CITATION: *Inquest into the death of Declan Brian McConville* [2009] NTMC 022

TITLE OF COURT:	Coroner's Court
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HEARING DATE(s):	3-5 February 2009
FINDING OF:	Mr Greg Cavanagh SM
CATCHWORDS:	Reportable Hospital Death, baby born with shoulder dystocia, ramifications & treatment, critical review.

REPRESENTATION:

Counsel:

Assisting:	Dr Celia Kemp
Department of Health and Families	Kelvin Currie

Judgment category classification:	B
Judgement ID number:	[2009] NTMC 022
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IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0143/2007

In the matter of an Inquest into the death of

DECLAN BRIAN McCONVILLE
ON 8 SEPTEMBER 2007
AT THE ROYAL DARWIN HOSPITAL

FINDINGS

Mr Greg Cavanagh SM:

INTRODUCTION

1. Declan Brian McConville was born on Friday 31 August 2007 at the Royal Darwin Hospital. During his mother's labour, vacuum extraction was used to deliver his head. He then became stuck; his shoulders failed to deliver after his head had emerged. This is a well recognised medical emergency called shoulder dystocia and there is only a very short window of time to overcome it before the baby will start to suffer from irreversible brain damage, and ultimately death. Declan was delivered 15 minutes after he had become stuck. However the lack of oxygen during that time had damaged his organs, he was extremely unwell when he was born and he died when he was 8 days old.

2. This inquest examined the care provided to his mother, Cianne Coleman, antenatally and during labour. I find, with the benefit of hindsight, that there were some management decisions that could have been made differently, and had this occurred, it is possible that this death may have been prevented. The most important is that the attempt to deliver this baby by vacuum extraction should have been done in the operating theatre rather than in the birthing suite. I have made recommendations in relation to this

issue to reduce the chance of such a death recurring. However I consider these to be systems issues and I am not critical of those individuals who made the treatment decisions. I find that these decisions were not unreasonable in all the circumstances.

3. Pursuant to section 34 of the *Coroners Act*, I am required to make the following findings:

> "(1) A corner investigating –
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> (a) a death shall, if possible, find –
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> (i) the identity of the deceased person;
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> (ii) the time and place of death;
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> (iii) the cause of death;
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> (iv) the particulars needed to register the death under the Births, Deaths and Marriages Registration Act;

4. Section 34(2) of the Act operates to extend my function as follows:

> "A Coroner may comment on a matter, including public health or safety or the administration of justice, connected with the death or disaster being investigated."

5. Additionally, I may make recommendations pursuant to section 35(1), (2) & (3):

> "(1) A coroner may report to the Attorney-General on a death or disaster investigated by the coroner.
>
> (2) A coroner may make recommendations to the Attorney-General on a matter, including public health or safety or the administration of justice connected with a death or disaster investigated by the coroner.
>
> (3) A coroner shall report to the Commissioner of Police and Director of Public Prosecutions appointed under the Director of Public Prosecutions Act if the coroner believes that a crime may have

been committed in connection with a death or disaster investigated by the coroner."

6. Cianne Coleman and Dermot McConville attended throughout the inquest, as did Brain and Patricia Coleman, Cianne's parents and Doris Campbell, Cianne's maternal grandmother. I thank them all for their assistance to me and I extend my sympathies for their great loss.

7. I was ably assisted by Dr Celia Kemp. Kelvin Currie was granted leave to appear on behalf of the Department of Health and Families. I heard evidence from Senior Constable Peter Bound, Cianne Coleman, Dr Elizabeth Barber, RM Cherillee Harry (by video link), Dr Sujata Pradhan, Dr Regina Wulf and Dr Charles Kilburn. Finally I heard evidence from Professor David Ellwood, the Professor of Obstetrics and Gynaecology and the Deputy Dean of ANU and an Australian expert on shoulder dystocia, who was asked by my office to review the treatment received by Cianne Coleman both during her pregnancy and during the delivery. Professor Ellwood's evidence was of great assistance to me, I accepted entirely both his written report and his evidence and I thank him for the care he took with both.

