



Neutral Citation Number: [2019] EWHC 2502 (QB)

Case No: HQ17C03457

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: Thursday, 26th September 2019

Before :

MS ROWENA COLLINS RICE
(Sitting as a Deputy High Court Judge)

Between:

MR TAHIR YOUNAS

Claimant

- and -

DR MAJELLA OKEAHIALAM

Defendant

Mr Benjamin Bradley (instructed by Stewarts) for the **Claimant**
Ms Claire Toogood (instructed by Medical Protection Society) for the **Defendant**

Hearing dates: 26-28 June 2019

Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

MS ROWENA COLLINS RICE

Ms Collins Rice :

Introduction

1. Mr Tahir Younas was walking across a car park on 24th January 2014 when he suddenly lost consciousness and fell to the ground. It was a bad fall, and caused him a serious spinal cord injury.
2. He was 43. His faint was caused by an undiagnosed heart condition. It was eventually diagnosed as ‘intermittent atrioventricular (AV) block’. From time to time, the electrical signals within his heart were interrupted. That can interfere with the heartbeat, or stop it. The condition is treatable with a pacemaker, and he later had one fitted. The pacemaker supplies the missing interrupted signals when it needs to. If Mr Younas had had a pacemaker at the time, he would not have fainted and sustained his injury in the car park.
3. Mr Younas had been to his local GP practice in the previous June and September, with symptoms which the doctors did not connect with a possible heart condition. He went again on 18th October 2013, complaining of unusual breathlessness after exertion and what felt to him like an unusual heartbeat (palpitations), amongst other things. Dr Okeahialam sent him for an electrocardiogram (ECG) test. The ECG measures the electrical activity of the heart by placing sensor pads on the skin for a short while. He took the ECG test at the surgery on 21st October 2013, three days after his GP appointment. When the results came back to Dr Okeahialam that day, they showed some electrical abnormalities. The doctor now accepts that he should have referred Mr Younas to a hospital cardiology department for further investigation, as soon as the ECG result came back. But he did not.

Legal framework

4. This is Mr Younas’s claim for damages for personal injury, on the basis that the spinal cord injury was caused by Dr Okeahialam’s negligence in failing to refer him for investigation of the abnormal ECG. That negligence is admitted. The issue before me is causation.
5. Causation is a matter of fact and evidence. I was shown Mr Younas’s medical records, and received written and oral evidence from both Mr Younas and Dr Okeahialam. I also received written and oral evidence from expert cardiologists instructed by each side, some but not all of it agreed.

6. To establish legally relevant causation, I must be satisfied of a number of links in a possible chain connecting Dr Okeahialam's failure to refer with Mr Younas's fainting episode. I have to find that it is more probable than not both that Mr Younas's condition was already in existence, and that it would have been identified and treated by hospital cardiologists, within the period beginning shortly after 21st October 2013 and ending on 24th January 2014. I was taken to a small number of decided cases to help me apply the relevant legal tests to the specific facts of Mr Younas's case.

Facts and Evidence

(i) Mr Younas's underlying condition

7. The doctors accepted that Mr Younas had intermittent AV block by 24th January 2014. The question is whether he probably had it over the preceding three months. Obviously, it is only if he had the condition at the relevant time that the question arises of whether it could have been diagnosed and treated.
8. Of course, a major difficulty with knowing whether he had it at the time is that he was not sent to a cardiology department for tests, as he should have been. There are other difficulties also, to do with the nature of intermittent AV block itself. As its name suggests, the electrical interruptions within the heart occur episodically from time to time, not continuously. To generalise from the medical evidence, it is entirely possible for a person with the condition to go for some time with no interruptions – even weeks or months. It is also a condition which is not necessarily associated with any symptoms, at least to start with. Again, it is entirely possible for someone to have the condition for some time and know nothing about it, because the electrical interruptions have not produced any noticeable effect at all.
9. There are, however, some symptoms with which intermittent AV block is strongly associated. These are fainting (syncope) and near-fainting (pre-syncope). The expert doctors in this case agreed that, keeping clearly in mind that Mr Younas had the condition by January 2014, if he showed either of these symptoms in the preceding weeks and months, I could be satisfied on the balance of probability that he had the condition then also.
10. Before the episode which caused Mr Younas's injury, he had had no previous complete faint. His GP records do not unambiguously record a previous near-fainting episode either, on their face. There are, however, references to dizziness.

