CITATION: *Inquest into the death of C Guyula* [2026] NTCC 01

TITLE OF COURT:	Coroners Court
JURISDICTION:	Darwin
FILE NO(s):	D0069/2022
DELIVERED ON:	9 January 2026
DELIVERED AT:	Darwin
HEARING DATE(s):	21,22,23 August 2024
FINDING OF:	Judge Elisabeth Armitage
CATCHWORDS:	**Death of patient in Royal Darwin Hospital following complications of anaesthesia; train of four calibration and monitoring; likely inadequate reversal of anaesthetic; delayed detection of oesophageal intubation; insufficient capnographs in the PACU; misidentification of capnography; tracheostomy obstruction; medication errors.**

REPRESENTATION:

Counsel Assisting:	Chrissy McConnel
Counsel for NT Health:	Michael McCarthy Hutton McCarthy
Counsel for Family:	Hannah Donaldson NAAJA

Judgment category classification:	B
Judgement ID number:	[2026] NTCC 01
Number of paragraphs:	121
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IN THE CORONERS COURT
AT DARWIN IN THE NORTHERN
TERRITORY OF AUSTRALIA

No. D0069/2022

In the matter of an Inquest into the death of

C GUYULA

ON:17 March 2022
AT: Royal Darwin Hospital

FINDINGS

Judge Elisabeth Armitage

Introduction

1. C. Guyula ("Ms Guyula") was 48 years old when she passed away in the Intensive Care Unit (ICU) at Royal Darwin Hospital (RDH) on 17 March 2022. It was the opinion of Forensic Pathologist, Dr Marianne Tiemensma, that the cause of death was from complications following incision and drainage of a right-buttock abscess,[1] however, I am satisfied that more directly the complications arose from the anaesthesia and its likely inadequate reversal.

2. Ms Guyula was born in Darwin to Elizabeth Wandjila and Albert Galanguraway. She had two siblings, Mark and Valerie, and grew up in Gapuwiyak on Elcho Island. Her mother said that she was a wonderful little girl who was shy, but strong and healthy and she was never unwell when growing up.

3. When Ms Guyula was 15, she met her future husband Wesley and they moved to Balma Outstation near Blue Mud Bay. They had four children, Benson, Maxine, Josiah and Sharon, and seven grandchildren.

[1] Coronial Brief, Folio 4, Pathologist Recommendations to Coroner dated 17 March 2022.

4. Maxine told me her mother was an excellent fisher and at Balma they loved to go camping and hunt for turtle and barramundi. She was also a good weaver and she taught her girls how to weave pandanus baskets and mats. The family were very sad to leave their beloved Balma outstation and move to Gapuwiyak after Wesley had a heart attack.

5. Ms Guyula was loved by her family and they were shocked and devastated when she unexpectedly passed away. Maxine was by her bedside every day in hospital and describes those 15 days as a "sad time."

6. Ms Guyula's family attended the inquest and listened closely to the evidence of the medical staff who had been responsible for her care. They asked questions and it was clear that they desperately wanted to understand what had happened and why it had gone so terribly wrong. Through their Counsel, Ms Guyula's mother, Elizabeth, husband, Wesley, daughters, Sharon and Maxine, son, Josiah, nephew, Delwyn, and grandson, McKenzie, all shared their stories of their love for Ms Guyula, and their heartbreak over her passing.

7. NT Health acknowledged the pain and suffering of Ms Guyula's family and apologised for the tragic outcome. Before the close of the inquest senior members of NT Health staff who attended the inquest introduced themselves to the family. Those members included the Nursing Director of Operations for the Division of Surgery, the Safety and Quality Manager (and members of staff) for Royal Darwin and Palmerston Hospitals, the Acting Director of Medicine, the General Manager of Palmerston Hospital and Acting Regional Executive Director of Top End Services, and the Director of the Intensive Care Unit. I thank them all for their attendance.

8. I offer my sincere condolences to Ms Guyula's family.

Circumstances leading to her admission at Royal Darwin Hospital (RDH)

9. From 24 February 2022, Ms Guyula was receiving treatment for a boil on her right buttock from Miwatj Health Clinic (Clinic) in Gapuwiyak. She was taking antibiotics but the boil was not healing. She was encouraged to go to RDH to have the boil drained surgically but declined, preferring to remain in her local community for treatment.

10. On 1 March 2022, Ms Guyula attended at the Clinic with what was now a very large painful boil measuring 12cm x 8cm. She reported vomiting and fevers.[2] She did not want to go to Darwin and instead wanted to try bush medicine. However, after a meeting between clinic staff, Ms Guyula, Maxine and Elizabeth, where the risks of sepsis and possible death if the infection was not brought under control were explained, Ms Guyula reluctantly agreed to a transfer to RDH for treatment with Maxine accompanying her.[3]

11. On 2 March 2022, Ms Guyula and Maxine flew to Darwin with CareFlight and Ms Guyula was admitted to the emergency department (ED) at approximately 7.30pm.

12. In addition to the boil, Ms Guyla suffered from multiple co-morbidities (illnesses) including poorly controlled type 2 diabetes, ischaemic heart disease, cerebrovascular disease, chronic obstructive pulmonary disease (COPD), chronic kidney disease and a past history of rhematic heart disease. She had complications of diabetes including retinopathy, nephropathy and vasculopathy with bilateral leg amputations.[4]

Emergency Department (ED) and Surgical Acute Care Unit (SACU)

13. In the ED Ms Guyula's blood test results returned at 11.28pm. The results indicated a further significant deterioration of kidney function due to increased levels of Urea and Creatinine, acid in her blood and a raised C-

[2] Coronial Brief, Folio 8, Medical Records, 38 of 378.
[3] Coronial Brief, Folio 8, Medical Records, 38 of 378.
[4] Coronial Brief, Folio 8, Medical Records.

reactive protein indicated infection.[5] Ms Guyula was considered at high risk of deterioration and it was determined that the boil required surgical excision.

