CORONERS COURT
OF NEW SOUTH WALES

Inquest:	Inquest into the death of Paul Mortimer
Hearing dates:	17 – 19 February 2020
Date of findings:	4 March 2020
Place of findings:	NSW Coroners Court - Lidcombe
Findings of:	Magistrate Elizabeth Ryan, Deputy State Coroner
Catchwords:	CORONIAL LAW – death of patient following colorectal surgery – was discharge planning and post discharge care appropriate - did retained surgical sponge cause or contribute to death.
File number:	2016/331986
Representation:	Counsel Assisting: M Gerace of Counsel i/b NSW Crown Solicitor's Office Dr Peter Loder: M Lynch of Counsel i/b Browns Legal and Consulting. The Sydney Adventist Hospital and staff: K Edwards of Counsel i/b HWL Ebsworth Lawyers.

Findings:	**Identity** The person who died is Paul Mortimer. **Date of death**: Paul Mortimer died on 4 November 2016. **Place of death**: Paul Mortimer died at the Sydney Adventist Hospital, Wahroonga. **Cause of death:** Paul Mortimer died as a result of ischaemic heart disease, following the development of complications after colorectal surgery. **Manner of death:** Paul Mortimer died in hospital after a post surgical anastomotic leak and resulting sepsis placed additional strain on his impaired cardiac function.

Section 81(1) of the *Coroners Act 2009 (NSW)* [the Act] requires that when an inquest is held, the Coroner must record in writing his or her findings as to various aspects of the death.

These are the findings of an inquest into the death of Paul Mortimer.

Introduction

1. Paul Mortimer died aged 65 years on 4 November 2016 at the Sydney Adventist Hospital, Wahroonga. Three weeks earlier he had undergone colorectal surgery to remove a tumour. A few days after he was discharged home his condition deteriorated, and he was readmitted to hospital with severe sepsis. He died twelve days later.

2. An autopsy examination was not conducted. On 8 November 2016 a Coronial Certificate was issued, recording the direct cause of Mr Mortimer's death as *'ischaemic heart disease'*. '*Colon cancer and its treatment'* was given as a significant contributing condition. This was on the basis of evidence that Mr Mortimer had developed sepsis in the days following his surgery due to anastomotic breakdown.

3. The evidence gathered in the coronial investigation did not provide any basis to question the appropriateness of the decision that Mr Mortimer undergo colorectal surgery, or the surgical skill with which the operation was performed. The inquest was primarily concerned with two other issues about his care and treatment. These were first, whether his discharge plan and the post discharge care he received following his colorectal surgery were adequate. And secondly, what contribution if any to his death was made by a surgical sponge which had accidentally been retained in his body after his colorectal surgery.

4. At the inquest the court was assisted with expert evidence on the above issues from the following specialists:
   - Professor Anthony Eyers, colorectal surgeon, Macquarie University Clinic, Sydney.
   - Dr Alan Meagher, colorectal surgeon, St Vincent's Clinic, Sydney.
   - Professor Ian Seppelt, specialist in anaesthesia and intensive care medicine, Nepean Hospital, Western Sydney.
   - Associate Professor Graeme Hart, senior staff specialist in intensive care at Austin Hospital, Melbourne.

5. It was not possible for Professor Seppelt to give evidence at the inquest but his report was available for consideration. The other three experts gave their evidence in a conclave, with Dr Hart attending via AVL.

Paul Mortimer's life

6. Paul Mortimer was born on 11 May 1951. As an adult he worked as operations manager for a security firm. He married his wife Margaret in 1973 and they had two children together. When Mr Mortimer was around sixty

years old he retired from work to help care for his much loved grandchildren, Archie and Fletcher. Paul's son Matthew Mortimer told the court that his father had always been devoted to his family, telling them on his retirement that caring for his grandchildren was '*his job'.*

7. Mr Mortimer's health had been good in his earlier years, but as he got older he developed problems associated with excessive weight. By the time he reached his late forties he was using medication for conditions of hypertension and type II diabetes. Then in 2004 he was diagnosed with obstructive sleep apnoea and he commenced using a machine at night. He underwent bariatric surgery in 2007 and lost a significant amount of weight, but did not manage to maintain his weight at this level.

8. Mr Mortimer's health problems increased in 2011 and he was found to have cardiomyopathy, a disease of the heart muscle which makes it more difficult for the heart to deliver blood throughout the body. Medication helped to stabilise this condition. In March 2016 Mr Mortimer started noticing symptoms which, as described below, led to the identification of the tumour in his bowel.