11. He saw a GP on 27th June 2013 about a long-standing knee problem. The doctor recorded then that Mr Younas also mentioned that, about three weeks before, he had started to experience dizziness on movement and standing, as well as nausea and headaches, and some neck pain. He then saw Dr Okeahialam on 25th September 2013. The note says that Mr Younas mentioned headaches and vertigo with nausea; his ears were examined and labyrinthitis was diagnosed. Labyrinthitis is a disease of the inner ear which can affect balance. He had his ears syringed the same day. He next saw Dr Okeahialam on 18th October 2013. On this occasion, as well as the matter of his ears, and soreness in his mouth, the records show that he mentioned heart palpitations and breathlessness on exertion. This was when he was sent for an ECG check. He saw Dr Okeahialam again on 28th November 2013. The notes mention only the neck pain (for which he was receiving physiotherapy) and a review of Mr Younas's diabetic condition.
12. The expert doctors agreed that all these symptoms – individually or together – are not on the face of it classic, or 'typical', symptoms of intermittent AV block. Some of them can be clearly ruled out as having nothing at all to do with his heart. Pain in the ears, mouth or neck are certainly not cardiac in origin, and nor are headaches or nausea as such. Palpitations, and breathlessness on exertion, may be associated with other heart conditions, but are not typical of intermittent AV block.
13. Dizziness, however, is ambiguous. It is capable of referring to a range of experiences and can have many causes. It is a typical symptom of intermittent AV block if, but only if, it amounts to a feeling of being about to faint (pre-syncope). It is not a typical symptom if it is brought on by movement, or is associated with headache and nausea. Vertigo, which is mentioned in the GP notes, is understood by doctors to signify a sense of a person's surroundings spinning round. They distinguish that from a feeling of being about to faint. Vertigo is not a typical symptom of intermittent AV block.
14. Dr Okeahialam did not have any further light to shed on the GP notes. Unsurprisingly, he could not remember any of these individual appointments. He said he recorded what seemed important at the time. That is what doctors are trained to do.
15. Mr Younas, however, now has something interesting to say about one of these episodes of dizziness. It was his evidence that, one day in August 2013, he was at a friend's flat, when he 'went dizzy' and had to hold on to the railing on the steps leading down from the flat to stop himself falling forwards. He said the feeling came and went in an instant. He said it was the first time he had had an episode of a slight faint. He said he did not attach particular significance to it at the time; it happened during a period in which he was experiencing other symptoms – headaches and nausea – which were subsequently diagnosed as labyrinthitis so he assumed it was connected to that. He also said it was this episode in particular which, when he described it to Dr Okeahialam at his appointment on the 25th September, was interpreted and noted as vertigo.

16. The expert doctors agreed that if Mr Younas's description of this event in August 2013 is taken at face value, then it probably describes a near-faint (pre-syncope) which would be a typical symptom of intermittent AV block. So if I accept Mr Younas's evidence about this, then I can be satisfied on a balance of probabilities that he had undiagnosed intermittent AV block from at least August 2013.
17. Ms Toogood, for the defence in this case, suggested a number of reasons for not accepting, or giving real weight to, this evidence. As to the correct approach, I was taken to the helpful summary of the relevant authorities set out in paragraphs 75 and 106 of *Taylor v Royal Chesterfield Hospital* [2019] EWHC 1048 (QB). These encourage me to focus on the contemporaneous professional clinical records as being inherently likely to be full and accurate, and to be wary of glossing them with subsequent witness evidence; and also to bear in mind the inherently fallible processes of human memory, especially given the inevitable effects on witnesses of the processes of civil litigation itself. This is useful general guidance, and I bear it fully in mind in considering the particular facts of this case.
18. Ms Toogood also suggested that there were particular reasons for treating Mr Younas's evidence with care. The first unambiguous indication we have of the August incident is not until Mr Younas's witness statement for these proceedings, dated 2nd October 2018, more than five years after the event. There are other examples of instances where his evidence does not tally precisely with contemporaneous medical records (and one where he says he had a conversation with Dr Okeahialam about his ECG result, of which there is no trace in the GP notes at all). I was also asked to view some later video surveillance footage and compare it with Mr Younas's own account of his symptoms at the time.
19. I must consider the particular circumstances of this case, in context and in the round, and with the assistance of the decided cases. I accept in the first place that Mr Younas's evidence about his symptoms is his best attempt to give an account of his physical experience in the weeks and months before his accident. That is not an easy or simple thing to do; however conscientiously it is attempted, it is a fallible human process. That being so, I must take a balanced approach. I can, and do, make some allowance in Mr Younas's favour for a degree of imperfection – imprecision or discrepancy – in his own account. That is consistent with someone trying their best to remember. I also accept that, as the case law directs me, I have to test Mr Younas's evidence for something more than his own conviction. I have to see whether his account of the August episode is, on balance, also objectively more plausible than not.
20. I start with, and must place real weight on, his GP records. The entry on 25th September, the first appointment which would have followed the August episode, records a history taken of "headaches and vertigo with nausea". That is not a clear reference to what Mr Younas described as happening to him in August. It is not, on the face of it, a reference to it at all. On the other hand, it is also apparent from the records that, whatever happened in August, Mr Younas was over a period of weeks

and months at this time suffering from dizzy spells that were not obviously to do with his heart (because they were associated with headache and nausea). All of this was diagnosed by Dr Okeahialam – rightly or wrongly, but not unreasonably, the experts suggest – as labyrinthitis. Vertigo is a classic symptom of labyrinthitis, and Dr Okeahialam examined and found problems with Mr Younas’s ears. That is the diagnostic prism through which the notes were made. It may also be the prism through which the history was taken. That is not inconsistent with the possibility that, on one occasion, something a little different happened.