14. At approximated 3.30am on 3 March 2022, the Surgical Registrar admitted Ms Guyula to the Surgical Acute Care Unit (SACU) for incision and drainage of the abscess on her right buttock. At 4am, the Surgical Registrar completed an 'Operating Theatre Emergency Booking' form for the procedure which was scheduled for later that day. Due to Ms Guyula's declining renal function, she was also reviewed by the Renal Unit at 9am that morning in the Medical Admission & Planning Unit (MAPU).[6]

15. Ms Guyula's vital observations were taken throughout the morning and she was noted to be in a stable condition.[7]

Surgical Consent

16. At the time of booking an operating theatre, it is standard practice for the admitting SACU Registrar to complete a 'Consent for Procedures/Treatment' form with the patient, which is then given to the Nursing Floor Coordinator. However, there is no record of a signed consent form being obtained from Ms Guyula when her surgery was booked.[8]

17. On 3 March 2022, Dr Luck, the SACU Surgical Consultant, commenced her shift at 7.30am and assumed responsibility for Ms Guyula's surgery. Dr Luck considered that the incision and drainage of the abscess was straightforward and uncomplicated surgery and allocated the procedure to a Surgical Registrar, to be performed under her oversight and supervision.[9]

18. Dr Luck first met Ms Guyula in the holding bay as she was awaiting theatre that afternoon. There was a yellow sign on her bed to alert surgical staff that

[5] Additional documents, Folio 11, Institutional Response of Dr Brian Spain dated 8 August 2024; Coronial Brief, Folio 8, Medical Records.
[6] Institutional Response of Dr Brian Spain dated 8 August 2024, [85].
[7] Coronial Brief, Folio 8, Medical Records, 49 of 378.
[8] Additional documents, Folio 1, Affidavit of Dr Tara Luck dated 24 July 2024, [36] and [42].
[9] Additional documents, Folio 1, Affidavit of Dr Tara Luck dated 24 July 2024, [46].

she did not have a valid consent form.[10] The theatre nurse told Dr Luck that the signed 'Consent for Procedures/Treatment' form could not be located and Dr Luck was asked to obtain signed consent. While it is not uncommon for paperwork to be misplaced, it is unusual for a patient to make it to the operating theatre holding bay without a signed consent.

19. Dr Luck introduced herself to Ms Guyula and explained the consent process. Ms Guyula seemed to be frustrated, she said that was very tired and that she had a bad night's sleep, which was unsurprising given her night in ED. Dr Luck also considered that Ms Guyula might in fact be more unwell than they had realised which reinforced to her the importance of draining the abscess.

20. Dr Luck went through her standard process for obtaining surgical consent. The doctor satisfied herself that Ms Guyula had the capacity to consent, that she understood what was going to happen, and why she needed to have the surgery. The 'Consent for Procedures/Treatment' form was signed by both Ms Guyula and Dr Luck.[11]

21. At the inquest Ms Guyula's family questioned Dr Luck about the consent process, including about why she had not used an interpreter. Dr Luck explained that she does use interpreters and was aware that a Yolngu Martha interpreter is generally available at the hospital. However, Dr Luck explained that she was satisfied that Ms Guyula understood the consent process and determined that an interpreter was not necessary.[12] Dr Luck addressed the family directly to explain why she did not have any doubts about Ms Guyula's understanding and consent [13] and I accept Dr Luck's evidence that Ms Guyula understood what was going to happen and that she consented to the surgery.

[10] Additional documents, Folio 1, Affidavit of Dr Tara Luck dated 24 July 2024, [48]-[49].
[11] Additional documents, Folio 1, Affidavit of Dr Tara Luck dated 24 July 2024, [54], Annexure TL-02. The consent form was incorrectly dated 4 March 2022 and should have read 3 March 2022.
[12] Additional documents, Folio 1, Affidavit of Dr Tara Luck dated 24 July 2024, [52]; T86, Dr Luck.
[13] T88-92, Dr Luck.

22. Dr Luck explained that Ms Guyula looked very unwell. Given the seriousness of the infection, Dr Luck said that if Ms Guyula had not consented, she (Dr Luck) would likely have contacted the Director of Medical Surgery for an emergency consent, in which case she would also have spoken to Maxine, Ms Guyula's next of kin.[14] Dr Luck considered that without the surgery, Ms Guyula could die from the infection.

Anaesthetic Consent

23. A Registrar Anaesthetist met with Ms Guyula and conducted a pre-anaesthesia assessment which recorded her significant medical history, medications and previous experience with anaesthetics in 2018 and 2020 (for her below knee amputations). The anaesthetic consent form records that Ms Guyula was informed of the risks and verbally consented to the anaesthetic.[15]

24. Dr Lai was the Anaesthetic Fellow assigned to Ms Guyula's surgery and met with Ms Guyula for a pre-operative consult which informed the plan for her surgical anaesthesia. Dr Lai said that she confirmed the details in the anaesthetic consent form though she did not record this on the file.[16] Dr Lai also considered that Ms Guyula's English was sufficient for her to understand what was being discussed and to provide consent, and that it was not necessary to use an interpreter.[17]

Surgical procedure & anaesthesia

25. Having obtained the surgical and anaesthetic consents, Ms Guyula was wheeled into Theatre 2. The Surgical Registrar was to conduct the procedure, overseen by the Surgical Consultant, Dr Luck, and the Anaesthetists were Dr Hughes and Dr Lai.

[14] T90, Dr Luck.
[15] Coronial Brief, Folio 8, Medical history, 254 of 378.
[16] T50, Dr Lai.
[17] T76, Dr Lai.

26. Dr Hughes is a highly experienced Consultant Anaesthetist and had been in that senior role at RDH since 2017.[18] As a Provisional Fellow, Dr Lai was in her fifth and final year of specialist Anaesthetics training.[19]

27. Dr Lai had planned to administer opioids for pain management, Propofol as an induction agent (to initiate anaesthesia) and to use a laryngeal mask (LMA) which sits above the vocal cords, to manage Ms Guyula's airway.[20]

28. However, after Dr Lai spoke to Dr Hughes and because of the location of the abscess the plan was changed to a muscle paralytic agent and an endotracheal Tube (ETT). Under the new plan Ms Guyula would be positioned on her side to allow the Surgeon access to the abscess and in that position an ETT was preferred because it was less likely to be dislodged and reduced the risk of aspiration of her stomach contents into her lungs. Because an ETT sits between the vocal chords, medication inducing paralysis of the muscles was necessary.[21]

29. Dr Lai had the primary responsibility for managing Ms Guyula's airway and Dr Hughes for administering the drugs. Shortly after 1pm Dr Hughes administered Fentanyl for pain relief (75-100mcg), Propofol as a sedative (100mg) and Atracurium as a muscle relaxant to induce paralysis (25mg). Additional Fentanyl was administered during the surgery with the total dose administered being 150mcg.[22]

30. Dr Lai then passed the ETT into Ms Guyula's airway and secured it in place. Dr Lai confirmed through the laryngoscope that she was able to achieve a 'Grade 1' view. That is, she confirmed that she was able to see all of the relevant structures in Ms Guyula's airway, including the vocal chords.[23]

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[18] T125-126. Dr Hughes.
[19] T47, Dr Lai.
[20] Additional documents, Folio 4, Affidavit, Dr Lai dated 16 July 2024, [19].
[21] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [49].
[22] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [51].
[23] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [52]; Affidavit, Dr Lai, dated 16 July 2024, [23].

