JURISDICTION	**:**	CORONER'S COURT OF WESTERN AUSTRALIA
ACT	**:**	CORONERS ACT 1996
CORONER	**:**	MICHAEL ANDREW GLIDDON JENKIN, CORONER
HEARD	**:**	13 - 14 APRIL 2023
DELIVERED	**:**	23 JUNE 2023
FILE NO/S	**:**	CORC 276 of 2019
DECEASED	**:**	MILCHERDY, LEE

Catchwords:

Nil

Legislation:

Nil

Counsel Appearing:

Mr W. Stops appeared to assist the coroner.

Ms K. Ellson (State Solicitor's Office) appeared for the North Metropolitan Health Service, Dr Samarth Rao, and Dr Yuki Watanabe.

Mr M. Williams (MinterEllison) appeared for Joondalup Hospital Pty Ltd.

Coroners Act 1996
(Section 26(1))

RECORD OF INVESTIGATION INTO DEATH

*I, Michael Andrew Gliddon Jenkin, Coroner, having investigated the death of **Lee MILCHERDY** with an inquest held at Perth Coroners Court, Central Law Courts, Court 85, 501 Hay Street, Perth, on 13 - 14 April 2023, find that the identity of the deceased person was **Lee MILCHERDY** and that death occurred on 28 February 2019 at Jacaranda Lodge, 55 Belgrade Road, Wanneroo, from complications including acute pancreatitis and refractory intra-abdominal sepsis with malnutrition, deconditioning and bronchopneumonia following an endoscopic retrograde cholangiopancreatography (ERCP) for a clinically suspected diagnosis of choledocholithiasis in an elderly lady with chronic obstructive pulmonary disease in the following circumstances:*

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INTRODUCTION

1. Ms Lee Milcherdy (Lee)[1] died on 28 February 2019 at Jacaranda Lodge, an aged care facility located in Wanneroo. She was 75 years of age.[2,3,4] Lee had been admitted to Joondalup Health Campus (JHC) on 10 October 2018, with a history of vomiting, diarrhoea and abdominal pain. An ultrasound suggested she had a gallstone, and she was booked to have a procedure to remove it known as an endoscopic retrograde cholangiopancreatography (ERCP) at Sir Charles Gairdener Hospital (SCGH) on 15 October 2018.

2. However, prior to being transferred to SCGH for the ERCP, Lee underwent a type of MRI scan known as a magnetic resonance cholangiopancreatography (MRCP) which showed she did not have a gallstone. The results of Lee's MRCP were not passed on to SCGH before she underwent the ERCP. Following the ERCP, Lee developed serious complications, which eventually caused her death.

3. Members of Lee's family attended the inquest I conducted at Perth between 13 - 14 April 2023. The inquest focussed on the care and treatment Lee was provided at Joondalup Health Campus (JHC), Sir Charles Gairdner Hospital (SCGH) and Osborne Park Hospital (OPH), as well as the circumstances of her death.

4. The documentary evidence adduced at the inquest comprised four volumes, and the following witnesses gave evidence:

a. Dr Stephen Richards, (Physician, JHC);
b. Dr Samarth Rao (Gastroenterologist, SCGH);
c. Dr Yuki Watanabe (Upper Gastrointestinal Surgeon, SCGH);
d. Dr Kevin Hartley (Medical Director, JHC); and
e. Dr Simon Edmunds (Independent Gastroenterologist).

[1] At the request of her family, Ms Milcherdy was referred to as Lee during the inquest, and in this finding
[2] Exhibit 1, Vol. 1, Tab 1, P100 - Report of Death (13.08.21)
[3] Exhibit 1, Vol. 1, Tab 2, P92 - Identification of Deceased Person (05.03.19)
[4] Exhibit 1, Vol. 1, Tab 3, Assessment of Extinction of Life (28.02.19)

LEE

Background[5,6,7,8,9,10]

5. Lee was born in Kalgoorlie, and she and her first husband had three children. After divorcing her first husband, Lee moved to Queensland with her second husband. When that relationship broke down, Lee remained in Queensland where she worked as the coordinator in a law firm. She completed a Bachelor of Arts in 1993.

6. In May 2015, while Lee was living in Queensland, she was the victim of a home invasion during which she was seriously assaulted and stabbed multiple times by a male assailant. As a result of the attack, Lee sustained a traumatic brain injury, and after completing months of rehabilitation, she moved to Perth to stay with her family. Lee was admitted to Jacaranda Lodge in November 2016.

Medical history[11]

7. Lee's medical history included:

- Traumatic brain injury;
- Insomnia;
- Post-traumatic stress disorder and anxiety;
- Neuropathic pain related to shingles;
- High blood pressure;
- Chronic obstructive pulmonary disease (COPD); and
- Degeneration of her cervical spine.

8. Lee was prescribed various medications to help manage the symptoms of her various medical conditions. These medications included respiratory inhalers, pain medication (pregabalin), blood pressure medication (ramipril) and antidepressant medication (sertraline).

[5] Exhibit 1, Vol. 4, Tab 28, Statement - Ms V Piromanski (Lee's daughter)
[6] Exhibit 1, Vol. 1, Tab 8.1, Report - SC Const. N Arnold, Coronial Investigation Squad (12.03.20)
[7] Exhibit 1, Vol. 1, Tab 8.2, Memorandum - FC Const. N Arnold, Coronial Investigation Squad (01.03.19)
[8] Exhibit 1, Vol. 1, Tab 9.1, File Note - FC Const. N Arnold, Coronial Investigation Squad (01.03.19)
[9] Exhibit 1, Vol. 1, Tab 9.2, Queensland Health Discharge Summary (20.05.15)
[10] Exhibit 1, Vol. 1, Tab 9.3, Newspaper Articles: The Courier Mail (03.05.15) and Brisbane Times (04. 05.15)
[11] Exhibit 1, Vol. 1, Tab 11, JHC Discharge summary (15.10.18)

LEE'S MEDICAL MANAGEMENT[12]

Attendance at JHC - 8 October 2018[13,14,]

9. Sometime before about 11.25 am on 8 October 2018, Lee was transferred from Jacaranda Lodge to the emergency department at JHC (ED) by ambulance. She described a history of vomiting and diarrhoea over the previous four days, and had decreased food intake. A triage nurse noted Lee's GP had diagnosed her with aspiration several days earlier, and although she had been prescribed antibiotics, Lee had said she did not want to take medication.

10. An intern medical practitioner reviewed Lee at about 1.30 pm, and a subsequent chest x-ray was essentially normal. Lee declined to have blood tests, or an intravenous cannula and the plan was to maintain her on oxygen, anti-nausea medication, and fluids with a further review. Lee was seen by an Emergency Medicine consultant at 7.15 pm, and it was thought she probably had a urinary tract infection and a lower respiratory tract infection. Lee was encouraged to see her GP and have a mid-stream urine test in one or two days, and she was given antibiotic medication and discharged to Jacaranda Lodge.

Attendance at JHC - 10 October 2018[15,16]

11. Lee was returned to the ED by ambulance shortly before 1.00 pm on Wednesday, 10 October 2018. She complained of "*abdominal pressure*", but said she was not feeling nauseated. An intern medical practitioner reviewed Lee at about 7.00 pm and noted her six-day history of nausea and vomiting, and that she was short of breath which was thought to be related to her COPD.

12. Lee also had some "*crackles*" in her lungs, and her abdomen was soft and tender. The intern medical practitioner felt Lee probably had a urinary tract infection and a lower respiratory tract infection, and Lee was given intravenous fluids and an electrocardiogram was planned.

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[12] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21)
[13] Exhibit 1, Vol. 2, Tab 15, Medical Records - Joondalup Health Campus (669266)
[14] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp6-7
[15] Exhibit 1, Vol. 2, Tab 15, Medical Records - Joondalup Health Campus (669266)
[16] Exhibit 1, Vol. 1, Tab 11, JHC Discharge summary (15.10.18)

13. Lee was subsequently admitted to JHC's Medical Assessment Unit under the care of Dr Stephen Richards (a consultant physician) and given intravenous antibiotics. When reviewed by a registrar, Lee said her nausea had improved and she had not vomited for 24-hours. However, she reported constipation and a "*dull abdominal pain*" and was found to be tender in the upper central abdomen. Blood tests showed Lee's liver function was "*mildly deranged*", and a urine test returned results suggestive of an infection.

