



Neutral Citation Number: [2022] EWHC 2981 (KB)

Case No: QB-2020-001452

IN THE HIGH COURT OF JUSTICE
KING'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 28 November 2022

Before:

MR JONATHAN GLASSON KC SITTING AS A DEPUTY HIGH COURT JUDGE

Between:

MRS VANESSA MIDDLETON
(Personal representative of MR IAN MIDDLETON,
deceased)
- and -
FRIMLEY HEALTH NHS FOUNDATION TRUST

Claimant

Defendant

Ms Turan Hursit (instructed by **Shoosmiths LLP**) for the Claimant
Ms Hannah Noyce (instructed by **Capsticks LLP**) for the Defendant

Hearing dates: 3rd, 4th, 5th and 6th October 2022
Written submissions: 10th October 2022, 2nd November 2022, and 9th November 2022

Approved Judgment

This judgment was handed down remotely at 10.30am on 28th November 2022 by circulation to the parties or their representatives by e-mail and by release to the National Archives.

MR JONATHAN GLASSON KC:

1. The Claimant brings a claim for clinical negligence arising from the Defendant's treatment on 18 November 2015 of her late husband, Mr Ian Middleton. The Claimant alleges that the Defendant negligently delayed surgical revascularisation of Mr Middleton's right leg and that this delay caused him to suffer additional leg symptoms between 18 November 2015 and 15 December 2015 when he had further surgery.
2. Sadly, Mr Middleton died in January 2021, for reasons unrelated to the alleged negligence, and the Claimant brings the claim on behalf of his estate.
3. The Defendant is the NHS Trust responsible for the control and management of Frimley Park Hospital ("*the Hospital*") and it is vicariously liable for the acts and omissions of its surgical and clinical staff.
4. Breach of duty and causation are both denied but quantum, should liability be established, has been agreed between the parties in the sum of £10,000.
5. The claim was heard over four days and in that time I heard evidence from the Claimant, the Defendant's surgical staff who treated Mr Middleton on the day in question, and from the parties' respective experts. At the end of the trial, the parties submitted written notes and they also made oral closing submissions.
6. I was presented with a significant amount of documentary material. The trial bundles ran to 6 bundles and an additional bundle was added during the course of the trial.
7. Subsequent to the trial, the parties submitted further written submissions in relation to additional medical records that were disclosed in the course of the trial. I deal with that issue below in paragraphs 57-60.
8. I am grateful to both counsel for their written and oral submissions.
9. I have considered all of the evidence so far as is relevant and set out in this judgment such of the evidence as is necessary so as to understand my reasons for determining the claim.
The Claimant's pleaded case and the issues for trial
10. It is a striking feature of this case that despite the alleged delay in re-perfusing Mr Middleton's right leg, that surgery was successful in averting significant ischaemic damage to the right leg which was the purpose of the surgery. It is agreed by the vascular experts that the subsequent loss of power and sensation in Mr Middleton's right leg was caused by ischaemia of the lumbosacral plexus ("*LSP*") rather than by ischaemia of the right leg. They disagree however as to whether earlier reperfusion of the right leg would have made any difference to the ischaemia of the LSP.
11. The Claimant's pleaded case has narrowed considerably in the lead up to the trial. The Particulars of Claim originally alleged that symptoms suffered by

Mr Middleton after 15 December 2015 were also a result of the Defendant's alleged negligence on 18 November 2015. However, on 27 September 2022, the Claimant's solicitor informed the Court that those allegations were not pursued as the Claimant's expert neurologist no longer supported that aspect of the case.

12. The Claimant's case on breach of duty is set out at paragraph 88 of her Particulars of Claim where she alleges that the Defendant:

“a. Failed to heed and/or afford sufficient weight to the Claimant's symptoms of right leg ischaemia between 10am and 11am on 18th November 2015;

b. Failed to heed and/or afford sufficient weight to the absence of palpable pulses upon examination of the Claimant's right leg at 12:30 pm on 18th November 2015;

c. Failed to operate upon the Claimant with a femoro-femoral crossover graft immediately, and in any event, by 15:00 on 18th November 2015, notwithstanding the presence of right leg ischaemia and absence of palpable pulses upon examination;

d. Negligently delayed the performance of a femoro-femoral crossover graft on the Claimant's right leg until 12:30 am on 19th November 2015, over 12 hours after the identification of right leg ischaemia, notwithstanding the evident need for the Claimant's right leg to be revascularised;

e. Failed, at all material times, to provide the Claimants with appropriate treatment for his leg symptoms; and/or

f. Failed at all material times, to treat the Claimant with reasonable care and skill”.

13. The agreed issues in relation to breach of duty are:

- a) Whether Mr Middleton's symptoms indicated that he was suffering from severe ischaemia of the limb on 18 November 2015, such that urgent revascularisation was mandated.
- b) Whether the other patient who was taken in for surgery at 14:10 before Mr Middleton (“*patient two*”) was a more urgent case, or whether Mr Middleton should have been taken into theatre first.

14. At the outset of the trial the parties stated that there were two causation issues requiring determination should breach of duty be established:

- a) Whether, if Mr Middleton had been taken to theatre for surgery in place of patient two (i.e., at 14:10 on 18th November 2015) and undergone an urgent femoro-femoral cross-over graft, this would have restored blood supply to the lumbo-sacral plexus.

- b) Whether Mr Middleton would therefore have avoided the development of reduced sensation, numbness, cramping, and pains in the right leg, which are symptoms which the Claimant says Mr Middleton continued to suffer with between 18th November and 15th December 2015.
15. In closing submissions however counsel for the Defendant indicated that it was accepted that had blood supply to the LSP been restored, Mr Middleton would have avoided the right leg symptoms specified in paragraph 14 (b) above.

