Case No: HQ14X00186

Neutral Citation Number: [2015] EWHC 18 (QB)
IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: Thursday, 15th January 2015

Before :

HHJ COE QC SITTING AS A JUDGE OF THE HIGH COURT

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Between :

MICHELLE JANE HAYES	**Claimant**
- and -	
SOUTH EAST COAST AMBULANCE SERVICE NHS FOUNDATION TRUST	**Defendant**

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Mr Nigel Spencer Ley (instructed by **Thomson Snell and Passmore**) for the Claimant
Miss Claire Toogood (instructed by **Kennedys**) for the Defendant

Hearing dates: 13th, 14th, 15th, 16th, and 17th October 2014

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Judgment

Her Honour Judge Coe QC:

1. This is a claim for damages brought on behalf of the Claimant Mrs Michelle Hayes and her three sons as well as on behalf of the estate of her former husband Mr Paul Hayes. The claim is made pursuant to the Law Reform (Miscellaneous Provisions) Act 1934 (as amended) and the Fatal Accidents Act 1976 (as amended).

1. Mr and Mrs Hayes met in 1997 and married in 1998. They had three sons Harry, born 7th May 1999 and twins Nicholas and Anthony born 5th July 2001. In the early part of 2003 Mrs Hayes discovered that her husband had been having an affair and they separated. Her husband moved out of the house in about August or September 2003 and went to live with his mother and father. He subsequently bought his mother and father's home and continued to live there. Mr and Mrs Hayes divorced in 2004. However, they remained amicable and on friendly terms and Mr Hayes remained very much involved in the lives of his sons.

2. It is the Claimant’s case that having always been on friendly terms she and Mr Hayes became closer from about 2006 and began to rekindle their relationship. They went out together not just for the children. They had begun to discuss their future together with an intention to live together again and remarry. They had resumed a sexual relationship in September 2008 but were taking things slowly and had not revealed their reconciliation to their families. They intended kept their sexual relationship from the children although it seems they were found out.

3. The claim is brought on the premise that they would have reconciled and remarried and that Mrs Hayes would have been once again a dependent of her husband for the rest of their lives.

4. Tragically Mr Hayes died on 28th December 2008 at the age of 41 (having been born on the 20th May 1967).

5. It is the Claimant's case that her former husband's death was caused by the negligence of the Defendant. All matters: breach of duty, causation and quantum are in issue.

6. The deceased suffered from asthma which is described as brittle asthma. In his Opening Submissions Counsel for the Claimant has helpfully set out a summary of the nature of the condition of asthma. I do not intend to repeat it in full. However Mr Hayes' brittle asthma (Type 2) meant that he suffered severe asthma attacks. In his case they were fairly infrequent but came on rapidly. In a severe asthma attack unless effective treatment is given a patient like Mr Hayes may suffer respiratory arrest preventing delivery of oxygen to the brain and causing loss of consciousness. Such a severe asthma attack can be fatal. Untreated respiratory arrest can cause cardiac arrest. Mr Hayes had on occasion required hospital admission for treatment of his asthma and once his wife had had to perform CPR.

7. On 28th December 2008 having been out playing golf with his brother in the daytime, the deceased returned home and went upstairs for a shower. He suffered an asthma attack. He was able to call for his mother to ring for an ambulance which she did via 999. The ambulance arrived promptly with two ambulance technicians, Rosalind Taylor and Miss Fowler. The deceased was

noted to be unable to speak, was having difficulty in breathing and was in obvious distress. He was given nebulised salbutamol and oxygen. He confirmed that he felt better. The crew then embarked on getting him to the ambulance, planning to assist him down the stairs to a carrying chair and then to the ambulance so he could be taken to hospital.

8. As they approached the top of the stairs the deceased became unresponsive, appeared to have a seizure and suffered respiratory arrest and then cardiac arrest. Attempts were made to resuscitate him which were unsuccessful. A paramedic was summoned. CPR continued until about an hour later when resuscitation was abandoned and the deceased was declared dead.

9. The Particulars of Claim is in the bundle at page 3 and the defence is in the bundle at page 13. It is right to say that as this claim has progressed and in particular as the expert evidence has become available neither party's initially pleaded case fully reflects their position at trial.

10. On behalf of the Claimant it is contended that there were a series of failures by the ambulance crew both in their assessment of the deceased's condition and the treatment which they provided. It is alleged that they failed to undertake and record basic observations both when they arrived and after the first administration of salbutamol. It is argued that had they carried out those observations the crew would have appreciated the severity of the deceased's condition and that there had been no objective improvement in his condition before the attempt to move him downstairs. The Claimant contends that in breach of the relevant guidelines, the crew failed to administer ipratropium and further failed to consider that adrenaline might be necessary and have it

ready for administration. It is alleged that more than one dose of salbutamol should have been given. It is contended that when the deceased went into respiratory arrest they failed to administer adrenaline in breach of the same guidelines and that there was a window of opportunity of about five minutes between the respiratory arrest and the cardiac arrest during which the deceased's life could have been saved by the administration of adrenaline.

11. The experts disagree as to whether or not the measures contended for by the Claimant would have affected the outcome.

12. The Defendant denies any breach of duty by the crew and says that in any event the outcome was inevitable and none of the measures either individually or in combination would have prevented the deceased's death. The Defendant contends that the Claimant's case is based on an analysis made with the benefit of hindsight and not the picture as it was presented to the crew at the time.

13. In terms of quantum the Defendant disputes the Claimant's contention that she and Mr Hayes would have reconciled and that that reconciliation would have been a long-term one. The Claimant contends that there is a human rights argument in the denial of a bereavement award to minor children and seeks a declaration in that regard.

14. It is the Claimant's case that had the deceased received all of the treatment and not just the adrenaline he would have survived. In terms of causation the Claimant says that the options open to me to find are either, firstly, that but for the breaches of duty the deceased would have survived or, secondly, that he would have died in any event or, thirdly, that it is impossible to say one way or

another and that therefore following the authority of Bailey v Ministry of Defence [2009] 1 WLR 1052, the Claimant only has to establish a material contribution to the death.

15. I heard evidence from the Claimant Michelle Jane Hayes. Her statement is at page 114 in the bundle. She sets out the history of the deceased's brittle asthma which began when he was aged about 21, apparently following a car accident. She had taken him to hospital once because of an asthma attack and was aware that he had had about three other attacks which had required him to attend hospital. At hospital he would be put on a nebuliser and then sent home. The asthma attacks were resolved in this way. In 2001 he had such a severe attack that she had to carry out CPR until the ambulance crew arrived.

16. She describes her involvement on the night of Mr Hayes' death. She knew that Mr Hayes' mother had phoned for an ambulance and that she had phoned his brother David who had come round. David rang the Claimant and said that Mr Hayes' heart was not going and he was not breathing and the ambulance crew did not know what to do and he asked if she would go around. The Claimant is a midwife and trained nurse. She got her parents to look after the children and then drove around. By the time she arrived the paramedic was there as well as the ambulance technicians. She confirmed that the stairs were narrow. Mr Hayes was unconscious at the top of the stairs on the landing and was being bagged with a face mask and being given cardiac massage.

17. Mrs Hayes has some concerns about the technique of those who were working on Mr Hayes in terms of bagging, intubation and insertion of a cannula.

18. At paragraph 11 of her statement Mrs Hayes sets out the information she received from Mr Hayes' brother, David. He told her that on arrival the ambulance crew had given Mr Hayes a nebuliser. At that stage he was sitting on the bed. Mr Hayes said he felt a little bit better and the ambulance crew decided to walk him down the stairs to take him to hospital. They got him to the top of the stairs when he started banging on the wall as his asthma had come back and was so bad he could not speak or breathe. The technicians told David that they thought Mr Hayes was having a fit. He was not breathing, but the technicians appeared to say that he was "okay" and they were trying to wake him up. Some of the information from Mr Hayes' brother David given to Mrs Hayes is, it seems, inaccurate since he suggests that they got him partway down the stairs and then had to take him back up.

19. Mrs Hayes then sets out the details of her relationship with Mr Hayes at the time. After separation Mr Hayes was living about a mile away at his parents' home (which he had bought). He continued to live there with his mother after his father died. He saw the children regularly, taking them to football training and matches at the weekend. He drove to away matches and took them on holiday every year. He saw them regularly and paid maintenance in the sum of £151 week through the Child Support Agency. He bought the boys additional items such as new trainers and football subscriptions etc. He paid for holidays. The Claimant told me that she started to wear her wedding ring again in about October 2008 and they had begun to think about their future in terms of getting remarried. Mrs Hayes is firmly of the view that they would have got back together again on a permanent basis and that their relationship would have been a success the second time around. They planned to live together in

the matrimonial home and work to retirement age (65) and then retire together. Mrs Hayes works as a midwife and Mr Hayes was a clerk at a London barristers chambers.

20. She was cross-examined about the relationship. She acknowledged that they were taking matters slowly and that they would not have been living together from the date of Mr Hayes' death but she thought they probably would have been from about New Year 2009. She conceded that the time spent by Mr Hayes in taking the boys to football training and matches would have been about three hours at the weekend and couple of hours during the week and that he would have continued that as long as he was needed. Her eldest son no longer plays football and the twins now play badminton instead. When she found out about the affair, Mrs Hayes said the deceased did not want to divorce her but she was determined to go through with it in particular because she had always said if he were caught out she would divorce him. She said that she regretted divorcing him, but did not know how to stop the proceedings. Mr Hayes said he wanted to come back and they decided that they would get back together but would take it slowly. Throughout the whole of this period of time she remained in touch with his family. When he was found out Mr Hayes brought the affair to an end and had not been seeing anybody else in the meanwhile.

21. Mrs Hayes acknowledges that she had no way of knowing if Mr Hayes would have had another affair but said that that she might have ignored if it had happened again and would not be concerned if she did not know what was

happening. She expressed the view that it was up to her and Mr Hayes to decide what they would do and they had decided to make a go of it.