31. Under the supervision of Dr Luck, the Surgical Registrar drained the abscess of pus, washed it out with saline, and dressed and packed the cavity. Dr Luck considered that the surgery was straightforward and successful.[24]

Anaesthetic reversal

32. Ms Guyula was ready to be brought out of the anaesthetic. Before starting the anaesthesic reversal, Dr Lai attached a Train of Four (TOF) monitor. The TOF is a neuromuscular device which is attached to peripheral muscle to assess muscle paralysis from the administration of muscle paralytic agents, such as Atracurium.[25] A TOF monitor stimulates the patient's muscle on 4 occasions and measures the muscle responses to the stimulation. The TOF measures on a scale of 4. Measurements of 0, 1 or 2 indicate that the patient is experiencing a high level of paralysis. A TOF measurement of 3 or 4 indicates that the muscle relaxant is wearing off.[26]

33. To achieve the most accurate results, the TOF monitor should be attached and calibrated to a patient before any muscle relaxant is administered. Dr Hughes acknowledged that this "was the scientifically right thing to do." Dr Hughes should have attached the TOF monitor to Ms Guyula before administering the Atracurium but admitted that this was missed because of the late change to the anaesthetic plan.[27] Because the TOF monitor was not calibrated as it should have been (because it was attached late) there was a risk of it being inaccurate.[28]

34. Dr Lai administered the reversal drugs for the Atracurium and Propofol. The reversal proceeded slowly but neither anaesthetist was surprised because Ms Guyula was very unwell before the surgery[29] and suffered from several co-

[24] Additional documents, Folio 1, Affidavit of Dr Luck dated 24 July 2024, [57].
[25] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [24].
[26] Institutional Response of Dr Brian Spain dated 8 August 2024, [106].
[27] T127-128, Dr Hughes.
[28] Institutional Response of Dr Brian Spain dated 8 August 2024, [116].
[29] T129, Dr Hughes; Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024 ,[25]; T129, Dr Hughes.

morbidities. After around 5 minutes, Dr Lai gave Ms Guyula Naloxone to reverse the effect of the Fentanyl, an opioid, which the anaesthetists considered may have been contributing to her slow return to consciousness.[30]

35. Dr Lai recalled that Ms Guyula returned a low TOF count of 0 or 1 and that Dr Hughes said that this was likely an error because the TOF had not been calibrated. Dr Hughes did not recall that discussion but said that if the TOF reading was correct it indicated that Ms Guyula was emerging from a deep to shallow muscle blockade.[31] Dr Hughes said that if there was doubt about the accuracy of a TOF reading, there were alternative ways to assess whether a reversal has been effective, namely, a "post-attack count" or an attempted "neuromuscular reversal" followed by a rechecking of the TOF ratio.[32] Neither of these alternatives were carried out and there are no records of the TOF count recorded in the anaesthetic record. This is not best practice.[33]

36. As Ms Guyula regained consciousness Dr Lai observed her lift her hands and open her eyes. She was also reaching for the ETT and following commands. These "brisk reactions to stimuli and direction" are the types of clinical observations that suggest that the effects of muscle relaxant have worn off or are significantly reduced.[34] The ETT was removed and Ms Guyula was breathing for herself. After around 5 minutes, Dr Lai wheeled her through to the to the Post Anaesthetic Care Unit (PACU).[35]

37. Dr Hughes observed that when Ms Guyula left the operating room she was wearing an oxygen mask. She was not displaying any unusual behaviours or signs of concern.[36]

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[30] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [25].
[31] T128, Dr Hughes.
[32] T128, Dr Hughes.
[33] T131, Dr Hughes.
[34] Institutional Response of Dr Brian Spain dated 8 August 2024, [120].
[35] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [26]-[27].
[36] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [55].

38. In the short period that it took to transfer Ms Guyula to the PACU, Dr Lai observed that her condition deteriorated. She became less responsive to voice, her respiratory effort significantly decreased, and she was increasingly drowsy.[37]

39. Once in the PACU, Dr Lai and nursing staff had difficulty in getting an accurate reading of Ms Guyula's oxygen levels. Dr Lai was escalating airway support through jaw thrusts and chin lift manoeuvres to open the airway by moving the tongue and other soft tissues away from the back of the throat. She also used an oropharyngeal airway device and was manually delivering breaths through a bag-valve mask ventilator which was delivering 100% oxygen. Additional Naloxone was given but when Ms Guyula's condition did not improve, Dr Lai formed the opinion that Ms Guyula may still have been under the influence of the muscle paralysis medication (Atracurium) and required re-intubation.[38]

40. Dr Lai advised the PACU Nurse of the plan for reintubation and the nurse asked a 'PCA' (Patient Care Assistant) to call the Floor Anaesthetist to immediately attend PACU. This is a standard request in situations where airway issues arise.[39]

41. Dr Wilks was the Floor Anaesthetist who received the call and she sent an Anaesthetics Registrar initially, but after a second call from the PACU advising of a reintubation, immediately left her office arriving in the PACU less than a minute later.[40]

42. From her own observations and following a short briefing regarding the situation with Ms Guyula, Dr Wilks agreed with Dr Lai's assessment that Ms Guyula required reintubation due to an incomplete reversal.[41] An intubation

[37] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [28].
[38] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024,[29].
[39] Additional documents, Folio 5, Affidavit of PACU Nurse dated 17 July 2024, [53]-[54].
[40] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [29].
[41] Additional documents, Folio 3, Affidavit of Dr Wilks dated 17 July 2024, [42]-[43].

in the PACU is very rare.[42] Ideally reintubation would occur in an operating theatre but Dr Wilks was aware that no theatres were available. In those circumstances, given the urgency and with the knowledge that Ms Guyula had a documented easy (Grade 1) airway, the decision was made to reintubate in the PACU.[43]

43. The inquest considered whether Ms Guyula had experienced an incomplete reversal of the muscle relaxant, or whether she experienced curarisation, or whether her breathing was compromised due to an upper airway obstruction.