9. Mr Mortimer is survived by a loving family. His wife Margaret, son Matthew and sister Michelle attended each day of the inquest, and at the close of the evidence Matthew Mortimer spoke to the court on behalf of the Mortimer family. He described a loving father, husband, and brother who always put his family first. He told the court of his father's lifelong love of betting on horse races and how he had taught his little grandson how to calculate the odds. Paul Mortimer is greatly missed by his family, and they are very anxious to find answers to their questions about his death.

Mr Mortimer's colorectal surgery

10. In June 2016 Mr Mortimer received a positive result from a bowel screening test. Further investigations identified an adenocarcinoma near the sigmoid colon, a section of the bowel's descending colon.

11. On 31 August 2016 Mr Mortimer met with Dr Peter Loder, a surgeon with a subspeciality of colon and rectal surgery. Dr Loder explained the operation that would be needed to remove the tumour. He told Mr Mortimer that the risks associated with the surgery were considerable, given Mr Mortimer's many comorbidities. Dr Loder also spoke with Mr Mortimer's cardiologist, Dr Graham Tanswell, who told him that Mr Mortimer was at moderate risk with any surgery due to his impaired heart function. At the inquest Dr Loder told the court that without surgery Mr Mortimer's cancer would undoubtedly progress, and he had therefore concluded that the decision to surgically remove it was reasonable.

12. At the inquest colorectal specialists Dr Anthony Eyers and Dr Alan Meagher agreed that in Mr Mortimer's case the decision to proceed to surgery was a reasonable one. They acknowledged Mr Mortimer's risks, explaining that his diabetes heightened his risk for post surgical infection, while his obesity and cardiac myopathy reduced his body's capacity to fight the infective process if

he did become very unwell. However, given the certainty that Mr Mortimer's cancer would progress, the alternatives to surgery were very limited. Dr Eyers noted in his report that although Mr Mortimer's perioperative risks made him *'only relatively fit for surgery',* he had*:*

'*…a much greater chance of having his life significantly extended by the surgery then he had of succumbing to perioperative complications'.*

13. I further note there was unanimity that Dr Loder performed Mr Mortimer's surgery in a competent fashion. The operation, described as a high anterior resection, took place on Tuesday 11 October 2016 at the Sydney Adventist Hospital [SAH]. It was a lengthy operation, involving removal of the whole of the sigmoid colon (including the tumour), then joining the remaining parts of the bowel to the rectum. The join, known as an anastomosis, was effected using a standard technique of double stapling. Dr Loder tested the anastomosis and found it to be sound.

14. Mr Mortimer was then admitted to the Intensive Care Unit, where Dr Loder attended him daily. His wound was a large sutured one which had a topical dressing known as a vacuum dressing.

15. The evidence supports the conclusion that the decision in Mr Mortimer's case to proceed to colorectal surgery was reasonable, and that the operation was performed by Dr Loder in a competent fashion. There was no basis to be critical of Dr Loder for the fact that, as will be seen, Mr Mortimer subsequently suffered an anastomotic breakdown which played a major role in his death. None of the expert witnesses attributed this event to any deficiency in Dr Loder's skill as a surgeon. In his report Dr Seppelt noted that anastomotic breakdown is '*a feared complication of colorectal surgery'*, and significantly increases the mortality of the surgery. Dr Eyers stated it was '*probably the most crucial complication of colorectal surgery',* and noted that extensive research had not succeeded in eliminating it.

Mr Mortimer's discharge from hospital

16. I turn now to consider the question whether Mr Mortimer's discharge plan and post discharge care were adequate. This involved examining the appropriateness of SAH's discharge plan for him, and the adequacy of care which he received once he went home.

17. Mr Mortimer did not like being in hospital, and by Friday 14 October he was very keen to be discharged. He was not showing any signs of infection, he no longer needed intravenous antibiotics, he had commenced eating food, and he was able to sit out of bed. However SAH's Wound Care team decided he ought to remain in hospital over the weekend, due to his status as a high risk patient and the fact that a fair amount of fluid was still draining from his wound site.

18. On Monday Registered Nurses Melissa Ward and Robyn Hammond assessed Mr Mortimer's suitability for discharge. Both are Clinical Nurse Consultants in

SAH's Wound Care clinic. They decided his wound could be managed at home with the aid of an AntiVAC dressing, which uses a device to apply negative pressure to the suture site. This helps to keep the lines of the incised wound together, while drawing fluid out of the site and into a drainage canister attached to the machine. The team recommended that Mr Mortimer receive home visits twice a week from community nurses who would change his VAC dressing. He would be reviewed by Dr Loder in two to three weeks' time for removal of the wound staples.