22. I heard from the Claimant's lay witness, Janina Vincent whose statement is at p.119 in the bundle. She and the Claimant have been good friends for 15 years and see each other regularly. In the months leading up to Paul Hayes' death the Claimant had spoken to Ms Vincent on a weekly basis about their reconciliation. The Claimant was excited about it and told her that they were getting on well. She was aware that they had resumed an intimate relationship. She was aware that Mr Hayes was visiting the Claimant quite regularly just to spend time together and she was present on a few of those occasions. She last saw the deceased on Christmas Eve when he came to the Claimant's house where Ms Vincent was present. They were openly displaying affection and talking about going back to having Christmas as a family as they had done before their separation. Ms Vincent was aware that they were close to revealing their reconciliation to their family and friends. She had no doubt that they were involved with each other and were building the way for a full reconciliation as a couple and a family.

23. She was cross-examined and said that she and the Claimant had discussed Mr Hayes' unfaithfulness at the time that it had happened and she knew that the Claimant was upset in consequence. She said the deceased was looking forward to telling friends and family about their reconciliation.

24. The key documents in this case as I find are the patient report form ("PRF" at p.532 in the bundle) and the full and condensed versions of the UK Ambulance Service Clinical Practice Guidelines (2006) issued by the Joint

Royal Colleges Ambulance Liaison Committee("JRCALC Guidelines") at p. 356 and p.375a

25. I heard from the Defendant's lay witness Rosalind Taylor, the clinical team leader with the Defendant who was part of the two-person crew who attended Mr Hayes on the night he died. Her statement is at p.121 in the bundle. They arrived at the address at 21.32 and her crewmate took in the primary response bag. Ms Taylor was the driver. They were aware that they were attending a suspected asthma attack. The primary response bag contains amongst other things salbutamol, oxygen, oxygen masks, ipratropium and a peak flow meter. They found Mr Hayes sitting upright on a bed upstairs. He was unable to speak although he was conscious. He could gesticulate that he was having difficulty breathing. Ms Taylor sets out that it was standard practice to write vital signs on the back of the latex surgical glove being worn and transfer the information at a later time. She said that this was what was done in this case. Mr Hayes was in obvious distress. Ms Taylor cannot remember whether or not he was cyanosed. He was not confused. Although this was an asthma attack and he was conscious, the crew assessed his Glasgow Coma Score at 12. The reduced level relates simply to his inability to speak. Oxygen and salbutamol were administered via a nebuliser mask and Ms Taylor in her statement says that Mr Hayes' condition began to improve and "this indicated and showed that his asthma attack was not life-threatening". She says that Mr Hayes was able to talk to them. She said that he verbally confirmed that he felt better. She says he was able to breathe and speak. She cannot recall whether his breathing was still laboured. Thus she says they became satisfied that the asthma was not life-threatening and they could move him towards the stairs. The plan was for

him to walk to the top of the stairs, descend the stairs on his bottom and then transfer him to the ambulance in a carry chair. Ms Taylor specifically sets out that because Mr Hayes had improved on oxygen and salbutamol alone they did not consider at that stage ipratropium was necessary. Mr Hayes walked to the top of the stairs and then collapsed and suffered a seizure leading to respiratory arrest and then cardiac arrest. She says that ipratropium was not provided at this stage because they were then concerned to stop the respiratory arrest. Life support was commenced. The defibrillator was obtained from the ambulance and paramedic assistance was called.

26. Ms Taylor says that adrenaline was not administered because it was not indicated because they were not dealing with "life-threatening asthma with failing ventilation and continued deterioration despite nebuliser therapy". She says that they did not complete any of the appropriate paperwork until after they finished the resuscitation attempts.

27. Ms Taylor began by saying that she had only had access to the PRF and her memory when she made her statement but then conceded that she must have checked the JRCALC guidelines. She said that the Green Book was their training manual. Although she began by saying that the guidelines are just guidelines she eventually conceded that they had to adhere to those guidelines. The crew knew that this was a suspected asthma attack and a “category A" call which required attendance within eight minutes. She acknowledged that a category A call would indicate an actual or potentially life-threatening situation. The crew carry the condensed JRCALC although there was initially some apparent conflict in the evidence about the access to adrenaline, Ms

Taylor accepted that she was able to administer adrenaline in these circumstances and could have done so. She says that it was Miss Kelly Fowler who wrote the vital signs down on a glove but she did not know what was recorded. By reference to the PRF there is no record of whether or not Mr Hayes condition was life-threatening. There is no record of any observation of his pulse, his blood pressure or his oxygen levels. The PRF at page 532 only records one sequence of observations at 21.33. The record shows the Glasgow Coma Score and a blood sugar reading. Ms Taylor acknowledged that no other vital signs were recorded and she did not know what other vital signs were taken. It was her view that Mr Hayes' condition was not life-threatening. If she had considered it was life-threatening she would have given adrenaline and ipratropium. The guidelines indicate that if it is life-threatening then adrenaline should be given. Pursuant to the guidelines (page 373) Ms Taylor accepted that ipratropium should have been added.

28. Despite the absence of a second set of observations it was Ms Taylor's evidence that she believed that a second set would have been taken. That is not referred to in her statement. She said that a peak flow reading could not been done when they arrived because Mr Hayes was not capable of blowing into a tube. She said that a peak flow reading would not have helped her. Although she could not speak for Miss Fowler, had she taken any measurements she would have written them down. She said that they assessed as appearing better and he confirmed he was feeling better. He could talk. He felt able to walk and was in less distress. He said that he started to feel better. It was Ms Taylor's evidence that if the first observations and then the second observations had shown no improvement they would have continued with the treatment giving

him more salbutamol and ipratropium if it had not been given earlier and then potentially given him adrenaline before moving him. It was in light of their assessment of an improvement that they had a "dynamic" plan to move him downstairs on his bottom. She said that this involved the least effort in circumstances of a larger gentleman and narrow stairs. In fact by reference to the records it is apparent that Mr Hayes was not a large gentleman, if anything he was on the smaller side of average. Ms Taylor confirmed that the treatment plan is to stabilise the patient, monitor them to ensure they stay stable and transfer them to the hospital. She said that a peak flow reading is not something that was commonly used and she would use it rarely. She was aware of the warning in the guidelines (page 360) against being lulled into a false sense of security in an asthma patient where there is an initial improvement after salbutamol nebulisation.

29. When Mr Hayes collapsed one crew member started basic life support and the other went to get the defibrillator which would take less than a minute. She immediately called for a paramedic. She described a very rapid series of events when Mr Hayes collapsed and then had a seizure. She said that she had not seen a patient fit before in an asthma attack although she had seen patients have seizures. She said that it was not necessarily life-threatening. Mr Hayes thus collapsed on the floor and suffered respiratory arrest and then went into cardiac arrest, but she could not say how long it was between the cardiac and respiratory arrest. She considered as per the guidelines (page 375f and 375g) it was important to get Mr Hayes to hospital as quickly as possible and that is what they were working on. At the time it was uncommon for technicians to

carry portable pulse oximeters, but there would have been one as part of the 12 lead life pack in the ambulance

30. Miss Fowler was with Miss Taylor as the second crew member had done her basic training and was in her training year with Miss Taylor. The crew would work a 12 hour shift each doing 6 hours as the driver and 6 hours as the lead clinician at incidents. In the call to Mr Hayes, Miss Fowler was the lead clinician and Miss Taylor was the driver. Miss Fowler is no longer employed by the Defendant and has not responded to requests in relation to this litigation and so I have no evidence from her.

31. I heard evidence from four expert witnesses. Dr Moore on behalf on the Claimant and Dr Scott on behalf of the Defendants gave written and oral opinions on the issues of the standard of care and breach of duty. Professor Empey and Professor Barnes gave their opinions as to causation.

32. Dr Fiona Moore is the medical director for the London Ambulance Service NHS Trust and a consultant in emergency medicine. Her report dated 26th March 2013 is at page 129. She provided answers to some questions which are at page 144, a further report dated 20th July 2014 which is at page 149 and a joint statement with Dr Scott dated 7th October 2013 which is at page 197. Following some questions from me some further written answers were provided by Dr Moore and Dr Scott which were inserted into the bundle at page 200b and c.

33. Dr Moore summarises Mr Hayes' history of brittle asthma and the treatment required. She notes from the records that Mr Hayes was poorly compliant with steroid medication between the years 1992 and 2002. She sets out the history

of the events immediately before his death and concludes that he suffered what sounds like a hypoxic fit at the top of the stairs. From the records she notes that there is no reading for pulse rate, respiratory rate, oxygen saturation levels or blood pressure. Oxygen was given and a salbutamol nebuliser started at 21.33. Cardiac arrest apparently began at 21.40. Paramedic assistance was sought at 21.43 and again at 21.54. The paramedic arrived at 22.06. It is noted that Mr Hayes' asthma attack had begun 10 minutes before the crew's arrival.

34. Dr Moore notes from the records that Mr Hayes complied with his preventive therapy from 2002 and had no further severe attacks until 28th December 2008. His deterioration on the evening of his death was very rapid. The verbal score of 2 on the Glasgow Coma Scale suggests an acute severe or possibly life-threatening asthma attack. It is difficult to differentiate because of the absence of other vital relevant observations. Dr Moore accepts that it might have been impossible to record a peak expiratory flow, but that should have been recorded, too. She refers to the guidelines which emphasise the importance of a rapid primary survey and assessment for life-threatening features. They set out the need to transport the patient rapidly to the hospital giving high flow oxygen and nebulised salbutamol en route. The section also covers the use of both ipratropium and intramuscular adrenaline in severe and life-threatening asthma. The administration of salbutamol was in Dr Moore's view appropriate management. She accepts that assisting him downstairs was reasonable although any physical activity would have increased his oxygen requirements. She concludes that Mr Hayes was in fact profoundly hypoxic as evidenced by the fact that he had a fit and then went into asystolic cardiac arrest. However because no oxygen saturation levels were recorded by the

crew, they are unlikely to have appreciated that. When he went into cardiac arrest she acknowledges that the outlook was dire.