14. After reviewing Lee, the registrar considered her differential diagnoses were: gastroenteritis, gastritis, peptic ulcer and gallstones. The treatment plan was to continue with intravenous fluids, and although an abdominal ultrasound reported Lee's gallbladder was normal, it noted:

> The common bile duct is dilated, measuring up to 8 mm. Within the distal common bile duct at the level of the pancreas there is an echogenic focus measuring up to 12mm, **suggestive of a gallstone**.[17] [Emphasis added]

15. At the inquest, Dr Richards was asked about the use of the term "*suggestive*" in the ultrasound report. Dr Richards said the term was "*technically correct*" because the ultrasound may have shown "*some other echo opaque object*" and not a gallstone, however, in the context of Lee's case, Dr Richards thought it was "*extremely unlikely*" that the object seen was not a gallstone. Dr Richards also said he thought another radiologist might have reported "*there is a gallstone in the bile duct*", but that the radiologist in Lee's case had been "*extremely correct and particular and meticulous in her wording*".[18]

16. In any event, Lee was subsequently reviewed by the general surgical team. The surgical registrar considered that a blockage of the common bile duct by a gallstone was Lee's most likely diagnosis, and that this was consistent with her symptoms. Additional blood tests were ordered to check Lee's coagulation profile and liver function, using samples collected earlier in the day.

[17] See: Exhibit 1, Vol. 4. Tab 27.1, Text message - JHC Surgical Registrar (12.10.18)
[18] ts 13.04.23 (Richards), p11

17. Sometime between 8.00 am and 8.35 am on Friday, 12 October 2018, Dr Richards and his team went to review Lee, but were unable to do so because she was being seen by the surgical team. The surgical team noted Lee had a "*common bile duct stone*" and was to have a procedure known as endoscopic retrograde cholangiopancreatography (ERCP) at SCGH on "*Monday/Tuesday*", (i.e.: 15 or 16 October 2018).

18. At the inquest, Dr Richards explained an ERCP is an endoscopic procedure where a tube is passed through the stomach and small intestine and into the bile duct. A wire can then be introduced into the bile duct and pancreatic duct (which join together as they enter the bowel), and where a stone is present, it can then be removed.[19]

19. After the surgical team had left, Dr Richards reviewed Lee and his impression was that she had improved. She reported no pain or nausea, and her observations were not concerning. Dr Richards' opinion was that the gallstone suggested by the earlier ultrasound might have passed.[20] In order to check if this was the case, Lee was booked for an MRCP.

20. The surgical team did not review Lee again, and the surgical registrar who discussed Lee's case with the ERCP fellow at SCGH[21] at about 11.20 am was unaware of the planned MRCP. The ERCP fellow asked for a copy of the ultrasound that had suggested a gallstone, and the surgical registrar sent the ERCP fellow a text message attached to which was a screenshot of the ultrasound report.[22]

21. At 11.53 am, the ERCP fellow sent a text message to the surgical registrar to confirm that an ERCP had been booked for Lee on Monday, 15 October 2018. When the surgical registrar advised that Lee would be remaining at JHC over the weekend, the ERCP fellow sent a text message in response saying if Lee "*became septic*" over the weekend, she should be transferred to SCGH.[23]

[19] ts 13.04.23 (Richards), p10 and see also: ts 13.04.23 (Rao), p31
[20] ts 13.04.23 (Richards), pp7, 16 & 17-18
[21] The ERCP fellow is a senior registrar undergoing specialist training at SCGH, see: ts 13.04.23 (Rao), pp28-29
[22] Exhibit 1, Vol. 4. Tab 27.1, Text message - JHC Surgical Registrar (12.10.18)
[23] Exhibit 1, Vol. 4. Tab 27.1, Text message - SCGH ERCP Fellow(12.10.18)

22. Meanwhile, at 2.26 pm (on 12 October 2018), Lee underwent an MRCP at JHC which reported that her common bile duct was 6 mm, and critically: "*No gallstones are visualised and there is no choledocholithiasis*.[24,25]. Nursing notes following the MRCP reported Lee had settled and there were no further reports of her experiencing pain. Interestingly, at the inquest Dr Richards observed that most common bile duct stones pass spontaneously "*given enough time*" and that "*most of our patients get better before they manage to get to [SCGH] for an ERCP*".[26]

23. Lee's last medical review at JHC was performed by a Resident Medical Officer (RMO) attached to her medical team, and occurred at about 8.30 am on Saturday, 13 October 2018. After examining Lee, the RMO noted her abdomen was soft and non-tender and that her MRCP result was normal. The RMO recorded Lee's treatment plan was "*to await ERCP as per general surgery*" and that Lee should have her urea and electrolytes tested on Monday, 15 October 2018, suggesting the RMO had assumed Lee would still be at JHC on that day.

24. The evidence establishes that no other medical practitioner at JHC was aware of the contents of the MRCP report on 12 October 2018. It also seems clear that the RMO did not discuss Lee's MRCP result with any senior clinician, either at JHC or SCGH. This may have been because the RMO did not appreciate the significance of the MRCP result, or because it was assumed that Lee would be reviewed by Dr Richards prior to her transfer to SCGH on 15 October 2018.[27]

25. Lee's MRCP result meant she was not a candidate for an ERCP for the simple reason that she did not have a gallstone to remove! Nevertheless, Lee remained scheduled for an ERCP at SCGH on the afternoon of Monday, 15 October 2018. For the remainder of the time Lee was at JHC, nursing staff assessed Lee as stable, and she tolerated diet and fluids.[28]

[24] Exhibit 1, Vol. 1, Tab 12, Perth Radiological Clinic - MRCP Report (12.10.18)
[25] In medical terminology, gallstones in the bile duct are referred to as "choledocholithiasis"
[26] ts 13.04.23 (Richards), pp16-17
[27] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp12 & 15
[28] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p17

Transfer to SCGH[29,30,31]

26. At about 5.00 am on 15 October 2018, Lee was prepared for her transfer to SCGH, and an ambulance had been booked to collect her for that purpose at 6.00 am. Although Lee's transfer was in accordance with her treatment plan, it is unclear why she was transferred to SCGH so early, especially since the ERCP did not occur until the afternoon.

27. At the inquest, Dr Samarth Rao (the consultant gastroenterologist who attempted Lee's ERCP at SCGH) said he could see no reason for such an early transfer, and that except in an emergency, the advice to transferring teams (particularly JHC) had been to have ERCP patients at SCGH by 12.00 pm.[32] At the inquest, Dr Hartley was also unable to explain the reason why Lee had been transferred to SCGH so early. In any case, the plan was that following the ERCP, Lee was to be transferred back to JHC for ongoing management.

28. A significant consequence of Lee's early transfer to SCGH was that Dr Richards and his team did not review her on 15 October 2018, because she left JHC before the start of their morning round. This meant that any possibility for Dr Richards to have considered Lee's MRCP result before she was transferred simply evaporated. At the inquest, Dr Richards said his expectation was that if the gallstone had passed and Lee was well, she could go home after discussion with the surgical team, who had also been involved in her care.[33]

29. However, because Dr Richards was unaware of the MRCP result, Lee's transfer to SCGH went ahead as planned. In accordance with the standard practice then (and now), Lee's JHC medical notes did not accompany her to SCGH. Instead, a nurse at JHC prepared a document called an "*External Interdepartmental Patient Transfer Record*", which recorded Lee's history of nausea, vomiting, dehydration, and low potassium levels.

[29] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp13-14 & 17-18
[30] Exhibit 1, Vol. 2, Tab 15, External Inter-Departmental Patient Transfer Record (15.10.18)
[31] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21)
[32] ts 13.04.23 (Rao), p56 and see also: ts 14.04.23 (Hartley), pp98-100
[33] ts 13.04.23 (Richards), pp18 & 20

30. The transfer document gave the reason for the transfer to SCGH was for Lee to have an ERCP, but in a very significant omission, there was no mention of Lee's MRCP result and a copy of the MRCP report was not attached to the transfer document, nor was any other document that might have shown that an MRCP had been performed.

