IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2023 004003

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 63(2)

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

Findings of:	Coroner Ingrid Giles
Deceased:	Malakai Cross-De Jesus
Date of birth:	20 July 2023
Date of death:	23 July 2023
Cause of death:	1(a) Complications following forceps delivery
Place of death:	The Royal Children's Hospital, 50 Flemington Road, Parkville, Victoria, 3052
Keywords:	Instrumental birth; complications of instrumental birth; subgaleal haemorrhage

INTRODUCTION

1. On 23 July 2023, Malakai Cross-De Jesus (**Baby Malakai**)[1] was three days old when he passed away at the Royal Children's Hospital (**RCH**) from complications of an instrumental birth.

2. Baby Malakai was the first child born to parents Samara Cross (**Ms Cross**) and Jarvis De Jesus. He was born at the Joan Kirner Women's and Children's Hospital (**JK**) in Sunshine.

3. Ms Cross' pregnancy was uncomplicated, other than pregnancy-induced hypothyroidism which required 50mg thyroxine daily. She had a body mass index (**BMI**) of 21, low-risk antenatal screening and normal ultrasounds. She was also Group B streptococcus negative.

THE CORONIAL INVESTIGATION

4. Baby Malakai's death was reported to the coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

5. The role of a coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death. The purpose of a coronial investigation is to establish the facts, not to cast blame or determine criminal or civil liability.

6. Under the Act, coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

7. Then-Deputy State Coroner Jacqui Hawkins initially held carriage of the investigation into Baby Malakai's death. I assumed carriage in October 2023 for the purposes of conducting additional investigative steps, finalising the case, and making findings.

8. Following the review of the preliminary materials, I determined to seek advice from the Health and Medical Investigations Team (**HMIT**) of the Coroners Prevention Unit (**CPU**) regarding

[1] Referred to as 'Baby Malakai' throughout this finding unless more formality is required.

the appropriateness of the care and treatment provided by Western Health. I also determined to seek an expert opinion from a suitably qualified obstetrician.

9. This finding draws on the totality of the coronial investigation into the death of Malakai Cross-De Jesus. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[2]

CIRCUMSTANCES IN WHICH THE DEATH OCCURRED

10. On 19 July 2023, Ms Cross attended the birth suite at JK, following a spontaneous rupture of membranes (**SROM**) at about 6.15am that morning with pink liquor. She was advised to return the following day for an induction of labour. Ms Cross attended again on 20 July 2023 at about 8.40am in labour. As this was more than 24 hours after her SROM, her labour was managed as a prolonged rupture of membranes (**PROM**).

11. Ms Cross underwent a vaginal examination at about 9.40am which confirmed she was 4cm dilated. She received intravenous (**IV**) benzylpenicillin for PROM between 10.50am and 11.10am. At midday, the obstetrics and gynaecology (**O&G**) Hospital Medical Officer (**HMO**) was notified that Ms Cross experienced a period of tachycardia (increased heart rate). Ms Cross was given an IV fluid bolus at about 12.20pm.

12. At 1.50pm, Ms Cross underwent another vaginal examination which revealed she was 6cm dilated, so she was moved to the birth suite in preparation for delivery. A further vaginal examination at 5.15pm confirmed Ms Cross was fully dilated, and the foetal position was ischial spines (engaged in the pelvis). She commenced active pushing at 5.22pm.

13. The O&G Junior Registrar reviewed Ms Cross at 7.15pm and noted that she was fully dilated with strong, regular contractions (three contractions in a 10-minute period). The foetal head was in the left occiput posterior (**LOP**)[3] position with some descent of the foetal head below the ischial spines.

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[2] Subject to the principles enunciated in *Briginshaw v Briginshaw* (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

[3] Occiput anterior position is when the baby is positioned head down and facing the mother's back. This is the ideal position for delivery. Direct occiput posterior is when the baby is head down but facing away from the mother's back. With occiput anterior and posterior, the head can be directly midline (direct occiput anterior/posterior), or tilted to either the left or the right (ROP/LOP/ROA/LOA).

14. The O&G Junior Registrar discussed the case with the O&G Senior Registrar (**the Senior Registrar**). The clinicians felt that Ms Cross was "*likely to be suitable for rotational vacuum or manual rotation + NBF [Neville Barnes Forceps] however no epidural*". The clinicians discussed a trial in the operating theatre if adequate analgesia was able to be provided in the birth suite. Ms Cross and her partner agreed to this course of action and the Anaesthetics Registrar attended to provide an epidural at 7.45pm.

15. At 7.53pm, clinicians performed a further vaginal examination. During the examination, the Senior Registrar attempted a manual rotation of the foetal head to the direct occiput anterior (**DOA**) position, however the head returned to the LOP position. Clinicians decided to proceed with an instrumental delivery in the birthing suite rather than the operating theatre, due to the prolonged second stage of labour. Staff also requested the attendance of the Paediatric Registrar at 7.56pm.

16. At 8.00pm, the Senior Registrar attempted a second manual rotation of the foetal head and noted the foetal head needed to be held in position. At 8.04pm, the Senior Registrar applied NBF forceps for the first time, however they did not lock correctly. He removed the forceps at 8.06pm and reapplied them at 8.07pm.

17. The Senior Registrar attempted the first pull on the forceps at 8.10pm, which was immediately followed by a rapid increase in the foetal heart rate from 95bpm to 172bpm. He performed a second and third pull at 8.14pm and 8.19pm, respectively, with the third pull accompanied by an episiotomy. The foetal head was delivered at 8.20pm, followed by the shoulders. Baby Malakai was born at 8.21pm with a birth weight of 3,212g.

18. On delivery, Baby Malakai was noted to be floppy. His umbilical cord was immediately clamped and cut, and he was passed to the neonatal nurse. He was transferred to the resuscitation cot at 30 to 40 seconds of life. The Newborn Services (**NBS**) Deliveries Registrar was already in attendance at the time of birth and documented that Baby Malakai was floppy with no spontaneous respiratory effort and a heart rate of 80bpm. Clinicians commenced intermittent positive pressure ventilation (**IPPV**)[4] and observed an improvement in Baby Malakai's heart rate. It increased to 150bpm from one minute of life, however at 90 seconds

[4] IPPV is the process of manually or mechanically ventilating a patient that is not breathing well or not breathing at all. A mask is placed over the baby's nose and mouth to provide the ventilation via a machine that provides pressure and oxygen.

of life, he did not take any spontaneous breaths. Staff called a Neonatal Code Blue and increased the IPPV pressures and oxygen concentration.