35. In terms of the treatment of the asthma, however, Dr Moore considers that given that Mr Hayes was unable to speak in full sentences when the crew arrived and therefore had at best acute severe asthma she would have expected the crew in accordance with the guidelines to have added ipratropium to the initial salbutamol nebuliser. Further they should have given a further nebuliser as soon as first one was finishing and should have considered the use of intramuscular adrenaline which should have been administered as soon as either it became apparent that he was not responded to the bronchodilator therapy or he showed evidence of further deterioration.

36. She concludes that the standard of care provided fell below acceptable standards. The crew failed to undertake and document basic observations and on a balance of probability underestimated the severity of the deceased's condition. Continuous nebulised salbutamol was not provided and ipratropium and intramuscular adrenaline were not given.

37. When she answered the questions from the Defendants she confirmed that she had by then seen the statement of Rosalind Taylor and that did not alter her opinion. She confirmed that it would be standard and acceptable practice to undertake and record two sets of observations and would have expected the minimum of a pulse rate, a respiratory rate, oxygen saturation and Glasgow Coma Score to have been taken on two occasions. Ideally blood pressure readings would also be available. She says that the standard of documentation is unacceptable. She confirms that the JRCALC guidelines are used in the

training of ambulance technicians and are guidelines for both technicians and paramedics. She considers that the guidelines reflect the appropriate standard of care and not the guidance in the "Green Book" which was outdated by 2008. In her view Mr Hayes demonstrated evidence of acute severe/life-threatening asthma and ipratropium was indicated along with salbutamol in the management of such cases and was available to the crew. The apparent improvement in Mr Hayes' condition was not corroborated by any documentary evidence of improvement in any other vital signs.

38. In her letter of 20th July 2014 she considers the issue of how long it would have taken to draw up and administer adrenaline and she agrees that it is unlikely that the crew would have had any pre-drawn drugs. However she considers that they should have reassessed Mr Hayes' improvement by formally assessing objective signs and had they done so they would have realised that further treatment was required but they failed to appreciate how unwell he was. She believes that the latest that adrenaline should have been given was at the point when Mr Hayes started to seize. Had they undertaken an adequate assessment after the first nebuliser she feels that they would have appreciated the need for further treatment in the form of salbutamol and adrenaline. Identifying the adrenaline and preparing it for injection and administering it would have taken between one and two minutes to complete in her view.

39. By the time of the joint statement of Dr Moore and Dr Scott they had agreed that the JRCALC guidelines reflect the standard of care to be expected of the crew. They agreed that the inability to speak was indicative of the fact that Mr

Hayes was suffering from a severe/life-threatening asthma attack. No basic observations were recorded. There was an improvement in the deceased's condition in that he said he felt better after the administration of the salbutamol. The doctors agreed that whilst the crew recognised that Mr Hayes was suffering from an exacerbation of his asthma they failed to understand the severity of his condition and the implications of this. They considered that the guidelines are not clear, but Dr Moore felt that adhering to the guidelines implies the use of adrenaline by technicians, subcutaneously or intramuscularly. They agreed that there was no indication for an immediate injection of adrenaline on arrival by the crew. They agreed that an injection of adrenaline should have been given as soon as there was any evidence of deterioration which would probably have been the point that the deceased collapsed and started to seize. Dr Scott felt that the drug might have taken some time to draw up and administer whereas Dr Moore felt that the crew should have anticipated deterioration and been prepared to intervene. The guidelines indicate that ipratropium should be given either with the first dose or after 5 to 10 minutes if no clinical improvement is shown and it was not administered earlier. This suggests there are two opportunities to give ipratropium. The drug protocol is clearer and suggests that it should be given concurrent with the first salbutamol nebuliser in acute severe/life-threatening asthma. Dr Scott feels that giving salbutamol alone was reasonable in the first nebuliser whereas Dr Moore feels that it would have been appropriate to add ipratropium to the first salbutamol nebuliser. They agree that the guidelines indicate that continuous nebulised salbutamol should be considered after a second dose of the same if there is no clinical improvement after 5 to 10

minutes. Given the initial improvement Dr Scott feels it was reasonable to continue to observe the patient after the first dose of salbutamol whereas Dr Moore feels that given the initial severity of his condition, continuous salbutamol is a safe and reasonable treatment decision. Dr Moore also feels, although Dr Scott disagrees, that had the crew appreciated the severity of Mr Hayes' condition a paramedic should have been summoned sooner. They agree that once Mr Hayes was in cardiac arrest the crew were in a very difficult position, but in any event the chance of survival was remote. Dr Scott feels that it was reasonable to attempt resuscitation at the scene whereas Dr Moore feels that getting Mr Hayes to hospital was his only possible chance of survival.

40. Following some questions from me there is a further set of written answers from Dr Moore and Dr Scott. On the assumption that an oxygen saturation level had been recorded and found to be life-threatening (i.e. below 92%) and have remained below 92% after treatment with oxygen and salbutamol, Dr Scott feels that given the clinical improvement the technicians would have moved the patient to hospital whereas Dr Moore feels that in light of the potentially life-threatening oxygen saturation level further treatment should have been administered at the scene in the form of salbutamol and ipratropium and then the oxygen level rechecked. Dr Scott feels that with levels below 92% it was reasonable to move him to hospital because the guidelines indicate that a patient with life-threatening asthma should be moved to hospital rapidly whereas Dr Moore feels that the risk of moving a patient with oxygen saturation levels indicating life-threatening asthma was significant. Therefore it would have been reasonable to have administered further treatment prior to

moving the deceased and thereby potentially exacerbating his condition. Dr Scott does not feel that it was mandatory to administer further treatment at the scene whereas Dr Moore feels that further salbutamol together with ipratropium should have been given and if there were still low saturation levels adrenaline should have been given and continuous salbutamol nebulisation continued. Dr Scott feels that Mr Hayes should have been moved to hospital at the first clinical improvement whereas Dr Moore felt that he should be moved only when his oxygen saturation levels were above 92% or all available treatment had been given.

41. When she gave evidence Dr Moore told me that the JRCALC guidelines are created by a national group. Some is evidence-based, but in some situations there is limited evidence because it is based on information before a patient goes to hospital. It is still incorporated. The guidelines are changed on a regular basis. She gave some examples of this.

42. She considered that the crew should have undertaken the basic observations referred to in her report. If Mr Hayes was too breathless for a peak expiratory flow rate they could have listened to his chest. If it could not be done, that should have been recorded. She said it would be a breach of duty if none of these observations were taken. She acknowledged that it would be normal practice in 2008 to write on a glove and transfer the details later, but a failure to transcribe the details later would have been a breach of duty.

43. Mr Hayes was likely to have had an elevated pulse and respiratory rate or bradycardia which would be a serious sign. His pulse oximetry would have been below 92% and his peak flow below 33% if it could have been done.

There would have been very little movement in his chest because he was unable to speak. The peak flow reading should have been attempted after the salbutamol was given. If it could not have been achieved then, then that would have been an indication that there had not been an improvement.

44. She agreed that there should have been a plan to get him to hospital, but the period of time between getting from the bed to the ambulance would be a period of potential instability. She considered that in the absence of any other objective evidence of improvement, the crew relied on the fact that he said he felt better. Allowing him to walk would have increased his oxygen consumption. She considered that it was unlikely that a repeat of any observations would have shown a significant improvement and so further treatment should have been given. If there had been no improvement after a second nebuliser then the administration of adrenaline should have been considered. It is her view that the deceased suffered an hypoxic fit because the oxygen levels in his blood dropped so he was not getting enough oxygen to his brain creating a seizure due to the additional oxygen required when walking.

45. She agreed that getting the patient to hospital is a priority, but emphasised that he had to get to hospital alive. Although ambulance technicians have less training than paramedics, asthma is a very common emergency condition. She remained critical of the lack of recorded information on the PRF and felt that after a patient had died, especially of asthma, there was even more reason to ensure that the document was completed properly.

46. Dr Moore did not feel it was clear from the evidence whether Mr Hayes was able to speak in sentences or only single words. If he could speak in sentences,

it would have been an objective measurement that the respiratory rate was improving. She told me that it would be mandatory to measure the oxygen saturation levels and if it could only be done by taking the life pack in then that is what they should have done. Improvement could have been measured by the oxygen saturation levels and listening to his chest to see if he was moving more air. He could have been nebulised continuously as he was going down the stairs. She feels that on a balance of probabilities the deceased suffered an hypoxic fit. He would not have been exhausted or confused because he had not had the attack that long. Ordinarily people who have asthma attacks which require hospital treatment have been suffering from them for some time.

47. There is a risk of deterioration following some initial improvement and the significant risk of deterioration here occurred albeit unusually when he became unresponsive and had a seizure. She acknowledged that to progress from not being able to speak to being able to speak is an objective sign, but given the risk of deterioration, further observations should have been made.

48. She felt that he was unlikely to have suffered a primary cardiac event which caused him to collapse. She gave her opinion that it is quite clear from the drug protocol and the guidelines that Mr Hayes fulfilled the protocol for having adrenaline. She considered that a reasonable standard of care for a technician in these circumstances would be to administer adrenaline. She said that no reasonably competent technician would have failed to give adrenaline in this situation. The purpose of the adrenaline would be to get the lungs to work and then for the ventilation to be re-stabilised. When Mr Hayes

collapsed the order of priority should have been to commence the bag valve mask, give the adrenaline and then call for help. If an asthmatic patient goes into cardiac arrest it will be asystolic she told me and therefore would need the defibrillator, but adrenaline would be higher up the list. While he was in respiratory arrest, given he had a circulation, adrenaline could have been administered and the use of adrenaline in asthma is in the technician's training.