RELEVANT CIRCUMSTANCES SURROUNDING THE DEATH

8. Declan was the first child of Cianne Coleman and Dermot McConville who had been in a defacto relationship for approximately 2 years before Declan's birth. Cianne and Dermot had been living in Brisbane, but moved to Darwin when Cianne was approximately 22 weeks pregnant. Cianne had antenatal care both in Brisbane, and in Tennant Creek.

9. Cianne attended the Royal Darwin Hospital from about 28 weeks for routine examinations. At about 37 weeks Cianne says that it was first mentioned to her that her baby was going to be large and at every routine examination after this point there was always a mention that the baby was going to be large.

10. On Sunday 25 August 2007 at 11:55 pm Cianne presented at the Royal Darwin Hospital Birthing Suite. After examination she was given some sedation and discharged home as she was not ready to deliver. The notes state 'fundal height 42 cm * large baby'. The fundal height is a measurement made of the size of the uterus by the examining practitioner who feels the pregnant woman's stomach and measures the distance from the top of the pubic bone to the top of the uterus. This fundal height was above the mean, that is, it indicated that Declan was likely to be large. However fundal height measurement has a degree of imprecision.

11. On Thursday 30 August 2007 Cianne presented again. She was approximately 10 days over her due date. A medical examination showed that she had had a spontaneous rupture of her membranes, however, she was not in labour. Nursing notes again indicate that Declan was a 'large baby'.

12. Dr Sujata Pradhan was the obstetric registrar on duty. It was decided to induce Cianne and a syntocinon drip was commenced at 2:15 pm. Syntocinon is a synthetic hormone that is given to induce labour. Things progressed normally. Cianne had an epidural inserted at 9:20 pm for pain management. At about 9:40 pm Dr Pradhan performed an artificial rupture of the membranes.

13. At midnight Dr Pradhan had some mild concerns about the CTG trace. The cardiotocograph (CTG) is a machine that records the fetal heart beat and maternal contractions. Dr Pradhan rang Dr Regina Wulf, the on call consultant. It was decided that Dr Pradhan would reassess the situation in 2 hours; if there was no further progress in labour or the CTG became more suspicious they would perform a caesarean section. Dr Pradhan reassessed the situation at 1:30 am and Cianne had made significant progress and the CTG had improved.

14. At 2:30 am RM Cherillee Harry, the midwife caring for Cianne, noticed that the CTG measurement of the fetal heart was showing a prolonged

deceleration with slow recovery, which can indicate fetal distress. She called for the assistance of Registered Midwife [hereafter 'RM'] Deborah Robinson, who was the midwifery team leader, and Dr Elizabeth Barber, a resident medical officer. RM Robinson looked at the CTG and called for Dr Pradhan to attend urgently. RM Robinson then left because she was needed in another birthing room.

15. Dr Pradhan arrived at 2:38 am. She assessed the situation. Cianne was fully dilated, she was contracting 5 to 6 times over 10 minutes and the baby's head was at station 0 and she decided to perform a vacuum extraction (also called a ventouse delivery). This is where a vaccum cap is attached to the head of the baby and then force is applied to pull the baby out. In this case the baby was facing the wrong way (in the right occipital posterior position) so he also needed to be rotated before he could come out, so this was a 'rotational ventouse delivery'. The vaccum cap was applied at 3:12 am.

16. There is some conflicting evidence as to the number of pulls done by Dr Pradhan. After a number of pulls an episiotomy was performed, that is a cut was made to the mothers perineal area to widen the space for the baby to come out. The final pull, at 3:28 pm (that is 16 minutes after the first pull), delivered Declan's head.

17. Immediately after the delivery of the head, the foetal chin retracted into the birth canal (the "turtle" sign). The treating staff recognised this as a warning sign of shoulder dystocia.

18. Shoulder dystocia occurs when a baby's shoulders get stuck during delivery; the shoulder that is closer to emerging either cannot pass below the pubic symphisis, which is the place where the pubic bones of the mother join at the front, or needs significant manipulation to pass below the pubic bones. It is very difficult to predict, there are various risk factors that make it more likely but none of them are determinative.