The factual evidence

16. The Claimant relied upon witness evidence from her late husband. The Claimant also provided a witness statement which was unchallenged.
17. In Mr Middleton’s witness statement, signed on 10 May 2020, he explains some of his medical history. He says that he had a long history of vascular disease. This had required a number of surgical procedures, an aorto-biliac prosthetic graft in 1997; right iliac artery stenting in 2012 and an aorto-bifemoral graft in 2013.
18. Mr Middleton explained that on 16 October 2016 he went to his GP because he had been experiencing *“flu like symptoms, such as fever and aching for over a week”*. On 12 November 2015 he was seen at Frimley Park Hospital where it was noted that he had lost 1.75 stones in the past few weeks. It was decided that he should attend the following day for a CTA (a Computed Tomography Angiography) scan (sometimes simply referred to as a CT scan).
19. Mr Middleton was admitted following his CTA scan as it showed that he had new circumferential fat stranding around the proximal aortic anastomosis and a diagnosis of possible graft infection was made. In the statement he says that *“in the morning of 18 November 2015, I started to notice numbness and weakness in my right leg”*. He says that he was seen by a doctor *“at approximately midday”*. Mr Middleton goes on to say that following a CTA scan he was seen by *“Mr Chong...who informed me that they planned to perform a femoro-femoral cross over graft”*. That surgery was performed in the early hours of 19 November 2015. Mr Middleton goes on to say, *“I now know from my Solicitors’ investigations that the revascularisation surgery should have taken place no later than 17:00 on 18 November 2015”*.
20. The Claimant says in her statement, signed on 10 May 2021, that she arrived to see her husband at Frimley Park Hospital *“by late morning, around lunchtime”*. She explains that she was not part of the *“decision-making process regarding Ian having to undergo the cross over graft.”* She says that *“[o]nce it was decided that Ian required surgery, the ward sister and I kept asking when he was going to theatre as there was a delay in moving him to theatre and ward staff were constantly doing checks on the circulation”*. The Claimant also says that *“I now know from my Solicitors investigations that the revascularisation surgery should have taken place no later than 17:00 on 18 November 2015”*.

21. The Defendant relied upon factual evidence from three vascular surgeons that all variously examined and treated Mr Middleton on 18 -19 November 2015.
22. In November 2015, Mr George Peach was employed as a Specialist Registrar in Vascular Surgery by the Defendant. In his evidence he explained that he did not specifically recall the events that are the subject of the claim. His evidence was based therefore on the medical notes and his “*usual practice at the time*”.
23. Mr Peach saw Mr Middleton at 1230 on 18 November. His note of that consultation was written in retrospect at 1655 that day. It stated “*Sudden onset of R[ight] leg numbness. Unable to move R leg. Complaining of pain in R calf and foot. ...Imp[ression] Acute right leg ischaemia. Plan 1. Urgent CTA 2. NBM [Nil by mouth]*”.
24. In answer to questions in cross-examination, Mr Peach said that that he was aware of the paper by Rutherford and others: “*Recommended standards for reports dealing with lower extremity ischemia: revised version.*” J Vasc Surg. 1997; 26:517–538) (“*the Rutherford paper*”). Mr Peach said that the paper offered “*guidelines*”. He said that he thought Mr Middleton fell within category IIb of clinical categories of acute limb ischaemia which was defined as “*Immediately: Salvageable with immediate vascularisation*”. He did not accept that Mr Middleton needed surgery within 6 hours. What was required depended on the circumstances. Mr Peach said that the risk was higher in someone with acute ischaemia with no background of chronic ischaemia (which was the case with Mr Middleton with his complex history).
25. Mr Peach was taken to the nursing records for Mr Middleton for 1130 which recorded “*Patient also complains of Right Leg numbness and pain. Doctors aware.*” Mr Peach thought that this probably referred to a house officer or senior house officer being informed. He thought he would not have been the first port of call for the nursing staff in these circumstances.
26. Mr Peach was clear that the operating theatre would not be booked until the result of Mr Middleton’s CTA was available. In theory an operating theatre could be put “on hold” but he said that this was not a practical option. One of the requirements for booking surgery was confirming that all pre-operation checks had been undertaken, including imaging. Mr Peach said that very rarely it was possible and appropriate to obtain a CT scan within an hour or so of the request having been made.
27. Mr Peach explained that the CT scanner might be being used for someone from the Intensive Treatment Unit or who had just been admitted as a result of a trauma. He said that very often there were delays. Because of Mr Middleton’s complex history, it was important to have the CT scan results so as to plan the surgery. Mr Peach said that Mr Middleton was never a patient that you would take straight to surgery.
28. Mr Peach discussed Mr Middleton’s case with his consultant, Mr Chong, at 1655 that day but it was possible he might have discussed the case earlier with him. On the basis of a small clip of medical records and, in particular, a

discharge summary, Mr Peach was asked whether he regarded patient 2 as a patient more in need of surgery than Mr Middleton. He did not agree with the Claimant’s argument that Mr Middleton was a more urgent surgical case.

29. Mr Chong explained in his evidence that he was the on call vascular consultant on 18 November 2015. He had been a consultant since 2007. According to the medical records he saw Mr Middleton at 0850 that day as part of his daily rounds. In addition to rigors and abdominal pain, he noted that Mr Middleton had a temperature of 37.6. He noted in the medical records that the plan was for a CTA, and, in his statement, he described this as “*an urgent CTA*”. Mr Chong started Mr Middleton on intravenous anti-microbial therapy. Mr Chong said that Mr Middleton did not report any lower limb symptoms when he was examined by at 0850. He did not see Mr Middleton again until 1700 when he saw him immediately following a phone call with Mr Peach.
30. Mr Chong was asked about the Rutherford guidelines. He explained that those were applicable and that a lot of patients were seen every week at the Hospital that fell within category Iib. On the basis of what was recorded in the retrospective entry by Mr Peach at 1230, Mr Chong considered that Mr Middleton would fall into the Iib category. He said that when he saw Mr Middleton at 1700 he recorded that Mr Middleton had numbness and weakness of the right leg secondary to acute lower limb ischaemia. He said that “*very rarely*” in a patient with lower limb ischaemia would you go to theatre without a CTA. Although there was no policy that prevented an operating theatre being booked before the result of a CTA had been obtained it would be a very unusual case where that happened. It might happen he said if a patient was bleeding out. Similarly, it would have to be a “*really serious emergency*” for an immediate CTA to be obtained. That was not the position here.
31. Mr Chong was firm in his view that imaging was critical before Mr Middleton underwent surgery. It was “*absolutely vital*” in a patient with such a complex vascular history to have imaging available.
32. Mr Chong was cautious about commenting on patient two. He said that he had not read the medical records in detail and in any event, he was not a GI surgeon.
33. Mr Cleanthis was the overnight consultant on call on 18 November 2015. He remembered Mr Chong discussing Mr Middleton’s condition at hand over at approximately 1800. He was told that Mr Middleton was already booked for the emergency theatre. At the time of handover an emergency laparotomy had already started in that theatre. As matters turned out, that surgery took longer than expected.
34. Mr Cleanthis was asked about the Rutherford guidelines and whether or not it was mandatory for someone with acute limb ischaemia to be operated on within 6 hours. He disagreed, and said it depended on the individual circumstances and that there were a number of factors that impacted on

survivability. A history of chronic ischaemia improved the chances of survivability he said.