19. By four minutes of life, the Neonatal Consultant and Neonatal Resuscitation Nurse had arrived. IPPV continued until 10 minutes of life and at 12 minutes of life, spontaneous breathing was observed, and Baby Malakai was stabilised on continuous positive pressure ventilation (**CPPV**)[5]. He was also placed on continuous positive airway pressure (**CPAP**) and was transferred to the Neonatal Intensive Care Unit (**NICU**). Baby Malakai's Appearance Pulse Grimace Activity and Respiration (**APGAR**)[6] scores were two at one minute of life, four at five minutes of life and seven at 10 minutes of life.

20. An admission note completed by staff at 10.21pm outlined Baby Malakai's condition. The record noted that he had an intermittent grunt but was maintaining oxygen saturations of 100% on CPAP 7cm. He was pale with a central capillary refill time of two seconds, with good femoral pulses. His blood pressure was 61/49 mmHg with a mean arterial pressure (**MAP**) of 53 mmHg at 9.00pm. At 10.00pm, Baby Malakai's blood pressure was 68/57 mmHg and MAP was 60 mmHg. These measures are within the normal range for newborns. However, abnormal neurological changes were observed including an absent gag and suck reflex, poor central and peripheral tone, intermittent posturing and an absent Moro reflex. Blood gas test results indicated metabolic acidosis and normal haemoglobin levels.

21. Baby Malakai received an IV fluid bolus at 10.35pm and amplitude integrated electroencephalogram (**aEEG**) monitoring was commenced at 10.40pm. At the time the aEEG electrodes were placed, there was no evidence of a subgaleal haemorrhage. He received the usual doses of vitamin K and hepatitis B vaccines at about 11.00pm.

22. Baby Malakai's next blood pressure reading at 12.11am on 21 July 2023 was noted to be low (29/20 mmHg) and his MAP was 23mmHg. A medial review was requested. In a retrospective note, the Neonatal Hospital Medical Officer (**HMO**) recorded that he was contacted by a Neonatal Registrar at about 12.30pm. The Neonatal HMO was performing a procedure at the time and requested that the Consultant Neonatologist be informed.

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[5] CPAP is a mode of delivering non-invasive ventilation. The use of continuous positive pressure to maintain a continuous level of positive airway pressure. CPAP uses mild air pressure to keep an airway open.

[6] The Apgar score standardises the way healthcare professionals evaluate a baby's physical wellbeing at birth and how well each baby makes the physical transition to independent life from their mother. The Apgar score utilises five physical signs and is scored when the baby is 1 minute old and again when they are 5 minutes old. The APGAR score ranges from 0 to 10, with a lower score indicating poorer outcome.

23. In response to his low blood pressure, Baby Malakai received an IV fluid bolus and staff prepared to insert umbilical lines. At about the same time, Baby Malakai's aEEG demonstrated reduced activity. Blood gas tests performed at 1.13am showed a worsening acidosis with an elevated lactate level, and a significant drop in haemoglobin from 160 g/L to 96 g/L.

24. Umbilical lines were inserted at about 2.00am and staff commenced infusions of inotropic medications to assist with Baby Malakai's cardiac function. He underwent blood tests and staff increased his antimicrobial coverage with cefotaxime for suspected bacterial sepsis. He also received aciclovir for antiviral coverage.

25. Coagulation studies showed coagulopathy (abnormal clotting of the blood), so staff administered fresh frozen plasma (**FFP**)[7] to correct his haemoglobin drop and coagulopathy. A second Consultant Neonatologist attended to perform a point of care cardiac ultrasound and noted extremely poor cardiac contractility and low cardiac output. Clinicians decided to intubate Baby Malakai due to the nature of the findings.

26. Clinicians intubated Baby Malakai on the first attempt between 2.05am and 2.30am. He became profoundly bradycardic, requiring three minutes of cardiopulmonary resuscitation (**CPR**) and two doses of IV adrenaline, which achieved a return of circulation.

27. Clinicians recognised a subgaleal haemorrhage (**SGH**)[8] at some time between 3.00am and 3.51am and believed this to be the cause of Baby Malakai's acute deterioration. Prior to this point (including when the aEEG probes were inserted), there was reportedly no evidence of SGH.

28. Baby Malakai underwent an initial neurological examination which was concerning for hypoxic ischaemic encephalopathy (**HIE**)[9] with absent suck and gag reflexes. However, given the presence of haemorrhagic shock and coagulopathy, Baby Malakai was unable to be passively cooled, which is the usual treatment for HIE. Clinicians administered anti-seizure medication for suspected seizures.

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[7] FFP is a blood product that contains all factors required for blood coagulation. It is used for patients with a coagulopathy who are bleeding or at risk of bleeding, and where a specific therapy or factor concentrate is not appropriate or unavailable.

[8] A subgaleal haemorrhage (**SGH**) develops when blood accumulates in the loose areolar tissue in the space between the periosteum of the skull and the aponeurosis. The injury occurs when the veins between the scalp and the dural sinuses are damaged, usually due to traction on the scalp during the birthing process. Neonates can lose 50-70% of their circulating blood volume into this space, leading to hypovolaemic shock, anaemia, coagulopathy and death.

[9] A condition where the brain does not receive enough oxygen.

29. At about 5.20am, Baby Malakai experienced further hypotension and upper gastrointestinal (**GI**) bleeding, with blood from his orogastric tube. Given his ongoing bleeding and disseminated intravascular coagulopathy (**DIC**)[10], staff activated a massive transfusion protocol. With guidance from an RCH haematologist, multiple blood products were administered including packed red blood cells, FFP, cryoprecipitate and platelets.

30. Over the next few hours, Baby Malakai's condition continued to deteriorate, and he became critically unwell. Multiple neonatal consultants and teams of nursing staff provided continuous and intensive support. His main issues were haemodynamic instability with severe hypotension from hypovolemic shock with exsanguination, mainly from an upper GI bleed and subgaleal bleed, coagulopathy with DIC, suspected sepsis and severe metabolic acidosis.

31. Baby Malakai underwent further investigations including a cranial ultrasound, which revealed a right parietal skull fracture and right frontal parenchymal echogenicity, subarachnoid haemorrhage with possible mild midline shift and an overlying widespread SGH. An abdominal ultrasound showed interstitial fluid accumulating in the abdomen "*due to shock and intravenous fluid resuscitation*". Baby Malakai had poor renal perfusion and reduced parenchymal flow.[11]

32. Clinical staff first contacted the Paediatric Infant and Perinatal Emergency Retrieval (**PIPER**) service at 10.16am to request NovoSeven, which is a form of activated plasma coagulation used to control bleeding, typically in patients with known bleeding disorders. After receiving the referral, PIPER decided to mobilise a retrieval team along with the NovoSeven, in case Baby Malakai needed to be transferred to the RCH. PIPER departed at 10.47am and arrived at JK Hospital at 11.04am. Given Baby Malakai's condition and instability, clinicians decided to transfer him to the RCH for further treatment.

