Neutral Citation Number: [2020] EWHC 828 (QB)

Case No: HQ16C00506

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 08/04/2020

Before:

DEPUTY HIGH COURT JUDGE SIMEON MASKREY QC

- -

Between:

NKX **(By his mother and litigation friend NMK)**	**Claimant**
- and –	
BARTS HEALTH NHS TRUST	**Defendant**

- -
- -

Angus Moon QC and Eleanor Morrison (instructed by **Leigh Day**) for the **Claimant**
Dominic Nolan QC (instructed by **Kennedy's**) for the **Defendant**

Hearing dates: 18 February - 2 March 2020

- -

Approved Judgment

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

....

DEPUTY HIGH COURT JUDGE SIMEON MASKREY QC

Covid-19 Protocol: This judgment was handed down remotely by circulation to the parties' representatives by email, release to BAILII and publication on the Courts and Tribunals Judiciary website. The date and time for hand-down is deemed to be 10:30am on 8 April 2020.

Simeon Maskrey QC, sitting as a Deputy High Court Judge :

Introduction

1. This is a clinical negligence birth injury case. Pursuant to a case management order I am trying issues that relate to liability alone. The quantification of the claim will take place only in the event that the Claimant is successful.

2. 2. In summary form it is the Claimant's case that his mother was given no or no sufficient warning that she should have continuous fetal monitoring (CFM) when she was in labour; that if she had been given appropriate warnings she would have accepted CFM rather than, as in fact occurred, monitoring by intermittent auscultation (IA); that CFM monitoring would have detected abnormalities of the fetal heart earlier than abnormalities were in fact noted; that as a consequence a uterine rupture would have been detected more quickly than in fact was the case; and that delivery would therefore have been achieved more quickly, thus avoiding some of the acute profound hypoxia that accompanied the uterine rupture and some or all of the permanent brain damage resulting from it.

3. The Claimant has a secondary case which is that IA should have increased in frequency from the point at which midwifery staff should have known or assumed that his mother was in the second stage of labour, and that such an increase in frequency would, again, have resulted in earlier detection of the uterine rupture. This secondary case was advanced for the first time at trial. The Defendant's counsel, Mr Dominic Nolan QC, took the decision not to object whilst reserving his right to comment upon the weight to be given to the argument given its late introduction. At the end of the evidence I invited the Claimant's counsel, Mr Angus Moon QC and Ms Eleanor Morrison, to regularise the pleadings to reflect the secondary case. As a consequence the Particulars of Claim were amended, again without objection from Mr Nolan.

4. Central to the case on breach of duty is whether the Defendant's midwifery staff took reasonable steps to inform the Claimant's mother that if monitoring was by IA rather than CFM the risk that a uterine rupture would be detected later than would otherwise be the case was increased and thus so was the risk of the baby sustaining permanent brain damage. It is the Claimant's case that his mother did not appreciate these consequences of her decision to opt for delivery in a birthing centre without access to CFM, it not having been made clear to her by midwifery staff either when discussing options for delivery or when she arrived at the hospital in labour. It is the Defendant's case that the mother opted for delivery in the birthing centre monitored only by IA fully aware of the risks and benefits of so doing and exercising her undoubted right to choose how and where she would labour and with what monitoring.

5. Whilst it is also the Claimant's case that his mother had been *"encouraged to give birth on the birthing suite"* the causative breach of duty alleged is the lack of information provided rather than the fact of any such encouragement.

6. There are issues between the parties as to factual and medical causation. The Defendant argued that even if the Claimant's mother had been the subject of CFM there was no reason to suppose that there would have been significant early warning of the impending uterine rupture and thus no reason to suppose that delivery would have been achieved sufficiently early to have avoided damaging hypoxia. The Defendant also

took issue with the alleged duration of the hypoxia, asserting that it was more likely to have lasted 35 minutes rather than the 25 minutes contended for by the Claimant. This meant, it was said, that a proportion of the brain injury brought about by the hypoxia would not have been avoidable even if delivery had been earlier.

The evidence

7. I had the benefit of hearing and assessing the Claimant's parents and midwifery staff employed by the Defendants. One witness, midwife Jacqui Smith, was too ill to give oral evidence and her witness statement was admitted by me pursuant to the Civil Evidence Act 1995 without objection from Mr Moon. I also heard from experts in the disciplines of midwifery, obstetrics, neonatology and paediatric neurology. The neuroradiology evidence, which was essentially agreed, was provided in written form.

8. I shall set out my findings of fact whilst summarising the chronology of events. I remind myself that it is for the Claimant to prove the facts that are asserted on his behalf and that he must do so on a balance of probabilities. Thus, when I determine a fact I do so on the basis that it is more probable than not that what I find occurred did in fact occur or what I find would have occurred would in fact have occurred.

9. I shall deal with the expert evidence and my findings as to the evidence relating to causation when I come to consider the consequences of my findings of fact. Once again, I remind myself that when considering expert evidence on issues of causation it is for the Claimant to prove what is asserted on his behalf and that he must do so on a balance of probabilities.

The Law

10. There were no differences between the parties as to the relevant law. Medical professionals are under a duty to take reasonable care to ensure that their patient is informed of any material risks involved in treatment and must take reasonable steps to ensure that the information is comprehensible and that their patients have understood what they have been told. This is the position set out by the Supreme Court in *Montgomery v Lanarkshire Health Board* [2015] UKSC 1. In determining whether reasonable care was or was not taken the Claimant is required to prove that the midwife who is said to have been negligent was responsible for such failure as no midwife of ordinary skill and care would responsible for when acting with ordinary care. See *Bolam -v- Friern Hospital Management Committee* [1957] 1 WLR 583 and in *Hunter v Hanley* 1955 SC 200. The Claimant is also required to prove, on a balance of probabilities, the causal significance of any proved breach of duty.

The antenatal counselling

11. The Claimant is his mother's second child. Her first child was born by caesarean section on the 4th November 2013.

12. She attended her booking appointment with her husband on the 1st October 2014 and was seen by Midwife Finney, who told her that she was a candidate for a vaginal birth after caesarean section (VBAC) and that she would be booked into the VBAC clinic. A VBAC was considered to be 'high risk' because there was a small but real risk of uterine rupture through the caesarean scar during labour. Midwife Finney gave evidence that

her practice was to tell expectant mothers that it was *"recommended that a VBAC should take place on the delivery suite"* because it was a *"high risk option based on the fact that there had been a previous caesarean section"*. Unsurprisingly she could not recall this particular consultation. There was some discussion in evidence as to whether the Claimant's mother was actively seeking a VBAC given that it was recorded by Midwife Finney that the Claimant's mother was *"keen for VBAC"*. I am not persuaded that it matters. At this consultation the Claimant's mother appreciated that she was a candidate for VBAC, that VBAC was considered *"high risk"* (which she understood to be the care pathway for somebody who had had a caesarean section) and that there would be *"close monitoring"* because VBAC carried with it a small risk (of less than 1%) of a uterine rupture. She appreciated that the option of VBAC would be discussed in more detail at the VBAC clinic. I am satisfied that she did not say to Midwife Finney that she actively wanted a VBAC, notwithstanding what appears in Midwife Finney's statement. As Midwife Finney fairly accepted, she has no independent recollection and might simply have assumed that that was what the Claimant's mother wanted.

13. There was also some debate as to whether the Claimant's mother was handed the VBAC leaflet at this consultation or whether she received it at some later time. Again, I do not think it matters. There is no suggestion from the parents that they did not receive it at some point or that they read it. For what it is worth, however, I accept the evidence of the Claimant's parents that they did not receive it at the consultation on the 1st October. Midwife Finney and Midwife Hart accepted that there were occasions when it might not be given to the expectant mother at the first appointment. I think it was probably received at the end of the meeting with Midwife Hart on the 21st January 2015 and was read at some point before the consultation with Consultant Midwife Falvey-Browne.

14. The Claimant's mother and her husband attended the VBAC clinic appointment with Midwife Hart on the 21st January 2015, at which the risks and benefits of a VBAC delivery were discussed. A proforma was completed suggesting that the risk of uterine rupture was discussed. It is not disputed that each of the entries on the pro-forma was read out by Midwife Hart. However, the parents said that there was no elaboration and that as a result they did not appreciate what CTG monitoring entailed and did not appreciate that it was designed to give early warning where possible of uterine rupture.

15. The suggestion was made to the claimant's parents that as a consequence of their experiences with Eva's birth when CTG monitoring took place and/or as a consequence of their own desire for information and/or as a consequence of the information provided by Midwife Hart they knew that [i] there was a 1:200 risk of uterine rupture [ii] that this could lead to an HIE [iii] that an HIE could lead to brain damage and [iv] the purpose of continuous CTG monitoring was to give early warning in the event that a rupture occurred or was about to occur so that there could be active management to prevent injury to the baby. Neither parent accepted the suggestions. They did accept that each of the risks and benefits set out in the pro-forma were read out and they did accept that they knew there was a very small increased risk of uterine rupture. They were adamant that they did not appreciate that a risk of rupture was permanent brain damage. They were adamant that Midwife Hart did not explain what continuous CTG monitoring was or how it might mitigate the risk of brain damage being the consequence of uterine rupture. The Claimant's mother's response was that she was *"keen"* to follow the advice she was given by the midwifery staff, that they seemed to favour VBAC and that she had no particular reason to reject or question this advice.