35. Mr Cleanthis said that Mr Middleton was a complicated case. He said that the first thing he asked was what did the CT show as he knew that Mr Middleton had had previous surgery. He would not have operated on Mr Middleton without first having reviewed a CT scan. He thought that a CT scan could be downloaded within about 15 minutes after it had been undertaken. That might happen if someone was in an immediately life-threatening situation.
36. Mr Cleanthis was aware that Mr Middleton had developed symptoms earlier in the day and he wanted to know whether symptoms had progressed so as to ascertain whether the leg was salvageable. He was reassured that Mr Middleton's symptoms had been static since the morning and that he was still moving his leg. Nonetheless he thought that Mr Middleton should undergo surgery that night. Mr Cleanthis said that he had been a consultant long enough to operate out of hours and did not feel that there were any undue risks in operating out of hours. He said that all surgery out of hours had to be justified.
37. Mr Cleanthis was asked about prioritising patients and he said this could be done. He was reluctant to comment on patient two solely on the basis of a discharge summary that he thought would probably have been written by a junior doctor.

The Claimant's expert evidence

38. The Claimant relied upon expert evidence from Professor Linda Hands who is an Associate Professor of Surgery at Oxford University.
39. In her report on breach of duty and causation Professor Hands concluded that there had been a "*clear breach of duty in failure to revascularise Mr Middleton's ischaemic right leg within 6 hours of onset on 18 November and this, on the balance of probabilities, was responsible for the right leg symptoms which he experienced until the time of his death in January 2021*". That view on causation was subject to the views of a neurologist and, as noted earlier, that aspect of the case was subsequently abandoned by the Claimant.
40. At paragraph 33 of her liability report, Professor Hands said that Mr Middleton developed a severely ischaemic right leg between 10.00 and 11.00 on 18 November. She said that the "*diagnosis was made fairly promptly at 12.30hr*". She was critical of the fact that Mr Middleton did not "*get in theatre for revascularisation for about 14 hours after onset of the ischaemia*". She said that "*the theatre slot [for Mr Middleton] should have been booked as soon as the need for surgical intervention was recognised i.e., at 1230hr*." She says that "*theatres could have been placed on "hold" while awaiting completion of the CT angiogram if necessary*". She says that "*it should have been possible to get him to theatre between 14.00 and 15.00*". Professor Hands says that Mr Middleton should have been put ahead of patient two.
41. In her oral evidence she was cross-examined about her view that Mr Middleton should have been in theatre between 1400 and 1500. She said that

although she would not have waited for a CT it was reasonable for a CT to be obtained before surgery. Initially in her oral evidence Professor Hands said that she thought that a CT scan should have been obtained by 1430 such that Mr Middleton would have been in theatre by 1500. She accepted that it might take up to an hour from CT for Mr Middleton to be in surgery although it depended on how long was needed to prepare him for surgery. Professor Hands said that CT by 1430 and in theatre by 1530 were the outside time limits for acceptable treatment. Later in her evidence she suggested that a CTA should have been obtained within 1 to 1 ½ hours (i.e., by 1330/1400).

42. Professor Hands relied upon a paper by Peter Henke, “*Contemporary Management of Acute Limb Ischemia: Factors Associated with Amputation and In-Hospital*”, Seminars in Vascular Surgery 2009; 22(1): 33-40. Professor Hands said that Henke’s paper demonstrated that permanent nerve damage with severe ischaemia after 6 hours and that as such it was mandatory for Mr Middleton’s leg to be revascularised within 6 hours of the onset of symptoms. The Defendant referred Professor Hands to p.140 of Henke’s paper which referred to 6 hours in the context of a patient without underlying vascular disease and an acute arterial blockage and that “*the time frame depends upon the degree of collateral perfusion in any given instrument*”. Professor Hands accepted that Mr Middleton did not fall into that category but pointed to the fact that he did not have any history of ischemia in his leg. She accepted that the Rutherford guidelines did not indicate a time frame for surgery for patients who fell within category IIb.
43. Professor Hands was asked about whether or not she had approved the Particulars of Claim. She was referred to the particulars of causation which refer to what would have happened had Mr Middleton undergone surgery within 5 to 6 hours of the onset which, assuming onset at 1000-1100, would give a latest start time for surgery of 1700. She said that this meant revascularisation should have been achieved by 1700 although she accepted that that is not what was pleaded.
44. Professor Hands was asked about the classification intervention set out by the National Confidential Enquiry into Patient Outcome and Death (“*NECPOD*”). She said that Mr Middleton’s case did not fall within the “*immediate category*” in NECPOD. She agreed that it fitted within the “*urgent*” category which is defined as “*intervention for acute onset or clinical deterioration of potentially life-threatening conditions, for those conditions that may threaten the survival of limb or organ, for fixation of many fractures and for relief of pain or other distressing symptoms. Normally within hours of decision to operate.*” Professor Hands said that it was necessary to prioritise within the “*urgent*” category.
45. Professor Hands said she assumed that Mr Middleton’s leg was cold and pale at 1230 and 1700 although that was not noted either by Mr Peach or by Mr Chong.
46. In re-examination, Professor Hands commented that Mr Peach had said that Mr Middleton should be “*nil by mouth*” from 1230 onwards. She said that for

an anaesthetic to be safe Mr Middleton would have to have been anaesthetised 4 hours after his last meal or hot drink.