33. Baby Malakai arrived at the RCH at about 3.00pm. His primary medical issues included:

    a) Management of massive and ongoing haemorrhage with a large volume of blood loss from a presumed upper GI bleed and SGH.

    b) DIC presumed secondary to SGH and contributing to ongoing upper GI bleeding.

[10] A pathological activation of coagulation (blood clotting) mechanisms that can occur in response to a variety of diseases, as well as following large blood transfusions.
[11] The flow of blood or other fluids within the functional tissue of an organ.

c) Multi-organ failure presumed secondary to hypovolaemic shock with severe metabolic lactic acidosis, cardiac dysfunction, hypotension and ongoing hypovolaemia.

d) Acute kidney injury with anuria and progressive hyperkalaemia.

e) Difficult ventilation with significant fluid overload from capillary leak causing chest wall oedema and severe abdominal distention.

34. A massive transfusion protocol was initiated before Baby Malakai arrived at the RCH, however this continued for a further 24 hours after transfer. His circulation was also supported with various infusions.

35. Various medical teams at the RCH consulted with Baby Malakai's treating team including clinical haematology, gastroenterology, otorhinolaryngology, neurosurgery, nephrology and the paediatric ICU.

36. Due to Baby Malakai's worsening cardiac function, prolonged acidosis, prolonged episodes of hypoxia, kidney failure and significant cerebral oedema, clinicians formed the view that his condition was likely not survivable without severe disability, and he was not a suitable candidate for extra-corporeal life support. After joint discussion between his clinicians and family, it was agreed to transition Baby Malakai to palliative care, and he passed away at 6.14pm on 23 July 2023.

IDENTITY OF THE DECEASED

37. On 23 July 2023, Malakai Cross-De Jesus, born 20 July 2023, was visually identified by a clinician at the RCH, Elizabeth Ross.

38. Identity is not in dispute and requires no further investigation.

MEDICAL CAUSE OF DEATH

39. Forensic Pathologist Adjunct Associate Professor Sarah Parsons (**Adj A/Prof Parsons**) from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an autopsy on 25 July 2023 and provided a written report of her findings dated 18 October 2023. Adj A/Prof Parsons reviewed the Police Report of Death (**Form 83**), post-mortem computed tomography (**CT**) scan and the medical deposition.

40. The post-mortem imaging confirmed cervical spine and right frontal skull vault trauma.

41. Treating clinicians at the RCH asked about the source of the gastrointestinal bleed. Adj A/Prof Parsons noted that there was some haemorrhage and necrosis of the small bowel but no areas of ulceration. She opined that this was likely due to hypotension and blood loss as a consequence of the subgaleal haematoma and head injury.

42. Microbiological testing detected staphylococcus hominis and staphylococcus lentus in the blood, which were thought to be post-mortem contaminants.

43. Metabolic testing showed no evidence of medium-chain acyl-CoA dehydrogenase (**MCAD**) deficiency.

44. Toxicological analysis of ante-mortem samples identified the presence of paracetamol and metoclopramide, which were administered by the hospital.

45. Adj A/Prof Parsons provided an opinion that the medical cause of death was *1(a) Complications following forceps delivery.*

46. I accept Adj A/Prof Parsons' opinion.

CPU REVIEW

47. Taking into account the evidence available, I determined to seek advice from the Coroners Prevention Unit (**CPU**)[12] with regard to the care and treatment provided by Western Health to Ms Cross and Baby Malakai.

Review and assessment of contributing factors

Subgaleal haemorrhage risk factors

48. A SGH develops when blood accumulates in the space between the periosteum of the skull and aponeurosis, typically caused by injury to the veins as a result of shearing forces during delivery. It is estimated to occur in 4 of 10,000 spontaneous deliveries, with a higher incidence in assisted deliveries.[13]

49. The Western Health Guideline on Subgaleal Haemorrhage notes the following:

[12] The CPU was established in 2008 to strengthen the prevention role of the coroner. The unit assists the Coroner with research in matters related to public health and safety and in relation to the formulation of prevention recommendations. The CPU also reviews medical care and treatment in cases referred by the coroner. The CPU is comprised of health professionals with training in a range of areas including medicine, nursing, public health and mental health.

[13] McKee-Garrett, Tiffany. Neonatal birth injuries. In: UpToDate.

a) Moderate risk – instrumental delivery, i.e., assisted birth with either forceps or vacuum.

b) High risk – multiple pop-offs, multiple pulls (more than three), incorrect positioning of the cup and incorrect traction, applications lasting more than 10 minutes, jerking, rocking or rotation pulls, any neonate with a failed instrumental delivery and any neonate with a five-minute APGAR[14]score of less than seven following an uncomplicated instrumental delivery.

c) Other risk factors – macrosomic neonate, cephalopelvic disproportion, prolonged second stage of labour, bleeding disorders, malpresentation and maternal factors (e.g., primigravida, maternal exhaustion, previous high or mid cavity forceps delivery).

50. The CPU noted that based on the Western Health guidelines, an instrumental delivery already places a neonate at a moderate risk, however several additional risk factors were present in Baby Malakai's case including a five-minute APGAR score of less than seven, prolonged second stage of labour, multiple pulls, and rupture of membranes lasting more than 12 hours. He was therefore in the high-risk category.

51. Neonates at risk of subgaleal haemorrhage should have hourly observations for the first four hours, and subsequent observations every three to four hours. This includes noting the level of activity, feeding, skin colour, heart rate, respiratory rate and head assessment. Both the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (**RANZCOG**) guidelines and Western Health policy state that hats should not be worn unless medically required and should be regularly removed to assess during observations.

Spinal cord injury and skull fracture

52. Spinal cord injuries are rare with an incidence of 0.14 per 10,000 live births. They occur more frequently in the upper cervical spine because of the greater likelihood of injury due to traction or rotation of that area of the cord during delivery. Risk factors include forceps-assisted delivery.

[14] The APGAR score is a quick test administered to newborns and evaluates five factors: Appearance, Pulse, Grimace, Activity and Respiration.