16. Midwife Hart made it plain that it was not her function to recommend VBAC. Although she also had no recollection of the consultation she said it would not have been her practice to say (as the parents alleged) words to the effect *"you know how awful a caesarean section is"*. I doubt that she would have used such an expression and I do not find that she did. However, in cross examination she accepted that the proforma made it clear that an advantage to VBAC was that it could be regarded as a more satisfying and positive birth experience for the mother than a caesarean section and that she might have said that that was what was reported by many mothers. Consultant Midwife Falvey-Browne accepted that it was the ethos of midwifery staff at Newham Hospital that mothers should give birth naturally if possible and in that context she accepted that if there was no reason for a mother not to have a VBAC then she would not expect it to be discouraged.

17. Midwife Hart said that it was her normal practice to inform expectant mothers what CTG monitoring meant and entailed. It was her normal practice to say that there was a small risk that the scar can weaken and rupture and that *"we offer continuous CTG monitoring so we can look out for any signs or symptoms of this happening and we could change to an emergency caesarean section"*.

18. To the extent that it matters I am sure that the Claimant's mother did have a preference for VBAC, but only because it was made clear to her that it was a standard choice and one that did not give rise to any concern on the part of Midwife Hart or Consultant Midwife Falvey-Browne when it was discussed. I am equally sure that following her consultation with Midwife Hart she appreciated that there were risks and disadvantages with VBAC but that they would be minimised insofar far as that was possible by *"close monitoring"*. I find that although the Claimant's parents were told that there would be cardiotocographic monitoring (CTG) I do not consider that it was described in any detail and I find that there were no discussions about the differences between CTG monitoring and IA. The Claimant's parents said that even following this discussion with Midwife Hart they did not know what CTG monitoring entailed. Mr Nolan suggested that this amounted to a surprising, indeed incredible, lack of curiosity. However, it has to be set in the context of the amount of information that was being provided and when it was being provided. At this point the prospect of the Claimant's mother labouring without having CFM had not arisen. It follows that it would have been quite enough for them to have appreciated that she would be closely monitored in one way or another in the event that VBAC was chosen. That was what the leaflet given to the parents by Midwife Hart actually said, what I find they were told by Midwife Hart and what they would have been interested to know.

19. Likewise, I accept that they did not appreciate that hypoxic-ischaemic encephalopathy (HIE) might result in their baby suffering brain damage. All they knew, they said, was that HIE was possible and that it was bad for the baby and I accept their evidence on this point. It is perhaps noteworthy that the proforma does not itself mention brain damage or the consequences of HIE. I doubt that Midwife Hart would have wanted to or had the expertise to inform the parents as to the likelihood that HIE might result in permanent brain damage and I am satisfied that this was not explained to them.

20. On the 7th April 2015, the Claimant's mother saw Midwife Jacqui Smith to discuss her birth plan. By this time she had become interested in the possibility of having a water birth and using the birthing centre rather than the labour ward. This is reflected in notes that she made for her own purposes in advance of the 7th April discussion. The

Claimant's mother says that labouring at the birthing centre was specifically mentioned by Midwife Hart. I am not persuaded that she is right at about that. Midwife Hart denied that she would have mentioned the birthing centre and she circled the proforma to say that the place of birth would be the delivery suite. The interest may have been because the leaflet which I find was given to her by Midwife Hart specifically stated that *"if wireless monitoring is available you will be able to mobilise and use the birth pool"*. In any event, I am not sure that it matters.

21. It was possible to have a water birth monitored by wireless CFM in room 10 on the delivery suite. However, the birthing centre, a midwifery led unit for women with low risk pregnancies, had 10 rooms each with a pool. It was possible that even in the birthing centre wireless CFM monitoring could take place, but only if the Room 10 monitor was available as there was only one wireless monitor in the hospital. The Claimant's mother remembers Midwife Smith saying that "*a few VBAC women had given birth in the Birth Centre and that it was 'a great thing for the hospital' if VBAC women could be treated in the Birth Centre*". Her husband also remembers Midwife Smith saying that "*the Birth Centre was a great place to have a natural birth and there were pools, which she said is what some VBAC women chose to use*". That was denied by Midwife Smith, who was not cross-examined as a consequence of her ill-health. However, once again I note that Consultant Midwife Falvey-Browne gave evidence that it was a common request for women seeking a VBAC delivery that they deliver at home or on the birthing suite and I gained the impression that staff at the hospital did their best to accommodate a mother's wishes if possible. I find that at this stage the Claimant's mother was interested in a water birth. She was not committed to labouring at the birthing centre but probably appreciated that a water birth was more likely to be possible in the birthing centre than the delivery suite simply because of the greater availability of pools. I find that the Claimant's mother was not discouraged on the 7th April from having a water birth at the birthing centre nor made to believe it carried increased risk for mother or baby. Whether Midwife Smith actively encouraged the Claimant's mother to consider labouring at the birthing centre is more difficult. On balance I am of the view that the Claimant's mother was led to believe that it was a perfectly valid and sensible option; that it was a common request; and that it would be discussed with her by the Consultant Midwife.

22. Midwife Smith did not discourage the Claimant's mother because she appreciated that although for the hospital a VBAC delivery in the birthing centre was, at least, non-standard care, she thought that discussion relating to it should be escalated to the Consultant Midwife. It was suggested that the Claimant's mother thus appreciated that her request was outside the norm. I do not consider that she did. Indeed, I consider that nothing was said or done to lead her to think that delivery at the birthing centre was discouraged and I do not believe it was discouraged. Thus, Midwife Smith emailed Consultant Midwife Falvey-Browne saying that the Claimant's mother wanted "*more information on the possibility of delivering on the Birthing Centre*".

23. On the 21st April 2015 the Claimant's mother sent a text to Consultant Midwife Falvey-Browne about the possibility of giving birth in the birthing centre. She received a text response which noted that whilst women having a VBAC were usually cared for on the labour ward: "… *is (sic) some cases we have had women in the BC who are having a VBAC this may depend on staffing levels at the time of admission*". Consultant Midwife Falvey-Browne accepted that there was nothing in the text that discouraged the

Claimant's mother from viewing delivery in the birthing centre as a reasonable and safe choice.

24. I thus find that by the time the Claimant's mother came to have the consultation with Consultant Midwife Falvey-Browne she had been informed that VBAC was regarded by many women as the more positive experience; that there were risks and disadvantages but that they would be mitigated by close monitoring; that she knew close monitoring included CFM and that CTG monitoring had been specifically mentioned; and that having a water birth in the birthing centre was a reasonable option that would be considered in detail at the consultation.

25. The consultation took place on the 28th April 2015. It was a consultation that was interposed between Consultant Midwife Falvey-Browne seeing other patients. A plan was formulated and which was agreed to by the mother. In my judgement this was the crucial consultation. Its purpose was to discuss the birth plan and to agree it if possible. In so doing it was essential that the Claimant's mother be alerted to the risks and benefits of the plan and it was essential that she understood the risks. Equally, however, Midwife Falvey-Browne was in no position to dictate the birth plan to the Claimant's mother and had to be careful that any advice she gave did not over-step the mark and become oppressive in nature or seen as effectively removing the mother's right to choose her birth plan.

26. What was eventually agreed was the birth plan summarised in writing by Midwife Falvey-Browne with the summary signed by the Claimant's mother. It was to the following effect:

> "… To use room 10 on D/S with wireless monitoring if available … if RM 10 not available would like to come to the BC for waterbirth. If wireless monitoring not available will have intermittent ausc aware of RCOG guideline. Have informed [NMK] plan depends on staffing on BC at time of admission".

27. Midwife Falvey-Browne said that she had a good recollection of the meeting with the Claimant's mother. She said that it was made clear that wireless CFM monitoring might not be available and if the Claimant's mother still wanted a water birth then the monitoring would have to be by IA. She said that she explained what IA was and explained the disadvantages of IA over CFM. She said that she specifically mentioned that early warning of uterine rupture was provided by CFM in 50% or so of cases which was why it was recommended by the Royal College. Midwife Falvey-Browne said that it was apparent to her that the Claimant's mother had read the VBAC leaflet. She had no doubt that the Claimant's mother understood what IA entailed. She wanted to support the Claimant's mother's choice but she said that she properly and accurately relayed the risks of IA to her.

28. It was suggested to Midwife Falvey-Browne that her record of the advice given, signed by the Claimant's mother, did not reflect the advice that she had given. She accepted that the note was a summary and accepted that as a summary it did not contain everything of importance that was discussed. She considered at the time that to write *"aware of RCOG guideline"* was sufficient. She has changed her practice since April 2015 as a result of this case.

29. The Claimant's mother said that the concept of CTG monitoring was not explained to her on either the 7th or the 28th April and she was given no information on the differences between CFM and IA. She knew that if she had a waterbirth monitoring would either be *"wireless"* or, if there were sufficient trained staff, would be by IA. However, she did not appreciate that IA carried with it more risk for the baby and she did not know why there needed to be more staff if there was to be IA. Notwithstanding that she had heard the words *"continuous monitoring"* and *"intermittent monitoring"* she said she did not appreciate the difference and did not understand or reflect upon the difference it made in terms of risk of injury consequent upon uterine rupture. She said that she did not know what the RCOG guideline referred to, was not aware of its existence and it was neither shown nor mentioned to her. She accepted that she was shown room 10 on the delivery suite and that she was told that the room *"had all the appropriate equipment and everything that they needed"* including wireless monitoring. She accepted that she knew that wireless monitoring meant monitoring of both mother and baby. She accepted that she knew that a uterine rupture might cause HIE and that that was *"bad for the baby"*.