19. At 3:30 am Dr Pradhan called for specialist assistance from Dr Wulf, her consultant, who arrived at 3:38 am. In the interim Dr Pradhan, with the assistance of other staff, instigated various methods to try to alleviate the shoulder dystocia. Apparently shoulder dystocia is a well recognised emergency that occurs in childbirth and there are a well recognised series of steps that midwives and doctors are trained to perform. Dr Pradhan applied the Mc Roberts Manoeuvre (hyperflexing the mother's legs into her abdomen, pressing her knees tightly into the abdomen) whilst applying suprapubic pressure. She then attempted the Wood Screw manoeuvre (which is attempting to rotate the baby's shoulders) this was also ineffective. She then tried to deliver the baby's posterior arm which was also unsuccessful. Finally she rolled Cianne onto all fours but this was also unsuccessful. Cianne was pushing throughout this (she was not told not to push). When Dr Wulf arrived Cianne was in this position. She told Cianne not to push and asked the midwives to turn her back on her back and extended the episiotomy. Declan was delivered at 3:43 am by Dr Wulf by extracting his posterior arm.

20. Shoulder dystocia is very dangerous for the baby because while a baby is in this position his neck is compressed and his umbilical cord is compressed which reduces the supply of oxygen. Professor Ellwood said that if a baby is released in under 5 minutes they are usually ok, between 5 to 10 minutes there is an increasing risk of irreversible brain damage and beyond 10 minutes it is virtually impossible to salvage the baby. Declan had been in this position for 15 minutes. He was therefore extremely unwell when he was born and was not breathing. He was immediately handed to a paediatrician who commenced resuscitation. He began to breathe at about 27 minutes. He was taken to the neonatal care intensive unit and put on a mechanical ventilator. It was clear that he had a very poor prognosis.

21. Dr Charles Kilburn, a senior consultant paediatrician at the Royal Darwin Hospital and the Director of the Neonatal Intensive Care Unit (as well as the

medical co-director of Maternal and Child Health) states that Declan had significant brain injury, renal failure and cardiac damage. Declan was cared for in the intensive care unit. After consultation with his family life support was ceased at 3:50 pm on 7 September 2007 and he passed away at 8 am on Saturday 8 September 2007, he was eight days old.

22. It is clear that Declan was a big baby. However he was not weighed until day 7, when he weighed 5005 g. Before then the paediatric team were working off an 'estimated' birth weight of 4 kg. At autopsy he weighed 4780g. I rely on the evidence from Dr Kilburn and Professor Ellwood to find that he probably weighed in the vicinity of 4.5 kg at birth.

23. Cianne Coleman gave evidence. She said that she was worried her baby would be big because he looked big, and she and her husband were both over 9 pounds when they were born, and questions whether something should have been done about this antenatally. She is concerned about the conduct of her delivery, particularly about whether the registrar was sufficiently experienced. When the shoulder dystocia occurred she said she was not told not to push, and so did push, until Dr Wulf came in and she is concerned about whether this was the correct management. She, and her family, were keen that the inquest results in changes that reduce the chance that such deaths recur.

ISSUES

1. Number of Pulls

24. There is some conflict on the evidence as to the number of times Dr Pradhan pulled on the ventouse over the 16 minutes that this occurred. Dr Barber recorded seven pulls at listed times in her original notes, and RM Harry transcribed those notes into the medical records, adding some of her own comments, and also recorded seven pulls. Both gave oral evidence that this is consistent with their recollection but there is room for some error in this

number. RM Robinson, an experienced midwife, says that there were seven pulls in her notes, and Cianne's mother, who was watching, says there were seven pulls.

25. I heard evidence from Dr Wulf that an episiotomy is cut during a pull and it is possible that the pull before and pull after were recorded as two separate pulls when actually they are the same pull. This receives some support from the fact that there is a one minute time difference between two of the pulls in RM Harry's notes. It is therefore very possible that there were only six pulls. In addition there is evidence of a discussion about whether there had been three or four pulls at an earlier stage, which provides further support to the argument that there is some lack of certainty about the number of pulls.

