was very distressed. Dr Foote agreed and he attended upon Ms Medway. He said he probably spent around 20 minutes with her. It was suggested to him that Ms Medway's BP was 189/91 and then 177/93, to which he stated that he took a BP reading himself and it was 189/89, however said that he was not aware of the other reading. It was suggested to him that his report indicated that the BP was 190/90 and oxygen saturation were at 99%.[49]

109. When it was suggested to Dr Foote that he would have had access to the general observation charts he stated that it was not true that he would have.[50] [I note that earlier Dr Foote stated that he did check the charts: see paragraph 103 earlier.]

110. When it was suggested that Ms Medway had a very concerningly high blood pressure at 190/90 Dr Foote's reply was *"yes a concerningly high systolic blood pressure the diastolic was at the upper normal limit".*[51] He stated that he did turn his mind to treating the high systolic blood pressure. When asked what anti-hypertensive treatment he would have given he said:

> "*I think it would have been dangerous to have administered antihypertensives at that stage given that we didn't have a diagnosis. She was in significant pain and we didn't have any blood results. The most*

[48] Transcript page 57 line 40.
[49] Transcript page 60 line 22
[50] Transcript page 60 line 41.
[51] Transcript page 61 line 1-4.

common cause of elevated systolic blood pressure is untreated pain. The other thing that I think really needs to be addressed is the what if antihypertensives had been given and the diagnosis actually was in amniotic fluid embolism or it actually was a pulmonary embolism and antihypertensives given in that situation would have been catastrophic."[52]

111. In an answer to questions from Counsel Assisting in relation to whether any hypotensive medication was administered Dr Foote said in the first instance *"that's right"* and when pressed whether any was given at all he indicated that they were not given.

112. Dr Foote indicated that the only BP that he was aware of was the one he took recorded as 190/90. Dr Foote indicated that after he had left Ms Medway at around 18:30 hours he went home and remained there until contacted by Dr Lok. The next time he saw Ms Medway was in the resuscitation room at Calvary Public Hospital Accident and Emergency.

113. Dr Foote said he was not aware at the time of the SOMANZ guidelines, but he is now aware of them. When questioned he clarified that he did not know of the 2008 guidelines, only the 2014 guidelines.

114. Under the heading severe hypertension in pregnancy the guidelines in 2008 said the following in relation to the definition *"systolic blood pressure greater than or equal to 170 and the diastolic pressure greater than or equal to 110":*

"This represents a level of BP above which cerebral auto–regulation is overcome in normotensive individuals. It is generally acknowledged that severe hypertension should be lowered promptly albeit carefully to prevent cerebral haemorrhage and hypertensive encephalopathy."

115. Dr Foote was asked whether he agreed that severe hypertension should be lowered promptly and carefully to prevent cerebral haemorrhage. He ultimately agreed that a blood pressure of greater than 170/110 should be treated. However he disagreed that a blood pressure reading of 190/90 would have represented severe hypertension. Dr Foote accepted that a systolic of 190 is severe hypertension. It would appear his reason for doing so was that he considered severe pain to be the reason for this systolic level.

116. Dr Foote accepted the proposition that essential hypertension is defined as a blood pressure reading of 140/90 or greater. Dr Foote also agreed with the proposition that pre-eclampsia is a progressive disorder that will inevitably worsen if pregnancy continues.

117. Dr Foote agreed with the proposition that "*antihypertensive treatment should be commenced in all women with a systolic blood pressure of greater than 170 or*

[52] Transcript page 61 line 6–14.

a diastolic blood pressure of greater than or equal to 110, because of the risk of intracerebral haemorrhage and eclampsia".[53]

118. Dr Foote agreed that there are several rapidly acting agents available to control severe hypertension and amongst them were labetalol, reserpine and hydralazine.

119. Dr Foote agreed with the proposition that treatment of hypertension in pregnancy does not cure pre-eclampsia, but is intended to prevent cerebral haemorrhage and eclampsia, and delayed progression of proteinuria.[54]

120. Dr Foote agreed with the proposition set out in the SOMANZ guidelines in 2008 as follows:[55]

> *"the intention in treating mild to moderate hypertension is to prevent episodes of severe hypertension and allow a safe prolongation of the pregnancy for foetal benefit*."

121. Dr Foote agreed with the proposition that it is reasonable to consider antihypertensive treatment when systolic blood pressure reaches 140 to 160 systolic and 90 to 100 diastolic on more than one occasion and that when BP exceeds these levels hypertensive therapy should be commenced for these patients.[56]

122. Dr Foote agreed that some of the signs and symptoms of pre-eclampsia are high blood pressure (140/90 or higher), protein in the urine with at least one plus on the dipstick or 300 mg in a 24 hour collection, swelling in the hands feet or face especially around the eyes (is an indentation is left when applying a thumb pressure), headaches, changes in vision, upper abdominal chest pain and sudden weight gain as well as breathlessness.

123. Dr Foote agreed with the proposition that there is a postpartum danger zone for women who have experienced pregnancy induced hypertension for a period of at least 48 hours.

124. Dr Foote further agreed that the proposition that pre-eclampsia can appear at any time during pregnancy, delivery and up to 6 weeks post partum although it mostly appears in the late second and third trimester and is frequently resolved within 48 hours. Dr Foote further accepted that pre-eclampsia can develop gradually or come on quite suddenly, even flaring up in a matter of hours.

125. Dr Foote denied having read the SOMANZ guidelines of 2008 however he conceded that he was aware of the principles espoused in the guidelines. Dr Foote agreed with the proposition that people who practice in that area should know and be aware of the guidelines. Dr Foote also agreed that there is

[53] Transcript page 63 line 20–34.
[54] Transcript page 64 line 4–7.
[55] Transcript page 54 line 10.
[56] Transcript page 64.

significant literature in the practice of his specialty in relation to the treatment of hypertension and that practitioners should keep abreast of those issues.

126. It was suggested that Dr Foote had made the diagnosis of pregnancy induced hypertension on 13 May which he accepted. However he strongly rejected the proposition that during the time frame on 19 May between 18:00 and 20:00 hours that while a brief window it allowed sufficient time for the administration of an effective anti-hypertensive treatment.

127. The reasons why Professor Brennecke considered the probable diagnosis was pre-eclampsia and not amniotic fluid embolism were put to Dr Foote and his comment was sought:

    a) The stroke was five hours after delivery not around the time of delivery, which is when, in Professor Brennecke's opinion, the embolism would have occurred if it did occur - Dr Foote accepted that is usually what happens;

    b) Dr Foote also accepted that typically with an amniotic fluid embolism one sees a loss of BP, breathing difficulties, cyanosis and coagulopathy, but for Ms Medway there was no sign of cyanosis given her oxygen level was 99% and there was no evidence of coagulopathy;

    c) In relation to the reports in relation to raised liver enzymes Dr Foote said that that was a retrospective diagnosis as he did not have the liver function tests available;

    d) Dr Foote however accepted that if platelets fell it would be a classic sign of pre-eclampsia.