44. Dr Spain, the Director Division Surgery and Critical Care at the Royal Darwin and Palmerston Hospitals, was the institutional respondent for NT Health in this inquest. In circumstances where standard doses of muscle relaxant and reversal agents were used and considering her short operation and co-morbidities, Dr Spain said it was likely that Ms Guyula's breathing continued to be depressed by the muscle relaxant when the ETT was removed. He explained that depressed breathing can cause a reduction in oxygen and an increase in carbon dioxide in the blood which, in turn, can increase the level of paralysis experienced by a patient. The return of the effects of a muscle relaxant is known as curarisation. Although very rare, Dr Spain believed that it is possible that this occurred in Ms Guyula's case.[44]

45. Professor Ian Seppelt, a highly qualified anaesthetist and intensive care physician, provided an expert report on behalf of Ms Guyula's family. Based on: Dr Lai's description of Ms Guyula's deterioration shortly after leaving the operating theatre, Ms Guyula's size and shape, the common event of upper airway obstruction post anaesthetic, and the relatively small dose of Atracurium administered which he considered had been appropriately

[42] Institutional Response of Dr Brian Spain dated 8 August 2024, [62].
[43] Affidavit of Dr Wilks, [43]; Affidavit of Dr Brian Spain dated 8 August 2024, [129].
[44] Institutional Response of Dr Brian Spain dated 8 August 2024, [123]-[124].

reversed; Professor Seppelt considered it was more likely that Ms Guyula suffered an upper airway obstruction.[45]

46. Ultimately, it was unnecessary for me to make a finding between these opinions because on either scenario, given her breathing difficulties, it was essential for her to be reintubated.

The Post Anaesthetic Care Unit (PACU)

47. Due to the risks associated with anaesthesia, including in the one to two hour period following an anaesthesic, close nursing observation and care is required for post-anaesthetic patients. The PACU at RDH is the unit where patients recover after any procedure conducted under anaesthetic, other than minor procedures under local anaesthetic, and it is where the initial post-operative period is managed.[46]

48. The PACU has 14 patient bays, each equipped with a vital signs monitor to monitor heart rate, blood oxygen saturation and blood pressure. At the time of Ms Guyula's admission in March 2022 some, but not all, bays in the PACU had end-tidal capnography.[47]

49. Capnography is a measurement of carbon dioxide in exhaled breath and is the 'gold standard' used to confirm that an intubation has been performed correctly.[48]

Preparation for Reintubation

50. Prior to the reintubation, Dr Wilks asked if capnography was available. This was confirmed by PACU staff by pointing to a machine that Dr Wilks believed displayed a white capnography trace.[49]

[45] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [28]-[29]; Additional documents, Folio 20, Report of Professor Ian Seppelt dated 18 August 2024; T157, Professor Seppelt.
[46] Institutional Response of Dr Brian Spain, dated 8 August 2024, [60]-[62].
[47] Institutional Response of Dr Brian Spain, dated 8 August 2024, [62].
[48] Additional documents, Folio 3, Affidavit of Dr Wilks dated 17 July 2024, [44], [45]; T67, Dr Lai
[49] Additional documents, Folio 3, Affidavit of Dr Wilks dated 17 July 2024, [44].

51. The PACU Nurse brought the emergency resuscitation trolley (trolley) to Ms Guyula's bedside. The trolley contained the equipment required to intubate a patient, including a laryngoscope blade and tracheal tube (ETT).

52. The PACU Nurse offered Dr Lai the use of a C-MAC, which is a video laryngoscope that can visualise airway structures in an intubation.[50] Having just performed an intubation on Ms Guyula in theatre and noting her Grade 1 airway, Dr Lai did not feel that a C-MAC was necessary, and declined.[51] Instead, she requested a bougie which is a long thin bendy plastic tube which can assist as a guide to get a tracheal tube into place. The PACU nurse placed a bougie on the trolley and also a laryngeal mask airway (LMA).[52]

Reintubation

53. Once everything was in place, the Registrar administered medications for the reintubation and Dr Lai reintubated Ms Guyula using direct laryngoscopy and an ETT (the **First Reintubation**). Hospital records indicate that the First Reintubation occurred at 2.20pm, which was approximately 25 minutes after Ms Guyula had arrived in the PACU.[53]

54. There is conflicting evidence as to what exactly happened at this point. Dr Wilks recalls hearing Dr Lai state that she had seen the ETT pass through the vocal cords.[54] Dr Lai could not recall making that statement but her evidence was that she had a Grade 2 view and could see the vocal cords.[55] The fact that the airway had decreased to a Grade 2 view, which means less of the airway can be seen, did not change the approach taken and both Dr Hughes and Dr

[50] T28, PACU Nurse.
[51] T66, Dr Lai.
[52] T29, PACU Nurse.
[53] Additional documents, Folio 5, Affidavit of PACU Nurse dated 17 July 2024, Annexure 2, Rapid Response Team Record; Affidavit of PACU Nurse, 17 July 2024 [66]; Institutional Response of Dr Brian Spain, dated 8 August 2024, [130].
[54] T105, Dr Wilks.
[55] T67, Dr Lai.

Wilks gave evidence that a C-MAC is not always necessary for a Grade 2 airway.[56]

55. Immediately following the First Reintubation:

a. Dr Lai saw misting on the tube and Ms Guyula's chest rising and falling which indicated to her that the ETT had been correctly placed into the trachea.[57]

b. A PACU nurse also saw what she believed was Ms Guyula's chest rising and falling and vocalised "we have chest rise." However, when she did not see any misting of the tracheal tube, she recognised this to be a "red flag" and vocalised that she could not see any misting.[58]

c. An unidentified person, most likely a nurse, vocalised that there was CO2, meaning that she believed the capnography monitor was detecting the presence of carbon dioxide exiting the breathing tube.

56. Dr Hughes was still in the operating theatre with another patient when he was advised that Ms Guyula had been reintubated in the PACU. Given that reintubation in the PACU is rare, Dr Hughes assumed there had been a complication and he immediately left the theatre and arrived in the PACU moments later.[59]

57. Dr Hughes found Ms Guyula on a bed and surrounded by between 6 to 8 medical staff, having been reintubated. Dr Wilks explained to him what had happened and why the reintubation had been performed.[60]

58. Dr Hughes noted that Ms Guyula's oxygen saturation was sitting at an acceptable range around 95%, but it then dropped quickly which prompted Dr Hughes to ask Dr Lai whether she was confident that the ETT had been

[56] T118, Dr Wilks; T138, Dr Hughes.
[57] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, [32].; T68-39, Dr Lai.
[58] Additional documents, Folio 5, Affidavit of PACU Nurse dated 17 July 2024 [70]; T32, PACU Nurse.
[59] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [57].
[60] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [58].

correctly placed. He said that Dr Lai responded, "yes I have confirmed CO2."[61] From this response Dr Hughes inferred that Dr Lai had observed a capnography monitor which had confirmed to her that the air leaving the breathing tube contained carbon dioxide.[62]