47. Professor Hands initially gave evidence about patient two on the basis of the small clip of records that were contained in the original trial bundle. Given the potential importance of patient two, and the concerns of the clinical factual witnesses in commenting on patient two solely on the basis of a limited selection of patient two's records, I asked the Defendant to consider whether or not a fuller selection of records could be obtained and agreed with the Claimant. The parties agreed that that would be appropriate and overnight a file of patient two's records (suitably redacted to maintain the patient's identity) was agreed and produced on the third day of the trial.
48. Having reviewed the file of records relating to patient two, Professor Hands said that she did not think that patient two was a more urgent case than Mr Middleton. She said that although patient two was listed for emergency surgery she suspected that in fact his surgeons were waiting for an operating slot. There was no sign that patient two was bleeding on the 18 November. She was asked whether it would be life threatening if patient two started to bleed again to which Professor Hands responded that there had been no bleeding since 16 November. In her view Mr Middleton was a more urgent case as his limb was threatened. If, however patient two had started to bleed on 18 November then he would have been a more urgent patient than Mr Middleton. On the basis of her review of the bundle of patient two's records she considered that Mr Middleton was a more urgent patient than patient two.
49. As to Professor Hands' evidence on causation, in her report she sets out her reasoning for why earlier reperfusion of the right leg would have re-perfused the LSP, thereby avoiding symptoms between 18 November and 15 December 2015. She said:

“The Defendants allege that a femoro-femoral cross over graft would not have reversed lumbo-sacral plexus ischaemia. In my opinion they are incorrect. Normally the main blood supply to the lumbosacral plexus comes from the internal iliac artery. There is also a component from the deep circumflex iliac artery which is a branch of the external iliac artery. In Mr Middleton's case longstanding occlusion of the internal iliac artery origins must have led to development of collateral arteries to maintain flow in the pelvis, otherwise he would have had ongoing symptoms of lumbosacral plexus ischaemia prior to 18 November and this was not the case. These collaterals would, on the balance of probabilities, come from the deep circumflex iliac, profunda and lumbar arteries. On 18 November, with occlusion of the right common iliac artery, the proximal external iliac artery may have occluded but the deep circumflex iliac artery, arising in the distal external iliac artery, was probably still patent and this and the profunda collaterals would have been reperfused by a femoro-femoral cross over graft, leading to improved blood supply to the lumbo-sacral plexus. Thus revascularisation by 16- 17.00hr on 18 November 2015 would have allowed more or less full recovery of nerve function and avoided significant permanent disability”.

50. In cross-examination Professor Hands accepted that she was not able to point to any cases, either in literature or in her practice, in which supply to the LSP had arisen in this way. She admitted that it was “*conjecture*” but said that her analysis was “*logical*”. Professor Hands maintained that this was a credible explanation.

The Defendant’s expert evidence

51. The Defendant relied upon evidence from Mr Philip Coleridge Smith who is the Medical Director of the British Vein Institute. In his report he disagreed with the Claimant’s assertion that Mr Middleton should have been operated on by 1500 on 18 November:

“Re-examination of Mr Middleton by Mr Cleanthis at 22.10 showed capillary return to the right foot was present with a capillary refilling time of about 5 seconds. The loss of sensation had now recovered and there was hyperaesthesia of the limb with a soft, slightly tender calf. His judgement was that the limb ischaemia was not immediately life threatening necessitating immediate intervention.... The surgery required would be classified in the Urgent NCEPOD category requiring treatment within 24 hours rather than Emergency NCEPOD category necessitating treatment within 1 hour. The limb ischaemia was not sufficiently severe to warrant immediate surgical intervention”.

52. In his opinion “*sudden occlusion of an iliac artery in a patient with long-standing arterial disease does not necessarily require immediate intervention unless the limb has no useful circulation, which was not the case here.*” In the report of his meeting with Professor Hands, Mr Coleridge Smith stated:

“The onset of limb ischaemia was indicated by the start of numbness affecting the right lower limb which occurred at about 11.30 and was the main clinical feature. Subsequently pain developed in the calf and foot. Had the limb been severely ischaemic I would have expected severe pain to have been the main symptom. When examined by Mr Chong at 17.00, the main clinical features were loss of sensation and reduced power in the right lower limb. Mr Cleanthis examined the leg at 22.10 and found that it was cooler and paler than the left. Capillary refilling time was 5-6 seconds suggesting that a reduced but adequate blood flow was present. The limb was hyperaesthetic and normal movement was present at the knee and ankle. From this information, I conclude that it is unlikely that severe ischaemia of the limb had been present for 12 hours otherwise the limb would have been cold, mottled and in need of amputation. In addition, the neurological problems had improved greatly prior to the surgery.”

53. In cross-examination, Mr Coleridge Smith said that in Mr Middleton’s case it was desirable to operate as soon as feasible, in the sense that as soon as the CT scan had been undertaken and reported and as soon as the emergency operating theatre became available. He said that surgery within 6 hours was something you would aim for in someone with no history of vascular disease. He said that people with longstanding history of vascular disease are much better able to withstand occlusion. Mr Coleridge Smith said that it was not reasonable to book a theatre for Mr Middleton until all the tests had been

undertaken. The position would have been different had Mr Middleton’s leg been cold and mottled which was not the case. In his view the clinical records indicated that Mr Middleton needed urgent vascular surgery but not immediate vascular surgery.

54. Mr Coleridge Smith accepted that at 1230 Mr Middleton probably fell within category I Ib of Rutherford. He noted that that category was predicated on there being no audible Doppler arterial signals. Since Rutherford was published, reliance would not be placed by a clinician on a Doppler ultrasound but instead on a CTA. In fact, the CTA in Mr Middleton’s case did show blood flow in the arteries in the leg which would therefore take him out of the category I Ib in Rutherford. Mr Coleridge Smith said that as there was blood flow then Mr Middleton’s case was “*urgent rather than immediate*”. He pointed to the fact that with the benefit of hindsight we know that in fact there was no ischaemic damage to the leg following surgery.
55. Mr Coleridge Smith described patient two’s condition as “*precarious*” and said that he needed surgery within hours. He said that patient two fell within the same NECPOD category as Mr Middleton: i.e., he was an “*urgent*” patient who “*required surgery within hours*”. He accepted that if a more urgent case had required the 1400 slot, then patient two could have been delayed to a later slot on the same day.
56. Mr Coleridge Smith did not agree that earlier re-perfusion of the leg would have restored blood supply to the LSP. At the joint meeting with Professor Hands, he noted that descriptions of the femoro-femoral bypass operation in text books indicate that the sole purpose of this operation was to improve blood flow in the lower limb. Restoration of the blood flow to the pelvic structures is not described as an objective of that type of surgery. In his view even if blood flow had been restored earlier with a femoro-femoral graft, this would not have improved blood flow to the LSP. In cross examination Mr Coleridge Smith accepted that we cannot know exactly what happened on 18 November. He considered that probably what happened was that the arterial occlusions which occurred on the 18 November 2015 led to the occlusion of the last remaining vessels supplying the LSP from the iliac arteries, the most likely mechanism being by embolisation of thrombus or atheroma. He accepted however that this explanation was no more than a theory.