128. Dr Foote was asked whether there was anything in Professor Brennecke's report which he wished to comment upon, and he answered by stating that the absolute game changer was when the blood pressure was 197/112 at 19:00 hours. Dr Foote said he was never told about this at the time and stated he only found out about it afterwards when Dr Lok told him. It was suggested to Dr Foote that Dr Lok was not asked about the subsequent conversation and Dr Lok gave no evidence along these lines. Dr Foote stated that he was in court at the time Dr Lok gave evidence but said nothing. When it was suggested to him that he should have asked his legal counsel to put that proposition to Dr Lok Dr Foote said *"I was told to attend and answer the questions that were put to me."*[57] When it was suggested to him that he should have spoken to his legal counsel he said that he did tell them.[58]

129. Dr Foote then referred to comments of Professor Brennecke where he commented in his report about the relative inexperience of the resident staff on duty at the time and the confusing and misleading nature of Ms Medway's

[57] Transcript page 70 lines 1-7.
[58] Transcript page 70 line 10.

symptoms, as regards the possible diagnosis of pulmonary embolism. Dr Foote stated that Dr Choi was also a specialist and also able to commence antihypertensives if they were needed. He further stated that Ms Medway's condition was very confusing and he suggested that everyone was concerned as to the giving of anti-hypertensives if the diagnosis was incorrect. He also referred to the "game changing" blood pressure reading which he said he was not aware of. When it was suggested to Dr Foote that Dr Lok stated that he raised all observations with him Dr Foote stated that Dr Lok did not tell him.

130. It had been suggested that there was no contraindications for administering labetalol at the time however Dr Foote stated that that would have been a grave error of judgement without a diagnosis. When it was suggested that there was no downside to giving the labetalol according to Professor Brennecke Dr Foote did not answer the question but explained what his concerns were. In fact he never answered that question, but he did state that both doctors Lok and Choi were prescribing doctors.

131. Dr Foote considered that a blood pressure reading of 190/90 was not catastrophic however in his view it would have been catastrophic if it was 197/112.

132. Dr Foote agreed that Ms Medway was a high risk pregnancy and one of the reasons that made her so was her Factor V Leiden condition. He also accepted that she had an elevated blood pressure at least six days prior to delivery but then stated that it had settled to a point where it was particularly low.

133. At the request of the family via Counsel Assisting, Dr Foote was also asked questions in relation to whether it would have been more suitable to have Ms Medway's confinement at The Canberra Hospital, and he stated that he regarded that Calvary was entirely appropriate given she was 34 weeks gestation. Dr Foote also recalled that Mr Ryan spoke to him about Mr Ryan's concerns that Ms Medway's blood pressure was extremely high at around about 18:00 hours on 19 May.

134. In questions that I asked about his knowledge the day before confinement Dr Foote advised that he was not aware of any shoulder tip pain being complained of on the day after she had confined at around 17:45 hours. [I note that he agreed with this proposition earlier in his evidence.]

135. In questions from Counsel for the Hospital Dr Foote was asked why he had not put in his notes the conversation he said he had with Dr Lok about a diastolic blood pressure of 112 and 120. Dr Foote stated that he was not aware of the 112 diastolic reading until he was taken through the material. He could not explain why he did not write it in his notes given its importance.

136. Dr Foote mentioned the clinical review that took place and the fact that at that meeting no one could clearly define a diagnosis. When asked whether that

"game changing" reading was mentioned at the review Dr Foote said no. When asked what material he used to compile his statement he stated that it would have included the general observation charts although he cannot remember whether he was aware of them or not nor indeed where they were.

137. It was suggested to him that midwife Horsham stated that she took readings of 188/100 and that Dr Foote was still there at the time and was aware of her observations including her high blood pressure. Dr Foote denied knowledge of the BP. Midwife Balfour also stated that she was concerned about the blood pressure readings at about 1800 when she recorded a reading of 189/91 and that she let Dr Foote know of the observation. Dr Foote denied that knowledge and stated that he left the room to write notes.

138. Dr Foote also denied that Dr Lok reported on the telephone to him that Ms Medway's diastolic was 112. He stated that that was the game changer and when asked what he would have done he said he would have prescribed intravenous hydralazine and magnesium sulphate. Dr Foote also read paragraphs from the Medical Board of Australia's Professional Standards Hearing's finding into its investigation into his conduct. He stated that the Panel had found the allegation that Dr Foote failed to correctly diagnose the patient's hypertensive disorder was not proven, that it accepted there was conflicting evidence and it had accepted that the postnatal hypertension did not warrant immediate intervention.

My comments on the evidence

<u>The expert evidence</u>

139. I have already indicated that I accepted the evidence of Professor Brennecke. I did so because his evidence was not contested and he was not cross examined by either Counsel for Calvary Private Hospital or more particularly Counsel for Dr Foote.

140. Professor Brennecke's report was based on the material he was provided with. Professor Brennecke also referred to the WHO guidelines and the SOMANZ guidelines which clearly define what pregnancy induced hypertension is and defines the symptomology and treatment of this condition.

141. It appears Professor Brennecke very carefully reviewed the material to arrive at his conclusions and that these conclusions were based on his experience together with the guidelines he referred to. I am satisfied his conclusions were based on what I have determined are the established facts. Those facts are these:

    a) On 13 May 2011 Ms Medway suffered from pregnancy induced hypertension and was treated by Dr Foote for that condition.

    b) That treatment was labetalol medication 100 mg three times per day.

c) On 16 May 2011 Ms Medway was admitted to the Calvary Private Hospital Maternity Unit because of preterm ruptured membranes.

d) The BP during 16 May 2011 was measured at what has been described as normal or slightly elevated.

e) Despite this normotensive BP Dr Foote withheld and then ceased the labetalol.

f) On 19 May at 00:20 hours Ms Medway's BP began to rise; it was observed she had pitting oedema and she was complaining of upper abdominal pain, back and shoulder tip pain.

g) Ms Medway continued to have elevated blood pressure readings during that day.

h) Ms Medway began labour that day and was administered an epidural which affects BP to the extent that it can lower the rate.

i) At 14:54 hours the first twin was born and at 15:07 hours the second twin was born.

j) Ms Medway was discharged from the birthing suite at 17:30 hours and her blood pressure at the time was noted to be 138/76.

k) At 18:00 hours Ms Medway complained of epigastric and chest pain; her BP was progressively measured as 189/91, 177/93 and 188/100.

l) Dr Foote was present and was advised of these readings.

m) Dr Foote administered morphine for Ms Medway's pain.

n) At 19:00 hours Ms Medway's blood pressure was measured at 197/112.

o) Dr Lok was called to attend upon Ms Medway at approximately 19:05 hours; he was asked to review her in relation to her pain.

p) Dr Lok noted Ms Medway had significant chest pain and had a past history of Factor V Leiden.

q) Dr Lok stated he was not aware Ms Medway had been on anti-hypertensive medication [despite having the medication chart available].

r) Dr Lok did not consider that Ms Medway had or was suffering from pre-eclampsia.

s) Dr Lok advised that he was not certain what was causing the pain but assumed it was a pulmonary embolus and treated her for that with clexane.

t) Dr Lok advised Dr Foote of his findings including the high blood pressure and of the treatment plan.

u) Dr Foote agreed with the plan and also asked him to contact Dr Choi for review.

v) During the time Dr Lok was on the ward he was called to review Ms Medway again and noted that she was non-responsive with a right hemiparesis.

w) Dr Choi reviewed Ms Medway and ordered a CT scan.

x) Ms Medway was taken to the radiology suite and upon arrival was unconscious; a MET call was made and she was taken to the Emergency Department for resuscitation.

y) Ms Medway was transferred to The Canberra Hospital for urgent neurosurgery which she received with a poor prognosis resulting ultimately in her death on 22 May 2011.