59. But Dr Hughes was suspicious because he knew that capnography (C02) monitoring was not routinely used in the PACU, due to limited access to the monitors.[63] Dr Hughes checked what others had believed was the 'capnography monitor' and identified that the machine was in fact an 'impedance monitor', which monitors the expansion and contraction of the chest, and not a capnography monitor.[64]

60. He swiftly formed the view that the ETT was likely incorrectly placed in the oesophagus. Dr Hughes used a laryngoscope to check and confirmed an **oesophageal intubation**. He then removed the ETT and reinserted it into Ms Guyula's trachea (the **Second Reintubation**). He then used an Artificial Manual Breathing Unit (AMBU) mask to pump oxygen manually into Ms Guyula's lungs and took over primary responsibility for managing her airway.[65]

61. Dr Hughes estimated that the Second Reintubation was completed within 2 or 3 minutes of his arrival in the PACU.[66] This is supported by the Rapid Response Team Records which document that Dr Hughes reintubated Ms Guyula at 2.25pm, 5 minutes after the First Reintubation.[67]

62. Despite correcting the placement of the ETT, Ms Guyula's condition continued to deteriorate, and she became bradycardic, meaning her heart rate was beating slower than normal. She was also hypotensive, meaning her

[61] Additional documents, Folio 8, Affidavit of Dr Hughes dated 25 July 2024, [60]; though Dr Lai was not asked about this conversation when she gave evidence.
[62] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [60].
[63] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [61]; T132-133, Dr Hughes.
[64] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [61].
[65] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [62].
[66] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [62].
[67] Additional documents, Folio 4, Affidavit of Dr Lai dated 16 July 2024, Annexure YL-02.

blood pressure was low. Both conditions are serious and life threatening and were most likely caused by hypoxia (a lack of oxygen) during the period of the First Reintubation (the oesophageal intubation).[68]

63. She was given doses of Atropine and Adrenaline to increase her heart rate and a Metaraminol infusion to increase her blood pressure. The Metaraminol was delivered by a syringe driver. Syringe drivers are ordinarily set up on a pole making them safe and visible.[69] However, most likely due to the fast paced emergency response and the number of staff involved, this syringe driver was placed on Ms Guyula's bed.[70]

64. A number of rounds of CPR were given to assist her heart to pump blood and move the medications around her body and Ms Guyla's heart rate, blood pressure and oxygen saturation levels began to rise, indicative of her vital signs improving.[71] She was also purportedly commenced on a low dose Propofol infusion to keep her sedated.[72]

65. Dr Wilks managed to insert an arterial line which enabled them to obtain an arterial blood gas (ABG) analysis and a more accurate reading of Ms Guyula's blood pressure, which was continuing to increase. At 2.50pm her BP was 167/151 indicating that she had become hypertensive, meaning her blood pressure was now high. The Metaraminol infusion should have been stopped at this point, but this was missed, likely because the syringe driver was on the bed and difficult to see. Ms Guyula's blood pressure continued to rise and reached alarming readings of 228/143 at 2.55pm and 213/105 at 3pm.[73]

66. Two errors were then identified: a) the Metaraminol infusion was still running; and b) the Propofol infusion had either been stopped or never

[68] Affidavit of Dr Spain dated 8 August 2024, [144].
[69] T37-38, PACU Nurse.
[70] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [67]; Additional documents, Folio 3,Affidavit of Dr Wilks dated 18 July 2024, [56].
[71] Additional documents, Folio 8,Affidavit of Dr Hughes dated 25 July 2024, [63]-[66].
[72] Institutional Response of Dr Brian Spain dated 8 August 2024,[148].
[73] Institutional Response of Dr Brian Spain dated 8 August 2024, [154]-[155].

commenced. Dr Wilks located the syringe driver for the Metaraminol infusion under Ms Guyula's bedding and it was immediately ceased. Ms Guyula was also given a single dose of Propofol and an infusion was commenced.[74]

67. Once the Metaraminol infusion was ceased, Ms Guyula's blood pressure and heartrate dropped and by 3.10pm, her blood pressure was recorded at 154/83, which is within an acceptable range.[75]

68. When her condition had stabilised, Ms Guyula was placed on a portable ventilator and she was transferred to the Intensive Care Unit at around 3.30pm.[76]

Intensive Care Unit (ICU) – 3 March to 17 March 2022

69. Ms Guyula was in the ICU for 14 days, from 3 March until her death on 17 March 2022.[77] During this time, her husband Wesley and daughters, Maxine and Sharon, were regularly by her bedside. Maxine describes this as a stressful and sad time.[78]

70. In her first 10 days in the ICU, numerous attempts were made to wean Ms Guyula off sedation to assess her neurology. On each occasion she remained unresponsive. It was noted that when her sedation was lifted, she coughed, did not obey commands, her pupils were different sizes and their reflexes to light were extremely sluggish. These observations confirmed that she was in a deep coma.[79]

71. Between 3 and 10 March, there was a continuing stream of assessments, scans and tests in an effort to identify why Ms Guyula was not returning to consciousness. The Glasgow Coma Scale (GCS), used to assess level of

[74] Institutional Response of Dr Brian Spain dated 8 August 2024, [56].
[75] Institutional Response of Dr Brian Spain dated 8 August 2024, [157].
[76] Institutional Response of Dr Brian Spain dated 8 August 2024, [160]-[161].
[77] Institutional Response Dr Brian Spain dated 8 August 2024, [162], [192].
[78] Additional documents, Folio 13, Affidavit of Maxine Wunungmurra dated 14 August 2024.
[79] Additional documents, Folio 11, Institutional Response of Dr Brian Spain dated 8 August 2024, [163].

consciousness, consistently indicated that Ms Guyula had severe neurological impairment.

72. On 6 March, a Computed Tomography (CT) scan was carried out on Ms Guyula's brain looking for bleeding or other abnormalities, but nothing was detected.

73. On 8 March, she underwent an Electroencephalogram (EEG), a diagnostic test which measures electrical activity in the brain. The results showed 'generalised slow wave activity' which can indicate brain dysfunction or damage. The cause was unclear from the EEG but the neurologist reviewing the results was able to rule out that Ms Guyula's condition was due to the presence of any seizure activity.

74. On 10 March, Ms Guyula had Magnetic Resonance Imaging (MRI) which is more sensitive than CT scans and EEGs. Doctors were particularly concerned that Ms Guyula's high blood pressure and/or hypoxia may have caused Posterior Reversible Encephalopathy Syndrome (PRES), which can prevent a return to consciousness. The MRI did not identify any features of PRES and there remained no clear cause for Ms Guyula's coma.