31. As if to further compound these errors, in his report, JHC's Medical Director Dr Kevin Hartley noted that JHC had not located any evidence a medical or nursing handover had occurred with SCGH on 15 October 2018.[34]

ERCP at SCGH[35,36,37]

32. Dr Rao and one of his colleagues attempted Lee's ERCP during the afternoon of Monday, 15 October 2018. As I have noted, no staff member at JHC had informed the gastroenterology team at SCGH about the results of Lee's MRCP, and before the start of the ERCP nobody at SCGH checked any relevant computer system which might have disclosed the MRCP report if it had been uploaded by JHC, which it wasn't.[38,39]

33. In his report to the Court, Dr Rao confirmed that the only documentation accompanying Lee to SCGH was a nursing handover and a medication chart. Dr Rao also says that at that time, the only imaging available on PACS, (SCGH's electronic system) was Lee's ultrasound report and that the MRCP had not been placed on PACS.[40]

34. This is clearly very unfortunate, and the upshot was that Dr Rao was not aware of Lee's MRCP prior to starting the ERCP.[41,42] In Lee's case, the ERCP failed and her common bile duct was not able to be accessed. A pouch of tissue (periampullary diverticulum) was noted, and despite multiple attempts, cannulation was unsuccessful.[43]

[34] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p13
[35] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21)
[36] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23)
[37] Exhibit 1, Vol. 3, Tabs 17 & 18, SCGH Medical Records (A93808)
[38] The copy of the MRCP report in Lee's SCGH records was faxed on 30 October 2018: ts 13.04.23 (Rao), pp47-48
[39] ts 13.04.23 (Rao), p50 and ts 14.04.23 (Hartley), pp92-93
[40] Similarly, but in reverse, JHC clinicians have no access to PACS: ts 14.04.23 (Hartley), p92
[41] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), pp1-2
[42] ts 13.04.23 (Rao), pp34-35 & 38
[43] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21)

35. Dr Rao noted that in subsequent x-rays known as cholangiograms, "*a short distal bile duct stricture*" was noted, and that this may explain why "*biliary access during the ERCP was challenging*".[44] Further, although a pancreatic septotomy[45] was also performed during the ERCP, the common bile duct could still not be accessed. The procedure was abandoned after a stent had been inserted into Lee's pancreatic duct to reduce the risk of "*post ERCP pancreatitis*". Lee had also had prophylactic rectal medication (indomethacin) before the ERCP for the same reason.[46,47]

36. After the ERCP, Lee was diagnosed with "*procedure related pancreatitis*", a known and potentially serious complication of the ERCP. Later in this finding I will discuss alternative views about this diagnosis, but in any case, Lee also complained of ongoing upper abdominal pain, and she had episodes of vomiting. Lee's lipase and C-reactive protein levels were also noted to be raised.

37. Lee was admitted to the high dependency unit (HDU) and treated with fluids and intravenous antibiotics. She underwent an abdominal CT scan on 17 October 2018, which showed evidence of pancreatitis and "*an appearance concerning for duodenal perforation at the site of the periampullary diverticulum*".[48,49] Fluid was noted in the right side of the abdomen, but there were no stones in the common bile duct or gallbladder.

38. At the inquest, Dr Rao explained the relevance of this scan in the following terms:

> So it raises the possibility of whether this could be a perforation around the site of the ampulla, which is where the bile duct and the pancreas tube open up. Lee also had something called a diverticulum around the ampulla which is an outpouching of the bowel wall where gas can sit, which sometimes can make it difficult to interpret as to whether it truly is a perforation or not because gas is within that diverticulum…

[44] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p1
[45] A pancreatic septotomy is a controlled incision into the common bile duct to achieve selective biliary cannulation
[46] Exhibit 1, Vol. 1, Tab 12, SCGH - ERCP Report (15.10.18) and ts 13.04.23 (Rao), pp36-38
[47] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p1
[48] Exhibit 1, Vol. 3, Tab 18.1(k), Report - Abdomen CT (17.10.18)
[49] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p2 and ts 13.04.23 (Rao), pp58-60

> But this particular scan, and the subsequent scan, was looked at with a gastroenterology specific radiologist…who commented that it didn't seem that there was free air anywhere which would be suggestive of a clear perforation, and that's why the suggestion was made to repeat the scan with the oral contrast.[50]

39. Follow-up CT scans showed ongoing pancreatitis, but x-rays using oral contrast showed no evidence of a perforation.[51,52] Following the ERCP, Lee was initially managed conservatively, but she was the subject of several medical emergency team calls for respiratory distress, low blood pressure and/or rapid heart rate. Lee also developed the following complications which seriously affected her clinical journey:

- Acute kidney injury secondary to dehydration from pancreatitis;
- Urinary retention secondary to constipation;
- Small bowel obstruction, managed with nasogastric tube;
- Pleural effusion and ascites, due to fluid overload;
- Systemic Inflammatory Response Syndrome;
- Retroperitoneal collection with infection requiring drain insertion;
- *Enterococcus faecium* and candida infections of the gallbladder;
- Sepsis and a urinary tract infection;
- Low oxygen saturations/wheeze, secondary to exacerbation of COPD;
- Iron deficient anaemia requiring iron and blood transfusions;
- Right sided hydronephrosis (swollen kidney);
- Electrolyte abnormalities, and low albumin levels; and
- Malnutrition and deconditioning.[53]

40. On 24 October 2018, Lee was reviewed by consultant upper gastrointestinal surgeon, Dr Yuki Watanabe. Dr Watanabe noted that Lee had been reviewed two days earlier by the general surgical team for a possible small bowel obstruction secondary to pancreatitis and retroperitoneal collection. The general surgical team had recommended conservative management using a nasogastric tube (drip and suck) to aspirate stomach contents in conjunction with intravenous fluids.[54]

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[50] ts 13.04.23 (Rao), pp59-60
[51] Exhibit 1, Vol. 3, Tab 18.1(j), Report - Abdomen CT (22.10.18)
[52] Exhibit 1, Vol. 3, Tab 18.1(j), Report - Abdomen CT with Oral Contrast (24.10.18)
[53] Exhibit 1, Vol. 3, Tab 18.1, SCGH Discharge Summary (12.02.19)
[54] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p1

41. Dr Watanabe's differential diagnosis included severe post-ERCP pancreatitis, and/or post-ERCP perforation. As Dr Watanabe noted, pancreatitis "*including severe life-threatening pancreatitis*" is a known complication of ERCP. Dr Watanabe noted that a recent CT scan using contrast had not shown a perforation, but that Lee had retroperitoneal inflammation and "*locules of retro-peritoneal free gas*", which raised the possibility of perforation. However, in the absence of leakage of contrast (contrast extravasation), Dr Watanabe's view was that on balance, Lee's most likely issue was "*severe post-ERCP pancreatitis*".[55]

42. Dr Watanabe noted that management options included continued supportive non-operative support, radiologically guided drainage, and surgery. After considering Lee's comorbidities and the nature of retroperitoneal fluid collection, Dr Watanabe considered non-operative management was the best option. The rationale for this decision was that there was no evidence of a duodenal perforation, the early "non-mature" nature of Lee's fluid collection, and the serious risks associated with surgery. Lee was therefore managed with intravenous antibiotics and a nasogastric drain, and she was managed in the HDU where she had been since episodes of rapid heart rate and breathing difficulties on 25 October 2018.[56]

43. A CT scan on 27 October 2018 showed fluid collection around her liver, and a distended, thin-walled gallbladder but no evidence of perforation.[57] Lee was reviewed by other specialists (consultant gastroenterologist and a consultant upper gastrointestinal/pancreatic surgeon) and Dr Watanabe's conservative management was continued, as there was no evidence of a definite perforation, and levels of inflammatory markers were falling.[58]