30. The Claimant's mother accepted that she had read and signed the note referred to at paragraph 26 above. She said that although she understood that *"intermittent ausc"* referred to IA she did not understand the advantages and disadvantages of IA over CFM. She said that she signed the note because it set out the plan that was, in effect, being recommended to her and which she accepted on midwifery recommendation. She said that she was told nothing that led her to appreciate that there were significant disadvantages with labouring whilst only being the subject of IA or that midwifery staff thought there were any such disadvantages. She said that she signed the summary without really understanding what it all meant because she felt that that was standard practice, was happy with what she perceived was the advice she was receiving and that in any event *"on the day the doctors would be there to discuss and go over this with me again"*.

My assessment of the witness evidence relating to antenatal counselling

31. There is a stark difference between the evidence of the Claimant's mother and the evidence from Consultant Midwife Falvey-Browne. The Claimant's mother is plainly an intelligent and articulate woman. She has a doctorate in psychology, as well as other academic qualifications. She understands the concept of risk. Equally, she did not strike me as a dogmatic woman driven to achieve her ideal birth-plan at the expense of significantly increased risk to her baby and with sufficient certainty of mind that she would overrule the clear advice of health professionals on the basis of her own opinions.

32. However, I am also of the view that Consultant Midwife Falvey-Browne was well aware that the risk to the baby was increased if the mother laboured under IA. She had no reason to minimise the risk to the mother and I do not believe that she did so. I do not accept that she had a political objective to encourage natural births such that she deliberately understated risks of a water birth with IA in the context of a VBAC.

33. How do I determine these stark differences? I have reached the conclusion that Consultant Midwife Falvey-Browne told the Claimant's mother that IA was not recommended by the Royal College of Obstetricians and Gynaecologists; that a uterine rupture was a small possibility but that CFM reduced the risk of a rupture damaging the baby; that CFM was available in room 10 but might not be in the birthing centre; and

that if the mother wanted to labour in the birthing centre without CFM that would only be possible if staffing levels permitted. I have reached the conclusion that the Claimant's mother did appreciate the difference between CFM and IA and did appreciate that CFM carried a greater chance of detecting a rupture than IA.

34. I reach these conclusions for a number of reasons:

i) I do not accept that a person of the Claimant's mother's intelligence did not appreciate that intermittent monitoring was different from continuous monitoring and that it was plainly not the *"close monitoring"* that she knew was standard for a VBAC.

ii) The leaflet (which she read) stated that for a VBAC *"we will also continuously monitor your baby's heartbeat"*. She accepted that she was told that monitoring would be by *"continuous CTG"*.

iii) The text from Consultant Midwife Falvey-Browne to the Claimant's mother prior to the consultation on the 28th April was to the effect that women having a VBAC would usually be cared for in room 10 on the delivery suite and that

"we offer continuos (sic) monitoring of baby using a wireless monitor if this room is not available we have had women in the BC who are having a VBAC and this may depend on staffing levels at the time of admission".

That text emphasised that CFM was the standard care offered.

iv) Thus the Claimant's mother appreciated that if she had IA it would not be the close monitoring that she believed was the recommended standard.

v) I cannot accept that Midwife Falvey-Browne would have stated in her summary that the Claimant's mother was *"aware of RCOG guideline"* if there had been no mention of it at all. Whilst I can accept that it may not have been referred to in terms I consider that sufficient was said for the Claimant's mother to have appreciated that the standard close monitoring recommended was continuous rather than intermittent monitoring. I do not accept that the Claimant's mother thought that the guideline related to staffing levels alone: there would have been no reason for Midwife Falvey-Browne to have said that or to have given that impression.

vi) The birth plan was not expressed in terms of choices made by the mother but in terms of a calendar of options. The first two options emphasised continuous monitoring. The third emphasised IA if staffing levels were adequate. It is clear from the summary (which the Claimant's mother read and signed) that Consultant Midwife Falvey-Browne's preference was for continuous rather than intermittent monitoring.

vii) The Claimant's mother did not believe that she was acting unreasonably. The proforma completed by Midwife Hart referred to a risk of 1:200 of uterine rupture and a risk of 0.07:100 of HIE. Moreover Midwife Falvey-Browne expressly made it clear that when she went into labour the Claimant's mother

would have the opportunity to reconsider her birth plan. In cross examination Midwife Falvey-Browne said this:

"Plans are never written in stone or set in stone; they are written at the time when we have a meeting, which is maybe four or five weeks before the birth. Many things -- pregnancy and labour is very dynamic and things can change. That's why when women come in and that's why when we had the discussion we talked about [the Claimant's mother] would be monitored when she first came in and have a holistic assessment and, based on that, whether the plan would still be -- and based on availability on the labour ward whether the plan would be executed or not."

That chimes with the evidence from the Claimant's mother during cross examination that she believed that *"the doctors and midwives on the day would be making the plan for how I would be cared for."*

viii) I accept the force of Mr Moon's cross examination to the effect that the summary does not state in terms the risks and consequences of IA as against CFM. However, I would not have expected Midwife Falvey-Browne to have made such a detailed note. The shorthand *"aware of RCOG"* was sufficient for her at the time and I accept why she believed that that was so. The absence of specific reference to the risks and consequences does not cause me to doubt that the risks and consequences were discussed.

ix) I also accept that Mr Moon's cross examination elicited differences between what Midwife Falvey-Browne said in her witness statement or was pleaded in the Defence and what she said in her oral evidence. Thus (and by way of example only) it was pleaded that the Claimant in the meeting on the 28th April expressed a clear preference for *"a water birth in the birth centre with fetal monitoring to be by intermittent auscultation"*. In evidence Midwife Falvey-Browne accepted that the Claimant's mother was not expressing a clear preference for IA. The purpose of the cross examination was two-fold. First, to make the point that the Claimant's mother did not in fact ask for or express a desire for IA. In that respect the cross examination was successful. I do not consider that the Claimant's mother expressed any such preference. What she said was that if possible she wanted a water birth and that she was prepared to have a water birth even if CFM was not available, provided that staffing levels were appropriate. However, I do not consider that the differences between what was said in oral evidence and what was pleaded or contained in the witness statement undermined Midwife Falvey-Browne's credibility as a witness. I consider that she was honest and reflective and was doing her best to recollect a conversation that took place almost 5 years ago.

Care and counselling during labour

35. By the 19th May the pregnancy was 3 days beyond term. A discussion took place with an obstetrician during which the Claimant's mother expressed a desire not to be induced. Accordingly, an elective Caesarean section was booked for the 28th May.

36. As it happened she went into labour on Saturday the 23rd May at 41 weeks gestation. It was a bank holiday weekend. The Claimant's mother says that she was unable to contact the assessment centre by telephone and thus attended the hospital of her own initiative. Her husband went with her. There was no receptionist on duty at the

maternity assessment unit because it was a bank holiday. She was met by Midwife Havire and taken to a triage room.

37. Midwife Havire gave evidence that the Claimant's mother immediately asserted that she was *"for the birth centre and intermittent auscultation"*. She said that she questioned this plan because it was *"highly unusual"* but the Claimant's mother kept repeating *"this has been agreed with Cathy…this has been agreed with Cathy"* (Consultant Midwife Falvey-Browne). Midwife Havire said that she then explained to the Claimant's mother the risks of not having continuous CTG monitoring and that IA only took place every 15 minutes and might miss something happening to the baby. She said that the Claimant's mother only consented to initial CTG monitoring after some persuasion and because Midwife Havire explained that there were additional risk factors, namely that she was contracting and that she was 7 days overdue. It turned out to be a reassuring trace and Midwife Havire said that it was taken off to allow the Claimant's mother to go to the toilet but that she refused to allow it to be replaced when she returned, notwithstanding that she remained in triage.

38. Midwife Amoako was present when the Claimant's mother came into triage. She gave evidence that the mother immediately said that she wanted *"a natural and normal birth with no pain relief except gas and water"*. She accepted that she had not made a record to that effect and that she knew Midwife Havire had not made a record to that effect either. She confirmed the evidence of Midwife Havire to the effect that the Claimant's mother asked for IA and was warned that there was a risk to the baby in that event. She said that she was *"shocked"* that the mother persisted with her demand.

39. The triage notes do not record that the Claimant's mother insisted on being transferred to the birthing centre or that she wanted IA. Nor do they recite the fact that the Claimant's mother was reluctant to accept CTG monitoring and in fact declined it after returning from the toilet. Midwife Havire said that that was because she had read the birth plan which confirmed what had previously been agreed and because the unit was very busy. She reiterated in cross examination that whilst the birth plan contained three options the Claimant's mother was insistent upon the third: to go to the birthing centre and to have IA. She accepted that this was a change of the plan that was set out in the notes but said that as *"we were not going that much out of the plan"* it was not necessary to record the Claimant's mother's insistence upon the third option.

40. After admitting the Claimant's mother to triage Midwife Havire left to look after another woman. Care was in the hands of Midwife Amoako. The Claimant's mother remained in triage. It was recorded that there were no midwives available to take over care and no bed available elsewhere. The parents recollect (and it was not disputed by the midwives) that there were periods when they were left on their own in triage. According to the notes (although this is disputed by the Claimant's mother) spontaneous rupture of the membranes occurred at 23.20 hours and a vaginal examination took place at 23.25 hours. It was recorded that the maternal cervix had dilated to 5cm and that clear liquor was draining. It was recorded that *"CTG used to monitor another client who was VBAC"*.

41. At 00.20 hours on the 24th May Midwife Havire returned to triage. The Claimant's mother was still there. Midwife Havire recorded that the Claimant's mother was having the urge to push and was pushing spontaneously. Whilst the Claimant's mother recalled that the urge to push was just before midnight I think it is probable that the urge to push

was brought to the midwives attention at around 00.20 hours. At about the same time Midwife Havire had brought to her attention what she referred to as a *"bloodstained mucousy show"* but which the Claimant's father thought was a significant amount of bright red blood. It was then recorded (for the first time) that there was a birth plan that had been agreed with Consultant Midwife Falvey-Browne contained in the notes and that the Claimant's mother was *"requesting a water birth"* and was *"happy to go to BC for water birth"*. I observe that there was still no record that the Claimant's mother was insisting on IA or was declining CFM.