19. Nurses Ward and Hammond explained to Mr and Mrs Mortimer how the AntiVAC dressing was intended to work, and how to maintain the device. The Mortimers were given a booklet about the device as well as a user manual. They also received information about the kind of diet he would require whilst recuperating, and a list of his medications. Mrs Mortimer was shown how to administer daily injections of Clexane, which was to guard against the development of deep vein thrombosis.

20. It was also emphasised to Mr Mortimer that he should seek medical advice from Dr Loder or the nurses if he experienced any increase in pain, increase in wound discharge, had fever or was feeling unwell. Contact numbers were provided to him for this purpose. These included a 24 hour number for him to contact KCI, the supplier of the AntiVAC device, if he had any concerns about its operation. The hospital also arranged for community nurses from The Hills Community Health Centre to make home visits to Mr Mortimer.

21. Dr Loder approved Mr Mortimer's discharge plan. At the inquest he explained there are risks associated with patients remaining too long in hospital post surgery, including a heightened risk of acquiring an infection. It was also important for wound healing that Mr Mortimer start moving around, which he was more likely to do in his home environment.

22. At the inquest Mrs Mortimer told the court that she had been satisfied with the information given to herself and her husband about how to care for him at home, and what to do if there were any problems. The expert medical witnesses agreed that based on the clinical notes and witness statements, it was a reasonable decision to discharge Mr Mortimer on 17 October; and that the hospital's discharge plan and instructions to the Mortimers were appropriate.

23. I find on the evidence that SAH's discharge planning and instructions were adequate and appropriate.

The events of 22 October 2016

24. On 19 October Mr Mortimer received a home visit from community nurse Christine Poidevin. She was accompanied by Ms Andrea Donaghy, at that time a clinical support specialist employed with KCI. In consultation with the Wound Care team it had been decided that Mr Mortimer's wound could receive a type of VAC dressing that would not require changing until he was reviewed by Dr Loder. This dressing was applied during the visit. RN

Poidevin told the Mortimers she would review Mr Mortimer again in a week's time.

25. An attentive home carer, Mrs Mortimer maintained a written record of her husband's temperatures, blood pressure and blood sugar levels over the period 18 October to 22 October. She noted on the evening of 18 October that his temperature had risen. After she applied cold packs it returned to normal. The next day she mentioned this to RN Poidevin and was advised to take him back to hospital if this happened again.

26. On 22 October Mr Mortimer's condition, which it appears had been quite stable, began to deteriorate. Mrs Mortimer recorded a rise in his temperature and she noted he was lethargic and not interested in eating. She also overheard him on the phone, telling a friend '*If I could give it out of 10, I'd give it a 12'*. Mrs Mortimer inferred this was a reference to his level of pain. She suspected he had sought to conceal this from her to avoid going back to hospital.

27. That evening the VAC machine canister filled with wound drainage fluid which Mrs Mortimer described as of '*a milky tomato soup consistency'*. She changed the canister but the new one was full again by 12.30am that night. As she had no further canisters she rang the KCI helpline and after a short delay, was advised to take her husband to hospital. This she did. The events which ensued are described below.

28. The evidence did not support any basis to be critical of the care which Mr Mortimer received once he was discharged home on 17 October. The medical experts agreed that prior to 22 October there had been no basis for concern about his clinical condition, and no indication that he required clinical review. It appeared likely to them that it was only on 22 October that he began to show the outward signs of a serious underlying infection. Given this, it can be concluded there was no deficiency in the care provided by RN Poidevin and Ms Donaghy, or by their respective organisations.

Mr Mortimer's second admission on 23 October

29. After Mr Mortimer arrived at SAH's Emergency Department he underwent a CT scan which showed fluids within his abdomen consistent with breakdown of anastomosis. That afternoon Dr Loder operated on Mr Mortimer and recorded the following:

- extensive faecal contamination mainly in the lower abdominal cavity
- a breakdown of the anastomosis on the rectal side
- the presence of a surgical sponge in the left upper area of the abdomen, some distance from the anastomosis.

30. Dr Loder took down the anastomosis, removed the surgical sponge and washed out the abdominal area. It does not appear any pathological testing was conducted of the sponge.