44. It had also been agreed that if Lee's clinical condition worsened, then a cholecystostomy drainage tube would be inserted into the gallbladder. On 28 October 2018, Lee's condition deteriorated, and drainage tubes were inserted into the gallbladder and two areas of fluid collection in the abdomen.[59]

[55] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp1-2
[56] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p2
[57] Exhibit 1, Vol. 3, Tab 18.1(j), Report - Abdomen and Pelvis CT (27.10.18)
[58] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp2-3
[59] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p3

45. Following the procedure, Lee's antibiotics were escalated, but she remained "septic" with increased inflammatory markers and an ongoing requirement for oxygen. At a multidisciplinary team meeting on 31 October 2018, it was decided that because of Lee's "*non-progression*" despite "*non-operative and interventional radiology therapy*", there was no alternative to surgical drainage of the retroperitoneal fluid collection despite "*the significant risks and uncertainty of benefit*".[60]

46. On 1 November 2018, Dr Watanabe performed a "*laparotomy, division of adhesions, drainage of the retroperitoneal collection and washout*". During the procedure, it was discovered Lee's gallbladder was adhered to her transverse colon and duodenum and could not be safely removed. Access to the retroperitoneal collection was "*technically difficult*" but "*copious washout*" was performed and four drains were inserted into the fluid collections around the liver and pelvis.[61] After the procedure, Lee was admitted to the intensive care unit, and she was returned to the ward on 5 November 2018, by which stage her condition had stabilised.[62]

47. CT scans on 6 and 9 November 2018 showed "*marked improvement*", but ongoing areas of retroperitoneal collection remained,[63] and because other tests identified multiple organisms in the retroperitoneal abscess, Lee was started on antimicrobial agents. On 10 November 2018, a double lumen nasogastric and nasojejunal feeding tube was inserted, and regular CT scans were performed to monitor Lee for further complications.[64]

48. A CT scan on 25 November 2018 reported "*gallbladder is absent*", but an x-ray using a contrast dye (cholangiogram) on 12 December 2018 stated: "*gallbladder was seen to distend prior to the common bile duct filling*" and an abdominal CT scan on 13 December 2018 reported: "*interval development of gas within the gallbladder*".[65,66,67]

[60] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p4
[61] Exhibit 1, Vol. 1, Tab 12, Operation report (01.11.18) and ts 13.04.23 (Watanabe), pp75-78
[62] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp4 & 8
[63] Exhibit 1, Vol. 3, Tab 18.1(i), Report - Abdomen and Pelvis CT Contrast (06.11.18)
[64] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp4-5
[65] Exhibit 1, Vol. 1, Tab 12, Report - CT Abdomen (25.11.18)
[66] Exhibit 1, Vol. 1, Tab 12, Report - Cholangiogram (12.12.18)
[67] Exhibit 1, Vol. 1, Tab 12, Report - CT Abdomen (13.12.18)

49. During the remainder of her admission at SCGH, Lee experienced a significant decline in her level of function, with nocturnal agitation, delirium, limited mobility, and low mood all being noted. Lee was given oxazepam (to treat insomnia/anxiety), quetiapine (an antipsychotic) and mirtazapine (an antidepressant) and transferred to Osborne Park Hospital (OPH) on 17 December 2018.[68]

50. In her report to the Court, Dr Watanabe explained the rationale for transferring Lee to OPH in the following way:

> There were no further immediate surgical interventions or tertiary care that was required. The patient had been assessed by her clinical teams including physiotherapy, clinical psychiatry, and the rehabilitation team...She had become bedridden, and it was felt that her general condition would improve if she could mobilise out of bed. Osborne Park Hospital is a fully equipped medical and surgical hospital, and she would have access to full care whilst undergoing rehabilitation.[69]

Management at OPH[70]

51. When Lee arrived at OPH, she had abdominal drains in place and was taking several antimicrobial agents. Lee was also experiencing ongoing tiredness and poor oral intake which made rehabilitation efforts difficult. Following a review by the psychogeriatric team, it was also decided to continue with Lee's antidepressant medication, and on 27 December 2018, the rehabilitation team identified that one of Lee's drains "*had been pulled out by a few centimeteres and was leaking around the drain*".[71]

52. A CT scan confirmed that this was the case, and on 28 December 2018, Lee went to SCGH for a "*drain check*". During the inspection, one of Lee's drains was removed, and she subsequently developed nausea, vomiting, and diarrhoea. Lee was transferred back to OPH, where her poor oral intake and lethargy persisted. Lee remained bedridden, and it was determined that further rehabilitation efforts were futile.[72]

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[68] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p5
[69] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp4-5 & 8 and ts 13.04.23 (Watanabe), pp86-87
[70] Exhibit 1, Vol. 2, Tab 16, Medical Record - Osborne Park Hospital (A9380800)
[71] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp4-5
[72] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), pp6 & 8-9

53. On 14 January 2019, a CT scan showed "*a significant increase*" in the size of Lee's retroperitoneal fluid collection, despite "*satisfactory positioning*" of the drainage tube, and Lee transferred back to SCGH on 16 January 2019 for ongoing management of her pancreatitis.[73]

54. In a memorandum authored by the Coronial Investigation Squad investigator, it was noted that Lee's family had said that after they insisted that Lee be transferred from OPH to SCGH, they were told "*the deceased's tubing had been blocked for the whole 16 days in rehabilitation* (i.e. meaning it had been blocked during Lee's admission at OPH)".[74] However, at the inquest, Dr Watanabe said that as confirmed by CT scan, and "*as can sometimes happen*" it was found that one of Lee's drains had become withdrawn. Either way, as I have noted, Lee returned to SCGH for further management on 16 January 2019.[75]

Further management at SCGH[76,77]

55. Lee underwent an MRCP on 17 January 2019 which showed an "*interval reduction*" in the size of her retroperitoneal fluid collection, and stated that: "*ERCP is advised if there is clinical concern for a fistulous track with (the main pancreatic duct)*".[78] Follow-up CT scans and x-rays over the next few days were essentially normal, but her condition did not improve and she became more deconditioned. During this admission to SCGH, treatment options were discussed with the family, and it was determined that the only option was to continue to drain the collections and provide antibiotics.

Transfer back to Jacaranda Lodge and death[79,80]

56. Lee was transferred back to Jacaranda Lodge on 12 February 2019, into the care of her GP and under supervision from clinicians at SCGH. Lee received palliative care and her condition deteriorated over the next two weeks. She declined food, fluids and medication, and was kept comfortable until her death on 28 February 2019.

[73] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p6
[74] Exhibit 1, Vol. 1, Tab 8.2, Memorandum - FC Const. N Arnold, Coronial Investigation Squad (01.03.19), p3
[75] ts 13.04.23 (Watanabe), p86
[76] Exhibit 1, Vol. 3, Tab 18.1, SCGH Discharge Summary (12.02.19)
[77] Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p6 and ts 13.04.23 (Watanabe), pp84-85
[78] Exhibit 1, Vol. 1, Tab 12, MRCP Report (17.02.19)
[79] Exhibit 1, Vol. 3, Tab 18.1, SCGH Discharge Checklist (12.02.19)
[80] Exhibit 1, Vol. 1, Tab 3, Assessment of Extinction of Life (28.02.19)

CAUSE AND MANNER OF DEATH[81,82]

57. A forensic pathologist (Dr Jodi White) conducted a post mortem examination of Lee's body and reviewed CT scans. The post mortem examination noted a retroperitoneal collection of fluid containing purulent material behind Lee's right kidney and extending into the soft tissue. Lee's lungs were heavy and congested and showed features of pneumonia.

58. Histological analysis confirmed acute pneumonia with emphysema, congestive changes in Lee's liver, and abundant "*degenerate inflamed material*" in her retroperitoneum.