21. It is not reasonable to expect a patient to insist on fine distinctions between ‘sick’ dizziness and ‘faint’ dizziness in reporting a series of symptoms over a number of weeks, especially if the sick episodes predominated. Nor is it reasonable to expect a GP, in a five word history note, to record any hint there may have been that one of these dizzy spells was something special or set apart from the others. If Mr Younas had had, and reported at this appointment, a brief faint dizziness in August, it is probable that that would have been hidden in the plain sight of the nauseous episodes. It is also probable that Mr Younas would have interpreted it that way himself, at the time and in the circumstances. He had no reason to doubt the labyrinthitis diagnosis he was given. It did not respond to treatment, but then it often does not.
22. It is inevitable that both Mr Younas, and the medical experts, would have had to reassess his earlier history in the light of his subsequent diagnosis of intermittent AV block. Only then would the relevance of any distinction between sick dizziness and faint dizziness have come to the fore. Mr Younas had to think back. He picked out only one episode as being distinctively faint. As he described it, it would have stuck in his mind – the particular location, the odd, momentary sense of being about to fall down stairs.
23. There is another piece of context. Mr Younas spent a few months in hospital after his accident receiving treatment for his spinal injury, when he was under constant medical supervision. His heart condition was still undiagnosed. There are a few more references to dizziness during this period, but no unambiguous identification of faintness with an obvious cardiac connection. The experts are now of the view, however, that a note on 3rd March 2014 that Mr Younas ‘went dizzy’ can probably be understood as a relevant episode of pre-syncope. He was discharged home in April 2014, but was still attending outpatient physiotherapy sessions. He was seen at home by a GP on 5th June. She recorded him as having described a near faint the previous day – a ‘head rush’ or ‘light headed spell’. Mr Younas connected this with the experience of his fall the previous January. His GP thought a cardiac check was indicated. He then experienced a second complete faint on 1st July 2014, was taken to hospital, and received his diagnosis of intermittent AV block. His pacemaker was fitted on 4th July.

24. This context is relevant to the period in the second half of 2013 to a limited, but potentially interesting extent. There is a consistent narrative of dizzy spells which are not typical of a cardiac condition, and may or may not have been related to intermittent AV block. There is also a pattern of documented fainting or near-fainting episodes which the experts agree are typical of it. These occurred on 24th January 2014, 3rd March 2014, 4th June 2014 and 1st July 2014. The experts suggest the latter two may have been symptoms of a single period of ‘intermittence’. A further initial episode in August 2013 would be consistent with that overall pattern.
25. My task is to consider possible early signs of an undiagnosed, intermittent, and often asymptomatic heart condition in a person with other health issues, some of the symptoms of which can themselves overlap to a degree with those of the condition in question. To be fair to Mr Younas, I have to undertake the exercise by putting his evidence in the context of his subsequent diagnosis, and of the limitations which must be acknowledged to what can in reality be expected of the human processes of memory, description and the taking and recording of medical histories. In all of these circumstances, I accept that Mr Younas’s account of a near-fainting episode in August 2013 is more likely than not to be an account of his subjective experience to which it is fair that I should give real weight. I accept that, for the reasons I have set out above, there are explanations for the lack of an unambiguous contemporaneous professional record of that episode which are more plausible than not, and which make it fair that I should resolve the ambiguities in his favour. I similarly accept that the lack of a more contemporaneous account of the episode by Mr Younas himself is, on balance, more plausibly than not explicable for reasons which do not detract from the weight I would otherwise give his evidence, and which are set out above. Finally, standing back from the detail, I conclude that I am able to add at least some weight to the plausibility of Mr Younas’s account from its apparent consistency with what, in hindsight, we know about the subsequent course of his condition.
26. My conclusion for these reasons is that it is more likely than not that Mr Younas experienced an episode of near-fainting (pre-syncope) in August 2013. The expert cardiologists agree that in these circumstances it is more probable than not that he had the condition at least from that time onwards. That is therefore my first finding of fact.

(ii) *The diagnostic process - general*

27. Some aspects of the diagnostic process that ought to have happened in this case are agreed. Dr Okeahialam should have noticed the abnormality in Mr Younas’s ECG result and referred him to a cardiology unit for further tests straight away. That is not because the ECG revealed his intermittent AV block – it did not. And it is not because the ECG otherwise indicated a medical emergency – it did not. It is because what it did reveal was an indication of electrical heart problems which needed to be put in the hands of specialists without delay, for them to assess in more detail. They were outside the professional field of GPs’ expertise.

28. The experts agreed that the ECG trace showed electrical problems in more than one part of Mr Younas's heart. It showed a condition called 'bifascicular block' which is asymptomatic in itself, but may also be associated with an increased risk of AV block. They also agreed that this ECG result, and a GP's report, would have been considered in the first place by a hospital cardiologist shortly after receipt. They disagree about exactly what would have happened next, in what order, and to what timetable. But they do agree that an appointment would have been made for Mr Younas to attend a cardiology outpatients' clinic, and that a cardiologist would have taken a thorough and detailed history of his symptoms, probing the ones which might have any possible connection with his heart. This would have built up a far more detailed and relevant picture than would have been evident from the GP notes.
29. They also agreed that, more likely than not, he would have been sent for another, more detailed, ECG test. This would be different from the brief snapshot test he had had at the GP clinic. This time he would have had a body-worn monitoring device fitted, to make a constant record of the electrical activity within his heart, for a period of at least 24 hours and possibly 72 hours. The experts disagreed about what this 'ambulatory ECG' is likely to have shown. But they did agree that if it had shown the signature pattern of intermittent AV block – interruption in the relevant electrical signals within Mr Younas's heart for a sequence of at least two heartbeats – then he would have had his diagnosis and he would probably have had his pacemaker fitted.
30. The points of disagreement are about how quickly any of this could have happened, and about what the new ECG would have revealed.