26. Dr Pradhan's retrospective notes state 'head delivered with the fourth pull' and she says this also in her original statement. I find that it is not possible that there were four pulls as originally documented by Dr Pradhan. The contractions are recorded as occurring about every two minutes by Dr Pradhan before she started, the pull happens during the contractions, and RM Harry's notes record pulls spaced about every two minutes. There was a discussion after three pulls about whether there was progress being made and the pulls then continued, and this discussion is recorded as occurring in the order of 10 minutes before the head was delivered. None of this is consistent with there having been four pulls.

27. Dr Pradhan gave evidence in court that in fact the baby's head was delivered with the fifth pull and that the entry in her notes stating that it was delivered with the fourth pull was a 'small writing error'. I find based on all the evidence that there were either five or six pulls and that Dr Pradhan made a mistake in relation to both her original notes and her original statement.

28. Dr Pradhan was extremely upset by this delivery, it was clearly very stressful for her, and I accept that this can affect the accuracy of recollection. I also accept that it is to be expected that mistakes will be

made on occasion with record keeping, particularly when it has to occur after the event as it did in this case. Some mistakes are peripheral and have limited or no affect. However if mistakes are made in relation to key features then that has the potential to limit the effectiveness of any review (either internal or external) of what occurred and thus dramatically reduces the ability to learn from the death in order to help prevent future deaths. I note that in this case I accept that the mistake was, in fact, an error. However, I strongly urge hospital staff to ensure that they make their records as accurate as possible.

2. Management antenatally

29. Professor Ellwood gave evidence that the fundal height indicated that Declan was likely to be large. He said that one option in these circumstances is to do an ultrasound to get an estimate of foetal size. The ultrasound isn't precise and has a large margin of error. If an ultrasound had showed that Declan was in the order of 4.5 kg this would not have changed antenatal management; the evidence does not suggest that this should be a reason for an elective caesarean section or an elective induction. However the knowledge that Declan was large is of assistance to influence decision making during labour, and may in this case have lowered the threshold for calling in consultant help, for moving to theatre when a decision was made to do a rotational ventouse delivery, or for deciding to stop the rotational ventouse delivery at an earlier stage.

30. Dr Pradhan says that if an ultrasound had been done and it had shown that the baby's weight was '4.8 or 4.5, I would have discussed with my consultant as to whether we should go ahead with the normal vaginal delivery'.

31. Professor Ellwood does not state that an ultrasound should have been done in this case and I am therefore not criticising the fact that it wasn't. However I am going to make a recommendation to encourage the use in

cases such as this, where knowledge of the size of the baby may be of assistance in decision making in labour.

3. Decision to deliver by rotational ventouse

32. Professor Ellwood gave evidence that the CTG changes that prompted the use of the ventouse did not warrant urgent delivery. The CTG trace returned to normal after a prolonged deceleration and he said that he may not have proceeded immediately to an instrumental delivery but have allowed labour to progress. However he said that he may well have ended up doing an instrumental delivery a short while later and he was not critical of the decision to do the instrumental delivery.

33. Professor Ellwood said that there were indications that this might be a difficult instrumental delivery. These indications were the knowledge that the baby may well be large, the degree of decent of the baby (the head was at station 0, or at the ischial spines, which is quite high up) and the position of the baby (right occipital posterior position which meant the baby needed to rotate 180 degrees before he could be delivered, thus this was a 'rotational ventouse delivery'). When there are factors that indicate that an instrumental delivery may not be successful, the delivery is called a 'trial of instrumental delivery'.

34. The Consultant was not rung and was therefore not involved in the decision to proceed to an instrumental delivery. The registrar had only been working at the Royal Darwin Hospital for 8 months, but had in the order of 10 years experience as an obstetric registrar in India, Bangladesh and Nepal and gave evidence that she had performed close to 100 rotational ventouse deliveries before this one. She was therefore very experienced. Her Consultant gave evidence that when the registrar started she supervised her initially and found that she was very competent. I can understand why the registrar felt able to proceed without contacting her consultant and why her consultant considered this a reasonable practice.

35. Professor Ellwood gave evidence that as a consultant he would expect to be contacted before his registrar proceeded with such a delivery, and this would enable the consultant to be involved in the decision making about whether to do it, where to do it and whether the consultant either needed to be present, or should do the delivery.