59. Specialist examination of Lee's brain confirmed gross changes in keeping with her known history of a traumatic brain injury,[83] but in her report, Dr White stated this was "*not considered contributory to the death*". Toxicological examination found therapeutic levels of medications in Lee's system that were consistent with her medical treatment.[84]

60. At the conclusion of the post mortem examination, Dr White expressed the opinion that the cause of Lee's death was:

> Complications including acute pancreatitis and refractory intra-abdominal sepsis with malnutrition, deconditioning and bronchopneumonia following an endoscopic retrograde cholangiopancreatography (ERCP) for a clinically suspected diagnosis of choledocholithiasis in an elderly lady with chronic obstructive pulmonary disease.[85,86]

61. I accept and respectfully adopt the conclusion reached by Dr White as my finding in relation to the cause of Lee's death.

62. As to the manner of death, because the cause of Lee's death was related to complications that occurred following her ERCP, I further find Lee's death occurred by way of misadventure.

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[81] Exhibit 1, Vol. 1, Tab 5.1, Amended Supplementary Post Mortem Report (26.02.20)
[82] Exhibit 1, Vol. 1, Tab 5.2, Supplementary Post Mortem Report (26.02.20)
[83] Exhibit 1, Vol. 1, Tab 6, Neuropathology Report (02.04.19)
[84] Exhibit 1, Vol. 1, Tab 7, Toxicology Report (13.05.19)
[85] Exhibit 1, Vol. 1, Tab 5.1, Amended Supplementary Post Mortem Report (26.02.20)
[86] See also: Exhibit 1, Vol. 4, Tab 29.2, Letter - Dr J White (17.04.23)

COMMENTS ON LEE'S MANAGEMENT

SAC1 Clinical review

63. Following Lee's death, a clinical investigation was conducted and a panel was convened to review her medical care. The panel's findings were finalised on 3 December 2018 and published in a document entitled "*SAC1 Clinical Incident Investigation Report*" (SAC1).

64. The outcome of the panel's investigation was summarised in the SAC1 in the following pithy terms:

> The ERCP was not clinically indicated. This was due to a combination of misinterpretation of the MRCP result by junior medical staff, and absent communication to the surgical team and receiving hospital of the (request for and result of) (the) MRCP.
>
> There (are) limited medical staff on the roster to cover the work load on Saturdays and Sundays (both in number and in level of skill/experience). As medical records are not routinely sent with patients for short procedures there was a missed opportunity for the normal MRCP result to be recognised at the receiving hospital.[87]

65. The SAC1 made four recommendations in relation to the medical scheduling and availability, and communication issues, namely:

a. Restructure of medical rosters to provide additional weekend cover;

b. Discussion with SCGH re leave cover that depletes JHC roster;

c. Patient's medical record (or copy) to accompany patient to other hospitals for procedures; and

d. Improve patient tracking system for consultants so that patients can appear on multiple team lists.

[87] Exhibit 1, Vol. 1, Tab 13.1, SAC1 Clinical Incident Investigation Report (03.12.18), p3

Dr Edmunds' assessment[88]

66. The Court engaged Dr Simon Edmunds (a consultant gastroenterologist) to review Lee's medical care and he provided reports and gave evidence at the inquest. Dr Edmunds noted that on 11 October 2018 Lee's ultrasound was "*suggestive*" of a gallstone and this was "*consistent with* [Lee's] *symptoms*".[89]

67. However, as Dr Edmunds explained, ultrasound investigations have a small false positive/negative rate, and an MRCP on 12 October 2018 had reported a 6 mm common bile duct, and no gallstone. At the inquest Dr Edmunds said it was very unlikely Lee would have passed a 12mm gallstone "*unaided*",[90,91] raising the possibility that she may not have had a gallstone, and the ultrasound result was a false positive.

68. Dr Edmunds' opinion was that the indication for an ERCP "*seemed sound initially*", but that clearly this changed after the MRCP report.[92] In his report, Dr Rao said Lee's liver function tests were "*deranged*" and that her raised ALT[93] was a known predictor for gallstones.[94] At the inquest, Dr Richards said that whilst "*the liver function tests on their own are completely unconcerning*", in light of Lee's ultrasound result, and the fact she had been "*sick for a number of days*", the liver function test results were "*actually very concerning*".[95]

69. In his report, Dr Edmunds noted that an ERCP can fail due to the presence of a duodenal diverticulum, but in Lee's case this did not appear to have been an issue, because the pancreatic duct was accessed. Dr Edmunds also noted that whilst a biliary septotomy is "*a legitimate technique*" it does have risks including "*retroperitoneal perforation*". However, in his report, Dr Rao noted that an "*over the wire*" pancreatic septotomy was performed during the ERCP, not a needle knife papillotomy, which is known to have a higher risk of complications.[96]

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[88] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21) and ts 14.04.23 (Edmunds), pp118-128
[89] Dr Rao said an ERCP was appropriate given Lee's clinical history and ultrasound report: ts 13.04.23 (Rao), p30
[90] ts 14.04.23 (Edmunds), pp127-128
[91] Dr Rao agreed and said gallstones larger than 5mm tend not to be "*ejected out*": ts 13.04.23 (Rao), p33
[92] ts 14.04.23 (Edmund), pp120-121
[93] ALT is the abbreviation used for alanine transaminase, an enzyme found mostly in the liver
[94] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3
[95] ts 13.04.23 (Richards), pp14-15
[96] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3

70. In any case, Dr Edmunds said he considered Lee's ERCP management with antibiotics and a pancreatic stent were appropriate. However, the more fundamental issue was that following Lee's negative MRCP, and given her liver function test results, an ERCP was simply not indicated.

71. In his two reports, Dr Edmunds explained that there were three possible explanations for the complications Lee developed after the ERCP. The first was retroperitoneal perforation, the second was severe necrotising pancreatitis, and the third was a combination of the two. At the inquest, Dr Edmunds said in his opinion Lee's post-ERCP issues had probably been caused by a combination of pancreatitis and retroperitoneal perforation, his belief was that Lee's primary issue was the perforation.

72. Dr Edmunds noted several features which supported his conclusion. First, although Lee had some features of pancreatitis, her peak lipase level (a marker of inflammation) "*was not really consistent with severe necrotising pancreatitis*" and had risen after the ERCP, but "*came down again relatively quickly*".[97,98] Further, a CT scan had shown inflammation around the head of the pancreas, and this was interpreted as pancreatitis.[99]

73. However, the CT scan, taken on Day 2 after the ERCP (17 October 2018) had shown small particles of gas outside of the bowel, and inflammation around the right kidney in the retroperitoneum. Dr Edmunds said in his view there "*was a perforation in the retroperitoneum causing those gas bubbles to form and the pancreatitis was probably there but a side issue to the main problem which was the retroperitoneal perforation*".[100,101]

74. Dr Edmunds also noted that retroperitoneal fluid collection was unusual in pancreatitis and was then only seen in severe disease. Although a perforation had not been seen on a contrast study of the duodenum or at surgery, Dr Edmunds said "*this is often the case, particularly when intervention is delayed*", and "*contrast will not demonstrate a leak unless the defect is large*".[102,103]

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[97] Both Dr Rao and Dr Watanabe said the level of elevated serum lipase was not a good predictor of severe pancreatitis
[98] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3
[99] Exhibit 1, Vol. 1, Tab 14.3, Report - Dr S Edmunds (11.04.23) and ts 14.04.23 (Edmunds), pp122-123
[100] ts 14.04.23 (Edmunds), p123
[101] Exhibit 1, Vol. 1, Tab 12, CT Pelvis/Abdomen with contrast (17.10.18)
[102] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21), p3
[103] Exhibit 1, Vol. 1, Tab 14.3, Report - Dr S Edmunds (11.04.23), p1 and ts 14.04.23 (Edmunds), pp118-128

75. At the inquest, Dr Edmunds said he had discussed Lee's case with colleagues at Royal Perth Hospital, and none of them had seen gas outside of the wall of the bowel in a case of pancreatitis, two days after an ERCP, as had occurred in Lee's case. Dr Edmunds also said:

> You can get fermentation and break down and what we call necrosis in the pancreas and that does form gas but that takes several days, it does not happen at day 2. And none of my colleagues nor myself has seen it at day 2. So, I would have said there's gas outside the wall of the bowel this is a retroperitoneal perforation. Whether it makes a difference in the long term is a moot point but if from a purely accurate point of view I believe that retroperitoneal perforation was the primary issue.[104]