142. Dr McEvoy's report and evidence were inconsistent in one particular aspect. In his report he stated that it was uncertain that Ms Medway had pre-eclampsia however in his oral evidence he stated that he had always considered that she had pre-eclampsia and never disputed that fact.[59] Dr McEvoy stated he was uncertain whether she had pre-eclampsia because Ms Medway had only one symptom of pre-eclampsia that being hypertension. In fact that is an incorrect assertion because she did have oedema and also proteinuria.

143. Dr McEvoy was aware of the WHO and SOMANZ guidelines and ultimately agreed that a BP of 168/88 would fit the SOMANZ guidelines for treatment.

144. In relation to the cessation of labetalol Dr McEvoy considered that it was appropriate given Ms Medway no longer had hypertension, however that was based on an assumption that her blood pressure did not increase. That was not the case as her blood pressure fluctuated considerably and was above the SOMANZ guidelines recommendation for treatment.

145. In relation to Dr McEvoy's opinion about whether Dr Foote should have instigated anti-hypertensive therapy he was of the incorrect view that Dr Foote had not been notified however that is not the case and I have found that Dr Lok did notify Dr Foote of the significantly raised levels in her blood pressure. However I note Dr McEvoy did say that as at 18:05 hours Ms Medway required urgent hypertensive treatment.[60]

146. I do not accept Dr McEvoy's opinion in relation to the time it would take to order and administer an anti-hypertensive. Clearly those would be available on a

[59] Transcript page 36 line 28.
[60] Transcript page 37 line 16.

maternity ward with a birthing suite only 50 metres away. I am also satisfied that there was sufficient time had the diagnosis been made at 18:00 hours to give anti-hypertensive medication to Ms Medway which may have resulted in her blood pressure levels being lowered to a normal level.

Evidence from the nursing staff

147. In relation to the note taking by staff, in my view midwife Horsham is to be commended for her production of contemporaneous notes which she had recorded very soon after the events which took place on her ward. These notes were most helpful to this inquest, particularly so given the length of time between Ms Medway's death and the hearing of the inquest. I am satisfied that the matters recorded in those notes are accurate.

148. Midwife Ghonim gave evidence that she was assisting midwife Balfour because she had been asked to come in early to assist a short staffed unit. Midwife Ghonim stated that she saw Ms Medway at approximately 1800 hours where she observed that Ms Medway had complained of chest pain and she measured Ms Medway's blood pressure which recorded a level of 180/90. I note that midwife Ghonim noted the BP in the notes however she did not advise midwife Balfour because she believed midwife Balfour would read that in the notes. Midwife Ghonim acknowledged that where patients have high blood pressure it is critical to report it. I note that midwife Balfour was aware of the high blood pressure as she took a measurement herself at 18:05 hours.

149. I note that given Dr Foote had previously treated Ms Medway for pre-eclampsia on 19 May there is no explanation as to why he did not recognise the signs of this condition at 18:00 hours on 19 May. Dr Foote knew that labetalol had stabilised her blood pressure on 13 May.

150. I am satisfied particularly given the contemporaneous notes of midwife Horsham that Dr Foote was informed of the high blood pressure particularly the BP prior to 1820 hours which was recorded as 188/100 where Dr Foote was said to be in Ms Medway's room and he witnessed that reading.

Submissions by Counsel

151. I have had the benefit of submissions from Counsel Assisting, Counsel for Calvary Private Hospital and Counsel for Dr Foote.

152. I note that Counsel Assisting provided written submissions in reply to Dr Foote's submissions as did Counsel for Calvary Private Hospital. Essentially both Counsel referred to the evidence before me to refute some of the issues raised in Dr Foote's submissions.

Counsel Assisting's submissions

153. Counsel Assisting produced written submissions to me which were very helpful and I adopt much of what has been said in them.

154. Counsel Assisting submitted that Dr Foote failed to recognise and adequately treat Ms Medway's acute severe hypertension which exhibited shortly after childbirth on 19 May 2011 at approximately 18:00 hours and continued untreated until 20:05 hours on 19 May 2011.

155. Counsel Assisting stated that given Dr Foote had agreed that he had extensive experience in the management of pre-eclampsia and that he was aware that post partum a patient who had experienced pregnancy induced pre-eclampsia continued to be at risk of pre-eclampsia post partum, he should have been aware and diagnosed her quickly and adequately. Counsel noted that given Dr Foote had treated Ms Medway for pregnancy induced hypertension (pre-eclampsia) he gave no explanation as to why he ceased her medication to high blood pressure.

156. Counsel Assisting submitted that no anti-hypertensive treatment was provided to Ms Medway notwithstanding blood pressure readings shortly after midnight on 19 May 2011 of 150/86 and at 05:45 hours of 163/88, the latter which was accompanied by abdominal pain on shoulder to pain. However Dr Foote asserted that he was not aware of these readings. In Counsel Assisting's submission Dr Foote failed to adequately treat Miss Medway's BP which he recorded as 190/90, and he failed to consider the implications of the escalation in her blood pressure and the risk to Ms Medway that she may be experiencing post partum pre-eclampsia.

157. Counsel Assisting further submitted that Dr Foote's failure to treat Ms Medway with anti-hypertensive medication at that time contributed to her death

158. Counsel noted that even on his provisional diagnosis of pulmonary embolism - a life-threatening condition - he left Ms Medway and went home.

159. Counsel Assisting submitted that I should reject any assertion by Dr Foote that he was not informed of Ms Medway's BP at 19:00 hours when it reached 197/112.

160. Counsel Assisting submitted that Ms Medway's death may have been prevented had Dr Foote indeed treated her hypertension at around 18:10 hours on 19 May 2011.

<u>Calvary Private Hospital's submissions</u>

161. Counsel for Calvary Private Hospital provided written submissions. No direct criticism was made of Counsel Assisting's submissions; Calvary Private Hospital submitted that the submissions were consistent with the evidence that was given during the inquest.

162. Counsel submitted that there is no dispute that from approximately 10 to 15 minutes before 18:00 hours on 19 May Ms Medway developed pain between the shoulder blades and her chest as well as epigastric pain, and the BP reading taken at 1805 was 189/91. Counsel noted that Dr Foote recognises

that at that point in time Ms Medway's BP was in the region of 190/92 or 189/91, and that midwife Horsham recorded blood pressures of 188/100 at approximately 18:10 hours whilst Dr Foote was present.