36. I find that it would be better practice if the Consultant had been contacted before the decision was made to proceed with the rotational ventouse delivery because there were indicators that it may be a difficult delivery. This may have changed the outcome, but it may not have changed the outcome. However it is best practice and is therefore something that should be instituted at the Royal Darwin Hospital for 'trials of instrumental deliveries' in order to improve the quality of care.

4. Conduct of delivery

37. Professor Ellwood gave evidence that in his opinion a 'trial of instrumental delivery', that is an instrumental delivery where there are some concerns that it may not be successful, should be done in theatre. This is of benefit for two reasons; it means the attempt is more likely to be abandoned earlier if it is difficult, as it easy to convert to a caesarean section, and if the delivery fails then the situation is best able to be dealt with in theatre. He considers that in this case Cianne Coleman should have been moved to theatre and the vacuum extraction performed there. He said this is 'best practice'. I note that he says that his criticism of the registrar for not doing it in theatre is 'relatively minor'. I find based on all the evidence that there appears to be a general reluctance at the Royal Darwin Hospital to do trials of instrumental delivery in theatre and so I find this is a systems issue with the Obstetric Unit rather than an issue with the particular registrar.

38. The registrar pulled 5-6 times over 16 minutes. The evidence from Professor Ellwood was that this number of pulls over this period of time was an indication that the delivery was difficult, and that after three pulls over

ten minutes with the head not on view, that the consultant should have been called. He said he is only 'mildly critical' of the decision to keep pulling as only the registrar who was doing the delivery knows exactly what was happening and what all the subjective factors were indicating, and when such a delivery is done outside a theatre then it is often more difficult to abandon the attempt. He says that the exact number of pulls doesn't matter here, it was clear that it was 'more than three and took longer than expected'.

39. This attempt was not done with a senior consultant present. The evidence of Professor Ellwood was that this wasn't unreasonable of the registrar, given her level of experience.

40. If this had been conducted in theatre it may have made a difference if a decision had been made to abandon the vacuum earlier, and such a decision is easier to make in theatre which is why these deliveries should be done there. However Professor Ellwood said it may well have been that even had this been done in theatre the decision to abandon the attempted earlier was not made, and there would still have been a shoulder dystocia.

5. Conduct of shoulder dystocia manoeuvres

41. The consultant was able to deliver Declan some minutes after her arrival. Professor Ellwood says that this could be because the particular shoulder dystocia manoeuvre used by her (which comes near the end of the series of shoulder dystocia manoeuvres) was always going to be the manoeuvre that delivered this particular baby. It could also be because she was more experienced.

42. Generally Professor Ellwood has no criticism of the conduct of events once the shoulder dystocia occurred. There is evidence that the Royal Darwin Hospital places a priority on regular training of its staff in emergency obstetric practice and this is demonstrated by what happened here. He

particular commented on the fact that the consultant was called early, and arrived very rapidly, and said this was ‘laudable’ and he didn’t think this would happen everywhere.

43. He said that in some of the manoeuvres it may assist if the mother pushes, in others it may decrease the chance of success. He said that ‘it probably doesn’t matter a great deal’ if Cianne had not been told to stop pushing and so was pushing during the initial manoeuvres. However it would have been better had Cianne been told not to push during the internal manoeuvres (trying to rotate the shoulders internally and attempting to deliver the posterior arm) as pushing ‘potentially could have made the internal manoeuvres more difficult’.

44. I make this finding by way of feedback in future cases, rather than as any criticism of those involved who I find acted professionally and did their best to deliver Declan.

45. Once Declan was born every attempt was made to resuscitate him and, Professor Ellwood says it is a credit to those caring for him that he was able to be resuscitated at all, but he was very unwell. He received a high standard of paediatric care.

46. I make no criticism of the individuals who made the management decisions on the day. This was a highly stressful situation, and I do not consider the actions of any individual to have been unreasonable. I note Professor Ellwood’s evidence that there are many subjective factors involved in such decisions, and it is really only the person present who has the full picture about what was occurring. However this process has highlighted some systems issues, changes to which may improve the conduct of similar deliveries in future.