76. Dr Edmunds said the ERCP complication rates for acute pancreatitis (1-3%),[105] and retroperitoneal perforation (0.5% or 1% after septotomy) were well known, but that the complications Lee experienced could only have been prevented by not performing the ERCP.[106] In his report, Dr Rao said progressive refractory pancreatitis (which in his view was what Lee developed) occurred in about 0.1% of patients with post-ERCP pancreatitis. Dr Rao also said that pre-procedure rectal indomethacin, and pancreatic duct stents (both of which Lee had) are used to reduce this risk.[107]

77. In his report, Dr Rao disagreed with Dr Edmunds' conclusion and said that in his opinion, Lee had experienced "*a rare but known complication of ERCP - refractory pancreatitis*". This had caused *"an infected retroperitoneal collection*" which was "*very difficult to treat because of its location*". Dr Rao also stated:

> The possibility of a duodenal perforation was recognised and raised, and therefore [Lee] had a CT scan on 17 October 2018 with that query. The upper gastrointestinal surgical team were therefore duly involved in her care. No contrast extravasation was demonstrated on a repeat CT scan with oral contrast to assess for ongoing perforation.[108]

[104] ts 14.04.23 Edmunds, p123
[105] At the inquest Dr Rao said the complication figure was 3%-8%, depending on various factors: ts 13.04.23 (Rao), pp41-42
[106] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21), p4
[107] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p4
[108] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3

78. At the inquest, Dr Rao confirmed that in addition to post-operative pancreatitis, he had also considered whether a perforation had occurred during the ERCP. Dr Rao said that for smaller perforations, post-operative management is usually the same as for pancreatitis, namely resting the bowels, intravenous fluids, analgesia and antibiotics, and that surgery may be required for larger perforations.[109]

79. As to whether a retroperitoneal perforation was ever definitively established in Lee's case, Dr Rao made the following observation:

> It's perhaps in hindsight, looking at all the scans, that you could raise (the) question as to whether (there) was a small perforation in that region, but I think it's too hard to tell based on a 2D image, and especially given that there was a diverticulum in that region, to be absolutely sure…There was a collection in the retroperitoneum. As far as I recall, and particularly having looked at the scans with the (indistinct) radiologist, there was no clear perforation that was seen…There was a possibility of the smaller perforation, which has since sealed up and not evident on that scan. But there was a collection in the retroperitoneum and, certainly, the possibility of a perforation was raised. But as far as I recall there was no clear definitive evidence to say this clearly was irrefutably a retroperitoneal perforation.[110]

80. At the inquest Dr Rao was asked his opinion as to the cause of Lee's complications, and his response was:

> I think you mean just immediately about the pancreatitis? It's just the pancreatitis is purely the instrumentation of the area where the bile duct and the pancreas duct open up directly as a result of the procedure. The commonest cause for pancreatitis is actually stones within the bile tube, which is a risk factor for pancreatitis, which is why one of the reasons why we removed those stones is to prevent the pancreatitis as well. But in this particular instance, given that the MRI scan had shown that it possibly wasn't a stone, the result of pancreatitis is purely from the instrumentation of that particular organ.[111]

[109] ts 13.04.23 (Rao), pp42-44 & 64 and ts 13.04.23 (Watanabe), pp72-73
[110] ts 13.04.23 (Rao), pp62-63 & 67
[111] ts 13.04.23 (Rao), p67

81. At the inquest, Dr Watanabe said that while there was broad agreement amongst clinicians that Lee's complications were directly related to the ERCP, the cause of her complications was less certain:

> The retroperitoneal perforation may certainly have been there, but we did not find actual evidence, nor clinically correlated with how she was at the time. I think we have actually extensively discussed about the retroperitoneal perforation, which, yes, could be very difficult (to) identify if it's a very small hole. And that might certainly be the…case, but what we were looking after her for is an infected retroperitoneal collection, which was not easily drainable. Whether that was caused by severe pancreatitis forming the retroperitoneal infected collection or (by) a small retroperitoneal perforation that have caused infected retroperitoneal collection, either way, the management is the same, essentially.[112,113]

82. In his second report, Dr Edmunds said that whilst "*overall*" he had not criticised the teams' management, he continued to differ as to Lee's definitive diagnosis. However, Dr Edmunds acknowledged that his opinion was expressed "*in retrospect as an outside observer*", and that knowing Lee had a perforation at the relevant time may not have affected her outcome. Dr Edmunds also said that:

> Earlier draining of the retroperitoneal collection; either by radiologically guided drainage or by minimally invasive surgery using a posterior retroperitoneal laparoscopic approach would have been the only strategy I would have requested differently.[114]

83. Dr Edmunds said that in his opinion, Lee's management at JHC appears to have been appropriate up until the time the MRCP was reported. He further said Lee's management at SCGH was affected by a lack of acknowledgement of the MRCP (and here I would add by JHC's failure to alert SCGH of the MRCP result), and by the assumption that Lee's deterioration was due to pancreatitis rather than a retroperitoneal perforation. Otherwise, Dr Edmunds' opinion was that Lee's management was appropriate for an elderly lady with multiple comorbidities.[115]

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[112] ts 13.04.23 (Watanabe), p70 and see also ts 13.04.23 (Watanabe), pp80-81
[113] See also: Exhibit 1, Vol. 3, Tab22, Report - Dr Y Watanabe (21.03.23), pp6-7
[114] Exhibit 1, Vol. 1, Tab 14.3, Report - Dr S Edmunds (11.04.23), p2 and ts 14.04.23 (Edmunds), pp124-125
[115] Exhibit 1, Vol. 1, Tab 14.1, Report - Dr S Edmunds (17.05.21), p3

84. In her report, Dr Watanabe said she did not think that earlier surgery in Lee's case would have improved her outcome", noting:

> Early surgery in severe pancreatitis is associated with poor outcomes and is not the standard of care in any modern guidelines of severe pancreatitis…In addition, even if the diagnosis was indeed a sealed retro-peritoneal duodenal perforation, the indication for early open surgery is also contentious.[116]

85. Dr Watanabe's opinion was that Lee's conservative management initially (i.e.: use antimicrobials, bowel rest, decompression and percutaneous drainage) was "*a sensible management pathway that was agreed upon by the numerous subspeciality teams*" involved in Lee's care. Dr Watanabe also notes that Lee's condition was under constant review and when it deteriorated, her care appropriately escalated with "*percutaneous drainage and finally by surgery*". Dr Watanabe concluded her report by saying that she wished to stress that the inter-operative findings in Lee's case "*are in keeping with pancreatitis rather than an ongoing unrecognised duodenal perforation*".[117]

Dr Hartley's observations[118]

86. Dr Hartley (Medical Director at JHC) prepared a report and gave evidence at the inquest. He explained JHC operates under a public-private partnership with the State Government and is located within the catchment of the North Metropolitan Health Service (NMHS). JHC does not perform ERCP and patients requiring one are referred to SCGH.

87. Dr Hartley noted that the ERCP fellow at SCGH was responsible for making decisions about which patients ultimately have the procedure. Dr Hartley also said it was not uncommon for a patient discussed with the ERCP fellow to not proceed with the procedure, "*either immediately or at all*" because the ERCP fellow required further investigations first, or because after a review it is determined that an ERCP was not required at that time.[119]

[116] See also: Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p10
[117] See also: Exhibit 1, Vol. 3, Tab 22, Report - Dr Y Watanabe (21.03.23), p10
[118] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp14-19 and ts 14.03.23 (Hartley), pp90-117
[119] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp2-3

88. In his report, Dr Hartley outlined Lee's care at JHC prior to her transfer to SCGH and identified a number of "*missed opportunities*" to have improved her clinical care. Dr Hartley also said:

> On behalf of Joondalup Health Campus and its staff, I extend our condolences to [Lee's] family for their loss. I also convey our sincere apology for not providing [Lee] with care to the standard that she should have received. Joondalup Health Campus has taken steps to improve the systems it had in place at the time.[120]

89. At the inquest, Dr Hartley also apologised to Lee's family on behalf of JHC, and acknowledged "*we definitely had gaps in the care that we delivered to Lee*".[121]

90. The issues Dr Hartley identified in his report can be summarised as follows:[122]

a. *Failure to advise SCGH of MRCP results:*
When Lee was referred for an MRCP on 12 October 2018, Dr Richards was unaware of any fixed date for the ERCP. The general surgical team (who reviewed Lee that morning) were similarly unaware. After midday, a JHC surgical registrar was informed that Lee was booked for an ERCP on 15 October 2018.