(iii) *The diagnostic process – urgency and timescales*

31. While it is agreed that the GP should have referred Mr Younas to a cardiology department urgently, that does not necessarily mean his case would have been dealt with urgently by the hospital. Dr Cripps, the expert cardiologist instructed for Mr Younas, thought it would, and Prof Myerson, the expert cardiologist instructed for the defence, did not.
32. There are some preliminary legal points to be dealt with before I consider the expert evidence on this point. The first is an objection made by Mr Bradley, on behalf of Mr Younas, that the proposition that his case would have been considered routine, rather than urgent, in the hospital was not properly pleaded and that it would not be right to allow it to affect my decision.
33. I accept that the pleading of this point in the defence relies to a degree on inference. But I am satisfied that the essential components are there – namely the propositions: first, that the GP record of Mr Younas's symptoms and the snapshot ECG result did not indicate intermittent AV block (or other urgent cardiac condition); and second, that his condition would not have been both diagnosed and treated before 24th January 2014. Timescales have always been important to this case. The experts considered

the question of urgency in their reports and orally, and Mr Bradley made full submissions on it. I am satisfied that Mr Younas has not been unfairly disadvantaged in this respect. A proper account of the whole of the hypothetical diagnostic process would have been recognised by both sides from the outset as a key issue. I note too that the urgency of the diagnostic stage is dealt with inferentially, rather than specifically, in the claim also. I reject this objection. The question of timetable falls to be considered in full, on the basis of the evidence and submissions I received.

34. Mr Bradley raised another legal issue. This goes to the correct approach I should take to the necessary reconstruction of the diagnostic process in this case, particularly as to timescales. He drew my attention to the decision of the Court of Appeal in *Keefe v Isle of Man Steam Packet Co* [2010] EWCA Civ 683, and the principle that “a defendant who has, in breach of duty, made it difficult or impossible for a claimant to adduce relevant evidence must run the risk of adverse factual findings.” (paragraph 19). In these circumstances, “the court should judge a claimant’s evidence benevolently and the defendant’s evidence critically.” (ibid).
35. It is clear, and Mr Bradley very fairly accepted, that this does not amount to a reversal of the burden of proof. It is also clear that *Keefe* was a case in which the breach of duty specifically related to a failure to make measurements (of noise levels). The claimant was directly, and wrongly, deprived of the very records which would have been the best, or only, evidence of the precise levels to which he had been exposed. The Court of Appeal in these circumstances took a ‘benevolent’ approach to such positive, if second-best, evidence as there was that it had been excessive, and found the claimant’s burden of proof discharged on that evidence.
36. Mr Bradley also took me to *JAH v Dr Matthew Burne & Ors* [2018] EWHC 3461 (QB). Martin Spencer J, at paragraph 64 of his judgment, noted the difficulty posed in medical negligence cases by the fact damages cannot be awarded simply for a ‘loss of a chance’ of a diagnosis, but require a court to determine, on a balance of probability, what in fact would have taken place but for the relevant breach of duty. He continued:

“In my judgment, in resolving issues of detail such as how long it would have taken for investigations to be carried out and when a competent vascular surgeon would have appreciated that anticoagulation was the appropriate treatment, the court should err in favour of the claimant where it is the defendant’s negligence which deprives the court of the best evidence and causes the need to delve into this hypothetical world.”

He cited support for that approach from *Keefe* (paragraph 65 of his judgment).

37. Ms Toogood acknowledged the relevance of ‘benevolence’ in the present case to the extent, for example, of finding that, if something probably happened within a particular range of days or weeks, then if it would favour Mr Younas to find it happened at the beginning rather than at the end of that range, I should do so. But she put it to me that the burden remained on him to establish the probability of that range (and the event) in the first place.
38. Applying proper ‘claimant benevolence’ without reversing the burden of proof requires care. I need to approach resolving the differences in the expert evidence about the triage of Mr Younas’s referral with appropriate caution.
39. The experts agreed that it would have been ‘very unlikely’ for Mr Younas’s case to have reached the cardiology department of his local hospital on the date of the ECG itself, 21st October 2013. It usually takes a GP a day or two to review the ECG and prepare a letter. Applying claimant benevolence, I proceed on the basis that it would probably have been sent and received electronically, and considered by a cardiologist, over the next day or so.
40. There is a measure of agreement about the likely content of the referral. There would have been a GP referral letter, drawing as seemed relevant on the patient’s records, and the ECG result. The records did not of course identify the August near-faint episode on their face. It is likely that the referral letter would mention the reported history of “palpitation and SOB [shortage of breath] on exertion” on 18th October, which had prompted the ECG test in the first place. An assiduous GP would also have looked back at the histories taken of “3 weeks ago onset dizziness on movement and standing” on 27th June, and of “headaches and vertigo with nausea” on 25th September and had another think about their potential relevance to a cardiac condition. The referral letter should properly be taken to have mentioned all possibly relevant, as well as probably relevant, symptoms and these histories mentioning dizziness or vertigo would also more likely than not have been referred.
41. I am grateful to both Dr Cripps and Prof Myerson for their assistance in understanding what a cardiologist would have done next. They are both eminent and experienced practitioners, and I start by making no general distinction or preference between them on the basis of their expertise.
42. Prof Myerson’s evidence was that the job of the cardiologist would be to review the material referred and decide what priority to give it. Putting himself in that place, he considered the indication of bifascicular block important in its own right; but that the vast majority of people, even with bifascicular block, who present with palpitations, breathlessness or dizziness – alone or in combination – will ultimately not have any cardiac diagnosis made at all. These latter are common symptoms with many, more obvious, explanations than cardiac. Particularly because Mr Younas’s symptoms were associated with non-cardiac features (headaches, nausea and entirely irrelevant matters), they were unlikely to stand out to a cardiologist. Without a recognisable

history of fainting or near-fainting, this referral would not have been fast-tracked. Mr Younas would have been given a routine appointment date to see a cardiologist in person and have his detailed history taken. It would also probably be only at that stage that he would have been directed to have the extended (ambulatory) ECG test.