49. Essentially Dr Moore did not think that the crew's assessment of improvement was based on sufficient evidence. She agreed that it was a very difficult situation, but sudden death from asthma is within the knowledge of an ambulance technician. She said that cyanosis would be a clinical sign of low oxygen. Cyanosis would suggest oxygen levels below 75%. The crew should have ensured that the oxygen saturation level was above 95% before they moved him or stopped treatment.

50. She confirmed that the answer to question 2 on page 197 was both her view and Dr Scott's view when they prepared the joint statement. She considered that if one of the tests for life-threatening asthma was satisfied then the asthma should be categorised as life-threatening. If Mr Hayes could not complete the peak flow test then it would have been less than 33% which would be life-threatening and he should not have been moved before there had been some real improvement. In 2008 technicians would have been expected to manage an emergency like this. She agreed that the guidelines were slightly more flexible than the protocols and that the drug protocol should be followed to the letter. She went on to say that if a technician departed from the guidelines that

should be for a good reason and any such reason should be recorded in the notes.

51. When she was recalled about the further questions she confirmed her view that if the oxygen saturation levels were below 92% the patient should be treated before being taken to hospital even though the guidelines say "load and go".. Even though there are additional treatments available in hospital therefore Dr Moore felt it was important to realise that he had to get there safely. Mr Hayes was not out of the life-threatening category when they started to move him and that would have increased his oxygen consumption. He had to be stabilised before he could be moved. She considered that the vast majority of technicians would have thought that the risk of moving Mr Hayes with an oxygen saturation of less than 92% outweighed the risk of 10 minutes of additional treatment. She considered that it would not have been reasonable in this situation not to have followed the guidelines. His hypoxia could have been addressed. It was just not safe to move him because he was so hypoxic. She felt that moving him destabilised him critically.

52. The Defendant called Dr Scott who confirmed his report at page 166 and the document at page 182 as well as the joint statement with Dr Moore at page 197 and page 200a. Dr Scott was in general practice for more than 20 years and has been involved with the ambulance services for over 30 years providing pre-hospital care as an immediate care doctor with an emergency medical charity. He was clinical director of the East Anglian Ambulance NHS Trust and then of the East of England Ambulance Service NHS Trust until

2009. He is currently a clinical tutor and continues to provide some ad hoc medical cover.

53. He sets out a summary of the events of the evening of Mr Hayes died. He details the nature of asthma and in particular brittle asthma in which symptoms can come on suddenly and become very severe rapidly. There are over 2,000 asthma deaths in the UK with most occurring before admission to hospital. He confirms that a Category A call as in this case is regarded as actually or potentially life-threatening and the response time mandated is eight minutes.

54. Despite the history of no severe attack since 2002 Dr Scott sets out that Mr Hayes was admitted to hospital more frequently and his symptoms came on more quickly in the years leading up to his death. He records the history leading up to the 999 call and the arrival of the ambulance at 21.32, the asthma attack having started some 10 minutes before. The history is taken from the PRF. The patient was unable to speak. Only blood sugar and the Glasgow Coma Score are recorded on the PRF. There is no record of any other examination, in particular no chest examination. There is no record of pulse rate, respiratory rate, oximetry, PEFR or blood pressure. It is recorded that Mr Hayes started to feel better and nebulisation is described as having a good effect although no observations reported to indicate any change other than that he began to feel better and had begun to speak.

55. There is no recorded description of the fit that Mr Hayes had when he became unresponsive, but Dr Scott assumes it was a grand mal fit. The call to ambulance control was made at 21.43. It is recorded that CPR was commenced at 21.40.

56. Dr Scott sets out his conclusions by reference to the Particulars of Claim. The first criticism of the failure to dispatch a paramedic immediately is no longer pursued. He concludes that the paramedic was dispatched appropriately quickly when requested. He says that he has not seen any information to suggest that the crew did not appreciate the nature and severity of Mr Hayes condition. He would not expect them to be aware of the implications of brittle asthma. He feels it is understandable that in this situation the crew did not transfer observations to the PRF because it was a traumatic time for them. He says that just because the PRF was not completed does not mean that the observations were not undertaken. He does say that he cannot comment however on the assessment that may have taken place beyond the notes on the PRF and the statement given by Rosalind Taylor.

57. He does not think it was necessary to call for a paramedic sooner. This is his view because of the fact that there was positive improvement because Mr Hayes began to speak more easily.

58. At the time that he wrote his report he did not have the Trust's scope of practice (when he gave his evidence he told me that he had not asked for the scope of practice document) and so was not then aware as he is now that the scope of practice allows an ambulance technician to use adrenaline in certain situations. In his report therefore he had no criticism of the failure to administer adrenaline since he felt that the technicians would not have been permitted to do so.

59. He says that in 2008 there was no provision for a technician to provide back to back continuing nebulisation and having noted some improvement there was

no indication for a further dose of salbutamol. Although ipratropium was available, Dr Scott said that it was appropriate to start with a dose of salbutamol.

60. Again Dr Scott refers to reliance on the Green Book rather than the JRCALC guidelines because he was not aware of the Trust's practice at the time. In his report he emphasises the need to reassess the patient after the first dose of salbutamol.

61. He concluded that there were insufficient clinical details to make an assessment of the severity of the asthma attack and that the lack of information does not mean that a more detailed assessment was not undertaken both before and after the first dose of salbutamol. He notes that the cause of death has been given as acute asthma and there is no mention of any other condition. It is his view that the documentation indicates that there was a significant improvement in Mr Hayes condition before he was moved to the ambulance. Thus he concludes that the two ambulance technicians have acted reasonably apart from the failure adequately to complete the PRF.

62. At page 182 he sets out in a letter that having noted the improvement in Mr Hayes the crew would have packed up their bags ready to go to hospital and that there would not have been any time when the seizure occurred for the ambulance crew to have opened up their response bags and to have found the adrenaline prepared it and administered it before the cardiac arrest.

63. I have set out above the content of the joint statement between Dr Scott and Dr Moore. Clearly by this time Dr Scott agreed that the guidelines applied. He agreed that the crew's findings were indicative of a severe/life-threatening

asthma attack. He agreed that the crew recognised that the deceased was suffering from an exacerbation of his asthma but failed to understand the severity of his condition and the implications of this. This agreement at page 198 is a change of view on the part of Dr Scott from his original report.

64. He agreed that the guidelines for the management of life-threatening asthma in adults advise that an injection of adrenaline should only be considered where the patient does not respond to oxygen nebuliser therapy and where deterioration was continuing despite oxygen and continuous nebulised salbutamol. There was an agreement that there was no indication for the immediate injection of adrenaline but that an injection of adrenaline should have been given as soon as there was any evidence of deterioration. Again Dr Scott felt that it might have taken some time to draw up and administer adrenaline. Although the guidelines as to the use of ipratropium are imprecise the drug protocol is clearer and suggests that should be given with the first salbutamol nebuliser in acute severe/life-threatening asthma.

65. When he gave his evidence Dr Scott told me that he felt that the observations should have been in accordance with the primary survey that is airways, respiratory rate, pulse rate, oxygen saturation, blood pressure, radial pulse and possibly the Glasgow Coma Scale. As an initial step the administration of salbutamol and oxygen is correct and that there should then be a further assessment. The second survey would be more detailed. The reassessment would in his view have shown an improvement in the respiratory rate and the oxygen saturation because Mr Hayes had progressed from being unable to talk to being able to talk and that represents a clinical improvement. He would

place a lot of emphasis on the ability to talk. It is his view that wherever possible patients should be moved to hospital rapidly. He felt that he would not have expected the technicians to anticipate an arrest and that such a sudden and acute deterioration without any signs would not have been part of their training.

66. He was asked about some of the sections of the guidelines. He felt that the warning at page 370 was aimed at not leaving people at home inappropriately. He felt that an interpretation of the box marked oxygen at page 375g would be to start oxygen therapy but not that there would be a target before moving him to hospital. He went on to say that the guidelines at page 375g may indicate that oxygen should be administered until a patient's oxygen saturation level is 95% or greater or it may mean that that is the aim of providing the oxygen but he did not know. He acknowledged that one could only be sure of the oxygen saturation level if it were measured.

67. Despite the contents of his report he felt that a pulse and respiratory rate should have been taken and that the oxygen saturation levels would be a secondary part and that many technicians would not have gone to get the life pack to do the measurement. He thought it was not unreasonable not to get it. He agreed that a failure to take a pulse and respiratory rate and to record it would be negligent he felt that the crew might not have got as far as a secondary assessment before events overtook them.

68. He considered that there is a distinction between life-threatening asthma and acute/severe asthma but agreed that ipratropium should have been given. He said that his report on this point had not been incorrect but given his better

understanding of the situation he acknowledged that would have been better treatment to have given the ipratropium.

69. Although Dr Scott felt that a second set of observations should have been recorded he said that that would have been the ideal but in his view there was enough evidence here that Mr Hayes was improving because he was able to speak having not previously been able to. He agreed that the peak flow measurement was important but not essential and that it would have been "nice" if the crew had measured the oxygen saturation levels. He felt that these measurements would have been "preferable" and "ideal" and he was not aware of any good reason why the peak flow was not taken other than the crew's aim to get Mr Hayes to hospital. Dr Scott gave his opinion that getting Mr Hayes to hospital in combination with clinical observations of improvement was the better option than further treatment at home. He felt it was a balance that the crew had to decide about. The danger of giving more salbutamol and ipratropium was that there would be a delay of 10 minutes or so in getting him to hospital.

70. When asked about Mr Hayes' collapse Dr Scott despite the contents of his report suggested that it was not clear that the cause was a deterioration in the asthma he says it could have been some other event overtaking him and he did not know what had caused the collapse although he acknowledged that when he and Dr Moore discussed it he thought it was an hypoxic episode. At that stage the crew he said should have realised that the condition was now life-threatening and the collapse was the first point of deterioration when adrenaline could have been given.