163. Dr Foote advised that in his view the BP reading was due to pain which is corroborated by midwife Balfour in her statement.

164. Counsel submitted that midwife Balfour contacted Dr Lok when Ms Medway's pain did not improve because midwife Balfour was concerned about the level of pain and the rising BP.

165. It was submitted that Dr Lok arrived within seven minutes of being called, and that he was informed of her history and in particular that morphine was not relieving her pain. It was also submitted that Dr Lok would have had access to Ms Medway's notes and charts including her personal history however he was not aware of any BP history.

166. Counsel submitted that it was to Dr Lok's credit that he did not say with certainty that he had informed Dr Foote of his observations and findings, however it stands to reason that he would have done so when he spoke to him. Counsel further submitted that I should be satisfied that he did so given Dr Foote's evidence about this matter.

167. Counsel for Calvary Private Hospital submitted that the nursing staff did their best in carrying out their duty to Ms Medway and that they were competent in difficult circumstances on that day.

Dr Foote's submissions

168. Counsel for Dr Foote submitted that Ms Medway's pre-and post partum pregnancy was not a simple clear-cut case. Counsel referred to Professor Brennecke's report where he indicated that postnatally Ms Medway had significant risk factors which included twin pregnancy, thrombophilic genetic pre-disposition and an elevated BMI; further that Professor Brennecke considered it was reasonable given her epigastric pain chest symptoms shortly after her birth that a diagnosis of pulmonary embolus could be considered, and given that circumstance it was also reasonable to treat with clexane therapy.

169. Counsel also submitted that Professor Brennecke said notwithstanding those diagnoses Ms Medway's exacerbation of the acute pregnancy induced hypertension should have been treated with anti hypertensives.

170. Counsel suggested that Professor Brennecke's criticism is aimed at a period from 18:00 hours onward on 19 May. She submitted that Professor Brennecke acknowledged the reasonableness of Dr Foote's differential diagnosis of pulmonary embolus and its potential lethal consequence.

171. Counsel further suggested that Dr McEvoy's evidence that the BP reading of 189/91 was definitely abnormal according to the guidelines found in the

SOMANZ guidelines, however he suggested that one or two more checks should be made prior to giving treatment.

172. Counsel also compared the differences in relation to treatment options and timeframes between Professor Brennecke and Dr McEvoy, where Professor Brennecke indicated that treatment should have been immediate and Dr McEvoy stated commencement of treatment should have been instigated after several blood pressure reading were taken but within 30 minutes of the high reading. Counsel further submitted that Dr McEvoy stated he expected that the hypertensive reading could have been as a result of pain.

173. Counsel submitted that there is consensus between the expert obstetricians about the fact that Ms Medway suffered from pregnancy induced hypertension and that the differences only occur in relation to the timing of the treatment.

174. Further, Counsel submitted that Professor Brennecke's assessment of the time that it would have taken to reduce Ms Medway's hypertension is optimistic and that I should prefer the evidence of Dr McEvoy given the confounding presentation and symptoms and the rapidity of their development.

175. Counsel submits that Dr Foote recalls being in Ms Medway's room and directly observing a BP reading taken by midwife Horsham and accepts that it is reasonable to assume that Dr Foote was aware of Ms Medway's high blood pressure reading of 188/100.

176. Counsel submits that Dr Foote did not know of this reading and indeed took his own reading which varied between 189/89 and 190/90. Counsel details the observations taken by both midwife Horsham and midwife Balfour and submits that given the reading on the ECG machine of 18:16 hours it is reasonable to conclude that Dr Foote had left Ms Medway's room by that stage.

177. Counsel further submits that no further advice was given to Dr Foote in relation to Ms Medway's BP after that time; indeed, Dr Foote left a request that he be advised of any change that occurred. Counsel further submits that rather than call Dr Foote, midwife Balfour called Dr Lok.

178. Counsel further submits that Dr Lok only told Dr Foote of limited matters and Dr Lok did not tell Dr Foote of the BP reading entries in the general observation chart.

179. Counsel for Dr Foote addressed issues raised in written submissions by Counsel Assisting, particularly paragraph 86, and suggested that it was unfair to criticise Dr Foote because of semantics given the terms pre-eclampsia and pregnancy induced hypertension and Dr Foote acknowledged that she had pregnancy induced hypertension so the criticism levelled by Counsel Assisting was unhelpful. [I note that Dr Foote stated in evidence that she was treated with labetalol for essential hypertension.]

180. Counsel referenced paragraph 88 of Counsel Assisting's written submissions that there was no note to suggest that Ms Medway suffered from faintness or hypotension. Counsel for Dr Foote agreed however stated that given that Dr Foote had a recollection of being told that by nursing staff which was not contradicted. [I note that Dr Foote was the last witness to give evidence and no other witness was asked about this issue.]

181. Counsel for Dr Foote refuted the submission made by Counsel Assisting which suggested that Dr Foote shifted his responsibility for management to the nursing staff. She submitted that that was unjustified and inaccurate.

182. Counsel further submitted that at paragraph 90 of Counsel Assisting's written submissions was an indirect criticism of Dr Foote in relation to Dr Foote's failure to treat Ms Medway's elevated blood pressure during labour where there was evidence that oral medications are ineffective during labour and that this assertion was not contradicted by either expert witness.

183. Counsel further submitted that there was no expressed criticism of Dr Foote's management of Ms Medway prior to 18:00 hours on 19 May however Professor Brennecke opined that the cessation of labetalol was unwise because the hypertension would inevitably re-occur as a drug effects wore off. This she stated does not sit easily with the acknowledged normal blood pressure reading of 138/76 at the time of discharge from the birthing suite. She asserts that by that time the epidural would have worn off and the labetalol would have well and truly been out of Ms Medway's system so the normal blood pressure remains unexplained.

184. Counsel for Dr Foote argued that Dr Foote did explain why he did not administer the anti-hypertensive medication and why it would have been catastrophic and says his explanation is found at page 70 paragraph 21 of the Transcript; where Counsel Assisting submitted that he failed to answer the question about the downside of administering labetalol, she submits that he answered the question in that same passage.

185. In relation to the Medical Board and Dr Foote's knowledge of the SOMANZ guidelines it is submitted he was unaware in 2011 of the 2008 guidelines and was only aware of the 2014 guidelines when he was shown them at the Medical Board proceeding. However Dr Foote acknowledges that whilst he was unaware of the guidelines he was aware of the principles enunciated in those guidelines.

186. Further Counsel submits that the question and opinion of Dr Brennecke in relation to whether a similar tragic outcome would occur in the tertiary medical Centre is relevant to the question of whether Ms Medway's death was preventable. Counsel refers to Professor Brennecke's evidence where he says that there was a relatively brief window of opportunity in which Ms Medway could been treated. Counsel submitted that this window is only ascertainable in

hindsight. Counsel refers to Dr McEvoy's evidence to suggest there was insufficient time to ameliorate the hypertensive condition.