42. At about 00.30 hours the Claimant's mother was transferred to the birthing centre and at about 00.40 hours she entered the pool. At 00.45 hours Midwife Havire performed an IA (to which I will return) and at 00.55 hours care was formally transferred to Midwife Bigwood. There is then a record that Midwife Havire notified the obstetric registrar and midwife coordinator that the Claimant's mother was in the birthing centre.

43. The Claimant's mother denied that she needed to be persuaded to accept initial CTG monitoring and denied that she declined to have CTG monitoring on her return from the toilet. She said that she did not ask for or insist upon being transferred to the birthing centre or that she have IA only. She said that she did not mention the birth plan agreed with Consultant Midwife Falvey-Browne. The essence of her evidence, confirmed by her husband, is contained in the following passages:

> *"I didn't even know that I was going to the birth centre until I got wheeled into the birth centre. And there was no discussion whatsoever that there was no wireless monitoring and whether it was appropriate for me to go into the pool because nobody had reviewed it and nobody had been even present for the previous hour and a half.*
>
> *We had been in that triage and I had been not watched, had nobody take concern over me. I had no midwife checking on me. I had no monitoring for almost two hours. And the fact that someone had come into a room and put me in a wheelchair because I was pushing and in an immense deal of pain, I was with a midwife. I had no -- I had no -- nothing was going on around me other than I had a midwife. That was -- no discussion was had about monitoring. No discussion was about: would you like to get into the pool? Is it appropriate to get into the pool? I was having a baby imminently, I had been told. And I had no -- there was no birth plan."*

44. Prior to the formal hand-over of care by Midwife Havire to Midwife Bigwood both midwives said that there was a discussion as to why the Claimant's mother was in the birthing centre if she was a VBAC labour. The birth plan agreed by Consultant Midwife Falvey-Browne was shown to Midwife Bigwood and, according to the midwives, the Claimant's mother repeated that she was *"for IA and waterbirth and this had been agreed with the Consultant Midwife"*. In her witness statement Midwife Bigwood said that the Claimant's mother *"was adamant that she was to have IA"*. In evidence in chief her account was somewhat different. She said this:

> *"So it's normal to have handover. So the midwife that's bringing in will tell you the history. And this was given to me by Midwife Havire. She brought the client over. And she took her straight into the room. I followed after a couple of minutes. I went in and she was running a*

> *pool. And she -- she introduced me to the client. And (s)he told me that she was a VBAC. And I questioned why she was on the birth centre because this wasn't normal. And she said that it was okay; that there had been a plan. There had been a lot of discussion and the plan was made with Consultant Midwife Cathy Falvey-Browne. And that this was the plan that was agreed.*
>
> *Q. Who was in this discussion?*
>
> *A. Well, it was between myself and Midwife Havire; but it took place, the three of us was together. So it was queried, Midwife Havire told me the plan. And then she asked the client. And she confirmed that that was the correct plan.*"

When cross examined Midwife Bigwood did not confirm that the Claimant's mother had actively sought IA. What she said was that the Claimant's mother agreed with the plan that she should labour in the birthing centre and that as far as Midwife Bigwood was concerned that meant she was agreeing to IA because *"we couldn't do continuous monitoring on the birth centre"*. A little later in her evidence she explained that what she meant was that she was unable to carry out CFM that night at the birthing centre because she had been told by Midwife Havire that wireless monitoring was not available. She accepted that she did not say to the Claimant's mother that she was personally concerned that there would be no CFM.

45. Whilst Midwife Havire said that she palpated the abdomen to assess the frequency of contractions she made no note as to the frequency and Midwife Bigwood did not confirm her evidence. Midwife Bigwood did not palpate the mother's abdomen to assess strength or frequency of contractions or to assess where the sonicaid should be placed when listening for the fetal heart or to assess whether the uterine scar was tender. It does not appear that Midwife Bigwood monitored any of the signs and symptoms of scar dehiscence or uterine rupture or had a clear idea of what those signs and symptoms might be. I interpose that Ms Helleur, the expert midwife reporting on behalf of the Defendant, agreed at one stage in cross examination that the competent midwife should palpate the maternal abdomen for these purposes prior to the mother going into the pool. She slightly withdrew from that position later when she said that midwives might also be able to assess the strength and frequency of contractions from the mother's demeanour. Ms Helleur said that she would have expected Midwife Bigwood to look for the signs and symptoms of scar dehiscence or uterine rupture.

46. There was no vaginal examination to assess whether the Claimant's mother was in the second stage of labour before she entered the pool. This, notwithstanding that at 00.20 it was recorded that *"Katherine says is having urge to push and pushing spontaneously"* and at 00.35 hours it was recorded *"Katherine feels pushing with contractions"*. In the internal investigation Midwife Havire said that at 00.20 hours the Claimant's mother *"sounded as she was pushing with contractions"* and that she asked the Claimant's mother *"if she was pushing and she said she felt like pushing occasionally"*. The urge to push is a sign that a mother may have entered the second stage of labour. Likewise a mucoid show. One would expect that entering the second stage would be confirmed by a vaginal examination. Midwife Havire explained the absence of a vaginal examination on the basis that the Claimant's mother had had one *"less than an hour or two hours before"* and that it seemed to her that the Claimant's mother was in significant pain and she wanted her to have pain relief from the warm

water before she was assessed. Midwife Bigwood made the point that *"we tend not to call contractions pain"* and that in her view the Claimant's mother was having contractions. However, the Claimant's mother said that at about 01.00 hours *"…I do not recall the pain subsiding between wanting to push – it was just pain"*.

47. It is not wholly clear whether there was any discussion between Midwife Havire and Midwife Bigwood as to whether the Claimant's mother might be in the second stage of labour. Midwife Bigwood said that *"I think, if I remember rightly, that I was told that she was having occasional urges to push"*. Midwife Havire accepted that the Claimant's mother might have been in the second stage before getting into the pool. Midwife Bigwood said that there were no signs that she was in the second stage, even when there was a visual examination after the Claimant's mother had got into the pool.

48. I consider that it is improbable that there were any maternal observations at 01.00 hours as suggested in the notes. It is likely that the observations made by Midwife Havire at 00.40 hours were copied into the birthing centre records.

49. It is recorded in the notes that there were IAs carried out by Midwife Amoako at 23.20, 23.40 and 24.00 hours and that they were all normal. It is recorded that there were IAs carried out by Midwife Havire at 00.35 and 00.45 hours and that they were normal. The IA at 00.45 hours was said to have been performed *"before, during and after"* the contraction. It was agreed between the midwifery experts that this is inappropriate and can lead to the perception of a problem where none exists. It is also recorded that there were IAs performed by Midwife Bigwood at 00.44 hours and 01.00 hours. The one at 00.44 hours was, said Midwife Bigwood, abandoned because it took place during a contraction and the suggestion was made that it was thus repeated by Midwife Havire at 00.45 hours. The Claimant's mother denied that the earlier IAs took place and the competency of the IAs and the accuracy of the recordings was challenged on behalf of the Claimant. I shall also return to the monitoring later in this judgment.

50. The Claimant's parents both gave evidence that when his mother was in the pool there was a vaginal assessment using a mirror following which they were told that she was 10 cm, meaning that her cervix was fully dilated. The midwives denied using a mirror at all and said that if they had used a mirror it would have been to help them assess whether the presenting part was visible: if visible that would have been diagnostic of the woman having entered the second stage of labour.

51. Midwife Bigwood said that she listened to the fetal heart by sonicaid for a full minute at 01.00 hours and it seemed to be normal; there were no decelerations and there were accelerations. She agreed that she did not palpate the abdomen to find out where to put the sonicaid. She agreed that the auscultation was performed when the Claimant's mother was in the pool. However, she insisted in cross examination that the IA was performed at 01.00 hours and that the heart rate was 126 bpm. She then listened to the heart again at 01.15 hours and immediately picked up a deceleration that did not appear to be recovering. With commendable expedition she realised that this might be an emergency and pressed the emergency buzzer for assistance. The obstetric registrar arrived immediately. She confirmed that there was scar tenderness and a fetal heart rate of 80 bpm. The Claimant's mother was taken to theatre immediately, arriving at 01.28 hours. In theatre the fetal heart was recorded as remaining at 80 bpm. Insofar as there was a suggestion that stems from the internal investigation that the heart rate fluctuated between 80 and 135 bpm after 01.15 hours I reject it. Dr Dear, the expert

neonatologist reporting on behalf of the Claimant, accepted that there was no contemporaneous evidence supporting that suggestion and that it was not what he would have expected. A vaginal examination confirmed that the cervix was fully dilated but, appropriately, a decision was taken to perform a category I caesarean section. Delivery was achieved at 01.46 hours.