43. Dr Cripps's evidence was that the bifascicular block was itself not something commonly seen in cardiology. Together with the other symptoms in the GP records – the presenting symptoms of palpitations and breathlessness, but also the dizziness, especially because it was both evident over a period of weeks and months and also apparently episodic – it pointed to urgent handling. None of those symptoms was typical of intermittent AV block, but they were consistent with it. The palpitations and breathlessness were new. A triaging cardiologist would not prioritise only cases with classic signs of a serious condition, but would be alert to what could be underlying less specific or typical symptoms.
44. I must reconcile, or choose between, these accounts. In doing so, I remind myself at the outset that the benefit of hindsight must at this stage be excluded.
45. I also remind myself that the burden of proof is on the claimant's side to establish that it is more probable than not that the hospital diagnostic and treatment process (assuming it identified Mr Younas's intermittent AV block) would have happened by 24th January 2014. The process itself has a number of component parts: triage, history-taking appointment, extended ECG test, conclusions and treatment. It is for the claimant to propose an account of all this which makes his case and is founded and sustainable on the best evidence available.
46. I must also bear in mind that it is the fault of the defendant that we are having to undertake this exercise at all, and it would be unfair for the defence to seek to capitalise on the absence of the very evidential audit trail of which the claimant has been wrongly deprived. The claimant starts at a disadvantage inflicted by the defendant; it is right both that that disadvantage should not be unfairly exacerbated, and also that a degree of minimisation of the disadvantage should be looked for, to level things up as fairly as possible. That is what 'claimant benevolence' tries to achieve.
47. I cannot, however, simply assume that the diagnostic process, or any part of it, would have happened as quickly as the claimant needs it to in order to win his case. Nor can I disregard relevant evidence that is not in his favour, even in this hypothetical space. I have to build up the picture as best I can on the materials before me. Where I am satisfied that the evidence points to a decision within a range, but cannot otherwise discriminate within that range, then I should incline to the point in the range favouring the claimant. But it is the claimant's obligation to satisfy me as to that range. I must give him the benefit of the doubt, but he must persuade me to doubt in the first place. These are fine distinctions, but real ones, in conducting a difficult exercise fairly.

48. The first choice I have to make about the expert evidence relates to the weight which the triaging cardiologist would probably have given to fact that the GP referral would have been on an urgent basis. Dr Cripps suggested it would be a brave – or even “*very unwise*” – cardiologist who “*cancelled*” the urgency of the GP referral, and that a cardiologist “*would have adhered to the urgency of the referral*”. I understood him to suggest by that that the cardiologist would have attached real weight to the urgency of the GP referral in its own right. On that point, I am more persuaded by Prof Myerson’s evidence that a cardiologist would have to form an independent view of the urgency of a case, from a specialist perspective, and that the urgency of a GP referral is not a reliable guide to the urgency of a cardiac consultation. His evidence was that GPs can be very uncomfortable about managing cardiac symptoms; bifascicular block is not commonly encountered; and GPs can be understandably keen to get a case to the specialist experts quickly. He said that around half of referrals to him are marked as urgent, but only around 5% are treated by him as such. I conclude that the triaging cardiologist would not have been predisposed to treat the case as urgent simply because it was identified as such by the referring GP. The cardiologist would have triaged on the basis of the medical evidence in its own right, viewed, for the first time, through the lens of cardiac specialism.
49. As explained to me, the process of cardiology triage is essentially a professional judgment about priority. Priority is a relative concept, in a world of inevitably limited resources. The highest priority will go to patients with what are, to a cardiologist, the symptoms pointing most clearly to the most urgent and serious conditions. Prof Myerson gave an example of a patient referred with three blackouts in the previous month and bifascicular block on an ECG – clearly someone who would have been prioritised and fast-tracked to a full consultation and tests. A triaging cardiologist would have a working sense of the clearly urgent, and would react to particular combinations of warning signals in allocating patients to, or near, the top of the priority list. In the absence of something to make a referred patient stand out, they would go forward on a routine basis.
50. Dr Cripps thought that Mr Younas’s details would stand out at triage. Without the benefit of hindsight, or of a detailed, probing cardiac history, I am not persuaded that they would. His ECG result was clearly important and needed investigating. But Dr Cripps agreed that by itself it was not an emergency. He agreed that the symptoms in the GP records were not typical of more serious electrical disorders. They were non-specific, associated with non-cardiac symptoms, and had been connected by the GP with unrelated conditions. It is hard to see what would have made Mr Younas’s case stand out at triage. His GP-recorded symptoms are common, and even with the ECG result would usually produce no cardiac diagnosis. Prof Myerson said that if this referral were handled as a high priority case then triage would be failing as a practical system of prioritisation. It would not be distinguishing the urgent from the rest; most cases would be ‘priority’ – so the top priorities would not get the special fast-tracking they needed. I was persuaded by Prof Myerson’s evidence. I am not persuaded that

Mr Younas's case would probably have been singled out as more urgent than other cardiac referrals.