187. Counsel further notes that Dr Foote's evidence that he would have administered intravenous hydralazine and magnesium sulphate if he had been aware of the BP diastolic reading of 112.

188. Dr Foote's counsel submitted that on the state of the evidence it is not open to find that his failure to treat Ms Medway with anti-hypertensive medication at the time he took the blood pressure reading of 190/90 (approximately 18:10 hours) contributed to her death.

189. In relation to the prospect of an adverse comment being made by the Coroner Dr Foote's counsel submitted that it should only be made in relation to his management and care of Ms Medway and any connection between that care and management and her death, and that if the Coroner is satisfied to the high civil standards set out in *Briginshaw v Briginshaw* (1938) 60 CLR 336 that reasonable satisfaction should not be produced by inexact proofs, indefinite testimony or indirect inferences. Counsel submits that drawing from those principles it would be inappropriate to make adverse comments if there is no evidence on which it might be reasonably based and further that the making of adverse comment based on implications or inferences sought to be drawn from evidence that lacks precision or clarity would be against principles of natural justice.

190. Counsel further submitted that the evidence of the nursing staff was inconsistent particularly in relation to the timeframe - which is an important aspect of any adverse comments - and that the Coroner should be satisfied that the actual timelines are accurate. Further Counsel that submitted that the evidence of Dr McEvoy should be preferred because his evidence accords with the SOMANZ guidelines and ought to be preferred. In relation to the allegation that Dr Foote failed to consider the implications of Ms Medway's hypertension is uncontested evidence is that he was not told of the escalation. The evidence is not open to say that the failure by Dr Foote to administer an anti-hypertensive at about 18:10 hours contributed to Ms Medway's death. Further it is incorrect to say that Dr Foote went home after making a provisional diagnosis which in his view was musculoskeletal pain. It was treated appropriately with morphine.

191. Further Counsel for Dr Foote submitted that I should consider the reasons of the Medical Board as part of the coronial inquiry. Those reasons were attached to the submissions of Counsel for Dr Foote.

192. I have reviewed the document. I have also reviewed their findings. I note that their findings do not bind me in any way. I am also unaware of exactly what material or evidence was presented at the hearing.

193. Curiously I note that the board engaged the services of an expert witness in relation to Obstetrics and then failed to accept his report and evidence.

Preferring instead a panel member's view as to whether the treatment given by Dr Foote was appropriate, namely the high blood pressure being untreated at 18:00 hours.

194. I noted that Dr Michael Peat, a senior consultant obstetrician and senior lecturer at the Department of Obstetrics and Gynaecology of the University of Adelaide, was invited to provide a report to the Australian Health Practitioner Regulation Board as part of the Medical Board Proceedings. I also note that at paragraph 4.3 he appeared perplexed that a blood pressure reading of a 189/91 did not trigger a MET call. Dr Peat also noted there was not even a review of the patient. Further I note that Dr Peat gave evidence in respect to the BP reading at 18:00 hours and considered that Ms Medway should have actively been treated for her hypertension at the time. Dr Peat criticised Dr Foote because he failed to respond appropriately to the systolic elevation in BP. In Dr Peat's view it was a mistake of clinical judgement to attribute the cluster of symptoms to a pulmonary embolus when they were those of severe pre-eclampsia.

195. I also observe that at paragraph 5.6 Dr Foote suggested that the SOMANZ guidelines did not apply because Ms Medway was not pregnant as she had given birth and therefore he considered the treatment of hypertension was not as critical as if it had been in the anti-natal stage. Dr Peat was not of that view and I note that neither Professor Brennecke nor Dr McEvoy agreed with that proposition.

196. I also note that Dr Foote allegedly told the family that in his view a young fit healthy woman should be able to withstand significant hypertension without any effect. Whilst that may be true in some respects it does not apply clearly to a pregnant woman or one who has just confined according to the SOMANZ guidelines.

197. Having considered the view of the panel and the evidence before me it is my view that the Dr Peat's expertise should have been preferred. I say that because of the evidence I have heard from particularly Professor Brennecke and to some extent Dr McEvoy who both considered that the blood pressure reading at that time was sufficiently elevated to warrant treatment. The experts agree, including Dr Peat, that a BP of 189/90 required intervention and in my view. Therefore the decision of the panel does not assist me in my deliberation.

<u>Reply submissions by Calvary Private Hospital</u>

198. Counsel for Calvary Private Hospital suggested that submissions put on behalf of Dr Foote were in part misleading in describing the role of the staff of Calvary as at 19 May 2015. They also referred to the attached decision of the professional standards panel of the Medical Board of Australia which Counsel for Calvary Private had not seen prior to it being attached to the submissions.

199. Counsel submitted that it appears the submissions on behalf of Dr Foote relied on an assumption that, had Dr Foote known of more blood pressure readings, in particular the one at 19:00 hours, he would have somehow acted differently, suggesting that it was a "game changer" and particularly referred to the diastolic reading. However Counsel for Calvary contended that Dr Foote never explained how that would have made a difference to his diagnosis given the differential diagnosis he made at the time.

200. Counsel further submitted that it needs to be remembered that Dr Foote was Ms Medway's private obstetrician and she was a Private Hospital patient. Accordingly, that he was primarily responsible for her care at all times and that in their submission he should have taken responsibility for the making of appropriate enquiries at all times in relation to her condition. Counsel submits that it should not be forgotten that Dr Foote in his evidence did not diagnose pregnancy induced hypertension within time to effectively treat her.

201. Counsel further submits that given Dr Foote's counsel was startled by their submission that Dr Foote actively tried to shift responsibility to minimise his own involvement, he pointed particularly to the references Dr Foote made in relation to being in the dark about her blood pressure with implications that had he known he would have done something different, however they note that his provisional diagnosis was musculoskeletal pain or pulmonary embolus.

202. Counsel further notes that in Dr Foote's letter to the Coroner he did not say anything in relation to pregnancy induced hypertension; his diagnosis was most likely musculoskeletal pain or pulmonary embolus, although in his evidence he did say he turned his mind to treating the high systolic blood pressure.[61]

203. Counsel submitted that essentially it was up to him to enquire as to Ms Medway's condition and that had he done so he would have found out about the extremely high blood pressure reading. In their submission it was disingenuous of Dr Foote to continually say that he was not told anything when indeed given that no one knew what it was that he wanted to be told about and it. Counsel postulates is it up to others to anticipate what he wanted. They then submit it was up to Dr Foote to set the parameters and seek the information he required. [I do not accept that proposition as nursing and hospital medical staff have an obligation to inform of any condition change to the consultant.]

204. Counsel submits that Dr Foote was not particularly worried about Ms Medway's blood pressure reading before 19:30 hours except in relation to her pain, and. further submits that Dr Foote was aware of the blood pressure reading particularly when midwife Horsham said in her contemporaneous notes that he was there when she recorded a blood pressure reading of 188/100. Counsel submits midwife Horsham was not challenged about the accuracy of her recording.