71. Dr Scott accepted that when he gave his oral evidence he was expanding on his written opinion and that some of his views expressed orally were not mentioned previously.

72. He did agree that it would take up to 2 minutes to draw up and administer adrenaline. He went on to say that many ambulance technicians would not have given adrenaline, but would have held it back into a last resort situation and he was not convinced that there was an opportunity practically to give adrenaline in this case.

73. He expressed the view that it was not negligent not to recognise the severity of Mr Hayes' condition.

74. The Claimant's causation expert Professor Empey's report is at page 152. He was a consultant physician at Barts and the London NHS Trust for more than 20 years and was Medical Director of the Trust. He is currently an honorary consultant physician. He sets out the background of Mr Hayes' asthma noting the admissions to hospital and the possible failure to use inhalers up until 2002. Thereafter there are regular prescriptions and his asthma seems to have been well controlled and he was compliant. He had an asthma review by his GP in September 2008. There is no indication of any form of allergy. He agrees that this pattern of asthma resembles type 2 brittle asthma although he notes that it was six years between his last attack and his death. He did not fit into any of the high risk categories apart from the fact of the brittle asthma, not having had repeated attendances at emergency departments particularly in the last year. There is no evidence of poor compliance with treatment on the day he died or in the preceding days or weeks.

75. In his opinion the first and most important treatment for a patient with acute severe asthma is for them to be given oxygen assuming that they are still breathing and also a nebulised bronchodilator such a salbutamol. Outside hospital if the patient has a clearly life-threatening attack or is not responding well to the oxygen and the nebulised bronchodilator then the only practical immediate extra treatment available is subcutaneous or intramuscular adrenaline.

76. He expresses the view that because Mr Hayes was unable to speak to the ambulance crew when they arrived he was suffering a very severe, life-threatening attack which would justify the immediate administration of adrenaline and his inability to speak indicated severe lack of oxygen reaching the brain. He was given oxygen and a nebulised bronchodilator and seemed to improve but his condition worsened and it seems that the hypoxia induced a fit followed by respiratory arrest followed later by a cardiac arrest. It is Professor Empey's view that adrenaline given before his collapse would have helped and his chance of survival would have been 60%.

77. Adrenaline is not used in a hospital setting now because there are other intravenous agents which would be used but he describes it as invaluable in an emergency outside of hospital. Adrenaline is not a better drug than salbutamol but any nebulised drug may be less useful because of the severe airway narrowing stopping the drug getting good access to all the airways. An injected drug such as subcutaneous adrenaline overcomes the problem as it reaches the airways by blood circulation.

78. Professor Empey referred to some medical publications and in particular a report in 1988 from Spiteri which concluded that adrenaline given subcutaneously gave rapid and effective bronchodilation in patients with acute severe asthma. The response was rapid, occurring within three minutes. It is Professor Empey's view that this paper relates most closely to the situation which the ambulance crew were in with Mr Hayes. The subjects of the research were not given nebulised drugs. It is unlikely for ethical reasons that any such study could be repeated now.

79. Professor Empey also refers to the use of nebulised ipratropium. This has a slower onset and more sustained action than salbutamol and works by a completely different mechanism. It would bring an additional beneficial effect in treating a life threatened asthma patient. Although it would take a longer time to be fully effective some of its effects would begin more quickly.

80. Professor Empey considers that by the time the paramedic arrived Mr Hayes had been in respiratory and cardiac arrest for an estimated 15 or 20 minutes. At this stage the chance of resuscitation would have been extremely low. He concludes that had Mr Hayes being given subcutaneous adrenaline immediately as well as oxygen and salbutamol treatment on the balance of probability this would have prevented the cardiac arrest.

81. In response to questions from the Defendant Professor Empey says that he is not qualified in emergency medicine but that as a chest physician he is very well aware of the efficacy of adrenaline and acute severe asthma. Again he refers to the literature. He says that adrenaline will reduce swelling in the mucosal lining and so it is a valuable addition to salbutamol. In life-

threatening asthma which is so severe as to cause hypoxia then severe hypoxia can cause unconsciousness. He indicates that he has estimated the chance of survival at 60% because Mr Hayes was not in a hospital situation although the Spiteri paper indicates that none of the patients died in hospital.

82. He considers that significant improvement was most unlikely in fact to have occurred given the lack of any observations recorded to support the assertion and Mr Hayes' subsequent collapse very shortly after starting treatment. It is his view that the cardiac arrest was the result of the severe hypoxia so an improvement in his asthma would have prevented the cardiac arrest.

83. In his letter of 11th November 2013 at page 162 he says that whether or not adrenaline would have been effective depends on whether it was given before or after the cardiac arrest. If before, the blood circulation will deliver the drug to the airway smooth muscle. Although the notes are lacking in detail he says it is appropriate to conclude that Mr Hayes had a fit, went into respiratory arrest and then had a full cardiac arrest. Cardiac arrest is very unusual as part of severe asthma, but may develop 3 to 10 minutes after respiratory arrest. If the adrenaline was injected before the loss of circulation it would have its bronchodilator effect within three minutes that is before the cardiac arrest would have occurred. Hence Professor Empey's assessment of the chance of survival at 60%.

84. Professor Barnes' report is at page 184. He reviews Mr Hayes' medical records and gives his view that he is very suspicious that before his death Mr Hayes was not taking his Symbicort inhaler regularly. He suspects that Mr Hayes was relying on short-acting relievers rather than long-term preventative

treatment. He considers that Mr Hayes had a long history of documented poor compliance with preventative treatment and was a "poor perceiver" having minimal or no symptoms despite poor lung function. He concludes that the basic problem was that Mr Hayes was not taking regular treatment and had several previous episodes of life-threatening asthma and in those circumstances an asthma attack could come on very suddenly and be extremely difficult to treat.

85. Professor Barnes himself saw Mr Hayes in 2002 as a treating doctor when he discharged him from the clinic because his asthma was so well controlled.

86. He said it was his opinion that he did not think there was anything that the ambulance crew could reasonably have done to have prevented the fatal outcome. He expresses the view that the ambulance service management was defensible. He expresses the view that the failure to take Mr Hayes blood pressure could be explained by the fact that his asthma attack was so severe that the crew focused on giving him the nebuliser. He believes that the crew did recognise the severity of Mr Hayes' problems and that there was no need to give him a further salbutamol nebuliser because he had responded to the first one.

87. He says that ipratropium should have been given if it was available to the ambulance crew, but would have had a very small effect and would have made no difference to the outcome. He says that there is no evidence that adrenaline would have had any additional effect over and above salbutamol.

88. He considers that if the statement of Rosalind Taylor is correct Mr Hayes recovered well from his asthma attack when he was given the initial nebuliser

such that he was able to walk and that his sudden collapse is very unlikely to be asthma. For him to go from being able to walk to collapsing immediately would be unlikely and he says that he thinks that Mr Hayes had some sort of cardiac event. He concludes that it seems likely that Mr Hayes had a very severe asthma attack improved by the nebuliser and then a sudden collapse suggestive of a cardiac cause.

89. In his letter of 20th February 2014 at page 191 he says that cardiac arrest as part of severe asthma is unusual and in his experience cardiac arrest can occur within a very short time of respiratory arrest or sometime later. Even had adrenaline been given he says that the chances of making any material difference are much less than 50%. He says that the bronchodilator effect of adrenaline occurring within three minutes is in someone with a normal circulation.

90. Professor Empey and Professor Barnes provided a joint report following a discussion on 6th October 2013 which is at page 206 and a further post discussion document which is at page 220 dated July 2014. They agreed that Mr Hayes had a history of brittle asthma with no such attacks between 2002 and 2008. Professor Barnes sets out the view that brittle asthma is strongly associated with poor adherence and there is evidence of a long history of poor compliance. Professor Empey repeats that there is no evidence that Mr Hayes was exhibiting poor adherence during 2008 and sudden severe attacks in brittle asthma can occur where asthma is apparently well controlled. The experts do not agree as to whether or not there was a pattern of poor and erratic adherence. Professor Empey says that Mr Hayes' level of compliance

with his treatment is not strictly relevant to how he was treated on 28th December 2008. There is evidence that he did not take his steroid medication in the years between 1997 and 2002 but no such evidence thereafter.

91. Both Professors agree that the findings by the crew on arrival indicated a severe and life-threatening asthma attack. They both agree that nebulised salbutamol was appropriate treatment. Professor Barnes refers to the UK Asthma Guidelines and said that they do not recommend injected adrenaline. Intravenous bronchodilators are no more effective than nebulised bronchodilators. Professor Empey refers to the JRCALC guidelines and accepts that the Asthma Guidelines are evidence-based but there are no randomised controlled trials to provide evidence relating to the situation in which Mr Hayes was. The Asthma Guidelines do refer to injected beta-2 agonists in addition to inhaled beta-2 agonists in ventilated patients or those in extremis.

92. The Professors disagree about whether or not adrenaline would have helped Mr Hayes' prospects of survival. In his answer Professor Barnes said that it is not correct that intravenous drugs reach constricted airways. He says that nebulised drugs access the constricted airways via redistribution in the bronchial circulation. Professor Empey says that when the airways are very constricted nebulised drugs cannot reach all the airways effectively and injected drugs such as adrenaline can be life-saving.

93. Both experts agree that ipratropium should have been given. It is recommended by the UK Asthma Guidelines as well as the technicians' Guidelines. Professor Barnes however feels that it would have had no effect

because of its slower onset whereas Professor Empey says that it would have had some incremental effect. Thus Professor Barnes feels that it would not have prevented Mr Hayes cardiac arrest, but Professor Empey feels that combined with salbutamol and adrenaline it would have had an incremental effect. Professor Empey goes on to say that had Mr Hayes survived the immediate crisis and then been transferred to hospital the longer acting ipratropium would have significantly helped to stabilise the situation on the journey.