My assessment of the witness evidence relating to events during labour

52. I regret to say that I do not regard Midwife Havire's evidence as persuasive. There are a number of reasons why:

    i) During cross examination she asserted that she did not record the Claimant's mother's reluctance to have CTG monitoring because in the end the mother was persuaded to have it. She said that if the Claimant's mother had declined CTG monitoring she would have recorded it. However, the fact is that on Midwife Havire's evidence the Claimant's mother *did* decline CTG monitoring on returning from the toilet and yet there was no record to this effect. I cannot accept her evidence in cross examination that she was too busy to record that the CTG monitoring did not continue at the insistence of the Claimant's mother, particularly given that she said it was *"highly unusual"* and *"very worrying"* and that she appreciated that a failure continuously to monitor a VBAC labour was potentially dangerous. Nor can I accept that when she returned to triage at 00.20 hours on the 24th May and appreciated that there was still no continuous CTG monitoring she did not record that this was at the Claimant's mother's insistence because she *"did not have any need to use negative words"* and that the record that the Claimant's mother was *"requesting for a water birth"* sufficed.

    ii) In the statement made for the internal investigation Midwife Havire said nothing about the Claimant's mother insisting on having IA and said nothing about having to persuade the Claimant's mother to have CTG monitoring. By the time it came to this case, however, the reluctance to have CTG monitoring and the insistence on having IA was central to her evidence.

    iii) It became clear in cross examination that Midwife Havire did not consider the option of the Claimant's mother going to the birth centre and having wireless CTG monitoring. She insisted that it had never happened before. However, it was the clear second option of the plan agreed with Consultant Midwife Falvey-Brown. She gave no justification for the fact that she did not see whether the wireless CTG in room 10 on the delivery suite could be used in the birthing centre.

    iv) Midwife Havire took no steps to escalate her worries to the Midwife Coordinator or to an obstetrician prior to the transfer to the birthing centre. The first time she mentioned anything out of the ordinary to the coordinator was at about 01.00 hours when she said that the Claimant's mother was in the birthing centre. Her witness statement does not suggest that she gave the coordinator any additional information. I do not understand why, if in fact Midwife Havire was as concerned as she said she was and if the Claimant's mother was insisting on IA which Midwife Havire appreciated was potentially dangerous, she would not have told the coordinator of the difficulties that she had had getting the

Claimant's mother to accept admission CTG monitoring; or that the Claimant's mother had declined CTG monitoring thereafter; or that the Claimant's mother was in the birthing centre without CFM contrary to recommendation and upon the mother's own insistence. Initially in cross examination Midwife Havire appeared to accept that she had not told the coordinator that it was the mother insisting upon IA. She said this:

Q. *You didn't tell Midwife Idowu, did you, that [the Claimant's mother] was insisting on intermittent auscultation.*

A. *It wouldn't have made any difference to tell her.* It was only later that she asserted *"I would have probably told her"*.

There was no suggestion from her that she informed the obstetrician and I note that Ms Helleur, the expert midwife reporting on behalf of the Defendant, accepted that the obstetric registrar would have needed to know that there was a VBAC case where the mother was insisting on a water birth with IA.

v) Notwithstanding that Midwife Havire said that she was very worried about the lack of monitoring, she took no steps to carry out IA when she returned to triage at 00.20 hours knowing that in the first stage of labour IA takes place every 15 minutes; that the previous IA had been recorded at 24.00 hours; and that there were, at least, indications that the Claimant's mother was entering the second stage when IA should increase in frequency to every 5 minutes. If she was as concerned as she said she was in evidence I would have expected an immediate auscultation when she returned to triage. In cross examination she accepted that the delay in carrying out IA until 00.35 hours was not appropriate but she did not explain adequately why, in the context of her concerns, it had not occurred.

53. Midwife Amoako struck me as someone who was content to accept that her midwife supervisor, Midwife Havire, would make the decisions. She did not seem sure of her memory of events and she was also unable to give cogent reasons as to why she did not note decisions made by the Claimant's mother that she said shocked her, or escalate her concerns to the obstetric registrar or note that she had tried to escalate her concerns to the midwife coordinator. At one stage she seemed to suggest that she did not escalate matters to the obstetric registrar because the registrar would simply have insisted that the Claimant's mother be provided with a bed on the delivery suite. Elsewhere she said that she did in fact inform the midwife coordinator of her concerns but the coordinator said that she (Midwife Amoako) would have to leave triage and look after the Claimant's mother in the labour ward if it was proposed that there was where she should go. She explained that in triage it was *"impossible for us to do 15 minute auscultation"* yet she did not seek help or record her concerns notwithstanding that she knew that CFM was the standard. Importantly, she did not tell the Claimant's mother that IA every 15 minutes was the standard for all women in the first stage of labour and that in triage at least staff at the hospital were unable to accomplish that. Finally, the statement she made for the purposes of the internal investigation did not refer to Midwife Havire warning the Claimant's mother about the risks of IA, notwithstanding that Midwife Amoako said for the purposes of this case that she had been present when Midwife Havire had provided such warnings.

54. It follows that I also do not consider Midwife Amoako to be a persuasive witness as to the events that took place on triage.

55. I consider that Midwife Bigwood has a poor recollection of the discussions that took place during handover. In particular I do not consider that in her witness statement she has accurately recorded the discussion at handover when she asserts that the Claimant's mother *"was adamant that she was to have IA"*.

56. I consider that, with certain exceptions that I will come to, the evidence from the Claimant's parents was more reliable as to the events that occurred during labour. I am sure that they became concerned because of the lack of midwifery support in triage and it is possible that they both asked that the Claimant's mother be transferred to the birthing centre because they felt that there would be more support once she was there. However, I do not make any findings about the detail of the conversations between the parents and the midwives because, save to the extent set out below, it is unnecessary for me to do so.

57. I find that when the Claimant's mother arrived in triage her preference was for a water birth. She probably said as much to Midwives Havire and Amoako. However, she did not have a preference for IA, did not need to be persuaded to have CTG monitoring and she did not decline to have the CTG monitoring continued after she had been to the toilet. I find that the midwifery staff simply considered that her birth plan had been agreed by Consultant Midwife Falvey-Browne and, whatever they thought about it, it was a plan that they should support. I do not consider that they were shocked or unduly concerned, although they may have considered it an unusual turn of events. I find that they did not warn the Claimant's mother of the risks or potential consequences of IA nor did they recommend she should have CFM in order to reduce the risk to the baby. I find that because triage and the delivery suite were so busy they did not have the time or the incentive to discuss with the Claimant's mother her birth plan and that they did not do so. I find that she was transferred to the birthing centre because midwifery staff believed she was content to labour there and it was preferable that she should be there rather than remain on triage. I find that they did not escalate any concerns that they might have had to the midwife coordinator or an obstetrician.

58. I consider that during the course of the handover Midwife Bigwood did query why the Claimant's mother was being transferred to the birthing centre. I think it likely that Midwife Havire told Midwife Bigwood that that was the agreed plan. It is possible that Midwife Havire showed Midwife Bigwood the plan agreed with Consultant Midwife Falvey-Browne. However, I do not consider that the Claimant's mother was part of the conversation, although it is possible that both midwives assumed that she could hear what was being said and was confirming what was being said by silence. I am satisfied that the Claimant's mother did not say that she was *"for intermittent auscultation"*.

59. Neither Midwife Havire nor Midwife Bigwood mentioned to the Claimant's mother the risks of IA when they were in the birthing centre nor did they tell the Claimant's mother that Midwife Bigwood had never cared for a VBAC labour other than under CFM. I accept that at about 00.55 – 01.00 hours Midwife Havire notified the midwifery coordinator that the Claimant's mother was in the birthing centre.

60. I accept the evidence from Midwife Havire that she did not know whether the Claimant's mother was in the second stage of labour. This is because no confirmatory

vaginal examination was performed before the Claimant's mother entered the pool. I think it probable that a mirror was used to carry out a visual examination (but not an examination of cervical dilatation) when the Claimant's mother was in the pool but that the midwives could not see the presenting part. I accept the expert obstetric and midwifery evidence that midwifery staff would not and could not use a mirror to determine whether the cervix was fully dilated. I thus consider that the parents were mistaken in their recollection that they were told that the cervix was 10cm dilated.

61. I accept that IAs were performed at the time that Midwife Amoako said they were performed. Whilst I have been critical of her evidence of the counselling that took place I have no reason to think that as events were unfolding she was making entries that were false. I also accept that the IAs she performed were probably reliable. I reach this conclusion because I have no material with which I could conclude that she was likely to perform an IA incompetently. Moreover, neither the Claimant nor the Defendant's experts assert that a rupture of the uterus took place before midnight and thus the entries recorded by Midwife Amaoko were what would have been expected.

62. I consider that the Claimant's parents, who would not at the time have appreciated the importance of the frequency of IA, have, in their belief that they were *"abandoned"* simply failed to register when IAs took place or have, in the period that has elapsed, simply forgotten that they took place.

63. I do not consider that Midwife Havire would have failed to perform IAs in a generally competent way. The criticism of her is that she performed an IA in a way that was inappropriate and give a falsely non-reassuring result. I can understand why, after Midwife Bigwood's failed auscultation, she would have been anxious to ensure that she listened to the fetal heart rate for as long as possible. Whilst the criticism of the 00.45 hours IA is justified I do not think it impacts on her general competence. Moreover, Midwife Havire is a skilled and experienced midwife who supervises others. IA is a basic part of a midwife's job. I am confident that she knew how to auscultate properly and I am confident of the results that she recorded.

64. I have concerns as to Midwife Bigwood's general competence. She did not appreciate that variability cannot be assessed by IA, whereas Ms Helleur confirmed that that was the case; she performed one auscultation at the wrong time; she did not know what signs and symptoms to look for when assessing for uterine rupture. She was relatively inexperienced but at the same time appeared to me to assert, in evidence at least, a confidence in her ability to care for a VBAC woman who was declining CFM that was misplaced. Moreover, she was performing IA when the Claimant's mother was in the pool. She was using the sonicaid and had not palpated the abdomen in order to determine where it should be placed. She was relying on where Midwife Havire had placed it at 00.45 hours.