51. Unless a case stands out as urgent, the date on which a patient will be seen by a cardiologist depends in reality on the practicalities of a hospital waiting list. The evidence of Dr Cripps was that if Mr Younas's case had been considered urgent on triage, he would have been seen within a month, but not otherwise. The experts were asked to look at some snapshot data of non-urgent cardiology waiting times at Mr Younas's local hospital as a guide to what a reasonable waiting time would be and the average came out at around 2 months. It was put to Prof Myerson that a range of one to two months was reasonable; he considered that to be a 'relatively short' range even today, let alone in 2013/14 when the situation was generally worse in terms of access times to specialist consultations, and that 2-3 months was more realistic.
52. I accept that anything up to a month is urgent timetabling, and two months with a range of a week or two either side should be taken as standard. If Mr Younas were given the benefit of the shortest probable wait for a non-urgent appointment, that might come out at six weeks. On that assumption, he could have had a cardiologist's consultation in the first week of December 2013.
53. The experts agree that an ambulatory ECG test would have been directed. Dr Cripps thought that the test could have been booked at triage, but that view seems closely tied to his instinct that the case was being fast-tracked at that stage. On balance, I consider it more likely that, as Prof Myerson suggested, the cardiologist would have directed the ECG after seeing Mr Younas and probing his history and symptoms.
54. Again, there is a question about how long it would have taken to arrange and fit up the ECG test. The experts agreed, given my finding, that the August near-fainting episode would have been elicited at the cardiology consultation, and that Mr Younas's other symptoms would have been reviewed for potential relevance to intermittent AV block or another cardiac condition of concern. His family history would also have raised a concern: Mr Younas's father had had to have a pacemaker at the early age of 55. The experts agreed in all these circumstances that a more urgent than usual test would have been ordered; it would have taken place in under a month. Prof Myerson suggested a range of 2-4 weeks. I accept that range. If claimant benevolence were applied to produce the most accelerated timetable within the range, then the test could have been undertaken two weeks after the consultation, that is, in the third week of December 2013.
55. The experts agreed that a test of either 24 or 72 hours would have been undertaken; more probably the longer period if the August episode had been elicited at the consultation. Either could probably have been completed, on this sort of timetable, before Christmas 2013.

56. This would have been followed by a report and review process, taking a further few days. Making some, but not undue, allowance for the Christmas period, this would allow any indication of intermittent AV block on the ECG result to have been picked up before the end of 2013 or around the turn of the year.
57. The experts agreed that, if intermittent AV block had been diagnosed on the basis of the result of the ambulatory ECG test, then Mr Younas would probably have been referred for insertion of a pacemaker. A waiting list of 1-4 weeks would be the working assumption for that, and again I accept that range. Applying claimant benevolence would allow for him, on the basis of the shortest delay within that range, to be admitted to hospital for his pacemaker to be fitted in the first or second full week of January 2014.
58. Implantation of a pacemaker takes a week or more. For the claimant to succeed on timetable, however, he does not have to establish that but for the defendant's negligence he would have been crossing that car park on 24th January with his pacemaker in place. He just has to establish that he would probably not have been there without one. Even if he were still in hospital, or at home recovering, on 24th January, he avoids the unprotected fall which caused his injury.
59. I am persuaded on this analysis that it is more likely than not that treatment for insertion of Mr Younas's pacemaker would have begun before the 24th January 2014. That is sufficient for him to succeed in establishing this link in the possible chain of causation. However, for the reasons set out below, this is not the end of resolving the internal detail of the timetable. There is more to the issue than minimum delay at every stage. Timetable has to be looked at again, and claimant benevolence recalibrated, from an additional perspective.

(iv) The diagnostic process – detection of intermittent AV block by ambulatory ECG

60. The key question on which the case finally turns is whether I can be satisfied that Mr Younas's condition would probably have been detected by this diagnostic process, or whether further tests would have more probably been necessary. If further tests had been required, they could not plausibly have been undertaken in time for a diagnosis and treatment before 24th January 2014. It was the experts' consensus that if, but only if, the ECG test which would probably have been ordered had shown the minimum signature pattern of intermittent AV block, then the causal chain is complete.
61. That minimum signature pattern is a sequence of two or more heartbeats in which the key electrical signals are interrupted – a matter of 3 seconds' worth of irregularity or more.

62. The experts agreed, and indeed logic suggests, that the longer the test is run on a patient with intermittent AV block, the more likely it is that the pattern will occur and be detected. In the claimant's favour, therefore, I proceed on the basis that the test would have been run at the top end of the probable range, that is, for 72 hours.
63. The experts also agreed that, in a time-limited test, a patient with very frequent symptoms is, logically, more likely to have the condition causing them detected. A patient with intermittent AV block who is experiencing fainting symptoms most days is almost certain to have the signature pattern showing up on a three day ECG. That is simply because the ECG is documenting the cause of those same symptoms in real time. The reverse is not, however, true. The condition may be wholly or mainly asymptomatic day to day. It is not possible to deduce anything definite about the frequency of the intermittent interruptions in a patient with the condition *simply* from the absence of symptoms during the test period. Symptoms are associated with the length of the period of interruption rather than the frequency of interruptions.
64. I had limited evidence about Mr Younas's actual heart condition to help me with this issue. I was not, for example, taken by either expert to the detail of material relating to his eventual diagnosis, or to information about later ECG tests, as a guide to what might have been revealed in December 2013 or January 2014. His eventual diagnosis was, of course, made in the immediate context of a hospital admission quickly following a fainting episode. The experts did agree that a test taken shortly before a full faint caused by AV block was likely to show a similar result to one taken shortly after. Signature intermittence, in other words, if confirmed by clear symptoms, was also more likely to occur detectably in proximity to those symptoms.
65. The experts disagreed about whether a 72 hour ECG would, more probably than not, have revealed Mr Younas's intermittent AV block. Dr Cripps was firmly of the view that it would; Prof Myerson thought it would not. They agreed that there were no studies or professional literature supporting Dr Cripps's view as a general proposition. Prof Myerson identified some literature which he considered supported his own view, but Dr Cripps disputed that the studies in question did in fact do so.
66. I begin by reminding myself that the exercise on which I am embarked is necessarily a legal, rather than a medical, analysis. There is a burden of proof to be discharged by the claimant. The legal premise of the exercise is that Mr Younas did have intermittent AV block at the relevant time; that is my finding of fact. The legal question is whether it is more likely than not that the ECG would have revealed that fact. That is not the same as an exercise in medical diagnosis of an undiagnosed condition, as I expand on below.
67. Mr Bradley put forward a number of propositions which he said should guide me in my approach to this question in these circumstances: first, that Prof Myerson's literature did not in fact support his view; second, that even if it did, general statistical analysis of the sort it dealt with was of limited assistance in resolving