31. Mr Mortimer was admitted to the ICU with septic shock and peritonitis. He was mechanically ventilated and placed on inotropes to assist his heart functioning. As his septic shock progressed despite antibiotic treatment, he developed kidney injury, metabolic acidosis and atrial fibrillation. On 31 October there was an episode of ventricular tachycardia which was treated with emergency electric shock therapy. There were further episodes of atrial fibrillation, and an echocardiogram showed deteriorating heart function.

32. By 4 November Mr Mortimer's cardiac rhythm was stable and he was extubated. In the evening his wife and sons were able to visit and to talk a little with him. Soon afterwards however he suffered a sudden cardiac arrest, and could not be resuscitated. He was pronounced deceased just before 7.30pm.

33. Regarding the treatment which Mr Mortimer received on re-admission to SAH, Doctors Eyers, Seppelt, Meagher and Hart agreed this was appropriate. The diagnosis of anastomotic breakdown was promptly made, as was Dr Loder's surgical intervention. Mr Mortimer's cardiac arrythymias while in ICU were properly managed and in the opinion of the experts, signified the severity of his underlying cardiac disease. As Professor Seppelt concluded in his expert report, that Mr Mortimer could not be resuscitated on 4 November '*was a function of his severe underlying comorbidities and specifically his underlying heart disease'*.

The cause of death

34. The expert evidence at inquest supports the finding that Mr Mortimer died as a result of ischaemic heart disease, in a setting of complications of colorectal surgery. In considering the circumstances of his death however it is necessary to examine a further aspect of his medical care. This is the role if any which the retained sponge played in the circumstances of his death.

The discovery of the retained sponge

35. The surgical sponge was found in Mr Mortimer's abdomen when he was readmitted to SAH on 23 October. Undoubtedly it had been overlooked at the conclusion of his colorectal surgery on 11 October. That the sponge was retained was naturally a matter of distress for Mr Mortimer's family who were taken aback when they learnt what had happened, and very concerned to know whether it had caused or contributed to his death.

36. At the inquest the expert medical witnesses agreed that foreign bodies unintentionally retained inside a patient's abdomen following surgery pose a risk of harm to the patient, creating a potential for pain, fistula, abscess, infection and sepsis. They agreed further that retention of foreign bodies is a preventable event. Hospitals are required to have policies in place to ensure, by a process of accounting, that all items used during surgery are removed from the patient unless retained intentionally as part of the surgery.

37. The court heard evidence about SAH's policies and procedures for accounting for such items, including surgical sponges. The primary policy at the time was SAH's *Accountable Items - Policy* which had been published in June 2015. Consistent with NSW Health requirements, it mandated that a series of audible and documented 'counts' take place throughout the surgery, to be conducted by at least two nurses. These were typically the 'scrub' or instrument nurse and a circulating nurse. The counts were to be documented in a 'Count Sheet'.

38. The first count takes place prior to the commencement of surgery and confirms the number of items (in this case unused sponges) handed to the surgeon, as well as the number if any of additional unused sponges which the surgeon requires. A second count is conducted at the commencement of the surgeon's closure of the patient's muscle layer. This is to confirm that the number of sponges used in the operation corresponds exactly with the number that was handed to the surgeon for use. When the surgeon closes the patient's skin layer a final count takes place, to account for any further sponges required between those two points in time.

39. The Count Sheet completed in relation to Mr Mortimer's surgery did not record any discrepancy between the number of sponges provided by the scrub nurse to Dr Loder, and those subsequently recovered. The first count documented that 25 sponges were provided, which corresponds with the number documented at the second and final counts.

40. Registered Nurse Shayley Gee was the rostered circulating nurse for Mr Mortimer's surgery, and she gave evidence at the inquest. She recalled there had been a discrepancy in the sponge count at the point of the second count, although she could not recall the details. She concluded that the discrepancy must have been resolved, because none was documented. By contrast Dr Loder recalled being informed of a discrepancy at the end of the surgery. In response he conducted another search of Mr Mortimer's abdomen, while repeat counts were conducted. Again an incorrect figure was obtained, this time different to the first figure. However as Dr Loder recalled the situation, '*after considerable time'* he was informed that the count was found to be correct.

41. Clearly however the discrepancy had *not* been resolved. In response to Mr Mortimer's death SAH conducted its own investigation as to why the sponge found in his abdomen on 23 October was not identified at the conclusion of his surgery on 11 October. Their investigation was not able to establish the specific cause, beyond finding that it must have been due to human error.

42. Unfortunately therefore it is not possible to establish how it was that the sponge was retained inside Mr Mortimer's body. As a result of its investigation SAH has reviewed its 'count' procedures and has developed additional ones designed to reduce the risk of such a thing occurring again. These are further described below.