Post-trial submissions

57. As noted earlier, on day 3 of the trial the Defendant produced an agreed bundle of patient 2’s records. Those were reviewed by the two experts and the parties did not seek to suggest that the Defendant’s clinical witnesses needed to be recalled to comment on the bundle. At the end of the trial, I indicated that I intended to reserve judgment.
58. Subsequently, on 10 October 2022, the Claimant asked the Court to consider further submissions in respect of patient two’s records. It was argued that the full bundle had only been made available on day 3 of the trial and it had to be reviewed at speed. The Claimant argued that I could consider these submissions without the necessity for the experts to be recalled or for any further submissions. The Claimant said that there were two “*crucial*” entries

which I should consider. The first was an anaesthesia record for patient two which indicated that the anaesthesia start time was 1517. The second was a nursing record which stated that the patient went down to theatre “*at approximately 1430*”. It was argued that even if I accepted that patient two was taken to theatre at 1410 (the time recorded on the operations register) rather than 1430, patient two would not have been placed under general anaesthetic for 1 hour and 7 minutes after arrival.

59. I invited the Defendant to file any observations on these submissions by 4 November 2022. No objection was taken by the Defendant to me considering the Claimant’s further submissions. The Defendant argued that the Claimant’s submissions did not affect the Defendant’s position that the Claimant had failed to make out her case that surgery was mandated by 1500 and that even if it was mandated by 1500, Mr Middleton’s case was not more urgent than that of patient two. Without prejudice to that position, the Defendant argued that the records could not safely be relied upon to establish an exact time when the decision to undertake surgery could have been easily “*reversed*”. The anaesthetic record was “*at best ambiguous*” as it appeared to suggest that both anaesthesia and surgery started at 1517 and that both lasted the same amount of time. The Defendant said that that could not be right, and a possible explanation was that the second patient was in theatre at 1410, anaesthesia started at an unknown time between 1410 and 1517 and “*knife to skin*” was at 1517. The Defendant commented that the entry relied upon by the Claimant indicating that the patient went to theatre at “*approximately 230*” was neither contemporaneous nor specific.
60. The Claimant filed reply submissions on 9 November 2022. She accepted that anaesthesia must have started in advance of “*knife to skin*” but that it was likely to have given to patient two “*only very shortly before surgery*”. She relied on other entries indicating anaesthesia being administered variously at 1505 and at 1507.

My findings of fact

61. In many respects the facts in this case are not seriously in dispute. On the basis of the clinical records and the evidence that I have heard, I make the following findings of fact that are necessary in order for me to determine whether or not there was a breach of duty in this case.
62. Mr Middleton’s symptoms of numbness and pain to right leg started between 1000 and 1100 on 18 November. That is what Mr Middleton reported to Mr Cleanthis at 2210 on 18 November and accords with Mr Middleton’s witness statement. Those symptoms were not present when Mr Chong examined Mr Middleton at 0850 earlier that morning.
63. It was not until 1130 that these symptoms were recorded in Mr Middleton’s notes. In the nursing records it was noted that Mr Middleton was on an intravenous drip as he appeared dehydrated. The notes continue, “[*p*]atient also complains of Right Leg numbness and pain. Doctors aware....Independent with ADL’s [*a*ctivities of daily living]”.

64. Mr Peach examined Mr Middleton at 1230. I accept that his retrospective record (at 1655) is accurate and that at 1230 Mr Middleton was “unable to move R leg” and complaining of “pain in R calf and foot”. He noted “sudden onset of R Leg numbness”. Mr Peach planned for an urgent CTA and for Mr Middleton to be kept nil by mouth.
65. Mr Middleton was nil by mouth from around 1230/1300. That reflects Mr Peach’s entry that Mr Middleton should be nil by mouth from 1230 and also the entry (referring to 1300) in the fluids chart for Mr Middleton.
66. Patient two was in theatre at 1410. That is consistent with the theatre log and the fact that the previous operation is recorded as having finished at 1355. The theatre log is a more reliable piece of evidence in my judgment than the retrospective entry referring to patient two going to theatre at “approximately 1430” (which in any event is not inconsistent with the theatre log entry which is likely to be more accurate and precise). Patient two’s surgery started (in the sense of “knife to skin”) at around 1517. It is not possible to specify the time when patient 2 was anaesthetised save to say that it was some time between 1410 and 1517.
67. The report of the CTA scan on Mr Middleton gives the time of examination as 1531 although there are other references to it being at 1536. The findings were that “the right common iliac artery has thrombosed and occluded since the scan 5 days earlier. The right common femoral vein has opacified via collaterals and there is three-vessel run off below the right knee.”. The report concluded that “appearances are consistent with aortitis and acute occlusion of the right common iliac artery stent.”
68. I accept the evidence of Mr Peach that the CTA was reported to him at about 1655. Mr Peach then phoned Mr Chong.
69. Mr Chong reviewed Mr Middleton at 1700. He noted the results of the CTA. Mr Chong also noted that there was a loss of sensation and reduced movement in the right leg. Mr Chong recorded that there was an urgent need for surgery. I accept the records of that examination as being accurate. There was no report of the leg being very cold or of severe pain. Had that been the position then it would have been noted.
70. The Hospital has one emergency operating theatre. Three emergency operations were booked ahead of Mr Middleton’s surgery on 18 November 2015.
 - a) The first had concluded by 1355.
 - b) The second took place between 1410 and 1757. This was the surgery on patient two. It was a laparoscopic small bowel resection for recurrent upper gastrointestinal bleeding.
 - c) The third took place between 1800 and 2325. This was a Hartmann’s procedure and formation of a stoma for a patient suffering with diverticular disease of the sigmoid colon, who had developed a diverticular perforation

and peritonitis. The parties accept that this patient was a more urgent case than that of Mr Middleton.