individual cases such as this; third, that ‘claimant benevolence’ should guide me towards being satisfied that the ECG would have identified Mr Younas’s condition; fourth, that if it came down simply to preferring one expert or another, I should prefer Dr Cripps, including on the basis that he considered Mr Younas’s specific history and symptoms to support his view.

68. Taking the literature first, there is a certain inevitability in the fact that none of it can be said to be directly on point, since the present exercise is a legally-constructed hypothetical focused on a specific case. In any event, data are hardly likely to be found illustrating patterns over time in the hearts of patients with confirmed but untreated intermittent AV block. When AV block is diagnosed, it is treated. It is potentially fatal.
69. Mr Bradley and Dr Cripps, from their respective professional disciplines, gave me a number of other reasons to distinguish the literature from the present case, to do with the limitations of the study samples and methodology, and their difference from Mr Younas’s precise details so far as we know or can infer them. Mr Bradley also took me to the legal textbooks and authorities (including paragraphs 205 and 206 of the judgment of the Supreme Court in *Sienkiewicz v Greif (UK) Ltd* [2011] 2 AC 229) about the need for care in applying statistical and epidemiological data to try and reach conclusions about individual cases.
70. I accept all of these limitations and warnings. There are good reasons to distinguish Mr Younas’s case from the studies I was taken to. None of them reads directly across to an individual who had had bifascicular block for at least three months and intermittent AV block for at least 5 months, was in proximity at the time of a 72-hour ambulatory ECG test to an episode of syncope caused by AV block, and was destined to recurrence of episodes of syncope and pre-syncope caused by AV block. These are distinctively limiting features.
71. Nevertheless, I do not close my mind to the possibility that at least some data in the medical literature may cast light on my task, if only in testing the weight which it would be right to place on the expert evidence before me. What I do find in Prof Myerson’s literature, put at its lowest, are some unsurprising pieces of general context. The intermittent or transient nature of the AV block can make ECG documentation of it “a challenge” or “a significant problem” in undiagnosed patients. The condition can take a long time – months or years – to diagnose, even in patients with typical symptoms and/or other electrical disorders of the heart such as bifascicular block. There can be long intervals between initial symptoms and final diagnosis. Ambulatory ECG monitoring is a standard first line of inquiry in investigating typical symptoms, and will be conclusive if positive, but further tests, including invasive tests, may well be necessary to achieve diagnosis.

72. I am entirely persuaded by Prof Myerson's careful evidence that, in clinical practice, the diagnosis of intermittent AV block can be difficult and elusive. Doing so in reliance on a single 72 hour ambulatory ECG test would depend on the chance that the pattern of consecutive interrupted signals will occur in that period. That is not guaranteed even in patients with typical symptoms; syncope, and even more so pre-syncope, can have other causes even in patients ultimately diagnosed with intermittent AV block. In the generality of asymptomatic undiagnosed patients, the frequency of interrupted signals may be hardly more than a matter of guesswork, and the probability therefore of diagnosis of an individual by ECG largely unknowable.
73. I am not persuaded by Mr Bradley's submissions that the *Keefe* authorities can properly be relied on, without more, to reach a conclusion that if the electrical signals within Mr Younas's heart *could* have been interrupted within any given 72 hour period in December 2013 or January 2014 then I should find that they *were*. This is not simply a question of measurement or timing, or indeed of second-best evidence. It is a question of the occurrence of an underlying event of which there is neither any other contemporary means of verification nor any general indication of probability. That is a matter on which a burden of proof needs to be discharged by the claimant with reference to his particular circumstances and without the assistance of presumptions. To be fair to Mr Bradley, he did accept that his proposition was moot. And although I do not accept that 'claimant benevolence' can absolve the claimant of his burden of proof about this, nor do I think it irrelevant.
74. That is because, while Prof Myerson seems to me to give a persuasive account of the realities of diagnosing intermittent AV block in clinical practice, that is not precisely the exercise we are undertaking in this case. Unlike a doctor, I am not asking myself whether a 72 hour ECG would show whether a patient had intermittent AV block. I am asking myself whether a patient who had intermittent AV block was more likely to have a normal, or a signature abnormal, 72 hour ECG. And not just any patient with intermittent AV block, but Mr Younas himself, with his history and his future firmly in view. I am dealing with a situation which is both necessarily hypothetical and necessarily specific to an individual and his circumstances. It is also one in which hindsight is not only relevant, but important. It is these points of perspective which, it seems to me, must ultimately resolve the evidence of the experts.
75. On the finding that I have made, I must proceed on the basis that Mr Younas had intermittent AV block while undergoing the 72 hour ECG test. The question is not the unspecific one of whether he would have been so diagnosed (much less whether any other patient would have been so diagnosed) but the specific one of whether during those 72 hours Mr Younas's heart would have shown an active intermittent, albeit non-symptomatic, signature interruption. If it would, *more likely than not*, then for the purposes of this case he would have had his diagnosis and treatment.