94. Thus Professor Empey feels that the incremental effect would have come from the salbutamol the injected adrenaline and the ipratropium.

95. Professor Barnes is of the view that Mr Hayes had significantly improved after the first dose of salbutamol because he was able to talk and could move to the stairs. Professor Empey considers that it is most unlikely that significant improvement had occurred given the severity of Mr Hayes' condition, lack of any recorded observations to support at the reported improvement and his subsequent collapse. Professor Barnes feels that given the marked improvement he thinks occurred there was no indication for back-to-back nebulised salbutamol whereas Professor Empey defers to the emergency medicine experts. Both Professors agree that giving a larger dose of salbutamol by giving it back-to-back would have had a beneficial effect although Professor Barnes says it was not indicated. Again Professor Empey feels that in combination with the other drugs back-to-back salbutamol would have prevented Mr Hayes' cardiac arrest and death. Again the Professors disagree about this.

96. Professor Empey and Professor Barnes set out the difference between the basis for the UK Asthma Guidelines and the basis for the JRCALC Guidelines. There is a difference between the experts of emphasis and phraseology but essentially the UK Asthma Guidelines are strictly evidence-based and because randomised controlled trials are not always possible in emergency situations the JRCALC guidelines are evidence-based where randomised controlled trials or similar rigorous studies are available but are otherwise consensus-based to reach practical clinical best practice recommendations.

97. At page 223 the section of the JRCALC Guidelines referring to the use of injected adrenaline in life-threatening asthma is set out. The use of subcutaneous or intramuscular adrenaline should be considered where the patient is suffering from life-threatening asthma, ventilation is failing and deterioration continues despite oxygen and continuous nebulised salbutamol. It is said that this should not be used as a matter of routine and it should be reserved for the most serious cases. Professor Empey agrees that this recommendation was made because it is believed that adrenaline may have some beneficial effect in these circumstances and Professor Barnes "presumes that this was the authors' reasoning". Essentially Professor Barnes does not consider that there is "quality" evidence to suggest adrenaline would have a benefit whereas Professor Empey considers the guidance is based on clinical experience and is repeated in the UK Asthma Guidelines despite the limited evidence. Professor Barnes disputes that the reference in the UK Asthma Guidelines is intended to refer to adrenaline. Both Professors agree that for a patient with acute severe asthma who has been given only one dose of nebulised salbutamol injected adrenaline will achieve an additional

bronchodilator effect. It is noted that of course Mr Hayes was not being given back-to-back nebulised salbutamol and so the comparison by reference to the UK Asthma Guidelines is not direct.

98. Professor Barnes sets out that injected adrenaline will have an effect within one circulation time or approximately 30 seconds. Professor Empey agrees and says that the maximal effect will be in three minutes.

99. The experts agree that cardiac arrest does not occur immediately or soon after the onset of respiratory arrest. Further they agree that Mr Hayes was young and fit apart from his asthma and had no cardiac history so that five or more minutes between respiratory arrest and the onset of cardiac arrest is a reasonable estimate.

100. In a further letter dated 23rd July 2014 at page 164 Professor Empey sets out that given the areas of agreement in the joint statements he would summarise that whenever adrenaline was given whether immediately, two minutes later or a few minutes after the respiratory arrest it would have produced a bronchodilator effect on the airway smooth muscle being delivered by the circulation and would in his view on the balance of probabilities have prevented Mr Hayes' death.

101. When he gave his evidence Professor Empey repeated that there was nothing to suggest that Mr Hayes was not taking his regular medication in 2008, but even if there had been non-compliance that would have meant that the risk of an attack was more significant, but in terms of treating the attack it would respond in the same way and therefore the issue of non-compliance was in his view not relevant to this case. He said that he and Professor Barnes agreed that

this was a life-threatening condition and by reference to the JRCALC Guidelines ipratropium should have been given and had it been given from the beginning, by the time the crew were thinking of moving him it would be beginning to have an effect. Of course Rosalind Taylor acknowledged that ipratropium should have been given.

102. He confirmed that all the drugs the salbutamol, ipratropium and adrenaline would have been intended to open up Mr Hayes airways. He felt that without any observations it would be very hard to assess any improvement and given that he collapsed, had further observations been taken it would be difficult to say if he would have shown any improvement. He felt that the oxygen saturation levels if measured on arrival would have been well below 92% possibly 85% or less and it is very unlikely that just giving oxygen would have increased the saturation levels to 92%. It would have made a marginal difference up to say 88% but Mr Hayes would still have been in a life-threatening category. Giving him another dose of salbutamol or continuous salbutamol would have been increasing the dose in the hope of getting more through to open up his airways. He felt that continuous nebulisation would have been best. Salbutamol is a very safe drug and the more given the more likely it would be to be effective.

103. He reiterated his view that adrenaline has a role in life-threatening asthma and he referred to the publications he cited in support. He repeated that injected adrenaline is useful because it is carried in the circulation and transmission happens quickly because it does not have to go through the constricted airways. It would work over three minutes. He said he knew of no evidence or

research papers which showed that intravenous drugs do not reach constricted airways which is what Professor Barnes appeared to be saying. An injected drug, he said, will reach the airways. He agreed that adrenaline would not be used in hospital because other drugs were available and there would be access to higher oxygen levels and the possibility of ventilation would be present.

104. He again agreed that the UK Asthma Guidelines are based on trials where possible but such trials are not possible in an out of hospital situation. His hypothesis was that Mr Hayes should have been given salbutamol and ipratropium and then observations should have been carried out and then he should have been given further salbutamol and adrenaline. He said that this would have had a beneficial effect and that the oxygen saturation levels would have risen. Mr Hayes would then have been unlikely to have suffered a respiratory arrest. He said that the fit that he suffered was hypoxic and not epileptic. He stood by his view that the time between the respiratory arrest and cardiac arrest would have been five or more minutes. If adrenaline had been administered within a few minutes of the collapse, it would have had a beneficial effect because it would have relieved the bronchospasm and the ventilation would have become easier and the oxygenation would have improved. Had Mr Hayes started breathing again on the balance of probabilities he would have survived. Professor Empey confirmed that this treatment would have made a material contribution to improving Mr Hayes' condition.

105. It was his view that without observations it would be difficult to assess the level of hypoxia and the severity of the attack although the ability to speak

after not being able to speak would suggest that the respiratory rate had dropped. However without measuring oxygen saturation levels one would not know what level of improvement there had been and Mr Hayes should have been continually monitored so as to identify what was happening.

106. He agreed that people would react differently to hypoxia in the sense that some people would be more susceptible to fitting and he is not a neurologist. He confirmed his view that the Spiteri paper is the closest that he could get in the literature to Mr Hayes' situation. He confirmed that ipratropium on its own would not have prevented Mr Hayes' collapse and arrest but it would have had an incremental effect. The effect would have been building up.

107. It was his view that it was unlikely that Mr Hayes died of a primary cardiac problem. He said ultimately anyone who dies from asthma dies of a cardiac arrest eventually and an untreated patient would reach cardiac arrest due to asphyxia not due to arrhythmia.

108. Mr Hayes' death occurred in circumstances a consultant chest physician would not usually see.

109. He remained firmly of the view that had adrenaline being given then on a balance of probabilities Mr Hayes would not have suffered a cardiac arrest. He said it was difficult to assess any improvement in the absence of observations, but it was not clear to him that the salbutamol was working as effectively as the crew indicated not only because of the lack of recorded observations but also because of his subsequent very rapid collapse. The subsequent rapid collapse suggested that any improvement probably had not happened. He confirmed that the effect of walking from the bed would have increased the

hypoxia. Mr Hayes had a normal blood sugar level and no history of epilepsy. He felt that ipratropium if given straightaway would have had roughly 1/2 to 2/3 of its maximal effect at 20 minutes. In short he said Mr Hayes was desperately unwell and in extremis and in such an attack he should have been given more drugs not fewer or less.

110. Professor Barnes repeated his view that he was concerned as to why Mr Hayes had had a convulsion which would be extraordinarily rare and he expressed the view in his oral evidence that it could not just be due to hypoxia. He cited patients with pneumonia or infections who had metabolic systemic disturbance and who can in consequence have a convulsion. He felt that there might have been a general medical problem here because he could not fully explain why Mr Hayes had a fit.

111. I should mention at this point that having made an earlier application to admit some additional evidence from Professor Barnes which I refused, the Defendant indicated that it was happy to proceed on the basis that there was no evidence of an alternative cause of Mr Hayes' fit other than hypoxia, although that the fact of the fit was a very rare occurrence. I refused the application because Professor Barnes had already referred to the hypoxic state and to the fact that Mr Hayes was otherwise a fit and healthy man. There is no suggestion in the medical records that he had any underlying problem. There is no suggestion from the very limited records of observations of any "metabolic disturbance". None of the experts suggested that the asthma could not have caused hypoxia leading to a fit. In light of the matters agreed in the joint statement it seemed to me to be unfair to allow the Defendant to move

away from this position in circumstances where any alternative theory would be speculative after this length of time and when the preponderance of the evidence supports the theory of a lack of oxygen causing hypoxia leading to a seizure. The Defendant did not pursue any application for an adjournment. Such an adjournment would have been necessary in fairness to the Claimant had the Defendant sought to pursue this point. The Defendant chose to proceed.

112. Professor Barnes (who has run a clinic specifically for patients with severe and difficult asthma) confirmed his view that intravenous drugs have no better effect and no additional effect to nebulised drugs and that whilst adrenaline would have had an effect it would not have had a beneficial effect over and above the salbutamol. It was his opinion that Mr Hayes was in a very bad state and although he responded initially to salbutamol when he collapsed and had a seizure his prospects were very poor and he had a very bad outlook.