71. Mr Middleton was reviewed by Mr Cleanthis at 2210. At the time of Mr Cleanthis' examination, the right leg was hyperaesthetic (unusually sensitive to stimuli). There was full range of movement and flexion of the knee, ankle and dorsiflexion of toes. The capillary refill time was five to six seconds. Mr Cleanthis concluded that the limb was viable but threatened, and that revascularisation was required as soon as possible.
72. Surgery on patient three finished at 2325. Mr Middleton's medical records indicate that he was intubated, and an IV cannula was sited at 2336. He was in theatre at 2356 and "knife to skin" was at 0030 on 19 November 2015. Mr Middleton underwent a femoro-femoral crossover graft, which created a new route for blood to flow from the left side of the groin to the right, thereby restoring blood flow to the right leg.

The applicable legal principles

73. In determining the issues that arise in this case, there is no dispute as to the approach I am to take as a matter of law. Where treatment of a patient by a medical practitioner is in question, the test is as expressed by McNair J in *Bolam v Friern Hospital Management Committee* [1957] 1 W.L.R. 582 at p. 587 ("*the Bolam test*"):

"... [a medical practitioner] is not guilty of negligence if he has acted in accordance with a practice accepted as proper by a responsible body of medical men skilled in that particular art. Putting it the other way round, a man is not negligent, if he is acting in accordance with such a practice, merely because there is a body of opinion who would take a contrary view...."

74. At p. 589, McNair J summarised the question to be asked as being whether the practitioner had:

"... fallen below a standard of practice recognised as proper by a competent reasonable body of opinion?"

75. In *Maynard v West Midlands Regional Health Authority* [1984] 1 WLR 634 Lord Scarman gave guidance on the role of judges where there is a conflicting body of medical opinion. He held:

"... a judge's 'preference' for one body of distinguished professional opinion to another also professionally distinguished is not sufficient to establish negligence in a practitioner whose actions have received the seal of approval of those whose opinions, truthfully expressed, honestly held, were not preferred. If this was the real reason for the judge's finding, he erred in law even though elsewhere in his judgment he stated the law correctly. For in the realm of diagnosis and treatment negligence is not established by preferring one respectable body of professional opinion to another. Failure to exercise the ordinary skill of a doctor (in the appropriate speciality, if he be a specialist) is necessary." (p639)

76. In *Bolitho v City and Hackney Health Authority* [1998] A.C. 232 Lord Browne-Wilkinson highlighted the references in the *Bolam* test to “a responsible body of medical men” and “a competent reasonable body of medical opinion”, making clear that it would not be sufficient merely to show there was a genuine belief amongst experts that the practitioner had acted in accordance with respectable medical practice. At 242G Lord Browne-Wilkinson said:

“In my view, the court is not bound to hold that a defendant doctor escapes liability for negligent treatment or diagnosis just because he leads evidence from a number of medical experts who are genuinely of opinion that the defendant's treatment or diagnosis accorded with sound medical practice. In the Bolam case itself, McNair J. [1957] 1 W.L.R. 583, 587 stated that the defendant had to have acted in accordance with the practice accepted as proper by a “responsible body of medical men.” Later, at p. 588, he referred to “a standard of practice recognised as proper by a competent reasonable body of opinion.” Again, in the passage which I have cited from Maynard's case [1984] 1 W.L.R. 634, 639, Lord Scarman refers to a “respectable” body of professional opinion. The use of these adjectives - responsible, reasonable and respectable - all show that the court has to be satisfied that the exponents of the body of opinion relied upon can demonstrate that such opinion has a logical basis. In particular in cases involving, as they so often do, the weighing of risks against benefits, the judge before accepting a body of opinion as being responsible, reasonable or respectable, will need to be satisfied that, in forming their views, the experts have directed their minds to the question of comparative risks and benefits and have reached a defensible conclusion on the matter” (emphasis added).

77. At 243A Lord Browne-Wilkinson said:

“...In cases of diagnosis and treatment there are cases where, despite a body of professional opinion sanctioning the defendant's conduct, the defendant can properly be held liable for negligence (I am not here considering questions of disclosure of risk). In my judgment that is because, in some cases, it cannot be demonstrated to the judge's satisfaction that the body of opinion relied upon is reasonable or responsible. In the vast majority of cases the fact that distinguished experts in the field are of a particular opinion will demonstrate the reasonableness of that opinion. In particular, where there are questions of assessment of the relative risks and benefits of adopting a particular medical practice, a reasonable view necessarily presupposes that the relative risks and benefits have been weighed by the experts in forming their opinions. But if, in a rare case, it can be demonstrated that the professional opinion is not capable of withstanding logical analysis, the judge is entitled to hold that the body of opinion is not reasonable or responsible.

I emphasise that in my view it will very seldom be right for a judge to reach the conclusion that views genuinely held by a competent medical expert are unreasonable. The assessment of medical risks and benefits is a matter of clinical judgment which a judge would not normally be able to make without expert evidence. As the quotation from Lord Scarman makes clear, it would be

wrong to allow such assessment to deteriorate into seeking to persuade the judge to prefer one of two views both of which are capable of being logically supported. It is only where a judge can be satisfied that the body of expert opinion cannot be logically supported at all that such opinion will not provide the benchmark by reference to which the defendant's conduct falls to be assessed."

78. The Defendant relied on the judgment of Yip J in *Dalton v Southend University Hospital NHS Foundation Trust* [2019] EWHC 832 (QB) at [47]-[50] where Yip J summarised the approach to be taken in clinical negligence cases. It drew particular attention to [62] of the judgment where Yip J said, having considered the experts' competing interpretations of the relevant guidelines:

"However, my preferred interpretation of the guidelines is not in fact relevant. It is not for me to weigh up the competing views and decide which is 'right'. I am entirely satisfied that Professor Wishart genuinely takes the same view as Miss Gray [the treating clinician] as to the application of the guidelines. The issue for me then is whether that is unreasonable or incapable of withstanding logical analysis."

79. The key question for me in relation to breach of duty therefore is whether Mr Coleridge Smith's evidence withstands logical analysis.

Has the Claimant established a breach of duty?