75. If a patient who experiences some level of hypoxia is going to make a full recovery, it is expected that there would be some improvement in their level of consciousness in 24 to 48 hours. Despite the CT scan, EEG and MRI failing to uncover any cause for Ms Guyula's ongoing unresponsiveness, after 7 days her recovery was increasingly unlikely. Ms Guyula's significant comorbidities meant that the hypoxic episode on 3 March, with low cardiac output and low blood pressure, had a more significant impact on her system than would be expected in a young and healthy patient. Even so, it was

decided to continue to provide further treatment in the hope that she may improve.[80]

Tracheostomy on 11 March 2022

76. A tracheostomy is a procedure where an opening in the neck is created and a tracheal tube is placed through that opening directly into the trachea (windpipe) to assist with breathing.

77. Ms Guyula had been intubated with an ETT since 3 March and because that is uncomfortable she was sedated. It was considered possible that the sedation could be masking her level of responsiveness. The removal of the ETT and the insertion of a tracheal tube would permit a reduction in sedation, enabling further assessment of her cognitive state.

78. ICU Consultant, Dr Weidmann, had some concerns around the suitability of a tracheotomy for Ms Guyula as she was a large woman with a short neck. However, following a physical examination, Dr Weidmann was satisfied that there was suitable access and selected a size 8 tube based on Ms Guyula's physical build and the risk that a longer tracheal tube would sit too deeply and cause damage.[81] Dr Weidmann spoke with Maxine on 11 March to explain what the procedure would involve and why it was necessary, and Maxine consented.[82]

79. On 11 March, Ms Guyula underwent a tracheostomy to secure her airway. The procedure was successful. An x-ray confirmed that the tube was correctly placed and that there had not been any damage caused to the trachea.[83]

80. On 12 March, her sedation was reduced but she continued to be unresponsive. It had now been 9 days since the initial procedure on 3 March and as she

[80] Additional documents, Folio 11, Institutional Response of Dr Brian Spain dated 8 August 2024, [162]-[170].
[81] Additional documents, Folio 6, Affidavit of Dr Weidmann dated 23 July 2024, [23].
[82] Additional documents, Folio 6, Affidavit of Dr Weidmann dated 23 July 2024, 20]-[22].
[83] Additional documents, Folio 6, Affidavit of Dr Weidmann dated 23 July 2024, [24]-[25].

remained in a coma this strongly indicated that Ms Guyula was unlikely to recover.

Femoral arterial line on 11 March 2022

81. A femoral arterial line, in which a catheter is placed into the femoral artery in the groin area, allows for continuous monitoring of arterial blood pressure and arterial blood gases.

82. A bedside insertion of a femoral arterial line was conducted on the afternoon of 11 March 2022. During the procedure a guidewire, which was being used to guide the canular into the femoral artery, broke and was unable to be retrieved, requiring surgical removal. While it is not considered that this contributed to Ms Guyula's death, it was yet another unfortunate event in the chronology of her care.[84]

Tracheostomy obstruction on 13 March 2022

83. At around 1.20pm on 13 March, when Ms Guyula was rolled onto her side by nursing staff for pressure care (to prevent bedsores), her tracheal tube became dislodged and she experienced a sudden loss of ventilation.

84. Attempts to reinsert the tube were unsuccessful and at 1.30pm Ms Guyula experienced a cardiac arrest. CPR was commenced at 1.31pm. A Code Blue was called at 1.33pm. A Consultant Anaesthetist responded and attempted to insert an ETT past the vocal cords but was unsuccessful. At 1.38pm an Ear Nose and Throat (ENT) Registrar responded and was able to insert a size 6 ETT through the cavity created for the tracheal tube.

85. Despite a return of spontaneous circulation, Ms Guyula was experiencing extreme hypertension and tachycardia and in the period that followed, her heart rate and blood pressure continued to drop. She experienced three further

[84] Coronial Brief, Folio 7, Affidavit of Dr Goldrick dated 2 August 2022; Additional documents, Folio 20, Report of Professor Ian Seppelt dated 18 August 2024, 3(f).

cardiac arrests and approximately 50 minutes of intermittent hypoxia. Any remaining chance of recovery was now negligible.[85]

86. That evening, the ETT which had been placed in the tracheostomy was removed and a replacement ETT was passed through the vocal cords which provided a safe and stable airway pending further plans.

87. While the decision to carry out the tracheostomy was uncontroversial, Professor Seppelt was concerned about the decision to use a size 8 tube which he thought was too short for an "obese patient with a thick neck." He considered that the size of the tube may have contributed to its instability and dislodgement.[86] In her evidence, Dr Weidmann explained her reasons for selecting the size 8 tube but, with the benefit of hindsight and having considered the opinion of Dr Seppelt, accepted that a longer tube may have been more appropriate.[87]

88. At around 10am on 14 March 2022, Dr Campbell, an Intensive Care Consultant, reviewed Ms Guyula. He held serious concerns about Ms Guyula's capacity for neurological recovery.[88]

Family meeting on 15 March

89. At 11.15am on 15 March, Doctor Campbell held a meeting with Maxine, Sharon and Miss Guyla's niece. An Aboriginal Liaison Officer, Social Worker and Aboriginal interpreter were also present.[89] This was an opportunity for mutual, two-way, communication.

90. Doctor Campbell explained that the two separate events on 3 March and 13 March, which resulted in a loss of oxygen to Ms Guyula's brain, caused

[85] Additional documents, Folio 11, Institutional Response of Dr Brian Spain dated 8 August 2024, [177]-[184].
[86] Additional documents, Folio 20, Report of Professor Ian Seppelt dated 18 August 2024, 3(e).
[87] T146-147, T 150-151, Dr Weidmann.
[88] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [23], [25].
[89] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [27]-[28].

permanent brain damage[90] and cardiac arrest. He explained that there was little to no possibility of Ms Guyula's condition improving. The plan moving forward was to establish a stable airway (by conducting another tracheostomy so that her sedation could be reduced) and then transfer to the Hospice for palliative care.[91] Her kidneys were not functioning and, consistent with Ms Guyula's wishes that she did not want dialysis, her dialysis was to be ceased.[92]

91. In this meeting Doctor Campbell learned a little bit about Ms Guyula from her family. They told him that she was a "*self-motivated person who loves her family."* Although she had never managed to get good control of her diabetes, she had always been clear that she did not want dialysis for her renal failure. She had wanted to stay at home in Gapuwiyak and not travel for treatment.[93] That Ms Guyula was persuaded to leave her home community and travelled to Darwin for the surgery, added to the family's pain and suffering.

Tracheostomy and Bronchoscopy on 16 March

92. At 3pm on 16 March, Ms Guyula was taken to the operating theatre for a revision tracheostomy conducted by Dr Campbell. The procedure was difficult and ineffective.