113. When he was cross-examined Professor Barnes confirmed that he did not feel there was any conflict in acting as the Defendant's expert despite the fact that he had been Mr Hayes' treating physician at some point. He had no memory of seeing him and it was a long time ago. He defended the fact that he had commented on breach of duty despite his remit as a causation expert on the basis that he was asked to comment on it. He said that the significant portion of his report dealing with non-compliance with medication was important to set the background because it was relevant to an understanding as to how Mr Hayes arrived at the position he was in. He agreed that the poor compliance was not relevant to the treatment and outcome on the night other than because

bronchodilators tend to work well in brittle asthma. He said that the records show poor compliance over the years, but he agreed that they do not show any record of poor compliance between 2003 and 2008 and there is no record of any doctor expressing any concern about Mr Hayes' compliance. He agreed that in the circumstances suggesting that the basic problem was non-compliance in his causation report was probably badly phrased.

114. He agreed that when the crew arrived Mr Hayes was in a life-threatening condition. He agreed that ipratropium should have been given. He said that it would have had a small beneficial effect and agreed that sometimes drugs are given when there is little evidence to support their use, but in the hope of achieving a benefit for a patient if the drug itself is not harmful. Ipratropium would have its maximal clinical effect at 40 minutes, but he agreed that the effect gradually builds up. If Mr Hayes had been given two doses of salbutamol (taking about six minutes each) the ipratropium would by then have begun to have had some effect.

115. Professor Barnes said that he could be fairly certain that the oxygen saturation levels would have improved after the first nebuliser although he could not say what they were to begin with or what they were after the first nebuliser. He agreed that on the balance of probabilities they were probably less than 92% when the crew arrived. After the first dose of salbutamol with high flow oxygen and given Mr Hayes' ability to speak, Professor Barnes said he would guess that that would suggest that the level might have risen to 88, 92 or 95%. He appeared to go back to his original hypothesis by saying there was "something going on" to cause Mr Hayes to collapse. He agreed that a second

dose of salbutamol before Mr Hayes was moved would have had a beneficial effect. He agreed that as per the answer to question 8 in the joint statement at page 225, adrenaline would have had a beneficial effect in those circumstances. However he said it would not have saved Mr Hayes' life. He said that the first dose of salbutamol would have had the greatest effect and the other beneficial effects would only have been small. He said he thought that there would have been some very small extra benefit.

116. He accepted that subcutaneous adrenaline in the circumstances set out in the Spiteri paper at page 235 would produce some bronchodilation. He disagreed with Professor Empey's view about adrenaline and said that he disagreed because there was no evidence to support it. He said "I find it difficult to understand where the JRCALC Guidelines come from because they are not evidence-based like the UK Asthma Guidelines". He said that the Asthma Guidelines referred to "beta-2 agonist" rather than naming salbutamol and terbutaline because it "would do no harm". He re-emphasised that his issue in this case is the lack of research-based evidence. He said it is not surprising that there is no study because it would be ethically difficult and almost impossible to do such a study on life-threatened patients. He said that for a drug to be recommended in the circumstances the benefit should be evidence-based and not theoretical.

117. Professor Barnes said that he had worded his answer at the top of page 209 badly. He said that injected drugs <u>do</u> reach the airways, but what he should have said was that they do not do so any better than nebulised drugs or over

and above nebulised drugs. If his answer suggested that intravenous drugs do not reach restricted airways that was wrong and he apologised.

118. He concluded by saying that once an asthmatic had arrested the situation is very difficult. Whilst it would have done no harm to have given Mr Hayes adrenaline, Professor Barnes would have had no optimism as to that course of action having any beneficial effect. It was certainly not his view that Mr Hayes would have survived in consequence.

119. Having set out the evidence in some detail I will now go on to make my findings. I find that when the ambulance crew arrived Mr Hayes was in a life-threatened state. He was in considerable distress. He could not speak. He may have been cyanosed. His oxygen saturation levels would have been below 92%. He would not have been able to blow into a tube to give a peak flow reading. It was appropriate to give him salbutamol and oxygen via a nebuliser. I find that he should have been given ipratropium in accordance with the guidelines. Rosalind Taylor and the experts agree on this point. The failure to do so was negligent.

120. I find that a very large part of the Defendant's case hinges on the concept of a "significant improvement" following this first nebuliser. The evidence for such improvement is limited to Ms Taylor's evidence that Mr Hayes could speak and confirmed that he felt better and agreed to and/or was able initially to walk to the top of the stairs.

121. On the balance of probabilities I do not find that Mr Hayes had significantly improved. This assessment is made with the benefit of hindsight because it is based in large part on the fact that Mr Hayes almost immediately collapsed,

had a seizure and went into respiratory arrest. I find that on the balance of probabilities because his airways were constricted he suffered from significantly reduced oxygen saturation levels, developed hypoxia and in consequence had a fit leading to respiratory arrest.

122. I find that Ms Taylor did not have a complete memory of the details of the events leading up to Mr Hayes's death. Her evidence was based on what would have been her practice rather than what in fact happened that night. In particular I find that the only observations recorded, namely the Glasgow Coma Score and the blood sugar reading were the only observations made. I find that there was no second set of observations. It is likely that Miss Fowler wrote these observations on her glove and later transferred to the PRF. Ms Taylor cannot recall what observations were actually taken. I can think of no explanation for Miss Fowler or Miss Taylor to have transferred only the two observations to the PRF and not any others if others were taken. On the balance of probability either all observations carried out would have been transferred or none.

123. Thus I conclude that either before or during or after the first dose of salbutamol and oxygen the crew did not measure Mr Hayes' pulse rate respiratory rate oxygen saturation levels or peak flow rate. They did not take his blood pressure. They did not listen to his chest. If as I find a peak flow measurement could not be taken on arrival that fact was not recorded. It is agreed that the failure to take these readings and/or carry out these examinations was negligent. It was negligent not to record them although as I find they were not taken.

124. Had these observations been made than in light of subsequent events I find that they would have confirmed that Mr Hayes was in a life threatening condition. In particular his oxygen saturation levels would have been well below 92%. I find that the crew should have appreciated how unwell Mr Hayes was in any event from his initial presentation or at least they should have treated him as if this was a life-threatening situation in light of the category A call and his presentation on arrival. His inability to speak, pursuant to the guidelines as I find put him in an actual or potential life-threatening situation. Even if there is a distinction between severe, acute asthma and life-threatening asthma the initial treatment and need for observations would have been the same.

125. In light of subsequent events and on the basis of the expert evidence I accept I find that the oxygen saturation levels should have been measured whether or not by bringing in the kit as part of the life pack from the ambulance. The PRF refers to oxygen saturation measurements and the statistical data I have seen indicates that almost all crews would have taken such a reading.

126. I find that these initial observations would have established how critical Mr Hayes' condition was and further I find that a second set of observations after the first nebulisation would have revealed that he remained in a life-threatened state. On the balance of probabilities I find it is highly unlikely that an assessment of Mr Hayes after the first dose of salbutamol would have shown "significant improvement". To find otherwise would be to find that he made really quite a dramatic improvement and then equally dramatically worsened in the course of a few steps.

127. Had the further observations been carried out and the lack of improvement revealed, the crew should have given further salbutamol either by way of a further dose or continuous nebulisation. The failure to do so was negligent.

128. In the absence of these observations, reliance on the ability to speak alone was negligent. The Defendant refers to the fact that Mr Hayes could walk. The plan for him to walk to the top of the stairs was made while he was still sitting on the bed. In fact he could not really walk, as evidenced by his collapse after a few steps. Proper observations would have revealed this.

129. The JRCALC Guidelines make it clear that a patient with life-threatened asthma with failing ventilation and who is not responding to treatment or who is deteriorating despite nebulisation should be given adrenaline. In this case assessment after further or continuous nebulisation would not as I find have shown any improvement. It is likely that Mr Hayes would have deteriorated. He should have been given adrenaline. In the actual situation in which the crew found themselves, namely, when Mr Hayes collapsed it should have been apparent to them that he was in precisely the category of patient who required adrenaline.

130. Whatever Professor Barnes' view, the crew were provided with adrenaline, they were authorised to give it and as I find they were instructed to give it in precisely these circumstances. The failure to do so was as I find negligent. When Mr Hayes collapsed they could have been in no doubt about the fact that his situation had deteriorated.

131. By the time of his collapse, therefore, I find that Mr Hayes should have had ipratropium, he should have had a further dose of salbutamol or continuous

salbutamol and at the point of collapse and adrenaline should have been administered and could have been administered within two minutes.

132. In respect of the expert evidence on these issues I prefer the evidence of Dr Moore. I considered her evidence to be measured and balanced. It seemed to me that she had given consideration to the details of the guidelines in the context of the practicalities of the situation the crew were in. She was not relying on "best practice" but on reasonable practice. No reasonably competent crew would have failed to make and record the observations I have referred to. No reasonably competent crew would have failed to repeat them in the circumstances of such a severe/life-threatening asthma attack. No reasonably competent crew would have failed to give ipratropium, I find that on the basis of the assessment which should have been made, No reasonably competent crew would have failed to follow the JRCALC Guidelines and therefore further/continuous salbutamol should have been given and at least by the time of Mr Hayes' collapse adrenaline should have been given.

133. I accept the evidence that the crew failed to appreciate the severity of Mr Hayes' condition. I accept her evidence that ipratropium should have been given at the beginning and that the peak flow readings should have been taken after the first dose of salbutamol and if it could not be taken that should have been recorded. It seemed to me that her assessment of the length of time it would take to draw up and administer adrenaline was well thought through. I agree that it may be that in this situation the crew were lulled into the false sense of security referred to in the guidelines. Given the lack of recorded information and Ms Taylor's limited memory I consider it is unlikely that Mr

Hayes was able to speak in full sentences and that this was, as Dr Moore felt, a significant point. Again I base this on the fact that it is unlikely that he made a significant improvement in light of his almost immediate collapse.