53. Birth trauma can result in linear and depressed skull fractures. Depressed skull fractures are often associated with forceps-assisted deliveries. In one report, depressed skull fractures occurred in 3.7 per 100,000 deliveries.[15]

Sentinel event review

54. Western Health identified this case as a sentinel event and completed a Root Cause Analysis (**RCA**). The panel who reviewed the case consisted of a consumer representative, an external obstetrician and an external neonatologist. The findings from the RCA were as follows:

    a) Finding 1 – Standard practice for the application of a CPAP bonnet to manage respiratory distress obscured observation of the scalp, leading to a delay to identify and manage the SGH.

    b) Finding 2 – NICU Clinical Leadership (medical and nursing) do not routinely participate in in-situ emergency situation training, therefore were not aware and did not prompt the use of a 'resus recap' to pause and take stock during the active resuscitation. Therefore, there was a loss of situational awareness with a focus on alternative causes of deterioration, leading to a delay to identify and manage the SGH.

    c) Finding 3 – NICU Clinical Leadership (medical and nursing) do not routinely participate in in-situ emergency situation training, therefore confirmation bias resulted in a focus on sepsis as a probable cause for deterioration and prioritisation of cardiac management over fluid/blood resuscitation, leading to therapy that was not calibrated to the underlying aetiology.

55. The lessons learned from the RCA included the following:

    a) Lesson 1 – Complex forceps delivery (high head with manual rotation) was undertaken by an appropriately credentialed and experienced clinician, however the ideal venue of care for this type of birth is the operating theatre.

    b) Lesson 2 – The health service's massive transfusion protocol (**MTP**) and equipment supplies should be further refined and tailored for the NICU environment.

[15] McKee-Garrett, Tiffany. Neonatal birth injuries. In: UpToDate.

c) Lesson 3 – The Electronic Medical Record (**EMR**) fluid balance and interactive documentation charts were not functioning as intended to populate the medical record – however, these were visible in the screen/at bedside.

d) Lesson 4 – Clinician interviews are integral to a robust review process. These should be formally scheduled for all clinicians as close as possible to the time of the event.

e) Lesson 5 – Clinician debrief processes following a clinical incident are essential for staff to process a clinical incident. These should be scheduled with consideration of an appropriate facilitator and the needs of different craft groups as close as possible to the time of the event.

56. The RCA noted that none of the five lessons learned would have prevented the critical events from occurring.

57. The RCA made the following eight recommendations:

a) Recommendation 1 – Targeted education on SGH within NICU to be undertaken encompassing assessment, recognition, best practice management, appropriate choice of headgear (with considerations for respiratory support and thermoregulation), escalation, and required documentation as per local policy.

i. In submissions dated 4 September 2025, Western Health confirmed that targeted education had been implemented.

b) Recommendation 2 – Expand the non-technical skills component of in-situ simulation training within NICU and include Senior Medical Staff in all sessions. This will improve situational awareness training and embed a 'resus recap' into everyday practice to reduce the risk of confirmation bias in decision-making through enhancing communication (including assertiveness training), teamwork, and cultivating collective responsibility.

i. In submissions dated 4 September 2025, Western Health indicated that senior medical staff in the NICU are now rostered to attend weekly in-situ simulation training within the NICU. A clinical tool for deteriorating NICU patients has been developed and implemented, entitled *Responding Quickly to Emergencies in Neonates* (**RESQUE**), with a copy provided to the Court for reference.

c) Recommendation 3 - Complex forceps delivery, including those involving high head with manual rotation, will be undertaken in the operating theatre by suitably credentialled and experienced clinician(s).

    i. In submissions dated 4 September 2025, Western Health confirmed that this recommendation has been implemented in the *Clinical Escalation of the Maternity Patient including the Notification/Attendance of the On-Call Consultant Obstetrician* guideline, with a copy provided to the Court for reference.

    ii. Western Health further noted that the Senior Registrar was appointed and rostered as a Junior Medical Staff (**JMS**) and not a Senior Medical Staff (**SMS**), despite being suitably credentialled to be a SMS. In this respect the Senior Registrar was appropriately credentialed and experienced to perform a complex forceps delivery, however a transfer to theatre would have allowed a second clinician (a more experienced consultant) to review Ms Cross, which may have resulted in an alternative delivery method.

d) Recommendation 4 – The Critical Bleeding and MTP will be reviewed for specific level 6 NICU requirements and updated accordingly to best practice.

    i. In submissions dated 4 September 2025, Western Health noted that the *Critical Bleeding and Major Transfusion Protocol* procedure had been reviewed, with a copy provided to the Court for reference.

e) Recommendation 5 – Interdepartmental simulations will test Critical Bleeding and MTP to improve system responsiveness.

    i. In submissions dated 4 September 2025, Western Health noted that this recommendation was completed on 17 April 2024 and recommendations arising from the simulation were incorporated into the design of the RESQUE tool.

f) Recommendation 6 – With respect to identified EMR issues in the NICU:

    i. Workflows return to pre-EMR Phase 2.1 paper-workflows.

        1. In submissions dated 4 September 2025, Western Health confirmed that this recommendation has been completed.

ii. Further development of the EMR needs to support active resuscitation requirements prior to reintroduction in the clinical setting.

1. In submissions dated 4 September 2025, Western Health noted that the return to RESQUE, a paper-based support tool for the deteriorating patient in the NICU, aligns with paper-based workflows for active resuscitations in other clinical settings at Western Health, such as the Emergency Department and adult Intensive Care Unit.

g) Recommendation 7 – Clinical interviews, following serious adverse patient safety events (**SAPSEs**) are to be formally scheduled for all clinicians as close as possible to the time of the event to ensure a robust review process.

h) Recommendation 8 – Promote awareness and accessibility of existing guidelines relating to incident support and clinical debrief following serious clinical events.

Assessment of health care diagnosis, treatment and follow-up

Clinician performing instrumental delivery and location of delivery

58. The CPU noted that the Senior Registrar who performed the instrumental delivery was a Level 6 Senior Registrar, almost at the completion of their training and was appropriately credentialled and experienced to perform a complex forceps delivery. As the instrumental delivery occurred in the birthing suite and note in the operating theatre, the consultant obstetrician was not required to attend.

59. The CPU opined that the decision to trial instrumental delivery in the operating theatre versus in the birthing suite for a prolonged second stage was discussed with Ms Cross, and it was decided that she would remain in the birthing suite. The CPU noted it was not clear whether the obstetric consultant was involved in this decision-making process, but they were informed of the delivery occurring and they were attending to another patient in the birthing suite at the same time.