[61] Submissions paragraph 6.

205. Counsel submits that in Dr Foote's evidence he agreed when questioned about whether a blood pressure greater than 170/110 should be treated. However when asked whether a blood pressure of 190/90 would have represented severe hypertension he did not answer the question. Counsel submitted that the Coroner asked Dr Foote to answer the question being 'do you accept that 190/90 is severe hypertension' and Dr Foote suggested that he did not however accepted the systolic was. Counsel also noted his answers in relation to his understanding of when anti-hypertensive treatment should be commenced.

206. Counsel for Calvary Private Hospital submitted that they supported the submissions by Counsel Assisting.

Reply submissions by Counsel Assisting

207. Council Assisting submitted that she supports the contention that Dr Foote was seeking to shift responsibility for the management of Ms Medway's care to nursing staff as well as others.

208. Counsel Assisting also submitted a reply in relation to the submissions by Dr Foote. Counsel Assisting set out the evidence given in relation to Dr Foote's denial that he formed the view that Ms Medway had some pre-eclampsia on 13 May, notwithstanding that he agreed he had prescribed labetalol which was anti-hypertensive medication. Dr Foote described it as essential hypertension aggravated in third trimester of pregnancy.

209. In relation to Dr Foote's evidence about Ms Medway having hypotension Counsel submitted that the first time he raised it was when the Coroner asked a question as to why he considered 130/64 as low blood pressure. It appeared that this was given as an explanation as to why he withheld labetalol. Dr Foote suggested that concerns had been raised by the nursing staff however no evidence of that was given and no questions were directed to the nurses who gave evidence in relation to that aspect.

210. In relation to the failure to administer anti-hypertensives, Dr Foote's evidence was he was concerned about getting a diagnosis wrong and that Ms Medway may go into shock. This was not supported by Professor Brennecke who said there was no downside to giving her antihypertensive medication. It was submitted that when asked about which shock he was referring to Dr Foote did not answer the question and failed to explain why antihypertensive medication would have been contraindicated if Ms Medway was suffering and amniotic fluid embolus or pulmonary embolus.

211. Counsel Assisting submitted in relation to the assertion by Dr Foote about his appearance before the Medical Board that his evidence to the panel was misstated because he asserted that Ms Medway was not pre-eclamptic but postpartum.

212. Counsel Assisting further submitted that Dr Foote advised that he gave evidence that he had extensive experience in the management of pre-eclampsia and that he was aware of the principles enunciated in the SOMANZ guidelines described; also that he agreed with Professor Brennecke's opinion that all practitioners involved in obstetric care should be aware of them. Counsel Assisting submitted that I should consider this evidence when assessing whether Dr Foote failed to treat Ms Medway's hypertension at approximately 18:00 hours on 19 May 2011.

213. In relation to the submission by Dr Foote in relation to adverse findings Counsel Assisting submitted that Dr Foote was represented by counsel and had the opportunity to cross-examine any witness that appeared before the inquest.

214. Counsel Assisting further submitted that there was a failure on the part of Dr Foote to recognise and adequately treat Ms Medway's acute severe hypertension which exhibited itself shortly after childbirth on 19 May 2011 at around 18:00 hours. That her significantly high b BP continued to be untreated until 20:05 hours when Ms Medway was noted to be hemiplegic, drowsy and had no meaningful verbal response with a blood pressure of 197/112 at 19:00 hours.

Scope of inquest

215. The scope of enquiry for this inquest is set out in the *Coroners Act 1997* in section 52:

> **52 Coroner's findings**
> (1) A coroner holding an inquest must find, if possible—
> (a) the identity of the deceased; and
> (b) when and where the death happened; and
> (c) the manner and cause of death; and
> (d) in the case of the suspected death of a person—that the person has died.
> (2) A coroner holding an inquiry must find, if possible—
> (a) the cause and origin of the fire or disaster; and
> (b) the circumstances in which the fire or disaster happened.
> (3) At the conclusion of an inquest or inquiry, the coroner must record the coroner's findings in writing.
> (4) A coroner may comment on any matter connected with the death, fire or disaster including public health or safety or the administration of justice.

216. The scope of enquiry available to a coroner is set out helpfully in the decision of *Onuma v The Coroner's Court of South Australia* [2001] SASC 218, a case in which the Court considered the scope of the Coroner's power under the *Coroners Act 2003* (SA) and applied *WRB Transport v Chivell* [1998] SASC 7002. The relevant phrase under consideration was "cause and circumstances"; I note in this jurisdiction the relevant phrase is are similar, namely "the manner and cause". In *Chivell* Lander J (with whom both Prior and Mullighan JJ agreed) said with regard to the meaning of the word "cause":

"Clearly enough the cause and the circumstances must be two different things if it was otherwise there would be no reason for Parliament to have included both words. ... The cause of a person's death may be understood as the legal cause. In determining those events which may be said to give rise to the cause of the death, the coroner is not limited by concepts such as direct cause nor is the corner limited to a cause which is reasonably foreseeable. The cause of a person's death in respect of the coroner's jurisdiction is a question of fact which, like causation in the common law must be determined by applying commonsense to the facts of each particular case."

I have taken these words into account when making my findings in this matter.

217. I am also mindful that in making findings I must have regard to the principles espoused in *Briginshaw v Briginshaw* (1938) 60 CLR 336 per Dixon J:

> *"the truth is that, when the law requires the proof of any fact, the tribunal must feel an actual persuasion of its occurrence or existence before it can be found. ... The seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding are considerations which must affect the answer to the question whether the issue has been proved to the reasonable satisfaction of the tribunal."*

218. Counsel Assisting has submitted that I should make some adverse findings against Dr Foote. I note pursuant to section 55(1) of the *Coroners Act 1997* that if any adverse findings are to be made a person identified must be given notice. I am aware that notice was given to Dr Foote in relation to this coronial inquest and any findings as a result of it in the following terms:;

> *"Coroner Hunter is considering making an adverse comment about the decisions made by Dr Foote in relation to the treatment and care provided to Ms Medway"*

219. I am satisfied that this complies with section 55 of the *Coroners Act 1997* where notice is required.

Consideration

220. I have set out above the evidence given in the hearing surrounding this inquest into the death of Corinna Medway. I also set out the issues which arise as a result of Ms Medway's death as well as those matters that I consider to be relevant.

221. In relation to the first issue set out on in paragraph 25 of my findings in relation to whether the Calvary Private Hospital was the appropriate institution for Ms Medway to confine her twins, I have considered the evidence of both Professor Brennecke and Dr McEvoy on this issue and I am satisfied that although Ms Medway was a high-risk patient her confinement at the Calvary Private Hospital

was appropriate given the proximity to the public hospital component of that campus.

222. The second issue arises in relation to the treatment or lack of it whilst Ms Medway was under the care of Dr Foote, particularly from 13 May 2011 until 19 May 2011, which is the timeframe that I consider to be most important in my enquiry into her death.