93. Following the procedure, Dr Campbell conducted a bronchoscopy, using a thin lighted tube to look directly at the airways in the lungs, to investigate the cause of Ms Guyula's persistent ventilation issues. Dr Campbell discovered a significant tear in Ms Guyula's trachea just below the vocal cords which stretched all the way down the trachea. Because of the tear, the tracheostomy tube was not sitting properly in the airway. Such a tear is very unusual and not easily seen when intubating a patient.

[90] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [35]-[36].
[91] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [39]-[40].
[92] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [38],[40].
[93] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [31].

94. Dr Campbell and a senior cardiothoracic surgeon in Queensland consulted and determined that the tear was inoperable. Ms Guyula could not breathe by herself and the tear meant that she could not be adequately ventilated by the tube and it was evident she would pass away.[94]

Ms Guyula passed on 17 March

95. Dr Campbell contacted her family by phone and explained to Maxine, Sharon and Wesley what had happened and that nothing more could be done. He explained that Ms Guyula would most likely pass away overnight. Because of the urgency of the call, it was made without the assistance of an interpreter. A family meeting was planned for the next day.

96. Maxine and Sharon attended the hospital and were by Ms Guyula's bedside when her ventilator was turned off. She passed at 12.03am on 17 March 2022.[95]

Cause of Death

97. Given the known background of medical events leading to Ms Guyula's death, and her well documented comorbidities, a post mortem examination was not conducted. It was the opinion of Forensic Pathologist, Dr Marianne Tiemensma, that because of the time lapse between some of the events and death an autopsy would not uncover any additional information.

98. Dr Tiemensma found the cause of death was from hypoxia due to complications following incision and drainage of a right buttock abscess, with other significant conditions contributing to death being Type 2 diabetes mellitus, chronic kidney disease stage 4, and rheumatic heart disease.

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[94] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [44]-[59]; Institutional Response of Dr Brian Spain dated 8 August 2024, [187]-[189].
[95] Additional documents, Folio 19, Affidavit of Dr Campbell dated 16 August 2024, [60]-[68]; Institutional Response of Dr Brian Spain dated 8 August 2024, [190]-[192]; Coronial Brief, Folio 8, Medical records, 179 of 378.

99. Dr Tiemensma strongly recommended that a clinical review of Ms Guyula's hospital case management be conducted.[96] NT Health subsequently conducted a Root Cause Analysis dated 2 November 2022.[97]

Institutional Response from the NT Health

100. Following the death of Ms Guyula, NT Health identified her passing as an 'Incident Severity 1' which warranted a Root Cause Analysis (RCA)[98] investigation. Serious failures in Miss Guyula's care were identified and Dr Spain provided the Institutional Response.[99]

Train of Four monitoring

101. Dr Spain believed that following her surgery, an incomplete neuromuscular reversal was the "first event that led to the chain of tragedy" that unfolded in RDH for Ms Guyula.[100] It is possible that the failure to calibrate the Train of Four (TOF) monitor may have contributed to this outcome because the practitioners assumed the Train of Four readings were inaccurate.

102. Since these events the Australian and New Zealand College of Anaesthetists (**ANZCA**) published:

    a. A Background Paper in which neuromuscular blockade monitoring (**NMB**) was considered and which concluded that "quantitative monitoring is recommended to assess depth of blockade prior to reversal assessment of adequacy of reversal. Quantitative assessment is essential since tactile assessment is subjective and cannot detect fade at a TOF ratio of greater than 0.4. Only quantitative monitors can assess adequacy of reversal. Best available evidence suggests a train-of-four ration or >0.9 should be

[96] Coronial brief, Folio 4, Pathologist Recommendations to Coroner dated 17 March 2022.
[97] Additional documents, Folio 2, Root Cause Analysis Report.
[98] Additional document, Folio 2, pp11
[99] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [302]-[340].
[100] T185, Dr Spain.

achieved prior to extubation following the use of non-depolarising neuromuscular blockade."[101]

b. The PG18 Guideline on monitoring during anaesthesia 2025 provides that "quantitative neuromuscular function monitoring should be available for every patient in whom neuromuscular blockade has been induced and should be used whenever the anaesthetist is considering extubation following the use of non-depolarising neuromuscular blockade."[102]

103. Prior to these publications but consistent with them, NT Health "**mandated** that everyone uses it (TOF) in all cases where they have used neuromuscular blockade" and have directed medical practitioners to align their practices with the ANZCA guidelines. To ensure compliance with this mandate, Dr Spain considered that it would be appropriate for reviews of the use of TOF monitoring to be added into an internal audit schedule.[103]

104. Dr Spain identified inadequate documentation in the anaesthetic records including as to drugs that were administered and the TOF monitoring. One matter of particular concern was the record concerning the dosage of the Atracurium. Because of the way it was documented, an issue arose as to whether Ms Guyula had received much more than the intended dose of 25 mgs, namely, 75mgs. Having considered the evidence, I accept that it was highly unlikely that such a large dose was given and that this issue can be put down to a handwriting 'glitch'.[104] Dr Spain advised that in response to the shortcomings identified in the records "we've done presentations to the staff about the importance of their documentation in every case…but in particular

[101] ANZCA PG18BP Guideline on monitoring during anaesthesia Background Paper 2025 at [4.5].
[102] ANZCA PG18BP Guideline on monitoring during anaesthesia 2025 at [6.7].
[103] T189-190, Dr Spain.
[104] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [110]-[112]

if there is an adverse event,"[105] and individual staff members were counselled.[106]

Oesophageal intubation - use of a C-MAC video laryngoscope

105. The decision not to use a C-MAC video laryngoscope for the First Reintubation was of great concern to Ms Guyula's family.