60. This was one of the lessons noted in the RCA (discussed above), namely, that the clinician performing the procedure was appropriately credentialled, however the ideal venue for this type of birth was the operating theatre.

61. Dr Lauren De Luca (**Dr De Luca**), Director of Obstetrics and Gynaecology, noted in her statement that "*it is difficult to determine whether the outcome would have been different had*

the woman been transferred to theatre. It is highly likely that Ms Cross would have still required a manual rotation and instrumental birth. Whilst the consultant would have attended the delivery as per the Western Health procedure, the delivery would still have likely been completed by the senior registrar given their seniority and experience."

Whether excessive force was used

62. The CPU noted the post-mortem examination of Baby Malakai demonstrated several significant injuries as a consequence of the instrumental birth including SGH, parietal skull fracture, subdural haemorrhage, cervical spine ligamentous injury and subarachnoid haemorrhage.

63. According to Dr De Luca, the RCA noted "*Detailed review of the operative birth from the clinical notes and multiple staff interviews did not identify evidence of excessive force in delivery. The panel considered that the birth could have been undertaken in theatre given the occipitoposterior malposition but recognised that the operator was a senior registrar (level 6) with extensive experience. As such the procedure was undertaken by a suitably experienced and credentialed doctor*".

Delay in recognising subgaleal haemorrhage

64. Neonatal Paediatrician at Western Health, Dr Charles Barfield (**Dr Barfield**) noted that the treating clinicians recognised that Baby Malakai's deterioration was due to a SGH at some point between 3.00am and 5.00am, sometime after it was recognised that Baby Malakai was critically unwell.

65. Dr Barfield attributed this delay due to the standard practice for the application of CPAP bonnet to manage respiratory distress, which obscured observation of the scalp.

66. The CPU reviewed Baby Malakai's EMR and noted that it did not appear that nursing scalp checks were performed until 7.00am on 21 July 2023. Certain observation charts such as the Victorian statewide birth/postnatal (**PN**) ward ViCTOR (**Victorian Children's Tool for Observation and Response**) charts have a section for recording scalp checks (hourly for the first four hours and then every four hours) to be completed if an instrumental birth or attempt has occurred. On review of the medical records, the CPU noted that it was unclear what observation chart was used for Baby Malakai, as this may have provided a prompt to regularly monitor Baby Malakai's scalp. When provided with an opportunity to respond to the proposed findings in this matter, Western Health clarified that as there is no ViCTOR chart designed

for the NICU environment, at the time of Baby Malakai's birth, Western Health had developed and was utilising their own electronic NICU observation chart. Baby Malaki was transitioned from a Birth/PN chart to the NICU observation chart at 7:48 on 21 July 2023.

67. Pursuant to the RANZCOG Subgaleal Haemorrhage guidelines, Baby Malakai fit the criteria for level 2 surveillance due to an APGAR score of seven at five minutes of life. The CPU commented that this ideally should have included scalp observation and head circumference measurements, hourly for the first two hours of life and then every second hour for a further six hours.

68. The RCA panel agreed that the recognition and response to cardiovascular signs secondary to the evolving SGH should have been timelier but confirmed that the neonatal care was provided by a suitably experienced and credentialled doctor.

69. The CPU opined that they could not state with certainty that if the SGH had been identified earlier that the outcome would have differed, given that the medical team recognised a deterioration fitting with a picture of hypovolaemic shock and were appropriately managing same based on the information known to them at the time. However, knowledge that this deterioration was due to SGH would have allowed the treating team to tailor their management accordingly, therefore optimising Baby Malakai's chances of survival.

70. The RCA found that at the time of recognised deterioration at 2.00am, subject matter experts on the panel agreed that with a lactate of 22 and MAP of 17mmHg, urgent resuscitation and examination should have taken priority over the point of care ultrasound. The CPU agreed with this finding.

Whether PIPER should have been contacted sooner

71. The CPU explained that JK Hospital is a level 6A NICU which means that it is able to provide tertiary newborn services such as caring for newborns that require continuous life support and comprehensive multidisciplinary care. A level 6A unit would be an appropriate location in managing a neonate with a SGH on the condition that no specialty input was required (e.g., surgery).

72. Clinicians contacted PIPER in the first instance to request NovoSeven, as it was not routinely stocked at JK. The CPU opined that at this initial stage, it was appropriate for Baby Malakai's care to continue at JK and PIPER did not require further contact.

73. Baby Malakai was ultimately transferred to the RCH due to his upper GI bleed and ongoing SGH, as the RCH is the appropriate venue to provide sub-specialty care.

Availability of NovoSeven throughout Victoria

74. The statements provided by the Director of PIPER, Associate Professor Michael Stewart (**A/Prof Stewart**) and the joint statement by RCH NICU clinicians, Dr Ruth Armstrong and Dr Cameron Smirk (**Drs Armstrong and Smirk**), commented on the lack of statewide guidance for the management of neonates with significant bleeding, resulting in activation of a massive transfusion protocol.

75. In his statement, A/Prof Stewart outlined the need to "*consider recommending Statewide Guidance for health services on the management of newborn babies and children who trigger criteria for a massive transfusion protocol response, including the stock or sourcing of [NovoSeven]*".

76. Drs Armstrong and Smirk noted in her statement that "*the RCH NICU response echoes that of the PIPER response in the call for recommendations of Statewide Guidance for health services on the management of newborn babies and children who trigger criteria for a massive transfusion protocol response including the stock or sourcing of [NovoSeven].*"

77. The CPU noted the existence of the Blood Product Prescription guideline in the current RCH clinical practice guidelines, which has been endorsed by the Paediatric Improvement Collaborative (**PIC**) and is therefore used statewide. However this guideline does not include guidance for situations where a massive transfusion protocol needs to be activated. This guideline does include a link to the RCH specific guideline for "Massive hemorrhage (**MHP**) and critical bleeding procedure", but this is not a statewide procedure.

Summary of contributing factors and suggested recommendations

78. The CPU noted the main contributing factors in this case were:

    a) The decision to proceed with an instrumental delivery in the birth suite rather than the operating theatre under the supervision of a consultant.

    b) Delayed recognition and management of SGH.

79. The CPU suggested I make the following recommendations:

a) That Western Health consider integrating an inbuilt alert into their EMR to prompt for scalp assessments for all babies born via assisted delivery, in alignment with the recommended levels of surveillance suggested by the RANZCOG Guidelines for Subgaleal Haemorrhage; and

b) Endorse the comments in the statements of A/Prof Stewart and Drs Armstrong and Smirk, namely, to recommend formulation of statewide guidelines regarding neonatal/paediatric patients who trigger a massive transfusion protocol process.