6. Late Reporting of the death

47. This death was reported to the Coroner's office on the day that it occurred via a friend of the family. It was initially treated by the hospital as a non reportable death; an occurrence of death form was filled out on 8 September 2007 that said it was not a coroner's case because 'clear cause of death well-investigated' and the parent's wish not to have an autopsy. Neither of these are reasons not to report a death. This death was clearly reportable because it was unexpected and because it was secondary to an injury sustained during childbirth. However this death was reported to the office by the Royal Darwin Hospital on Monday 10 September 2007.

48. As I have stated in the past, a time lapse in the reporting of deaths can cause significant distress to the bereaved, and impede the quality of the coronial investigation and for this reason it is very important that reportable deaths are reported as soon as possible. However I am satisfied that Dr Kilburn has made a considerable effort to ensure that reportable deaths of infants are in fact reported, and in a timely manner. He gave evidence that any perinatal neonatal deaths are reported to himself or the nursing co-director so that they can check to make sure that reportable deaths are being reported, and in a timely fashion. I do not intend to make further recommendations in relation to this aspect.

7. Hospital response

49. A critical incident review was conducted by Dr Wulf, RM Robinson and a third nurse, and I commend these people for taking the initiative to look at what has happened. I have criticisms of the critical incident review but these are not of the individuals that did this one, rather they are general criticisms in relation to the systems required to support a higher quality review process.

50. The critical incident review involved only a small number of people, and only one person who was present throughout the critical events. Dr Barber, RM Harry and Dr Pradhan were not present at it. There was no written

documentation produced in relation to its conclusions. However Dr Wulf gave evidence before me that the conclusions were that there were no contributing factors to this outcome, that is that this could not have been prevented. I have ongoing concerns about the quality of the 'quality and safety' review processes conducted by the Royal Darwin Hospital and therefore the ability to learn from critical events and improve practice.

51. I note that I have made a recommendation in relation to this in my findings in the *Inquest into the death of Margaret Winter* [2008] NTMC 049:

> The quality and safety processes need to be dramatically improved. Senior staff with appropriate authority need to be given the power to conduct reviews and making recommendations, if appropriate, in relation to sentinel events, and there needs to be a commitment at the highest levels to using the reviews to improve practice.

52. This recommendation was made after both the death of Declan and the critical incident process conducted in relation to this death. I intend to make a similar recommendation in this matter, and in particular to recommend that the review (be it a critical incident review or a root cause analysis) proceed in the way suggested by Professor Ellwood; that is it occurs soon after the event, that it is multidisciplinary, that it involves all the people who had a role, that it occurs in a non-threatening atmosphere, that the outcomes are recorded and that external assistance is sought in cases where this would be appropriate.

53. This last feature is highlighted by this death, where it seems the external reviewer was much more able to identify systems issues that contributed to the death.

54. There were two recommendations made by the internal review. One was about the timing of consent for a caesarean section, a matter unconnected to the death for coronial purposes and so I do not intend to comment further on

it. The second required consultant attendance within 10 minutes of an instrumental delivery and has not been adopted. I agree that it should not be adopted. Instead there is a plan to amend the current guidelines to require consultant attendance at all 'trial of operative deliveries'.

55. Dr Charles Kilburn, a paediatric consultant who cared for Declan, is also the Medical Co-Director of the Division of Maternal and Child Health and he has written a statement in that role about what the Royal Darwin Hospital response is to the death, and to the report of Professor Ellwood. I was very impressed by Dr Kilburn's response, and his evidence, and accept that he is attempting to use the information learned from this death to improve clinical practice in the Obstetric Unit.

56. I was, however, concerned that the registrar involved hadn't read Professor Ellwood's report, and neither the registrar nor the consultant appeared to have in any way accepted Professor Ellwood's conclusion that this may have been better performed as a 'trial of instrumental delivery' in a theatre and I am not confident that, a year and a half after the death, the practice in relation to this has changed at all.