223. I have also set out the evidence in relation to this issue above and as I have indicated earlier I accept in full the evidence from Professor Brennecke in relation to his opinion as to the medical treatment Ms Medway should have received whilst in the care of Dr Foote at the Calvary Private Hospital.

224. In my view, having heard the evidence from both Professor Brennecke and Dr McEvoy and noting the material from the Yass Hospital, which included a blood pressure reading of 140/90 and complaints of swelling in her feet and hands and pins and needles in her arms, I am satisfied that on 13 May 2011 Dr Foote diagnosed pre-eclampsia or more specifically pregnancy induced hypertension.

225. The diagnosis was made on the basis that she had hypertension and oedema in keeping with the SOMANZ guidelines; although Dr Foote stated he did not know of them he was very experienced in the treatment of this condition. I am satisfied that Dr Foote treated her for that condition when he prescribed labetalol 100 mg to be taken three times daily. The evidence is clear that labetalol stabilised her blood pressure.

226. When Ms Medway was admitted to hospital on 16 May 2011 her blood pressure readings indicated in my view that the labetalol was having a good effect in relation to her blood pressure. I note that Dr Foote advised that if the diastolic blood pressure fell below 70 he was to be informed.

227. I note that her blood pressure readings at the time Dr Foote withheld and then ceased her antihypertensive medication were within what I would describe as normal limits. I recall asking Dr Foote about this and ultimately he agreed with me that those readings were normal. There was no evidence before me as to why Dr Foote first withheld and then ceased her labetalol.

228. Dr Foote made an allegation that nurses had told him that they were concerned however I note that no evidence of that issue was before me and although Dr Foote was represented by Counsel no questions of the nursing staff were asked in that regard.

229. I note that the BP never became what I would consider low and indeed was higher than the first reading of 140/60 yet the labetalol was withheld and then ceased. There was no explanation as to why this occurred. Professor Brennecke commented on this because in his view she had a borderline high blood pressure reading at the time.

230. I note the evidence of Professor Brennecke who stated that a patient who has pregnancy induced hypertension (pre-eclampsia) and who was treated for it may also suffer the same condition post partum. I am satisfied and I accept the evidence from Professor Brennecke that Ms Medway's blood pressure was indeed increasing after the withholding and ceasing of the labetalol, and that during labour the epidural could have had the effect of reducing her hypertension. I am satisfied that both Professor Brennecke and Dr McEvoy agreed with the proposition that an epidural can lower blood pressure.

231. Professor Brennecke indicated that once the epidural had worn off after delivery he was not surprised that Ms Medway's blood pressure began to rise because that is the usual pattern in pregnancy induced hypertension and that typically it becomes worse as a pregnancy advances, and whilst it can be cured by delivery it is not cured at delivery and may continue for hours and even days.

232. I am satisfied that Ms Medway's blood pressure became elevated between 17:30 hours when Ms Medway was discharged from the birthing suite up until at 18:00 hours when her blood pressure was recorded at 189/91. I am also satisfied having considered the evidence of Professor Brennecke that this blood pressure represented a significant and rapid escalation of her pregnancy induced hypertension. This in my view should have been of concern to Dr Foote.

233. I reviewed the evidence of Dr McEvoy, who it appears was not given all of the factual material prior to his report being written, particularly in relation to not only Ms Medway's high blood pressure but also the oedema and high urate level which accompanied the high blood pressure when she attended Yass District Hospital. I note that Dr McEvoy ultimately conceded that Ms Medway suffered from pre-eclampsia. I am not satisfied that Ms Medway suffered from an amniotic fluid embolism for reasons I have already outlined. Ultimately Dr McEvoy did not refute Professor Brennecke's opinion that a blood pressure reading of that nature required immediate anti-hypertensive treatment. It seems that Dr McEvoy was either unaware or mistaken as to the blood pressure readings taken on 19 May. However he did make a comment that at least by 18:20 hours treatment should have been instigated.

234. Dr McEvoy postulated that it would have taken a considerable amount of time to order, get and administer an anti-hypertensive however there was no evidence before me as to how long that would have taken. I note Dr Foote indicated that had he known of the high blood pressure reading at 19:00 he would have instigated treatment such as hydralazine and magnesium.

235. It would appear that given this type of drug is used in pregnancy induced hypertension it would not be uncommon to have it on the ward or in the birthing suite. I do not accept that a considerable amount of time was necessary for the treatment with drugs such as hydralazine.

236. I accept submissions from Calvary Hospital that Dr Foote was primarily responsible for Ms Medway's treatment. She was treated in a private hospital under his care. In my view that does not abrogate the requirement from the staff at that hospital to advise the treating medical officer of any complications or concerns. In a situation where a patient has significant hypertension in my view nursing staff should contact the treating consultant about that issue.

237. There was no evidence before me as to why Dr Lok was contacted rather than Dr Foote when Ms Medway's pain level and BP had increased significantly more. Be that as it may, in my view Dr Foote was aware of the significant hypertension as at 18:00 hours. He took the BP reading and he should have instigated treatment then.

238. I am satisfied that nursing staff involved in Ms Medway's care did complete notes in relation to their observations. Where notes were written and placed on the patient's file Dr Foote had an obligation to ensure that he was properly briefed in relation to her condition. In my view Dr Foote should have read the notes himself and satisfied himself of all of her symptoms.

239. I am also satisfied for reasons I indicated earlier that midwife Horsham took a blood pressure reading from Ms Medway, the result being 188/100, and that Dr Foote was there at the time and observed that blood pressure reading. Midwife Horsham made a note that she wrote contemporaneously with the event. The accuracy of that note was never controverted. I am satisfied that Dr Foote was in attendance and observed that reading.

240. Dr Foote stated that he did not know about the diastolic being 100 or 112 and that had he known if he would have treated her for her hypertension. I find it curious, to say the least, that Dr Foote was not concerned about a BP reading with a diastolic of 100 and yet it was catastrophic at 112.

241. In my view having considered the evidence from Professor Brennecke and to some extent Dr McEvoy I am not satisfied that that was proper reasoning by Dr Foote's for his failure to treat the hypertension when the diastolic was close to 100 or at diastolic 100. This is particularly so, when I consider he prescribed treatment for her blood pressure of 148/90 on 13 May 2011 at the Yass Hospital.

242. I accept that Ms Medway had a complex list of symptoms and it was not clear whether her increased blood pressure was as a result of pain from query musculoskeletal cause or indeed a pulmonary embolus. These things can be difficult to diagnose without extra investigations. However, even if it were the case that one of those conditions was causative of her hypertension there was no downside to giving her an anti-hypertensive treatment to lower her blood pressure.

243. Dr Foote in his evidence gave no reason as to why it would have been catastrophic to give her that treatment at that time. Dr Foote was a very

experienced obstetrician and should have been aware that significant hypertension such as that suffered by Ms Medway could result in cerebral haemorrhage.

244. In relation to Dr Lok's evidence I am satisfied that he was a resident medical officer and although he had some training in obstetrics he was unaware at the time he was called to see Ms Medway of her prior history, particularly the fact that she had been given labetalol to reduce her hypertension.