EXPERT OBSTETRIC REPORT

80. As noted above, I determined to obtain an expert opinion from Professor Ryan Hodges (**Prof Hodges**), who is an obstetrician and foetal medicine specialist. Prof Hodges was asked to comment on various aspects of Ms Cross' antenatal care and the treatment Baby Malakai received. A summary of his advice is provided below.

Antenatal management and risks for labour

81. Prof Hodges noted that Ms Cross had no significant medical history of concern. Her thyroid function was managed with a low dose of thyroid replacement hormone, and her asthma was well-controlled. There were no significant concerns identified antenatally that required an escalation of care. Prof Hodges opined that her maternity model of care (low risk; midwifery) and antenatal care was appropriate.

82. Prof Hodges further noted that Ms Cross was considered low risk. She had a normal BMI; no significant medical history or surgical history and her antenatal investigations were reassuring. She did have a prolonged rupture of membranes; however, went into spontaneous labour and had no clinical features of infection with negative Group B streptococcus screening.

Management of prolonged labour

83. Prof Hodges noted that a physical examination determined the cervix was 6cm dilated at 1.50pm and fully dilated at 5.15pm. Time was allowed for further descent, then active pushing commenced. After two hours, the Senior Registrar suggested an epidural, rather than a transfer to the operating theatre, and this was placed at 7.27pm. Prof Hodges noted that these timelines are consistent with RANZCOG guidelines, which document that escalation occur after two hours in a nulliparous woman (a woman who has never given birth before).

Review of the intrapartum and labour cardiotocography

84. Prof Hodges explained that the cardiotocography (**CTG**) results at 2.40pm were normal with a baseline foetal heart rate of 125bpm, normal variability and accelerations. At 4.40pm, there was a progressive rise in the foetal heart rate to 140bpm, with normal variability. From 5.00pm, there was a further rise in the foetal heart rate and the development of complicated variable decelerations and reduced variability from 5.20pm.

85. From 5.50pm to 6.45pm, there was poor recording of the foetal heart rate pattern with areas of recording the maternal heart rate. There was also an inadequate uterine resting tone. From 6.50pm to 7.15pm when Ms Cross was examined by the registrar, there was a baseline rate of 160bpm with persistent complicated variable decelerations, slow recovery to baseline and reduced variability. Post-epidural, the foetal heart rate was unexpectedly recorded at 130bpm with reduced to absent variability. Prof Hodges commented that interpretation of this is limited as there was no recording of uterine activity. There was no change in the maternal blood pressure document.

86. At 7.52pm, there was an episode of foetal bradycardia during the attempted manual rotation. When forceps were applied for the first time at 8.04pm, there was a further episode of prolonged foetal deceleration. The forceps were removed at 8.06pm and reapplied at 8.07pm. At this time, the foetal heart was documented as 97bpm.

87. The first pull of the forceps occurred at 8.10pm and the CTG revealed a rise in the foetal heart rate to 190bpm with absent variability over the course of the second and third pulls. Prof Hodges noted an element of machine artefact in the final tracing, however commented that the findings were nevertheless concerning for foetal hypoxia.

Review of the instrumental delivery

Location of delivery

88. Prof Hodges noted that the Senior Registrar determined that proceeding with an operative vaginal birth in the birthing room was appropriate, rather than the operating theatre. However, he noted several red flags that should have raised suspicion for a more complex procedure and that reassessment should have occurred in the operating theatre with supervision by a consultant obstetrician. These red flags included:

a) Foetal malposition that was at the level of the ischial spines to +1 station in a primigravid patient, indicative of mid-cavity delivery with malposition;

b) The foetal heart rate decelerated (bradycardia) with attempted manual rotation prior to applying the forceps, indicating a higher likelihood of a more complex procedure and foetal distress with neonatal resuscitation that could require additional medical personnel;

c) The foetal position, while easily rotated to OA, was not stable and returned to the OP position. The Senior Registrar documented that the foetal head had to "*be held there*" to place the forceps. Prof Hodges opined that this implied that the foetal head was likely at a higher station than appreciated and therefore it was more likely to be a complex procedure; and

d) Inability to lock the forceps blades on the first attempt was a further red flag for the degree of malposition and foetal station.

89. Prof Hodges noted that these red flags appeared sequentially and gave the Senior Registrar the opportunity to abandon the procedure at each step before the first pull and instead notify the consultant obstetrician and proceed to the operating theatre for reassessment. This would have permitted reassessment with confirmation of appropriate analgesia, patient positioning, a second opinion and supervision from a consultant (specialist) obstetrician on the appropriateness of an instrumental birth compared to a caesarean. It also would have permitted conversion to an immediate caesarean section if required.

Whether attempts and method of instrumental delivery were in accordance with RANZCOG guidelines

90. Prof Hodges noted that the red flags discussed above should have prompted a transfer to the operating theatre for reassessment and a second opinion by the consultant obstetrician. The RANZCOG *Instrumental Vaginal Birth* guideline (2020) states:

> *When there is an increased likelihood that attempted instrumental birth may not be successful, where feasible, the attempt should be conducted in a place where immediate recourse to caesarean section is possible.*

91. Prof Hodges noted that while this procedure achieved a vaginal birth, the red flags that were present indicated a more complex procedure and birth should have been anticipated and

performed in the operating theatre. While a forceps instrumental delivery birth may still have been performed, even in the operating theatre, this would have been after a second opinion and direct supervision from a consultant obstetrician as per Western Health's *Notification/Attendance of On-Call Consultant Obstetrician* guideline.

Under what circumstance(s) should attempt(s) at instrumental delivery be abandoned

92. Prof Hodges opined that operative vaginal birth with forceps should be abandoned if:

    a) There is any uncertainty about the suitability of the birth suite location

    b) The forceps blades are unable to be easily placed and locked

    c) There is an inability to correct the malposition and/or asynclitism

    d) There is no descent of the foetal presenting part during a contraction with maternal effort

    e) There are excessive pulls

    f) There is a withdrawal of maternal consent.