134. The difficulty with Dr Scott's evidence is that he was forced to assume either that some basic observations had been taken, but not recorded or to adopt a position whereby the taking of such readings is not mandatory but merely preferable. In his report he agreed that to take these readings was required. I find that the observations were not made. He had to interpret the guidelines quite narrowly to support the Defendant's case. I think that Dr Moore's interpretation is correct and therefore she has properly identified what the crew should have done. No reasonably competent crew would have ignored the JRCALC Guidelines.

135. It also seemed to me that Dr Scott sought to retract some of the points of agreement that he had reached in the joint statement with Dr Moore although there was no additional evidence to cause him to do so. I did not find his evidence to be reliable for this reason.

136. Thus I find that the Defendant was in breach of its duty of care to Mr Hayes.

137. In terms of causation I prefer the evidence of Professor Empey and I find that had the crew: administered ipratropium; taken the appropriate observations; reassessed by reference to further observations; given further salbutamol; and then adrenaline (even if only at the time that Mr Hayes collapsed) there would have been a significant beneficial effect. The difficulty with Professor Barnes' view is that it leads to the inevitable conclusion that the provision of and authorisation of the use of adrenaline to ambulance technicians in life-

threatening asthma is futile. Further that the agreement by the experts Dr Moore and Dr Scott that there are situations in which adrenaline should be given is wrong. If the administration of adrenaline in a life-threatened asthma patient would have no additional beneficial effect over and above the inhaled salbutamol than it is very difficult to see why the guidelines, Dr Scott, Dr Moore and Professor Empey all support it albeit in varying circumstances.

138. It seems to me that the reason behind this view is that Professor Barnes focused very heavily on the contrast between these guidelines and the UK Asthma Guidelines and the latter's emphasis on evidence-based recommendation. The evidence I have heard was to the effect that in an out of hospital situation where there can be no randomised controlled trials not least for ethical reasons there could not be truly evidence-based guidelines. Professor Barnes' view would arguably lead to a situation in which since there could only be a very limited number of evidence-based guidelines for ambulance technicians they would not have a complete set of guidelines to follow. The UK Asthma Guidelines themselves refer to an injected beta-2 agonist and adrenaline is a beta-2 agonist. It is perfectly correct to say that the UK Asthma Guidelines suggest there is very limited evidence to support the benefit of such treatment. It is apparent that this is correct. However, the logic here is that like salbutamol and ipratropium the aim in such a severe asthma attack is to open up the airways. Injected adrenaline would achieve this to some degree. Professor Barnes accepted that injected adrenaline would reach the airways and would do so in 30 seconds. In his view, it would have some, albeit "very small" beneficial effect.

139. I had some concerns about Professor Barnes' evidence. It seemed to me that by failing to specifically point out that he had been Mr Hayes' treating doctor (indeed referring to himself in the third person), by commenting on breach of duty and by devoting so much of his opinion to the issue of compliance he gave the appearance of trying very hard to support the Defendant's case rather than assisting the Court as an independent expert should.

140. The question therefore is whether or not Mr Hayes would on a balance of probabilities have survived had the crew taken the steps which I have identified they should have done. Professor Empey is clear that the prospect of survival would have been 60%. On that analysis the Claimant would succeed. Professor Barnes feels that any beneficial effect of adrenaline would have been very small. He considered that any additional drugs after the initial dose of salbutamol would only have had a small effect. I find that the incremental effect of the combination of the onset of the benefit of ipratropium, additional salbutamol and an injection of adrenaline would in combination have made a significant difference to the outcome. Professor Barnes approach seemed to me to be to discount the limited effect of each component rather than look at the totality of the benefit. I accept the evidence of Professor Empey when he says that, in a patient with such severe asthma, giving the maximum available treatment with the aim of opening up Mr Hayes' airways would have altered the outcome. I am satisfied (and I do not find that there is any real dispute) that the timings here would have allowed the various drugs to have had a significant effect. Further salbutamol and the further observations would have meant that the ipratropium would have begun to have some effect. The increased dose of salbutamol would have had some effect. Even if only

administered after Mr Hayes collapsed (and allowing two minutes to draw it up and inject it) the adrenaline would have reached Mr Hayes' lungs and I find would have been reaching its maximal effect before he went into cardiac arrest and the cardiac arrest would have been avoided.

141. I accept Professor Empey's opinion of a 60% prospect of survival.

142. In the circumstances the Claimant succeeds on the issues of negligence and causation and therefore liability.

143. I was referred to some case law on liability and causation. The principles are not in dispute. Based on my findings as set out above in accordance with the tests in Bolam v Friern Hospital Management Committee [1957] 1 WLR 583 and Bolitho v City and Hackney HA [1998] AC 232 the Defendant's crew did not act in accordance with the practice of a responsible body of ambulance technicians. Although I am critical of some aspects of the Defendant's expert evidence, my conclusion is based primarily on my findings of fact which undermine the premises upon which those opinions were based.

144. In respect of causation I have set out my conclusion. I find that on a balance of probabilities but for the negligent treatment Mr Hayes would not have died. I find that the combination and accumulated effect of the drugs which should have been administered would have altered the outcome. Thus I do not consider that this is a case to which Bailey (cited above) applies. However if I am wrong about that it seems to me that each failure made a material contribution to the hypoxia which led to the respiratory arrest and ultimate cardiac arrest. Further the failure to administer adrenaline at the time of or

shortly after the respiratory arrest made a material contribution to the cardiac arrest.

145. In respect of quantum it is agreed that I should make some findings in principle in the hope that the parties can agree some figures.

146. In respect of the issue of whether or not Mr and Mrs Hayes would have reconciled, it is agreed that there is a two stage test (Davies v Taylor [1974] AC 207). Firstly I must decide whether or not there was a significant chance (which may be less than 50%) as opposed to merely speculative possibility that the couple would reconcile. If the first stage is passed, then I must assess the chances of reconciliation in percentage terms and adjust the award accordingly.

147. I accepted the evidence of Mrs Hayes that the parties had in fact begun the process of reconciliation. They had resumed an intimate relationship. They had begun to discuss the future, including remarriage. In the circumstances I find that there was a significant chance that they would reconcile. I assess the chances of a reconciliation in this case at 90%. This is based on the evidence which I accept that Mr Hayes had ended his affair when Mrs Hayes found out about it and not had any other relationship thereafter. Mrs Hayes having taken the decision in light of her discovery to divorce had clearly regretted that. They were taking matters slowly and thoughtfully. Mrs Hayes has obviously given some thought to the possibility that her husband might have had another affair and considered that this would not automatically mean the end of their relationship. Her evidence was effectively that she had gone through with a promise to her husband that if she ever caught him cheating she would divorce

him. She wished she had not done so. I think that on the basis of her evidence and the steps which had already been taken it was significantly more likely than not that the parties would reconcile.

148. I accept that there would have to be some reduction to reflect the fact that there would be a risk that even having reconciled the relationship would have failed again. In the circumstances of this case where this couple were aware of the risks for the future and were aware of the need to take things slowly I do not consider that the risk was greater than 10%.

149. The total prospect of a successful reconciliation therefore was in my view 80%.

150. I accept that the estate is entitled to an award damages for pain and suffering and loss of amenity but that the period of suffering was very short and that the appropriate (uplifted) award is £1,100.

151. The funeral expenses are agreed at £2,059.

152. There is no claim for damages for bereavement. Mr and Mrs Hayes were divorced at the time of his death. The Fatal Accidents Act 1976 makes no provision for an award of bereavement damages to surviving minor children. The Claimant suggests that the restriction on those eligible to receive a bereavement award is arguably a breach of the Human Rights Act 1998 on the basis that an award to parents of a deceased child but not to children of deceased parents is illogical and discriminatory. The government has prepared draft legislation to reverse the situation but has not yet brought it into force. A bereavement award is a statutory award and the legislation defines the

categories of those who can claim it. They are narrow. Any proposed legislation has not been made law. In circumstances where there is no general right to claim such an award it does not seem to me that the current legislation is incompatible with the Human Rights Act and I make no declaration.

153. The Claimant calculates financial dependency in the sum of £408,955. In light of my findings this is subject to a 20% deduction and that sum would be £327,164. There is a claim for dependence on pension in the sum of £40,483. After the appropriate deduction that sum would be £32,386.40.

154. I accept that on the balance of probabilities all three of the Claimant's sons will remain in education after the age of 18. I have seen their school reports.

155. There is a claim for dependency on services based on estimated figures for gardening and DIY and 14 hours per week of transporting three boys to football matches and training until the twins' 21st birthdays. I heard no evidence about Mr Hayes' gardening or DIY and it is not referred to in Mrs Hayes' statement. I make no award in this respect. Mrs Hayes said in her evidence that in fact Mr Hayes was spending about five hours a week transporting his sons to sporting activities and I allow that figure to the twins' 18th birthdays on the basis that after the age of 18 they will be independent or in full-time education, probably away from home.

156. The Claimant's schedule of loss is calculated on the basis of a dependency following reconciliation from the date of the deceased's death. The parties were not living together at the date of his death. Mrs Hayes felt that they would have begun living together in the New Year of 2009. Given the progress that they were making towards reconciliation I accept that this would

have been the case and find that they would have been living together from the end of January 2009. There may need to be some minor deduction in this regard from the figures.

157. The £15,000 for the loss of the intangible benefits of a father is agreed in respect of the three boys.

158. The Claimant is entitled to interest on general damages at 2% per annum from the date of service of the proceedings to the date of trial and on the claim for funeral expenses at the full special account rates from the date of death to the date of trial. She is also entitled to interest at half the special account rate on the path to dependency from the date upon which the loss was incurred (being in this case later than the date of death) to the date of trial.

159. On the basis of these findings I hope that the parties can agree the figures for damages and interest.

160. Finally I would like to thank both Counsel for their assistance in this case.