76. The experts concurred that, at least to some extent, the likelihood of there being other interruptions is higher around the time of an active, symptomatic episode. Prof Myerson, for example, said that *“if you are more symptomatic you have both more frequent episodes of longer pauses [in electrical conductivity], which cause the symptoms, and also more frequent episodes of the shorter pauses that may not cause the symptoms, hence the link between the two”*. He also thought the events of June and July 2014 indicated a sequence of connected episodes – both symptomatic and, at the very point of diagnosis by ECG, asymptomatic. The intermittence, in other words, tends to be episodic. Dr Cripps was even clearer about this. He consistently emphasised the relevance of the closeness of the hypothetical test to the symptomatic event (24th January 2014). He was confident of the likelihood that a patient with both bifascicular, and intermittent AV, block, who was in close proximity to a symptom of full-blown syncope, would show at least a short signature episode of the AV block over a period of 72 – or even 24 – hours. A normal ECG, with no sign of the underlying AV block, would be unlikely.
77. I accept this evidence of the relevance of the proximity of the test to the 24th January. That is why I need to look again at the internal detail of the diagnostic timetable. ‘Claimant benevolence’ directs me to the most favourable timetable for the claimant, within the probable ranges I have accepted for each stage of the hospital process. On the *most* accelerated timetable within those probable ranges, and which is outlined above, Mr Younas could have been taking a 72 hour ECG test as early as before Christmas 2013 – a month before he was destined to have his faint on the 24th January. That hypothesis does not, however, give the claimant the full benefit of the doubt once the relevance of proximity is factored in.
78. I proceed on the basis therefore that the right approach is to place the timing of the 72 hour ECG as near to the 24th January as is consistent with: the nature and sequence of the hospital procedures as I have found them; the timetable ranges I have accepted; and the benefit of the doubt I have already given to the claimant to conclude that treatment would probably have begun in time. That would mean the test being undertaken in the days between two weeks, and a week and a half, before Mr Younas’s full faint. That is relatively close.
79. As already noted, the experts agreed that no distinction was to be drawn, for the purposes of identifying periods of active intermittence, between the times immediately before and immediately after a known active event. They said, for example, that the symptomatic episodes of 4th June and 1st July 2014, and the evidence on which the diagnosis was made very quickly afterwards, were likely to have been linked as a connected period of active intermittence. Dr Cripps’s emphatic evidence was that, on the basis that Mr Younas in fact already had intermittent AV block, the closeness of the test period to Mr Younas’s fainting event, together with bifascicular block since at least the previous October, made it more probable than not that he would have been in a period of active intermittence during the time of the

ECG test, and that that would therefore have been detectable by it. An ECG showing no sign at all of the underlying AV block shortly after, or before, such an event would be relatively unlikely.

80. I accept that conclusion; indeed I put the timing of the test considerably closer to the 24th January event than Dr Cripps would have done on his own reconstruction of the timetable. Further, I observe in passing that diagnosis and pacemaker fitting was completed in July 2014 within three days of Mr Younas's admission to hospital with syncope, evidently on an emergency basis. If a similar response were allowed in January to an equally conclusive ECG result, then that would allow for the test to be positioned even more closely, and relevantly, to the event of the 24th itself.
81. I am persuaded on the balance of the expert evidence that, if a signature AV block pattern would certainly have been shown on 24th January itself, it is more likely than not that it would have been shown over a 72 hour period around ten days earlier (or even closer). Or, to put it another way, I conclude it to be less, rather than more, likely that the ambulatory ECG would have given no clear sign at all of the underlying intermittent AV block at that stage.
82. I do not read the literature to which I was taken as persuasive to the contrary. Nor do I consider my conclusion inconsistent with Prof Myerson's scepticism, which I am content to share, that intermittent AV block can in general be hard to diagnose, even in symptomatic patients. I am engaged on a different exercise. I am no longer treating Mr Younas as 'undiagnosed', with the degree of uncertainty about ultimate diagnosis that goes with that. My finding of legal (as opposed to clinical diagnostic) fact – that is, on the balance of probabilities only – that Mr Younas did indeed have intermittent AV block, and my finding of legal (as opposed to clinical practical) fact – that is, on the balance of probabilities and assisted by claimant benevolence – that his test was close to his event of full-blown symptomatic intermittence – have to be factored in.
83. These are inevitably artificialities. They must, however, properly and fairly affect my conclusion. Even on those terms, my conclusion, while disposing of the matter in law, is of course consistent with a real degree of doubt or improbability about the demonstrability of intermittent AV block in Mr Younas's heart in mid-January 2014. A doctor in real life does not diagnose this condition and fit a pacemaker on a series of fine balances of probability nor of course with the benefit of hindsight available. That is, however, the basis on which legal causation must be judged in the hypothetical world into which we have all been compelled.

Conclusion

84. For the reasons given above, my conclusion is that the negligence of Dr Okeahialam, in failing to refer an abnormal ECG result to a hospital cardiology department, caused Mr Younas to collapse on 24th January 2014 because of undiagnosed and untreated intermittent AV block, and to sustain serious injury as a direct result.

85. I repeat my thanks to both specialists for their lucid and thoughtful testimony, and I thank Mr Younas and Dr Okeahialam for attending court to help me, in what were of course difficult circumstances for them. Finally, I am most grateful to Ms Toogood and Mr Bradley, who each presented a highly articulate and attractive case on behalf of their client, and by whom I was considerably assisted in a difficult task.