Although they advised the nurse coordinator of the booking, nobody entered it into Lee's medical notes, and instead, nursing notes continued to refer to the ERCP on "*Monday/Tuesday*" (i.e.: on 15 or 16 October 2018).

Lee's MRCP was performed and reported after SCGH had confirmed the ERCP booking with the surgical registrar. Further, when the RMO saw Lee on 13 October 2018, they were unaware that the ERCP had been booked, and assumed Lee would be at JHC for the morning medical unit round on 15 October 2018. Had this occurred, Dr Richards (or a member of his team) would have reviewed Lee's notes and seen the MRCP result.[123]

[120] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p1
[121] ts 14.04.23 (Hartley), p93
[122] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp14-22 and ts 14.03.23 (Hartley), pp90-117
[123] ts 14.04.23 (Hartley), p93

a. *Failure to advise SCGH of MRCP results:* (continued)
As noted, Lee was transferred to SCGH before the morning medical unit round on 15 October 2018, and for that reason she was not reviewed by Dr Richards. Dr Hartley said it was clear that the medical unit RMO was not responsible for informing SCGH of Lee's MRCP result.

Dr Hartley also noted that Dr Richards was expecting the MRCP result on the afternoon of Friday, 12 October 2018. Dr Hartley says had this occurred: "*Dr Richards would have told the ward nurse coordinator that an ERCP was no longer necessary and* [Lee] *would no longer be for transfer to* [SCGH]".[124,125]

b. *Should the MRCP result have changed Lee's management:*
As Dr Hartley points out in his report, decisions about Lee's care at SCGH are taken by SCGH clinicians. However, what is very clear is that had Dr Richards been made aware of Lee's MRCP results, he would not have allowed her to be transferred to SCGH, because "*an ERCP was no longer necessary*".[126]

At the inquest, Dr Rao agreed Lee's MRCP result meant an ERCP was not indicated, but that she might still have undergone an endoscopic ultrasound to explore whether there were any stones in the bile or pancreatic ducts.[127] However, since an endoscopic ultrasound is a less invasive procedure, it seems safe to assume it would have been less likely to have initiated Lee's cascade of complications.[128]

Nevertheless, as Dr Hartley noted in his report:

> No medical practitioner at [JHC] with sufficient training and experience to understand the implications of the MRCP results (in light of the existing plan to proceed to ERCP on 'Monday/Tuesday') ever became aware of the MRCP results before [Lee] was transferred to [SCGH].[129]

[124] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p15 and ts 14.04.23 (Hartley), pp95-98
[125] Dr Rao also says an immediate ERCP would not have been done: Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3
[126] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p15
[127] ts 13.04.23 (Rao), pp40-41
[128] ts 14.04.23 (Edmunds), p122
[129] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p16

c. Communication within JHC:

Dr Hartley asserts that there was adequate communication between the medical and surgical teams about Lee's ultrasound result and that as result, Lee was reviewed by the surgical team. However, as Dr Hartley conceded, there was no communication between the medical and surgical teams at JHC about the MRCP referral and:

> With the benefit of hindsight, the lack of communication was a missed opportunity to ensure that all relevant members of the two treating teams were aware of the entire plan for [Lee's] ongoing management.[130,131]

d. Communication between JHC and SCGH:

As Dr Hartley correctly concedes, there was no communication between JHC and SCGH about "*the MRCP having been ordered, completed, or the results of the MRCP*". There was also no medical or nursing handover between JHC and SCGH. As for the lack of nursing or medical handovers on 15 October 2018, Dr Hartley conceded in his report:

> With the benefit of hindsight, the lack of a medical or nursing handover on that morning was a missed opportunity to ensure all relevant members of the treating teams in each hospital were aware of all relevant information concerning [Lee's] ongoing management.[132]

e. Staffing roster at JHC: 13-14 October 2018:

In his report, Dr Hartley noted there were 23 patients in Lee's medical unit on 13 October 2018, and 17 the next day. These patients were cared for by nursing staff and an RMO. The RMO was not "*directly supervised*" but had access to a medical registrar, and an on-call consultant.

After-hours RMO's were available to manage "*medically unwell patients*" and nurses were "*trained to escalate care to these doctors if a patient requires medical review*".[133]

[130] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p16 and ts 14.04.23 (Hartley), pp93-94
[131] See also: ts 13.04.23 (Richards), p24
[132] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p17
[133] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p17

f. Policies relating to transfer of patients:

As I have noted, Lee's JHC medical notes did not accompany her to SCGH when she was transferred for the ERCP. Instead, transfer paperwork was provided, but this made no mention of Lee's MRCP having been performed or the test results. In his report, Dr Hartley noted that in October 2018, JHC had a clinical handover policy in place which required that when a patient was being transferred to another facility "*a minimum data set*" be handed over that included "*significant test results and pending test results*" and that the transfer be supported by "*current, appropriate documentation (such as clinical notes/progress notes, test results and imaging results)*" and comprehensive nursing and medical handovers.[134]

However, as Dr Hartley appropriately conceded in his report:

> The omission of a reference in the External Inter-Departmental Patient Transfer record to [Lee] having been referred for MRCP and/or the results of the MRCP [and] a copy of the MRCP report…attached to the External Inter-Departmental Patient Transfer and accompanying [Lee] to [SCGH] was a missed opportunity for the normal MRCP result to be communicated to SCGH.[135]

Access to patient information

91. At the inquest, Dr Rao noted that although SCGH receives ERCP referrals from JHC, at the time of Lee's admission (and now), it does not have access to the referred patient's medical records, blood tests results, or radiological or x-ray investigations "*right away*" on SCGH patient management systems. However, Dr Rao said "*in the last 12-months or so*" it has been possible to directly see scans performed by Perth Radiological Centre (PRC) at JHC by logging on to the PRC system, and that images are also being uploaded to "*iClinical Manager*", the public patient managing system. Dr Rao also noted that because an electronic medical record was not available at the relevant time, it was not possible for SCGH clinicians to review Lee's JHC medical record electronically.[136]

[134] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp18-19
[135] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p19
[136] ts 13.04.23 (Rao), pp46-47

92. As Dr Rao noted, had this been possible in Lee's case, the reference to an MRCP in her JHC medical notes would have "*heightened our suspicions of further scans…having been performed*".[137] Dr Rao attached a flowchart to his report setting out the process for ERCP referrals which was implemented by SCGH after Lee's death. ERCP referrals are now only accepted from JHC by email, and only then when all relevant imaging has been transferred, and JHC confirms there are no pending investigations. In a case where relevant information has not been provided by JHC, the ERCP fellow is required to contact the referring clinician to request that this occur.[138]

93. At the inquest, Dr Rao was asked about an online referral platform called "*e-Referrals*", which is used by hospitals within NMHS for inpatients and outpatients. He said he was aware of the system being used by JHC for outpatients, but did not think he had ever seen a referral using the system for a JHC inpatient. Dr Rao agreed the e-Referrals system enabled referring teams to forward all relevant information and it "*would have been helpful*" to have received Lee's referral on the system.[139]

94. When I asked Dr Rao whether, despite the new SCGH flowchart and the new JHC transfer documentation (which I will discuss later in this finding), the miscommunication in Lee's case could occur again, he replied:

> I think we've taken measures to mitigate this, but also because personally and within the department we've become so much more aware of this possibly happening…we've perhaps become, as we should be, perhaps more conservative and more vigilant about potential issues like this…so it has changed our own perspective within our department as well. But, certainly, from a managerial perspective about flow and transfer of patients, there is certainly things that can be improved upon.[140]