65. On the other hand she was commendably expeditious when she auscultated at 01.15 hours.

66. I have concluded that I have confidence in all of the auscultations performed until 01.00 hours. In my judgment they were performed and the results are reliable. I will return later to the auscultation at 01.00 hours.

67. The Claimant's mother said that at about 01.00 hours *"...I do not recall the pain subsiding between wanting to push – it was just pain"*. I accept that evidence. I do so for three reasons. First, Midwife Havire seems to confirm that there was a significant escalation of pain at or around 00.45 hours. That was her justification for not carrying out a vaginal examination before the Claimant's mother entered the pool. Second, she described the presentation of the Claimant's mother as being in pain, yet Midwife Bigwood asserted that midwifery staff tend not to describe contractions as *"pain"*. Thirdly, although Midwife Bigwood suggested that the there was no pain between contractions I remind myself that at the time she did not focus on the fact that pain between contractions was an indication of scar rupture. In evidence she at first could not recall any sign or symptom that she should be looking out for. After reflection she said that she would look for scar tenderness. However, she did not seem to appreciate that pain between contractions was an abnormal finding suggestive of uterine rupture. Thus, the fact that the Claimant's mother's complaint was not recorded is not of itself remarkable.

The events following delivery

68. I shall deal with this part of the history in summary form as there were no disagreements as to what occurred.

69. The Claimant was born in poor condition. His heart rate was less than 50 bpm. The Apgar scores (a system designed to give a numerical assessment out of 10 of the condition of the baby) were 1 at one minute, 5 at five minutes and 8 at ten minutes of age. It was agreed between the expert paediatric neurologists that effective resuscitation was probably achieved at three minutes of age, at 01.49 hours. He was transferred to the neonatal unit and then to the Royal London Hospital for therapeutic cooling. HIE was noted. An MRI was performed on the 1st June 2015 which revealed changes suggestive of the Claimant having sustained brain damage consequent upon an acute near total hypoxic-ischaemic insult.

70. Sadly the brain damage has been confirmed clinically. In his condition and prognosis report dated January 2018 Dr Thomas, Paediatric Neurologist, confirms that the Claimant is *"permanently handicapped by the effects of an evolving, but predominantly dystonic, four-limb cerebral palsy. He is microcephalic and his cognitive abilities are impaired, such that they fall into the severe or even profound learning disability range"*.

Breach of duty

Counselling

71. On the basis of my findings as set out above whatever the perceived deficiencies in the standard of antenatal counselling prior to the 28th April (and for the avoidance of doubt I do not find that the failure by Midwife Finney to hand the VBAC leaflet to the Claimant's mother on the 1st October or the failure by Midwife Smith or Midwife Hart to actively discourage the Claimant's mother against a water birth amounted to breaches of duty), the counselling given on the 28th April was reasonable and appropriate. I consider that in the context of the earlier counselling by Midwife Hart and in particular the recitation of the risks and benefits of VBAC contained in the proforma Consultant Midwife Falvey-Browne did sufficient to alert the Claimant's mother to the risks

inherent of having IA. I consider that she was entitled to conclude that the Claimant's mother knew the difference between CFM and IA, knew that continuous CTG monitoring was a form of CFM and knew that CFM was better for the baby than IA. I consider that the Claimant's mother did in fact appreciate such matters. I consider that Consultant Midwife Falvey-Browne appropriately balanced the need to make it clear that IA was not recommended by the hospital or the Royal College with the need to support the Claimant's mother in the choice that she took.

72. Moreover, whatever the perceived deficiencies of the antenatal counselling I find that the Claimant's mother knew of the increased risks of having a water birth with IA as contrasted with labouring with CFM whether in a pool or otherwise. She may not have appreciated that HIE could lead to brain damage but she knew that it was *"bad for the baby"* and in my judgment that sufficed.

73. However, both expert midwives accepted that it was necessary for the counselling to be repeated when the mother came into the hospital in labour. Whilst Mr Tuffnell, the expert obstetrician reporting on behalf of the Defendant, did not accept that it was necessary he appeared to me to defer to the midwifery evidence. Given that Consultant Midwife Falvey-Browne agreed with the expert midwives when she said that "*pregnancy and labour is very dynamic and things can change. That's why when women come in and that's why when we had the discussion we talked about Mrs Smith would be monitored when she first came in and have a holistic assessment and, based on that, whether the plan would still be -- and based on availability on the labour ward whether the plan would be executed or not".* I accept the opinion of the expert midwives and reject Mr Tuffnell's opinion insofar as it differs on this issue.

74. It is evident from my findings as set out above that I do not consider that there was any counselling or re-assessment of risks when the Claimant's mother came to the hospital in labour. Given the agreement of the midwifery experts in the joint discussions that *the birth plan require reconsideration during the course of the pregnancy and in particular when the mother goes into labour"* that suffices for my conclusion that there was a breach of duty on the part of the Defendant during the night of the 23rd and 24th May. However, I should make it clear that I consider that counselling and a re-assessment of risks was necessary because there was a very real possibility that the Claimant's mother would change her mind if provided with a sober re-assessment of the risks and benefits of IA and given that:

i) the maternity unit was very busy. The Claimant's mother was in triage from 22.05 hours on the 23rd until 01.20 hours on the 24th, almost 2 ½ hours. During that time Midwife Amoako was unable to perform IA as frequently as was necessary. The monitoring by midwifery staff was thus not what the Claimant's mother had expected.

ii) There was no assessment as to whether Midwife Bigwood was or was not someone capable of managing a VBAC labour with IA. That assessment was plainly contemplated as part of the original birth plan agreed with Consultant Midwife Falvey-Browne. Ms Helleur, the expert midwife reporting on behalf of the Defendant, seemed to me to accept not only that the midwifery coordinator should have been informed of what was happening but should then, in association with the mother, have made a plan depending on the mother's wishes, the midwives available to care for the mother and the extent

of the experience held by those midwives. Whilst Midwife Bigwood clearly had sufficient formal qualifications to care for the Claimant's mother any assessment that night would have revealed that she had never before looked after a VBAC mother using only IA and that she would probably have to look after the Claimant's mother on her own. Moreover, there was no plan as to how the risk of IA would be mitigated, whether by more frequent IA in the first stage of labour or otherwise. Ms Helleur accepted that more frequent auscultation was something that some midwives would have done. She did not believe that it was a breach of duty for Midwife Havire or Midwife Bigwood themselves not to have initiated more frequent IA in the first stage. However, the problem in this case was that nobody at a more senior level was given the opportunity of considering whether it should be done in this case. That was because there was no proper counselling or re-assessment.

75. I therefore consider that any repeated counselling and re-assessment should have set out the risks inherent in not having CFM but should also have emphasised that staff could not guarantee the close monitoring by a midwife that the parents had expected because the unit was so busy, that CFM simply could not happen in the pool because there was no available wireless CTG monitor, and that there may have been no staff available who had experience of caring for a VBAC mother who was not continuously monitored.

Management

76. It was always the Claimant's case that his mother had entered the second stage of labour at about 00.20 hours and that thereafter IA should have been every 5 minutes. In that event even if there had not been CFM fetal heart abnormalities would or should have been detected from 00.30 hours and a decision to deliver should have been made by 01.00 hours.

77. The Amended Particulars of Claim alleged that whether or not the Claimant's mother was in the second stage of labour IA should have taken place every 5 minutes after 00.30 hours because [i] it was possible that she had entered the second stage [ii] there was no vaginal examination to confirm or refute the fact that she was in the second stage and [iii] in the context of this case, where midwifery staff knew that IA was a 'second-best' method of monitoring, they should either have performed a vaginal examination or should have assumed that she had moved to the second stage and increased the frequency of the IA accordingly.

78. It was also alleged that whether or not the Claimant's mother was in the second stage of labour an obstetrician should have been called *"soon after 01.00 hours"* because of the complaint made by the Claimant's mother that she was in continuous pain.

79. In my judgment midwifery staff should either have confirmed that the Claimant's mother was in the second stage of labour before she entered the pool or should have made that assumption and performed IA every 5 minutes thereafter. I consider that Ms Helleur, the expert midwife reporting on behalf of the Defendant either made that concession or came very close to it. She said this:

> *"DEPUTY JUDGE MASKREY: If we -- as we know, intermittent auscultation increases the risk of failing to note a uterine*

> *rupture, and that's because it's a snapshot every 15 minutes, then wouldn't you expect midwifery staff to be erring on the side of their having been an entry into the second stage, so that they can then auscultate more frequently.*
>
> *A. So my short answer is "yes"."*

And a little later this:

> *"DEPUTY JUDGE MASKREY: You seem to be saying to me that if the midwifery staff reasonably come to the conclusion that she is not yet in second stage then it is unnecessary for them, even in the context of this case, to confirm or refute that with a vaginal examination?*
>
> *A. Yes. That's my evidence."*

80. In my view the midwifery staff could not reasonably have come to the conclusion that the Claimant's mother was in fact only in the first stage of labour. At 00.20 hours it was recorded that she was pushing spontaneously and Midwife Havire said to the internal investigation that at this stage she was pushing *"occasionally"*. But at 00.35 hours it was recorded that she was pushing with contractions. That was clear evidence of a transition from the first to the second stage. Although the Claimant's mother's cervix had been 5cm dilated at 23.25 hours which meant that progress must have been swift for her to be in the second stage at 00.35 hours a swift labour is by no means unusual. Furthermore there had been what Midwife Havire assumed was a show at around the same time. If the show was not a sign of uterine rupture, and the midwives were adamant that they did not think it was, then it was a sign that the second stage had been entered.