106. Concerning the C-MAC:

a. Professor Seppelt said that "it is plausible with the best possible equipment the oesophageal intubation may have been avoided." [107]

b. Dr Hughes said that C-MACs are not always used in Australia but agreed that it would have been beneficial and acknowledged that in the United Kingdom, for example, a C-MAC is used "for every intubation, without exception." [108]

c. Dr Wilks said that Darwin Hospital was "resource poor" and "it is not like there are C-MACs available all the time." Given that shortage of equipment and the potential for other patients to 'need it more,' it was her view that the C-MAC should only be used when 'really necessary'. Similarly, given the limited availability of equipment, Dr Wilks did not "think it appropriate to use a C-MAC in this case." Dr Wilks compared the situation in Darwin with her current hospital placement in America. At her current placement she said people use C-MACs "every day, every hospital, every single room has got two or three of them."[109]

d. Dr Lai pointed to evidence that indicated that oesophageal intubations can still occur when a C-MAC is used. While she agreed she could have used

[105] T184, Dr Spain.
[106] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [332].
[107] Additional document, Folio 20, Expert report of Professor Ian Seppelt dated 18 August 2024.
[108] T137-138, Dr Hughes.
[109] T104, 118, Dr Wilks.

one, she maintained that the capnography or end tidal C02 was the most important safeguard for recognising an oesophageal intubation.[110]

107. While it remains uncertain as to whether the use of a C-MAC would have changed the outcome in this instance, by the end of the inquest NT Health conceded that a C-MAC should have been used[111] and Dr Spain considered that there should be a C-MAC readily available in the PACU for emergency intubations.[112]

Oesophageal intubation - a 'never event'

108. I heard in the inquest that oesophageal intubations can happen to any anaesthetist. However, it was the failure to recognise and the delay in rectification which Dr Hughes referred to as a 'never event.'[113] A 'never event' describes incidents that should never happen because precautions are taken to ensure they never do. In a similar vein, Professor Seppelt said the "first rule is, if in doubt, take it out" and he was "dumbfounded that the team confused a respiratory impedance trace with a capnograph."[114]

109. There was no dispute that the 'gold standard' precaution in an intubation is end tidal C02, or capnography monitoring, which can confirm that the ETT has been correctly placed.[115] Recommendation 1 of the RCA was the introduction of capnographs in PACU. While there are the clinical observations which can be carried out by anaesthetists to confirm that an ETT is placed correctly, none of those can provide the level of confidence that capnography provides.

110. ANZCA states that "capnography is critical in the detection of oesophageal intubation, where presence of sustained exhaled carbon dioxide waveform of

[110] T72, Dr Lai.
[111] T213, Counsel for the Department of Health.
[112] T190-191, Dr Spain.
[113] T133, Dr Hughes.
[114] Additional document, Folio 20, Expert report of Professor Ian Seppelt dated 18 August 2024.
[115] T133-134, Dr Hughes; Additional documents, Folio 20, Report of Professor Ian Seppelt; Additional documents, Folio 11, Institutional Response of Dr Brian Spain dated 8 August 2024.

appropriate morphology and amplitude is a key component in excluding oesophageal intubation."[116] And Dr Lai said that she would not have attempted an intubation without a capnograph. Tragically, on the day, she and two other practitioners were in error when they mistakenly believed that Ms Guyula was being monitored by a capnograph. It was necessary to try and understand why and how this mistake arose.

111. In the Institutional response Dr Spain explained that:

a. At the time some, but not all, bays in PACU were fitted with capnographs. He noted that following the RCA, capnographs are now fitted to every bed in PACU.

b. At the time, capnographs were not routinely used in PACU and the nurses were not familiar at identifying and operating a capnograph. A new PACU Guideline[117] now requires capnography for all patients with a laryngeal mask airway. Nurses have since been trained in their operation and they are now in regular use. [118]

c. Waveforms on monitors are colour coded. Capnography is white and respiratory should be yellow. However, the impedance monitor (which was the monitor mistaken for a capnography monitor) was operating inconsistently with this colour code. It was incorrectly displaying a white line instead of a yellow line. The monitors have since been reconfigured to ensure that a respiratory trace is always yellow and a capnography trace is always white.

Medication errors

[116] ANZCA PG18BP Guideline on monitoring during anaesthesia Background Paper 2025 at [4.3].
[117] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [313]; Annexure BS-11.
[118] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [314]; T183, Dr Spain.

112. The RCA identified medication errors in the PACU. Following the Second Intubation the Propofol infusion that should have commenced was not commenced and the Metaraminol infusion that should have been ceased continued. This occurred in the context of three anaesthetists and six recovery nurses working at high intensity moving from one vital function to the next. I accept that these errors were likely caused by the sustained pressure of the situation and miscommunication in that context.

113. However, in response to these errors NT Health has developed PACU focussed simulation training (to be delivered once every 6 months) and increased the regularity of the Anaesthetic Departments simulation sessions from quarterly to monthly. The PACU simulation training is also delivered in the PACU nursing training package. [119]

Tracheostomy care

114. When Ms Guyula was turned on her bed on 13 March 2022 her breathing tube (which was inserted during the tracheostomy on 11 March 2022) was dislodged, resulting in a sudden loss of ventilation. The RCA considered that a lack of clear policy guidance on the insertion and management of a tracheostomy may have contributed to this event.

115. In response NT Health have reviewed and updated their guidelines and procedures, including:

a. Introducing a *Percutaneous Tracheostomy (PCT) Insertion RDH ICU* guideline.

b. Updating the *Managing Ventilated Patients in Intensive Care* policy to include the requirement for a senior nurse to hold the ETT or Tracheostomy

[119] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [317]-[329], Annexure BS-5; T183, Dr Spain.

during any pressure area care, to reduce the risk of extubation or decannulation during movement.[120]

c. The delivery of training courses associated with tracheotomies to nurses and medical staff, including as part of inductions to the ICU and for general ward nursing staff in in-service training.

Conclusion, Formal Findings and Recommendations

116. Ms Guyula was a 48 year old female who suffered adverse events while an in-patient in Royal Darwin Hospital, which led to her death.

117. NT Health has openly acknowledged responsibility for the catastrophic chain of failures that led to Ms Guyula's death. NT Health identified errors in her treatment and care and has updated its policies, procedures and training to address those errors in an effort to ensure they are not repeated. I note that capnography monitors are now available for every bed in PACU.

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

a. The identity of the deceased was C. Guyula, born on 15 April 1972 in Darwin in the Northern Territory.

b. The time and place of death was at 12.03am on Thursday 17 March 2022 at Royal Darwin Hospital.

c. The cause of death was hypoxia due to complications following incision and drainage of a right buttock abscess and the inadequate reversal of anaesthetic.

d. The particulars needed to register the death have been provided to the Registrar of Births, Deaths and Marriages.

[120] Institutional Response on behalf of the Department of Health, Dr Brian Spain dated 8 August 2024, [334]-[338], Annexure BS-6 and BS-7.

119. **I recommend that the Department of Health** mandate compliance with current ANZCA PG18 Guideline on monitoring during anaesthesia 2025 and, in addition, mandate Train of Four calibration and continuous monitoring when neuromuscular blockades are used.

120. **I recommend that the Department of Health** develop and institute a schedule of anaesthesia auditing to ensure compliance with mandated and recommended patient monitoring and to improve the adequacy and accuracy of anaesthesia record keeping.

121. **I recommend that the Department of Health** have a dedicated C-MAC video laryngoscope available in the Post Anaesthetic Care Unit (PACU) at all times.