80. The parties have framed the first breach of duty question as being "*whether Mr Middleton's symptoms indicated that he was suffering from severe ischaemia of the limb on 18 November 2015, such that urgent revascularisation was mandated*". In my judgment that issue needs to be broken down and addressed by reference to the Claimant's pleaded case and, in particular, the allegation that Mr Middleton should have been taken to theatre by 1500.

Did the Defendant fail to heed and/or to accord sufficient weight to the Claimant's symptoms of right leg ischaemia between 10:00 and 11:00 on 18 November 2015?

81. Although this was a pleaded allegation it was not seriously pursued at trial. In her report Professor Hands for the Claimant said that "*the diagnosis was made fairly promptly at 1230*". In re-examination, Professor Hands suggested that Mr Middleton should have been seen by a clinician before 1230. That was not raised in her reports or during the joint meeting with Mr Coleridge Smith, nor was it raised in cross-examination. The focus of the Claimant's case throughout the trial and in her closing submissions was instead on whether or not it was mandatory for Mr Middleton to be operated on within 6 hours of the onset of his symptoms of leg ischemia.
82. In my judgment the Claimant has not proved that there was failure of care by the Defendant in respect of this discrete allegation of negligence.

Was it mandatory for Mr Middleton to have surgery by 1500 on 18 November 2015?

83. The second and third particulars of negligence (set out above in paragraph 12) amount in effect to the allegation that Mr Middleton should have had surgery by 1500.
84. In my judgment the fact that Mr Middleton was not taken to surgery by 1500 does not constitute a failure of care for which the Defendant is liable. My reasons are as follows.
85. *First*, although Mr Middleton appeared to fall within category IIB of the Rutherford guidelines when he was examined at 1230 by Mr Peach, that did not mandate surgery within a particular time. Rutherford expressly states that “*temporal criteria (e.g., 6 to 12 of ischemia) are in not included in these reporting standards*”. Although that category was described as referring to cases of acute limb ischemia that were “*salvageable with immediate revascularisation*”, I accept Mr Coleridge Smith’s evidence as being logical where he emphasised that the Rutherford are guidelines rather than mandatory tram lines for clinical decision making.
86. As Mr Coleridge Smith explained (echoing the evidence of the three vascular surgeons who gave factual evidence for the Defendant) it was important to consider Mr Middleton’s complex history. The fact that he had a chronic history of vascular disease meant that the risks were less severe than a patient with acute limb ischaemia and no background history.
87. *Secondly and relatedly*, the Henke paper, relied upon by Professor Hands as demonstrating that Mr Middleton required surgery within 6 hours of the onset of his symptoms, is not directly applicable. At p.35 of his paper, Dr Henke says “[t]*raditionally, it is accepted that a patient without underlying vascular disease and an acute arterial blockage has approximately 6 hours for revascularisation before irreversible functional damage occurs; however, the time frame depends upon the degree of collateral perfusion in any given patient*”. Mr Middleton had a significant history of vascular disease which meant that he could withstand ischemia for longer because of the development of collaterals.
88. *Thirdly*, Mr Middleton’s case fell within the “*urgent*” category in the NCEPOD guidelines as requiring surgery within hours. As with the Rutherford paper, the NCEPOD guidelines are no more than guidelines. I accept, in that respect, Professor Hands’ evidence that within the “*urgent*” category there were varying degrees of urgency. However, that does not mean that surgery within 6 hours was mandatory in respect of Mr Middleton’s case. Where a patient falls within the range of “*urgent*” cases is a question of clinical judgment in an individual case.
89. *Fourthly*, it was reasonable for a CTA to be obtained before surgery commenced. Professor Hands, for the Claimant, did not suggest otherwise (although she stated that had she been the operating surgeon she would not have waited for a CTA). In fact, that CTA indicated that Mr Middleton did not fall squarely within category IIB of Rutherford, for the reasons explained

by Mr Coleridge Smith (referred to above at paragraph 54) which I accept. Furthermore, the capillary refill time at 2210 was 5-6 seconds which again demonstrated that blood was still flowing and that therefore arterial doppler signals would necessarily have been audible.

90. *Fifthly*, I accept Mr Coleridge Smith's evidence when he described Mr Middleton's leg at 1230 as being acutely ischemic but not so severely ischaemic as requiring surgery within 6 hours. The leg was not cold or very pale nor was Mr Middleton reporting excruciating pain. Nor was that the case when Mr Chong examined Mr Middleton at 1700.
91. *Sixthly*, I accept Mr Coleridge Smith's evidence that it would not have been reasonable for the vascular surgeons to have put an operating theatre "*on hold*", as suggested by Professor Hands. Such an approach would only be appropriate or necessary in exceptional cases as indicated both by Mr Coleridge Smith and the treating vascular surgeons. In my judgment it would be to impose a wholly unrealistic and unreasonable standard of care to require Mr Middleton's surgeons to have adopted such a course. It would ignore the realities of the competing demands placed on hospitals and surgeons seeking to prioritise scarce resources.
92. *Seventhly*, the Claimant's own evidence does not (at least consistently) support the argument that Mr Middleton should have been operated on by 1500. On the basis that there were some symptoms of acute ischemia at 1000 then that would take the 6-hour time frame to 1600. In any event at one point in the course of her cross-examination, Professor Hands gave as outside timings a CTA within 1.5 – 2 hours of Mr Peach's examination (i.e., by 1430) and then surgery within an hour afterwards (i.e., by 1530). Furthermore, the particulars of causation (approved by Professor Hands) refer to surgery taking place by 1700. Similarly, the Claimant's witness statement as well as Mr Middleton's statement refers to being told by his solicitors that surgery should have been no later than 1700.
93. *Eighthly*, as Mr Coleridge Smith said in his evidence, the surgery successfully restored blood flow to the right lower limb which was the sole aim of the surgery. That outcome supports his assessment that at 1230 (and indeed at 1700) Mr Middleton's right leg was not so severely ischaemic so as to require surgery within 6 hours.
94. *Ninthly and finally*, for all of the foregoing reasons, I have found Mr Coleridge Smith's evidence to be logical and to represent the views of a responsible and reasonable body of vascular surgeons weighing the risks in this case.

Was patient two a more urgent case than Mr Middleton?