95. In terms of potential further enhancements to current practices, Dr Rao reiterated his point that medical, surgical and nursing information is often still not made available, and that "*having access to an electronic medical record…you can actually review would be ideal*".[141]

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[137] ts 13.04.23 (Rao), pp46 & 50-51
[138] Exhibit 1, Vol. 3, Tab 19, Report - Dr S Rao (15.02.23), p3 & attached Flowchart re ERCP referrals from JHC
[139] ts 13.04.23 (Rao), pp56-57
[140] ts 13.04.23 (Rao), p66
[141] ts 13.04.23 (Rao), p66

96. For his part, Dr Hartley said that copies of a patient's JHC medical record are not sent to SCGH when a patient is transferred there for an ERCP. Dr Hartley explained there would be logistical issues in doing so in an emergency situation, and that in any event:

> [T]he aim of the information that we're trying to provide to the receiving hospital is to actually get our medical staff to distil the relevant information for them into a form that is...readily useable at the other end…Some patients have three or four volumes of medical notes…and if four volumes of notes just arrived with no form of…distilling of information by a medical team, I actually think - well, the decision that our hospital has made and I think my understanding is no other hospitals transfer full notes across is that that would be disadvantageous to the patient. So, I understand it was a recommendation, but I think, as sometimes happens…when you work through the practicalities of it and look at other ways of doing things, I believe the process that we have landed on is a better one…that we currently do.[142]

97. I accept that the routine transfer of medical records is not a current practice in any Western Australian hospital. However, while I also accept that the decision not to transfer a patient's medical records is defensible, it does highlight the importance of ensuring that all relevant information accompanies the patient in some other manner.

Improvements to procedures at JHC[143]

98. In terms of improvements to JHC practices since Lee's death, Dr Hartley identified the following changes which have been made:[144]

a. *New temporary external patient transfer for procedures form:*
A new transfer form was introduced at JHC in August 2021, and must be completed by a referring doctor for all inter-hospital transfers (like Lee's). Dr Hartley explained that the new transfer form requires that the patient's relevant radiological investigations ("*and many other documents*") must be attached, and the patient's treating consultant must be notified of the transfer before it occurs.[145]

[142] ts 14.04.23 (Hartley), p101
[143] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp19-22
[144] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp19-22
[145] Exhibit 1, Vol. 4, Tab 27.4(a), Temporary External Patient Transfer For Procedures Form

Dr Hartley explained the aim of the new transfer form in these terms:

> The effect of the information to be considered, completed and attached using the Temporary Transfer Form is that all relevant clinical information is made available to the external facility in order to effect safe clinical handover. In completing the form and obtaining all the information referred to, an additional level of checks and balances is introduced and provides the external facility with a significant amount of patient information for review.[146]

At the inquest, Dr Rao noted that despite the improved transfer form, it can still be "*quite hit and miss*" in terms of the amount of information SCGH actually receives from JHC and that relevant information is sometimes not being transferred. Dr Rao's view was that the patient's medical record should simply accompany them when they are transferred to SCGH, although he accepted that this was not a current practice in any hospital in Australia.[147]

b. Patient Transfer Envelope cover sheet:[148]

JHC has also implemented a cover sheet for temporary and permanent patient transfers containing contact information for JHC staff, and confirming that various handovers have occurred. Dr Hartley also noted that the cover sheet states that a patient's progress notes are not to be copied, because:

> [T]ransfers are sometimes urgent and would be unreasonably delayed by copying a patient's entire progress notes. It also ensures that copying progress notes is not used as an alternative to conducting a critical analysis of the medical record to identify information relevant to the transfer and the preparation of a targeted summary in the Temporary Transfer Form.[149]

c. Staff education[150]

Dr Hartley explained that JHC have undertaken "*measures to bring to all staff's attention the importance of 'Communicating for Safety'*". This has included distributing flyers, lanyards and a slideshow/video about the format of the new transfer form. In addition, JHC have developed resource materials for nursing and medical handovers, and other materials aimed to improve the passage of information about a patient.

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[146] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p20
[147] ts 13.04.23 (Rao), pp53-54
[148] Exhibit 1, Vol. 4, Tab 27.4(b), Patient Transfer Envelope
[149] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p21
[150] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), pp21-22

d. Audits[151]

In order to assess the efficacy of its efforts in improving patient handovers, JHC has conducted an audit to monitor compliance with the *Communicating for Safety Procedure*. A series of three audit surveys of medical transfer documentation (the last of which was in February 2022) found that 82% of respondents were using the new transfer forms correctly. As a result of these surveys, a poster was placed in the emergency department to further raise awareness.

Conclusions about Lee's management

99. On the basis of the evidence before me, it is obvious that when considered globally, the care and treatment Lee received was substandard. After her negative MRCP result, Lee was not a candidate for an ERCP. The fact that she underwent what was an unnecessary procedure, from which she developed serious complications that ultimately resulted in her death, is clearly deeply regrettable.

100. As I have outlined, both JHC and SCGH have made changes to their respective procedures since Lee's death. These changes are designed to address the errors which led to Lee's MRCP result not being communicated to SCGH. However, whilst these various changes should be welcomed, I remain concerned that a situation similar to Lee's may occur again.

101. After careful consideration, I have decided that on balance, in light of the changes implemented at JHC and SCGH since Lee's death, it is not necessary for me to make recommendations in this matter.

102. However, I **strongly** urge clinical staff at both JHC and SCGH to maintain the increased vigilance Dr Rao referred to in his evidence at the inquest, where he said that since Lee's death:

> [P]ersonally and within the department we've become so much more aware of this possibly happening, that we've perhaps become, as we should be, perhaps more conservative and more vigilant about potential issues like this.[152]

[151] Exhibit 1, Vol. 4, Tab 27, Report - Dr K Hartley (03.04.23), p22 and ts 14.04.23 (Hartley), pp106-109
[152] ts 13.04.23 (Rao), p66

103. I also note that at the inquest, Dr Rao said it was now possible for clinicians at SCGH to access the PRC system to check for relevant imaging. Notwithstanding the new transfer document now used by JHC, in my view it would be sensible (and would act as a failsafe), if SCGH clinicians considered checking the PRC system for every ERCP patient to ensure there was an awareness of all relevant imaging (including any MRCP) before the ERCP goes ahead.

104. As I mentioned, Dr Hartley asserted at the inquest that the stated aim of the new JHC transfer form is to convey a "*distillation*" of all relevant clinical information for transferred patients, including those sent to SCGH for an ERCP. That is a worthy aim, and in this context, my suggestion that SCGH clinicians check the PRC system for ERCP patients should, in a perfect system, be quite unnecessary. Nevertheless, I maintain the suggestion because in my view, it would add a further layer of checks aimed at trying to ensure that what happened to Lee can never happen again.

105. At the inquest, I also suggested that JHC consider conducting an audit of its new transfer form, to determine whether it is achieving its stated purpose. I repeat that suggestion here, and finally, once again urge continued vigilance by all clinicians involved in the management of patients booked for an ERCP.

CONCLUSION

106. Lee was a beloved family member who underwent an unnecessary procedure to remove a gallstone which was not there. This essentially occurred because of a breakdown of communication between JHC and SCGH, and I repeat here the observation I made at the inquest:

> [T]he agonising fact is that had the ERCP not been done, there is every likelihood that Lee would not have developed the complications that she did and therefore wouldn't have died in that period. I am obviously very well aware that clinical conditions, particularly for people that have other comorbidities…can fluctuate wildly, things can go wrong, other things can intervene. People in hospital often pick up other infections or other difficulties, but I think it's pretty obvious if the…ERCP hadn't been done it's probably unlikely that Lee would have developed the complications that she did.[153]

107. In conclusion, I acknowledge the courage of members of Lee's family and thank them for their participation at the inquest. Finally, on behalf of the Court, I also wish to convey to Lee's family my sincere condolences for their loss.

MAG Jenkin
Coroner
23 June 2023

[153] ts 14.04.23 (Jenkin), p130