Whether there was an earlier indication to deliver and if so, what mode of delivery and at what time

93. Prof Hodges noted that Ms Cross' first stage of labour progressed normally to full dilation. From 6.50pm to 7.15pm, when the Senior Registrar examined Ms Cross, the baseline foetal heart rate was 160bpm with persistent complicated variable decelerations. At the time of the 7.15pm assessment, Ms Cross had been fully dilated for two hours and pushing for one hour with evidence of an abnormal CTG. Prof Hodges opined that at this time there was an opportunity to attend the operating theatre for analgesia and to make an assessment for a trial of forceps versus caesarean section, given the abnormal CTG. This would have afforded a second opinion and supervision by the consultant obstetrician for the appropriateness of a forceps birth, pursuant to Western Health guidelines.

The extent of Baby Malakai's injuries with respect to the application of force in a forceps delivery

94. Prof Hodges commented that it was not possible to determine whether excessive traction was applied, purely from a review of the medical records, as the documentation only noted the timeline for each pull. Contractions were spaced out during the procedure. There was no

record as to whether there was descent of the foetal presenting part with each contraction or not, and there was no standardised documentation template. Prof Hodges noted from Dr De Luca's statement that staff interviews during the sentinel event process did not observe excessive force to be apparent, however the documentation was not sufficiently detailed to discern whether progress was being made with each contraction.

95. According to the Senior Registrar's statement, there was appropriate descent and progress with each contraction as follows:

> *The first pull was at 2010 hours with good descent, the second pull was at 2014 hours with good descent, head at introitus stretching maternal perineum, and the third pull was at 2019 hours with episiotomy cut and delivery of head.*

96. Prof Hodges noted that critically, sequential instruments were not used, and the number of pulls/contractions was not excessive.

Review of the RCA process as outlined in Dr De Luca's statement

97. Prof Hodges agreed that the Senior Registrar was appropriately credentialled and experienced in forceps births consistent with his level of training. Nevertheless, he opined that the Senior Registrar was acting in a junior medical staff role and that recognition of red flags should have prompted transfer to the operating theatre which would have provided the opportunity for a second opinion and supervision by the consultant obstetrician. Prof Hodges' expectation was that the consultant obstetrician would have sought consent from Ms Cross to conduct a detailed clinical examination to be sure that they agreed with the Senior Registrar's findings and decision to proceed with a trial of forceps. He also expected that the consultant obstetrician would also supervise the birth (if performed by the Senior Registrar).

98. Prof Hodges noted that it was not clear from the medical records or the RCA process whether any system-level barriers or human factors were present that prevented the escalation of care to the operating theatre. He noted Dr De Luca's statement that "*the decision to transfer to theatre may also be impacted by the acuity of the Birthing and Theatre*", however there was no data provided regarding theatre capacity and acuity at the time. Prof Hodges noted that access to the operating theatre can be challenging for obstetric cases, especially if it is not a threat to life emergency. This can be further compounded in general hospitals without dedicated obstetric theatre access. If barriers to theatre access exist, then this may

inadvertently lead practitioners to proceed with more complex births in the birthing suite, rather than attended the operating theatre.

Whether Baby Malakai's death was preventable and if so, at what stage and with what measures

99. Prof Hodges opined that it was unclear whether Baby Malakai's death was preventable. It is possible that a decision to attend the operating theatre at 7.15pm instead of requesting an epidural in the birth suite, or subsequently at 8.00pm if the red flags were identified prior to the first pull might have led to either performing a caesarean section or abandoning the forceps birth earlier under the consultant obstetrician's supervision. Reassessment in the operating theatre by the consultant obstetrician for foetal head position, station relative to the ischial spines, degree of caput and moulding, ease of forceps application, and amount of descent with the first pull all would have provided further decision points for the consultant obstetrician. These additional decision points may have provided further opportunities to reconsider the trial of forceps, regardless of whether the Senior Registrar was performing the birth under the consultant's supervision.

100. Prof Hodges recognised that it is not commonplace in Victoria to have a dedicated obstetric operating theatre in most maternity services, and that access can often be challenging due to various competing specialities. Therefore, identifying and addressing both system-level barriers and human factors to lower the threshold and encourage complex births to occur in the operating theatre is essential. This affords the assistance of senior obstetricians, paediatricians, anaesthetists and midwifery staff as per the recommended escalation of care guidelines. Underpinning identification and planning of a complex birth requires a collaborate safety culture among medical and midwifery staff with the assistance of safety checklists and team time-outs, such as the recent operative vaginal birth safety bundle.

WESTERN HEALTH RESPONSE

Western Health response

101. In accordance with the principles of natural justice, Western Health was provided with an opportunity to review a summary of the CPU's advice in this matter and provided submissions in response dated 4 September 2025.

102. In its response, Western Health indicated that it accepted the CPU's findings with regard to the main contributing factors to Baby Malakai's death, as outlined in paragraph 78.

103. However, Western Health raised concerns in relation to the CPU's proposed recommendation that it should integrate an inbuilt alert into its EMR to prompt for scalp assessments for all babies born via assisted delivery, in alignment with the recommended levels of surveillance suggested by the RANZCOG Guidelines for Subgaleal Haemorrhage.

104. Western Health stated that it considered this proposed recommendation would be unlikely to yield the intended outcome. In this respect, Western Health explained that its EMR already has functionality aligned with RANZCOG Guidelines for Subgaleal Haemorrhage (**SGH**) to support risk assessment following vacuum, forceps or unsuccessful instrumental birth, and that it considered that adding an EMR alert would risk interrupting clinical care and increasing the cognitive burden placed on clinicians.[16]

105. Following receipt of this response, I determined to seek further advice from the CPU. Following careful consideration, the CPU agreed that in circumstances where Western Health's EMR is already aligned with relevant RANZCOP Guidelines, it may not be necessary, or effective, to introduce an alert.

106. Taking into account the submission of Western Health and further advice from the CPU, I have determined not to proceed with this proposed recommendation.

Conclusion about treatment

107. Having considered all of the evidence, including the CPU report, report of Prof Hodges and Western Health's response, I make the following observations and conclusions.

108. Ms Cross' pregnancy and her prolonged labour (allowing time for further descent, then active pushing, placing an epidural at 7.27pm) appears to have been appropriately managed.

109. Prof Hodges opined that a series of red flags were presented to the Senior Registrar that should have raised suspicion for a more complex birth and that reassessment should have occurred in the operating theatre with supervision by a consultant obstetrician. Given that these red flags

[16] Western Health noted the following references for this point: Brett Todd et al, 'Impact of Electronic Medical Record Alerts on Emergency Physician Workflow and Medical Management' (2021) 60(3) *The Journal of Emergency Medicine* 390. Sonam N Shah et al, 'Comparison of Medication Alerts from Two Commercial Applications in the USA' (February 2021) 44(6) *Drug Safety* 661. Mackenzie Alexiuk, Heba Elgubtan, and Navdeep Tangri, 'Clinical Decision Support Tools in the Electronic Medical Record' (2024) 9(1) *Kidney International Reports* 29. John McGreevey et al, 'Reducing Alert Burden in Electronic Health Records: State of the Art Recommendations from Four Health Systems' (2020) 11(01) *Applied Clinical Informatics* 1.

appeared sequentially, Prof Hodges commented that this provided the Senior Registrar with multiple opportunities to abandon the procedure and proceed to the operating theatre.