95. Given my conclusions as to whether or not it was mandatory for Mr Middleton to be taken to surgery by 1500, this question does not arise for consideration. Having heard evidence on the issue however I can nonetheless set out my findings on it briefly.
96. For the purposes of the claim this issue breaks down into a number of different considerations.

- a) First, was the second patient a more urgent case than Mr Middleton? and
- b) Secondly, if so, what would the probable consequence of that have been, if (contrary to my findings above) it had been mandatory for Mr Middleton to have been operated on by 1500?
97. As to the first consideration, the evidence here was mixed. The evidence of the factual witnesses can I think be discounted as they were being asked to comment on no more than a snapshot of patient two's history (essentially the discharge summary), and all felt uncomfortable and unqualified in commenting on whether or not patient two was a more urgent case. Mr Coleridge Smith did accept that patient two could have been delayed if there was a more urgent case. Nonetheless that begs the question whether or not Mr Middleton was in fact a more urgent case.
98. In my judgment, the Claimant has not proved that Mr Middleton was a more urgent case than patient two. The evidence that I heard demonstrates that they were both urgent cases. They both fell within the NECPOD "*urgent*" category. Patient two had a history of bleeding and was deteriorating. The notes refer to the need for "*emergency*" surgery and whilst I accept that there was some basis for Professor Hands to characterise those references as referring to the listing classifications for surgery, both experts agreed that patient two required surgery within hours.
99. As to the second consideration, the probable consequences if in fact I had concluded that Mr Middleton was a more urgent case than patient two, here the Claimant faces significant hurdles, as counsel for the Claimant fairly accepted in her closing submissions. What the Claimant is arguing for, as she made clear in her post-trial submissions on patient two's records, is for the decision to operate on patient two to be "*reversed*", possibly even when patient two was in theatre.
100. I have already rejected the Claimant's argument, based on Professor Hands' evidence, that the operating theatre should have been kept "*on hold*" pending the results of the CTA. In my opinion, Mr Coleridge Smith's evidence that such a course of action was neither reasonable nor required was a view that clearly withstands logical analysis.
101. If the emergency theatre had not been placed on hold, then the sequence of events (on the Claimant's case) would have been that a CTA would have been obtained by 1400 -1430 (the two outer ranges given by Professor Hands in her evidence). Assuming that it would have taken about 15 minutes for the CT results to be downloaded, that would take the time frame to 1415 – 1445. That therefore would require Mr Middleton to have been taken to theatre shortly afterwards. However, by that stage patient two was in theatre. Even if he had not yet been anaesthetised, to reverse the decision to operate on him when he was already in theatre would only have occurred in exceptional circumstances such as a life-threatening emergency such as a ruptured aortic aneurysm (the example given by Mr Chong).

102. That scenario, which in my judgment is unrealistic, is in any event inconsistent with other aspects of the Claimant’s evidence. Professor Hands said that it would not have been safe to administer general anaesthesia until 4 hours after Mr Middleton had been nil by mouth. That would mean that a general anaesthetic could not have been administered until some time around 1630/1700. It is also inconsistent, as noted above, with the particulars of causation which indicate surgery by 1700 (reflected in the Claimant’s witness statement as well as in the statement of Mr Middleton).
103. It follows from the foregoing that, even if the Claimant had demonstrated that it was mandatory for Mr Middleton to be in surgery by 1500, she has not proved that Mr Middleton was a more urgent case than patient two such that patient two’s surgery should have been delayed. Nor has she demonstrated that, on the Claimant’s case, patient two’s surgery could have been delayed.
104. The Claimant has not argued that Mr Middleton’s case was more urgent than patient three and thus, although there are compendious particulars of negligence in d), e) and f), they add nothing to the issues already considered.

Causation: if Mr Middleton had been taken to theatre for surgery in place of patient two (i.e., at 14:10 on 18th November 2015) and undergone an urgent femoro-femoral cross-over graft, would this have restored blood supply to the lumbo-sacral plexus?

105. Given my conclusion that the Claimant has not proved that there has been a breach of duty of care, then this issue does not fall for determination. Nonetheless, having heard evidence on the issue, I will set out my conclusions, albeit much more briefly than would otherwise have been the case.
106. The Claimant rightly reminds me in her closing submissions that she bears the burden of proving breach of duty and of causation on the balance of probabilities. In my judgment, even if she had established that there had been a breach of duty, she would not have been able to prove causation to the requisite standard.
107. In my judgment, the Claimant’s evidence has not established that earlier reperfusion of the leg would have had the adventitious benefit of restoring blood supply to the LSP. As Professor Hands herself said, her explanation was “*conjecture*” and had no support in the literature. Nor was her explanation based on any cases she had treated. Furthermore, I bear in mind that aspects of Professor Hands’ evidence on causation (albeit expressed to be subject to the views of a neurologist) were abandoned by the Claimant before the trial: see above at paragraph 39.
108. Professor Hands said in the report from the Joint Experts meetings that although the purpose of a femoro-femoral cross over graft is to re-perfuse the leg “*in these circumstances I would expect the graft to contribute a significant blood flow to the pelvis as well as the leg given the collaterals which had already developed, and which would still be open. There is no reason why the graft should not provide ‘upstream’ as well as ‘downstream’ flow and this is seen in bypass grafts to the leg*”. She said that it “*would not be surprising*” if

the blood supply had to be drawn from just below the groin and from the deep circumflex iliac artery.

109. Mr Coleridge Smith disagreed, describing the hypothesis as “*fanciful*”. He said that he considered “*that the arterial occlusions which occurred on 18 November 2015 led to the occlusion of the last remaining vessel(s) supplying the lumbosacral plexus from the iliac arteries, the most likely mechanism being by embolisation of thrombus or atheroma, as suggested by Gloviczki. Even if blood flow had been restored earlier with a femoro-femoral graft, this would not have improved blood flow to the lumbosacral plexus because the last remaining artery was already blocked. I have noted above my scepticism that blood would flow proximally from the common femoral artery in the groin to the lumbosacral plexus deep in the pelvis.*”
110. In my judgment Mr Coleridge Smith’s criticisms of Professor Hands’ theory are justified, essentially for the reasons summarised in the Defendant’s written closing submissions at paragraph 38-46.

Disposal

111. It follows from the foregoing that the Claimant’s claim fails.