81. I find that on a balance of probabilities the Claimant's mother was in the second stage of labour from 00.35 hours. On that basis, and in the context of this being a VBAC case where monitoring had not been continuous I accept the expert evidence of Ms Cro, reporting on behalf of the Claimant, that midwifery staff ought to have confirmed as much by carrying out a vaginal examination or they ought to have assumed that she had entered the second stage. In either event IA should have taken place every 5 minutes thereafter.

82. I also find that the Claimant's mother was in continuous pain at or around 01.00 hours and that it was a breach of duty not to have recognised that this was a sign of uterine rupture and to have called for obstetric assistance. Ms Helleur accepted that she would have expected Midwife Bigwood to have *"monitored for all the signs and symptoms"* as set out in the guideline for the management of VBAC cases and to have called an obstetrician if there had been a complaint of continuous pain.

The decision making

83. Of course, that is not the end of the matter. I must now turn to consider what would probably have occurred had the breaches of duty not taken place.

84. The Claimant's mother's witness statement does not deal with what her position would have been had she decided to accept the risk of IA by the 28th April but then had further counselling and a re-assessment on the 23rd and 24th May. That is not a criticism because, of course, her case has been that she was unaware of the risks of IA, a matter that I have determined against her.

85. The Claimant's father was asked in examination in chief about the approach he would have taken if there had been a re-assessment and further counselling. He said this:

> *"What would your reaction have been to being told that night by the midwives that the course of action being proposed by your wife was -- was risky?*
>
> *A. I would have asked the midwife to explain why; and, if there was any risk, I would have said: don't -- don't go for it.*
>
> *Q. To whom would you have said that?*
>
> *A. To the midwife and to Katie.*
>
> *Q. And, knowing your wife as you do, what do you think the prospects of changing her mind? This is of course on the premise that she had come in with a fixed desire to have intermittent auscultation if -- having spoken to you about it, do you think you would have succeeded in changing her mind?*
>
> *A. Yes. Katie is risk averse. She was very concerned for her baby and herself. She would only have wanted the safest course of action.*"

86. Of course, I have not found that the Claimant's mother had a *"fixed desire to have intermittent monitoring"* but rather I have found that she had a desire for a water birth if possible and had decided by the 28th April that she was prepared to accept IA if it meant she could have a water birth. But even on the somewhat more extreme premise put to the Claimant's father I found his evidence compelling, notwithstanding the risk of subsequent events colouring his recollection. From what he had seen that night it did not seem as if his wife would be looked after by a midwife as closely as he had expected. As he said in evidence, he and his wife felt *"abandoned"*. I am confident that if at that point there had been a recitation of the risks of IA then whatever his or his wife's previous thought processes there would have been the desire to accept whatever additional monitoring could be provided.

87. Moreover, I accept the evidence of Consultant Midwife Falvey-Browne that *"pregnancy and labour is very dynamic and things can change"* and the agreement of the expert midwives in the joint discussions that *"women can change their mind once they experience labour and make different choices to the ones they had planned in the antenatal period."* I consider that once the realities of labour had impressed themselves on the Claimant's father he would have thrown his weight behind CFM, particularly if he had been told that there were no midwives present who had had the experience of caring for a VBAC labour without CFM. As I have previously said, I do not consider that the Claimant's mother was driven to achieve her ideal birth-plan at the expense of

significantly increased risk to her baby. I believe that she had assessed the risk by the 28th April and considered that it was minimal. The reality of labouring in a busy maternity unit would have caused her to re-evaluate her decision with the input of her husband. With that input I consider she would have opted for CFM if it had been emphasised that that was the advice of the midwives on the night.

88. I thus find that there should have been a re-statement of the risks to the Claimant's parents on admission on the 23rd May; that they should have been told that Midwife Havire recommended CFM and why; that they should have been told that this was particularly the case because the unit was very busy and that there was no-one available who had the experience of caring for a VBAC mother without CFM; and that if given this information in these terms they would probably have decided to accept CFM. Accordingly, I find that in such circumstances there would probably have been continuous CTG monitoring.

89. If there had been a vaginal examination at 00.45 hours as there should have been it would have been appreciated that the Claimant's mother's cervix was fully dilated and that she was in the second stage of labour. It thus follows that if I am wrong in my finding at paragraph 87 above I find that there should have been IA every 5 minutes from 00.45 hours and that the Claimant's mother would have accepted the increased frequency of IA.

Time of delivery

90. I now have to consider whether continuous CTG monitoring or IA every 5 minutes from 00.45 hours would, on the balance of probabilities, have resulted in staff appreciating that there were abnormalities of the fetal heart rate before 01.15 hours and, if so, what probably would have been the consequence.

91. The RCOG guidelines make it clear that in the majority of cases there are fetal heart rate abnormalities associated with uterine rupture. But the essential question in this case is not whether there would have been fetal heart rate abnormalities but the duration of such abnormalities prior to the bradycardia detected by Midwife Bigwood at 01.15 hours.

92. Dr Loughna, the expert obstetrician reporting on behalf of the Claimant, concluded that what was described as a bloody mucoid show by Midwife Havire and as fresh bright red blood by the Claimant's father was in fact a sign of scar dehiscence and that the fetal heart abnormalities would thus have started at about 00.30 hours. She relied exclusively on the bloody mucoid show/bright red blood loss as supporting her conclusion that scar dehiscence occurred at 00.30 hours. It was put to her that it would be surprising if there was bleeding from the uterine rupture which simply stopped, as appeared to be the case. She did not accept that, asserting that external bleeding may appear to be minimal and may be prevented by the fetal head. When it was pointed out that the fetal head was high and thus unlikely to form a 'plug' she made the point that it was one of the signs of rupture that the fetal head my retract.

93. In her report Dr Loughna said that "In the presence of a scar dehiscence, there will usually be atypical variable decelerations of the fetal heart rate or a fetal tachycardia". In evidence she asserted that the decelerations would take place with 50% of contractions.

94. Mr Tuffnell, the expert obstetrician reporting on behalf of the Defendant did not accept that what was described was related to scar dehiscence or uterine rupture. He considered that if there was bleeding from a rupture (and he considered that it would have to be from a rupture rather than a dehiscence alone) it would not stop. He did not accept that the evidence allowed him to assume that there was a rupture, blood was lost, the fetal head then acted as a 'plug' to stop the bleeding but that then head then retracted. He considered that if there was a rupture then there would be atypical decelerations with all of the contractions thereafter and thus if I found that one of the IAs was reliable that effectively determined that the rupture had not by that stage occurred. He also considered (not, I think as an expert but simply as someone used to dealing with probabilities) that it would be remarkable if there were decelerations with 50% of contractions and yet coincidentally each of the IAs were normal. Moreover, his experience was that there was likely to have been a short duration of fetal heart abnormality lasting less than half an hour before the bradycardia developed. He thought that the commencement of the period of fetal heart abnormality typically occurred towards the end of the first stage and into the second stage of labour. He cited a paper by *Andersen et al* in support of his contention, directing the Court's attention to Table 4 of that paper in particular.

95. There was considerable debate during the course of the evidence as to the value of the literature referred to by Mr Tuffnell. In the end and, I think, in agreement with both experts, I have concluded that it is of limited assistance. I have concluded that in the majority of cases there will be fetal heart decelerations in association with a rupture; that the decelerations may persist for an indeterminate amount of time before fetal bradycardia occurs; and that it is more likely that a rupture will occur in the second stage of labour and be associated with pushing. The difficult point of disagreement between the obstetric experts is whether there would be decelerations with every contraction once the rupture had occurred. Mr Tuffnell was clear on the point. Once there was a rupture there would be decelerations and once there were decelerations they would be with every contraction.

96. I accept that at about 00.30 hours the Claimant's father pointed out the blood loss to Midwife Havire. I do not accept that it was blood from a uterine rupture. Such a conclusion is, on Mr Tuffnell's evidence, inconsistent with my finding that the IAs at 00.35 and 00.45 hours were reliable. Even on Dr Loughna's evidence it would be unlikely if there were decelerations with 50% of contractions that these two (and the one carried out by Midwife Bigwood at 00.44 hours which, whilst abandoned, resulted in her concluding that there was a normal fetal heart rate and that it was regular) would have been normal. I also think the absence of active bleeding (which was confirmed by the obstetricians later on) and the assertion made by Midwife Havire that what she saw was *"very minimum"* (sic) is less consistent with a rupture than a second stage show. I accept her evidence on this issue because it was accepted by the Claimant's father that when he pointed out the blood loss Midwife Havire did not regard it as a matter of concern. I think she would have regarded it as of concern if it had been as extensive the Claimant's father described. Moreover, a finding that it was a second stage show is consistent with the Claimant's mother having an urge to push at about the same time. I think it is more likely that the rupture occurred after several minutes of pushing with each contraction. Thus I think it more likely that the rupture occurred after 00.45 hours than at 00.30 hours.

97. I thus conclude that at 01.15 hours there was a bradycardia and that on the balance of probabilities the bradycardia was preceded by decelerations. I think it probable that the rupture occurred in association with pushing and in the second stage of labour. I consider that the probabilities are that the Claimant's mother entered the second stage by 00.35 hours and that the rupture occurred at some point after that. I note the point made by Mr Tuffnell that if the cervix was 5 cm dilated at 23.20 hours (as is recorded) it means that progress to full dilatation was rapid. However, his second point, that full dilatation between 00.20 and 00.35 hours would be expected to give rise to delivery by 01.15 hours, was, after consideration, withdrawn. I do not think Mr Tuffnell's point is a sufficient reason to conclude that full dilatation probably occurred later than 00.35 hours. Given that I accept the auscultations performed at 00.35 hours and 00.45 hours are reliable and that I reject the argument that the blood loss was consequent upon a rupture before 00.45 hours I conclude that the rupture probably occurred after 00.45 hours. I consider that it is more likely than not that it occurred between 00.45 hours and 01.00 hours. This would explain [i] why the IAs were normal before 01.00 hours and [ii] why the pain became continuous by about 01.00 hours. I note that in the Pryor et al paper (2007) the researchers found that *"the inclusion of a subjective but relevant clinical criterion, persistent abdominal pain, has a high predictive value for the diagnosis of uterine rupture, especially in the presence of severe variable decelerations*". It is also consistent with Mr Tuffnell's opinion, expressed in his letter dated the 4th February 2020, that *"there is usually a short duration of significant heart rate abnormality (less than half an hour and often only a few minutes) before a bradycardia develops"* although, of course, that opinion is also consistent with the rupture occurring after 01.00 hours.