110. It is not possible to determine whether excessive traction was applied via the forceps, purely from a review of the medical records. Based upon the staff interviews during the sentinel event process, there was no evidence that excessive force was used, so it cannot be determined with certainty if this was a contributing factor.

111. I accept the CPU's advice that the main contributing factors in this case were:

    a) The decision to proceed with an instrumental delivery in the birth suite rather than the operating theatre, under the supervision of a consultant.

    b) Delayed recognition and management of the SGH.

112. If Ms Cross was transferred to theatre at 7.15pm or at 8.00pm (if the red flags were identified), it is possible that a caesarean section may have been performed instead. Ultimately, transfer to the operating theatre would have at least permitted a reassessment by a consultant obstetrician. It would be purely speculative to determine what would have happened if transfer to theatre occurred and a consultant obstetrician attended.

113. Similarly, I cannot determine with certainty that if the SGH was identified earlier that the outcome would have differed, given that the medical team appropriately recognised a deterioration fitting with a picture of hypovolaemic shock and they were managing this appropriately based on the information known to them at the time.

114. I therefore cannot determine with certainty that Baby Malakai's death would have been prevented, however if a transfer to theatre occurred and/or the SGH was identified earlier, Baby Malakai's chances of survival would have been optimised.

FINDINGS AND CONCLUSION

115. Pursuant to section 67(1) of the *Coroners Act 2008* I make the following findings:

    a) the identity of the deceased was Malakai Cross-De Jesus, born 20 July 2023;

    b) the death occurred on 23 July 2023 at The Royal Children's Hospital, 50 Flemington Road, Parkville, Victoria, 3052, from complications following forceps delivery; and

    c) the death occurred in the circumstances described above.

COMMENTS

Pursuant to section 67(3) of the Act, I make the following comments connected with the death.

116. I note that the Consultative Council on Obstetric and Paediatric Mortality and Morbidity (**CCOPMM**) has recently published a guidance document titled, 'Subgaleal haemorrhage – Good practice point' on 10 April 2025.

117. CCOPMM noted that this guidance document had been prepared on the background of previous coronial recommendations made by then-Deputy State Coroner Anthony Shapel (**DSC Shapel**) of the Coroners Court of South Australia in 2010, following the deaths of Jessica Lee Stemmer and Thomas William Mahar from subgaleal haemorrhage (**SGH**).[17] Then-DSC Shapel recommended:

    a) That the Royal Australasian College of Physicians draw these findings and recommendations to the attention of its members, and in particular those members who are neonatologists;

    b) That the Royal Australasian College of Physicians promulgate and circulate for the benefit of its members a College Statement that replicates that of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists document dated July 2009 and entitled 'Prevention Detection and Management of Subgaleal Haemorrhage in the Newborn';

        i. That the Royal Australasian College of Physicians draws to the attention of its members, and in particular neonatologists, the following matters:

        ii. That practitioners should recognise that subgaleal haemorrhages can behave in unpredictable ways and can have devastating consequences;

        iii. That undue reliance should not be placed upon a clinical picture of haemodynamic stability alone as the clinical picture may be falsely reassuring;

[17] Coroners Court of South Australia (2010) STEMMER, Jessica Lee & MAHAR, Thomas William - Inquest Number 36/2009 (1762/2006, 0493/2007) [2010] SACorC 13 (9 July 2010) available at :STEMMER, Jessica Lee & MAHAR, Thomas William - Inquest Number 36/2009 (1762/2006, 0493/2007) [2010] SACorC 13 (9 July 2010).

iv. That regular monitoring of acidosis and haemoglobin levels, among other parameters, is essential;

v. That upon a diagnosis of a subgaleal haemorrhage in a neonate, practitioners should have regard to the potential need for cross matched blood transfusion and transfusion of fresh frozen plasma and that they should immediately take the necessary steps to ensure that cross matched blood and fresh frozen plasma is available to be administered at short notice;

vi. That if a decision is made to administer a blood transfusion or a transfusion of fresh frozen plasma that practitioners should ensure that it is administered without delay.

118. CCOPMM stated that, "*Despite these recommendations Victoria has infants dying each year from SGH and in the majority of these cases deficiencies in care have been found.*"

119. In response to this observation, the aim of the good practice point is to emphasise that guidelines and protocols exist for subgaleal haemorrhages and it is the expectation of CCOPMM that all health services in Victoria have a protocol or guideline to identify risk factors, recognise signs and symptoms, observe and treat the newborn with a SGH to reduce the incidence of neonatal adverse outcomes. It is also expected that all health professionals involved with the care either before or after birth of the newborn know and follow their local guidelines. CCOPMM states, "*This is especially important as severe subgaleal haemorrhages are rare but eminently treatable in most cases when detected early*."

120. While noting that Western Health already has guidance in place to assist clinicians in this context, I am hopeful that the good practice point will assist health services and clinicians across Victoria more broadly to prevent future deaths in similar circumstances.

RECOMMENDATIONS

Pursuant to section 72(2) of the Act, I make the following recommendations:

i. That the Royal Children's Hospital formulate a statewide Clinical Practice Guideline (or update the existing "Blood product prescription" Clinical Practice Guideline) regarding neonatal/paediatric patients who trigger criteria for a massive transfusion protocol response, including the stocking or sourcing of rFVIIa (Novoseven).

I convey my sincere condolences to Baby Malakai's family for their profound loss.

ORDERS AND DIRECTIONS

Pursuant to section 73(1A) of the Act, I order that this finding be published on the Coroners Court of Victoria website in accordance with the rules.

I direct that a copy of this finding be provided to the following:

Jarvis De Jesus & Samara Cross, Senior Next of Kin

Consultative Council on Perinatal and Paediatric Mortality and Morbidity

Paediatric Infant Perinatal Emergency Retrieval

Royal Children's Hospital

Safer Care Victoria

Western Health

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

First Constable Kayla Slattery, Coronial Investigator

Signature:

Coroner Ingrid Giles

Date: 08 January 2026

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.