Did the retained sponge cause or contribute to Mr Mortimer's death?

43. All four experts were asked their opinion on this point. There was unanimous agreement that the overwhelming cause of Mr Mortimer's sepsis was the release into his abdominal cavity of faecal matter. This was the direct result of the anastomotic breakdown. The ensuing severe infection and the body's attempt to combat it placed his already poorly functioning heart under further strain and put him at high risk of an adverse cardiac event. This in fact was the cause of his death.

44. The medical experts were then asked to consider two questions: first, what role if any had the retained sponge played in the anastomotic breakdown, and secondly had its presence impaired Mr Mortimer's ability to combat the resulting infection?

45. Regarding the first question, Doctors Eyers, Meagher and Hart considered the sponge had played no role in the anastomotic breakdown. The sponge was located in a position distant to that of the breakdown. Although as noted Dr Seppelt did not give evidence at the inquest, in his report he expressed the opinion that the sponge was unlikely to have been directly associated with the anastomotic breakdown. The weight of the evidence therefore supports the finding that the retained sponge did not cause or contribute to the anastomotic breakdown.

46. As to the second question, none of the three medical experts at the inquest could exclude the possibility that the retained sponge had impaired Mr Mortimer's ability to clear the infection which broke out following the breakdown. They were agreed however that any such contribution would have been minimal, and may have been negligible. In their opinion its contribution would have been far outweighed by that of the very severe infection caused by the anastomotic leak, as well as the effect of Mr Mortimer's many comorbidities which compromised his ability to combat the infection. I accept their evidence regarding the role of the retained sponge in Mr Mortimer's death.

Changes made at SAH since Mr Mortimer's death

47. It is to the credit of SAH that a number of its senior representatives attended each day of the inquest. These included Ms Karen Reimer, who is the Director of Perioperative Services at the hospital. She provided a statement and gave evidence at the inquest about SAH's response to Mr Mortimer's death.

48. Ms Reimer commenced by expressing on behalf of the hospital a sincere apology to the Mortimer family for the failure to identify and remove the sponge at the time of Mr Mortimer's surgery. It was important for Mr Mortimer's family to hear this.

49. In her evidence Ms Reimer spoke of the internal review which SAH had undertaken into the circumstances of the retained sponge. She then outlined

changes the hospital had implemented in relation to accounting for surgical items. The most relevant of these is a procedural change for managing count discrepancies. If the count is incorrect on two subsequent recounts, the floor supervisor will be required to arrange an independent person to participate in further counts. Some further changes are designed to improve the reliability of the count, and to ensure clear visibility on the Count Sheet of which nurses are involved in specific counts and when.

50. The hospital has also undertaken staff education to reinforce its Accountable Items policy, both for new and existing Operating Theatre staff.

51. Ms Reimer also spoke of her enthusiasm for a developing at SAH a healthy workplace culture where the focus is on patient safety. She noted that in the past twelve months there had been an increase in reports by staff of issues with the count process. She interpreted this as a positive sign that staff were becoming more aware of the importance of 'accountable items' procedures, and more willing to take responsibility for complying with them.

52. I agree with the opinion expressed by the medical experts at the inquest, that the policy and procedural changes described by Ms Reimer are positive and represent good clinical practice. It is encouraging to me, and I hope to Mr Mortimer's family, that the hospital has appreciated the human impact on families when incidents like this happen, and has willingly made changes to reduce the risk of them occurring again. The reforms implemented by SAH obviate the need for me to make any recommendations for change arising out of Mr Mortimer's death.

Conclusion

On behalf of all at the Coroners Court I offer sincere sympathy to the Mortimer family for the loss of Paul.

I am grateful to Counsel Assisting and the NSW Crown Solicitor's office for their excellent assistance, and to those representing the interested parties in this inquest.

Findings pursuant to section 81

Identity
The person who died is Paul Mortimer.

Date of death:
Paul Mortimer died on 4 November 2016.

Place of death:
Paul Mortimer died at the Sydney Adventist Hospital, Wahroonga.

Cause of death:
Paul Mortimer died as a result of ischaemic heart disease, following the development of complications after colorectal surgery.

Manner of death:
Paul Mortimer died in hospital after a post surgical anastomotic leak and resulting sepsis placed additional strain on his impaired cardiac function.

I close this inquest.

Magistrate E Ryan
Deputy State Coroner
Lidcombe

Date
4 March 2020