245. Dr Lok stated that he had the medication chart with him but he had not observed that she had previously been prescribed with labetalol. It appears from the evidence that Dr Lok was asked to see Ms Medway because of her significant chest pain and high blood pressure. I am satisfied that Dr Lok was unaware that she had been treated for pregnancy induced hypertension and his treatment was solely focused on whether she had a pulmonary embolus.

246. To that extent his treatment was appropriate however in my view he should have considered anti-hypertensive treatment as well. I accept that he would have only been able to prescribe such treatment after he consulted with Dr Foote. I am satisfied that he did consult with Dr Foote and advise him of his findings. I note at no time was any anti-hypertensive treatment ordered by Dr Foote on 19 May 2011.

247. Dr Lok was unsure at the time he gave his evidence as to what exactly he told Dr Foote, however he said it was his usual practice to tell him of the observations he made in regard to the patient and any plan he had made for them. In my view it stands to reason that Dr Lok having phoned Dr Foote would have conveyed to him the observations he made as to Ms Medway's condition. I am fortified in that view because after Dr Lok had told him his observations Dr Foote recommended that a physician be called upon to examine Ms Medway. Clearly Dr Foote was concerned about her condition and that concern could have only arisen from the information Dr Lok provided.

Judicial Function

248. Part of the function of a judicial officer hearing a matter is to observe the evidence given by witnesses in the witness box. That includes their demeanour as well as the cogency of their evidence.

249. During the course of the hearing I wrote notes in relation to the evidence given by all of the witnesses. Having looked at my written notes of the evidence given by the witnesses I had made an observation in my hand written notes when Dr Foote gave evidence.

250. That observation reflected my opinion which was that after having listened to Dr Foote give all of his evidence; it appeared to me that he was not entirely forthcoming when giving his evidence. He failed to properly answer some of

the question asked of him by counsel assisting and at times deflected the question by explaining away the issue.

251. I also noted that he had at one point he disagreed with the conclusions drawn from propositions he had already accepted as correct: propositions which both Professor Brennecke and Dr McEvoy agreed with. I also noted that he tended to blame others for what was basically his responsibility. That reflected poorly on him in my view. At times I was of the view that Dr Foote was not being entirely truthful.

252. I note that in submissions, both Counsel Assisting and Counsel for Calvary Private Hospital made comments as to observations they made about his evidence in similar terms.

253. I have very carefully reviewed Dr Foote's evidence and in my view, clearly his evidence did not accord with that of a number of the other witnesses particularly in relation to what he was advised of in relation to Ms Medway's condition on 19 May.

254. That may not be so unusual given that witnesses may see the same incident yet have different accounts of what occurred, however it appears to me that every witness gave evidence of their observations and what they told Dr Foote. It appeared to me that their evidence was accepted by counsel representing Dr Foote. However, even if it were not the case, as I indicated before I am satisfied upon the evidence that Dr Foote knew at least at 18:10 hours that Ms Medway's BP reading showed a diastolic reading of 100.

255. Dr Foote indicated that he was not told of the high diastolic reading of 112, and I have my doubts about that given the evidence before me; even if I was wrong about that fact, given he said it was a "game changer" and had he known it he would have done something about it, he was unable to explain the difference between a diastolic of 100 versus 112. He also did not explain how his assertion that giving anti-hypertensives without a diagnosis could make the situation catastrophic and how that changed when he knew the diastolic with 112.

256. I do not accept that evidence because in my view having considered the evidence of both experts that Ms Medway had acute pregnancy induced hypertension and given the conclusions they drew that it should have been treated at least by 18:20 hours and the fact that Dr Foote had observed Ms Medway's BP at approximately 18:00 hours with a diastolic of 100, given his experience, he should have realised that she required immediate treatment for hypertension. This is especially so given that he had treated her for pregnancy induced hypertension on 13 May with a much lower blood pressure. In my view 18:00 hours on 19 May was a critical time and treatment should have been instigated immediately.

257. In my view Dr Foote did not consider she had pregnancy induced hypertension but rather considered her hypertension was caused by pain or as a possibility a pulmonary embolus. I have taken that view after examining the evidence given by Dr Foote, particularly his statement. He stated that in his view that evening her blood pressure was static and the reason why he came back to the hospital was not because of hypertension but because her pain was not getting any better.

258. I note Dr Foote omitted to mention in his letter to the coroner that Dr Lok had told him that Ms Medway's BP that evening was 197/112.

Conclusion

259. Having taken into account the principles enunciated in *Briginshaw v Briginshaw*, particularly where the Court said:

> *"the seriousness of an allegation made, the inherent unlikelihood of an occurrence of a given description, or the gravity of the consequences flowing from a particular finding, our considerations which must affect the answer to the question whether the issue has been proved to this brittle satisfaction of the tribunal. In such matters reasonable satisfaction should not be produced by in exact proofs indefinite testimony or indirect inferences"*

I bear in mind those considerations in my findings and where appropriate.

260. Having said that, it is my view, and I am satisfied to the requisite standard that Dr Foote failed to administer appropriate treatment for the acute pregnancy induced hypertension suffered by Ms Medway between 18:00 to 18:30 hours on 19 May 2011.

261. Dr Foote's failure to treat Ms Medway's acute pregnancy induced hypertension between 18:00 hours and 18:30 hours resulted in her blood pressure continuing to escalate to a critical level which ultimately caused her cerebral haemorrhage and death.

262. Further, I am satisfied that treatment was available within a reasonable period of time sufficient to have ameliorated the significantly high blood pressure.

Recommendations

263. In relation to any recommendations made for this inquest the following section applies:

> **57 Report after inquest or inquiry**
>
> (1) A coroner may report to the Attorney-General on an inquest or an inquiry into a fire held by the coroner.

(2) A coroner must report to the Attorney-General on an inquiry into a disaster.

(3) A coroner may make recommendations to the Attorney-General on any matter connected with an inquest or inquiry, including matters relating to public health or safety or the administration of justice.

264. In my view recommendations as to a matter of health and safety arise in this inquest:

A. That all nursing staff, midwives, general medical practitioners and specialist obstetricians involved in the treatment and care of pregnant women undertake specific training with respect to pregnancy induced hypertension (pre-eclampsia) and the risks that condition presents to pregnant women antinatally and post partum. This training should include familiarity with the SOMANZ guidelines in place at the time and the WHO recommendations regarding treatment and care of patients with pregnancy induced pre-eclampsia.

B. That literature such as the Pre-eclampsia Foundation Brochure (which sets out the risks of pre-eclampsia to pregnant women) be provided by practitioners who have the care and treatment of pregnant women to all pregnant women under their care.

C. That a patient's complete notes should be sent with the patient at the time of their discharge from the birthing suite onto the ward.

D. The taking of contemporaneous notes is to be encouraged when any significant event occurs. In my view this should be routine for all staff treating a patient, including the medical staff.

I certify that the preceding 264 numbered paragraphs are a true copy of the Findings of her Honour Coroner Hunter

Associate:

Date: 18 December 2015