57. There seem to be barriers at the Royal Darwin Hospital to using theatre for trials of instrumental deliveries. Dr Pradhan was asked about the frequency of conducting trials of instrumental delivery in theatre and said they were done *very rarely…but we do do them…but, as I said, with the arrangement in the hospital it's not very easy to actually achieve that.* Dr Wulf said that *problem is we don't have access easily to theatre.* Dr Kilburn's statement said *This has been local practice where possible (and reflected in current guidelines) but practical implementation has been hampered by the frequent difficulty in accessing an unoccupied theatre, because of very high theatre utilisation as well as some difficulties due to the physical separation between delivery suite and the theatre suites. Theatre utilization will continue to be somewhat problematic, although some restructuring and the*

addition of another theatre will help in this regard. However in response to these identified barriers a small group has been convened to look at facilitating theatre access for potentially complicated instrumental deliveries and putting in place procedures and guidelines to allow urgent access to theatre for 'trial of instrumental delivery'.

58. The evidence of Dr Kilburn was that the group constituted the head of anaesthetics, the midwifery manager, possibly the manager of the labour ward and the sister in charge of theatre and it was convened in response to Professor Ellwood's report. It was beginning discussions the week of the inquest. I consider this the most important systems issue to arise out of the facts of this inquest. I support and commend Dr Kilburn's efforts to change the current situation, but the fact that it is, as yet, unchanged means that I intend to make a recommendation in relation to it.

59. A second issue that became apparent was that there is currently no formal credentialing system in place for registrars, and by that a mean a documented system stating when a registrar is considered experienced enough to perform particular procedures. There is an informal system where consultants keep a close eye on new registrars initially until they are confident they are able to perform particular procedures unassisted. Dr Wulf says she agrees with the need for a formal credentialing system and that registrars shouldn't be able to perform more complex procedures unless formally credentialed to do so. I heard evidence from Professor Ellwood that such a system is 'very important' and is best practice. Dr Kilburn informs me that he firmly believes there should be such a system and that he was moving towards putting a more formal structure is being put in place. He said that 'as head of division I am confident there will be a credentialing process' and that 'I' hoping that it will be in effect within the next month'. I accept this. I also note that, given the experience of Dr Pradhan, it is not likely that such a system would have made a difference in this particular

case. I therefore do not intend to make any recommendations in relation to this.

Recommendations

60. The Royal Darwin Hospital should ensure that all trials of instrumental deliveries occur in theatre and that a consultant is called for advice in all such cases. This needs to be clear in the guidelines. The guidelines already recommended that consideration be given to performing such deliveries in theatre, and need to be strengthened. Urgent attention needs to be given to removing these barriers that currently prevent this occurring and ensuring that such deliveries are in fact taking place in theatre.

61. The Royal Darwin Hospital needs to institute improved quality and safety procedures. There needs to be senior support and allocated time for such reviews and the review should occur soon after the event, be multidisciplinary, involve all of the people who had a role, occur in a non threatening atmosphere and have recorded outcomes. Consideration should be given to sourcing external assistance depending on the seriousness of the matter.

62. When a foetus is thought to be clinically 'large' and has a fundal height above the mean in a woman who is post-dates (that is who is beyond the due date for the baby) then consideration should be given to performing an ultrasound element of foetal weight as a guide to actual foetal size.

Formal Findings

63. Pursuant to section 34 of the *Coroner's Act* ("the Act"), I find, as a result of evidence adduced at the public inquest, as follows:

    (i) The identity of the deceased person was Declan Brian McConville. He was born on 31 August 2007 and he spent the

eight days of his life at the Royal Darwin Hospital in the Northern Territory of Australia.

(ii) The time and place of death was Saturday 8 September 2007 at 8 am.

(iii) The cause of death was acute hypoxic damage caused by shoulder dystocia during delivery. .

(iv) Particulars required to register the death:

1. The deceased was Declan Brian McConville. .

2. The deceased was of caucasian decent.

3. The cause of death was reported to the Coroner.

4. The cause of death was confirmed by post mortem examination carried out by Dr Terrence Sinton.

5. The deceased's mother is Cianne Coleman and his father is Dermot McConville.

6. The deceased spent his short life in the Royal Darwin Hospital. .

Dated this 28th day of May 2009

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GREG CAVANAGH
TERRITORY CORONER