98. This finding, however, has to be predicated upon the additional finding that the IA at 01.00 hours was either unreliable or that Mr Tuffnell is wrong when he says that once decelerations take place they occur with every contraction.

99. Mr Tuffnell explained his argument that decelerations following rupture would be with every contraction by pointing to the unquestioned fact that a uterine rupture becomes worse, not better. However, it seems to me that his argument was not supported by the literature and my interpretation of the Andersen *et al* (2016) paper is that there *were* cases where decelerations did not occur after every contraction. Moreover, as Dr Loughna said in evidence, the cause of the deceleration is not the rupture itself but is the effect of the rupture on the ability of blood vessels to perfuse the placenta. The ability of blood vessels to perfuse the placenta depends on whether they have gone into spasm and whether the recovery period between contractions is sufficient to allow perfusion to occur. I can see no reason why decelerations cannot increase in frequency and severity dependant on the expansion of the rupture and the strength, duration and frequency of the contractions. In cross examination Dr Loughna suggested that although the process by which placental perfusion may be compromised is inexorable it is not a straightforward pattern. I agree.

100. Both experts were doing their best on this issue but were on the edge of what they could confidently say. On balance, and because I consider there is no literature that supports Mr Tuffnell's assertion that in every case of uterine rupture when atypical decelerations occur they occur with every contraction, I conclude that Dr Loughna is right and that the frequency of decelerations may increase as the rupture develops. However, whilst that may explain why a single auscultation may not reveal a deceleration shortly after

the rupture it becomes increasingly probable that the decelerations will occur with every contraction as time goes on. Thus, it is less likely that there was a rupture but no deceleration with a contraction at 01.00 hours than it is at 00.35 or 00.45 hours.

101. It is thus more probable than not that Midwife Bigwood simply missed the deceleration either because she was not listening at the correct time (as had occurred previously) or because she had not palpated the abdomen to determine where to place the sonicaid or because it was a difficult auscultation because of the Claimant's mother's pain and the fact that she was in the pool. Accordingly I find that the rupture had occurred before 01.00 hours and I find that the normal auscultation recorded at 01.00 hours is not a bar to that finding. I should make it plain that I am making no finding to the effect that at 01.00 hours Midwife Bigwood *should* have detected an atypical deceleration. It is not necessary for me to find that her auscultation was incompetently performed and I do not do so. What I find is that on a balance of probabilities there was in fact an atypical deceleration and that for one reason or another it was not detected by Midwife Bigwood for one or more of the reasons I have previously enumerated.

102. What is left to determine is when between 00.45 hours and 01.00 hours the rupture occurred. I think it is unlikely to have been immediately after 00.45 hours because I think that pain between contractions did not occur until later. On the other hand there is no good reason to say that the decelerations did not start until 01.00 hours given that the Claimant's mother had been pushing with each contraction at 00.35 hours, that she was contracting 3:10, and that it is more likely than not that it was the pushing that provoked the rupture. Mr Moon asked me to consider the evidence benevolently given that the reason I could not be sure when the rupture occurred was because, in breach of duty, there was no CFM. The burden of proof is on the Claimant and I will not reverse it. However, I am entitled to and do conclude that the rupture probably started at about 00.50 hours and that by 01.00 hours the Claimant's mother was in continuous pain consequent upon the rupture.

103. It thus follows that if the Claimant's mother had been the subject of CFM it would have been apparent by 01.00 hours that there was a potential obstetric emergency. If contractions were 3:10 and decelerations started at 00.50 hours there would probably have been 3 atypical decelerations. Midwifery staff *may* have waited to call for obstetric assistance until a pattern of decelerations had presented itself. After all, it was the view of the expert neonatologists that the bradycardia detected at 01.15 hours would not have occurred prior to 01.00 hours (and in fact Drs Emmerson and Smith, reporting on behalf of the Defendant, said in the joint statement that the bradycardia probably started at 01.14 hours). Thus, until after 01.00 hours and probably 01.14 hours there was recovery from the decelerations. But in the context of a VBAC woman apparently in or nearing the second stage of labour, with atypical decelerations and complaining of continuous pain, and in circumstances where the blood loss could not certainly have been a simple show, I consider that all reasonably competent midwives (and certainly a majority) would have sought urgent obstetric assistance by 01.00 hours.

104. In any event I consider that a complaint of continuous pain, with or without the added factor of a pattern of decelerations, would or should have resulted in an obstetrician being called. Ms Helleur accepted as much when she said:

> "*So I would expect any midwife to take it seriously and take further action. So depending on – on what she saw or felt or – so*

> *certainly I would have expected with any of those signs for – so continuous pain, for example or any bleeding or any scar tenderness, to get her out of the pool and call, at the same time, for an obstetrician*"

I consider that in such circumstances midwifery and obstetric staff would have reacted as they reacted at 01.15 hours. Again, I accept that at 01.15 hours it was felt that the deceleration was not recovering, whereas there would probably have been recovery at or before 01.00 hours. However, the combination of findings would have required immediate obstetric involvement.

105. If I am wrong in my conclusions that there should have been CFM and/or that the Claimant's mother complained of continuous pain I need to consider the sequence of events if there had been IA every 5 minutes from 0045 hours. On the basis that the rupture occurred at 00.50 hours there would have been 5 contractions between then and 01.05 hours. I am satisfied to a high standard that the majority would have been accompanied by atypical decelerations. I consider that in the context of a VBAC woman in or assumed to be in the second stage of labour and who was pushing with every contraction all reasonably competent midwives (and certainly a majority) would have sought obstetric assistance by 01.05 hours even if there had been no complaint of continuous pain.

106. I therefore conclude that if obstetric assistance had been called at 01.00 hours the same sequence of events as in fact occurred would have occurred 15 minutes earlier. It follows that delivery would have been at 01.31 hours and effective resuscitation by or about 01.32 hours. If I am wrong in my conclusions that there should have been CFM and/or that the Claimant's mother complained of continuous pain at 01.00 hours then IA every 5 minutes would have resulted in delivery at 01.36 hours and effective resuscitation by or about 01.37 hours.

Avoidance of brain damage

107. Dr Dear, expert neonatologist, and Dr Thomas, expert paediatric neurologist, both reporting on behalf of the Claimant, were of the opinion that the Claimant sustained a bradycardia at 01.14 hours; that it had no effect on the Claimant's oxygenation until 01.24 hours and that from 01.24 hours the Myers *et al* paper (1971) suggested that the Claimant had sustained 25 minutes of acute, profound hypoxia. It was conventional wisdom, supported by the review paper from Rennie and Rosenbloom, that the animal data could properly be used to

> "*synthesise a 10-minute rule which reflects that, on the balance of probability, a human fetus will acquire damage of the acute profound type after a short severe asphyxia insult lasting > 10 minutes and that > 50% of fetuses probably sustain some damage after an insult of this duration*".

Thus, they concluded that if delivery and resuscitation had occurred before 01.34 hours the Claimant would have avoided all permanent brain damage.

108. Drs Emmerson and Smith, the expert neonatologist and paediatric neurologist reporting on behalf of the Defendant, rejected this model. They argued that the bradycardia

would be co-extensive with an acute profound hypoxia and thus that under-perfusion of the brain would have commenced at 01.14 hours. On this basis, and allowing for three minutes for resuscitation, it meant that the Claimant sustained 35 minutes of acute profound hypoxia. They accepted that the animal model established that survival after 30 minutes of acute profound hypoxia was unusual. Thus they postulated that there must have been *some* oxygenation of the brain after 01.14 hours. The fact that there must have been some oxygenation meant that it was inappropriate to apply the Myers model without some adaptation. This was because in the animal experiments anoxia was achieved by tying off the umbilical cord and preventing breathing whereas with a uterine rupture some continued oxygenation for a period of time was to be expected. Drs Emmerson and Smith considered that it was appropriate to apply an extended Myers synthesis whereby there would be 14 minutes of non-damaging asphyxia followed by *"3x7 minute epochs equating to mild, moderate and severe neurodisability"*. Thus, they concluded that if the acute profound hypoxia started at 01.14 hours the Claimant needed to be delivered and resuscitated by 01.28 hours to avoid all damage and 01.35 hours to suffer only mild brain damage.

109. The extended Myers synthesis was considered by HH Judge Godsmark sitting as a High Court Judge in the case of *OX v Derby Teaching Hospitals NHS Trust* (unreported)(16th September 2016). He concluded that:

> "*the extended model espoused by Dr Rennie and Dr Rosenbloom is a plausible hypothesis in certain circumstances i.e. where the fetal heart rate is known and is reasonably constant over the whole period of hypoxia. It is however a hypothesis which has not been published or been subject to peer comment"* (para 131 (e)).

On the facts of the case before him Judge Godsmark found that the Claimant's damage more closely followed the conventional model.

110. Dr Dear's analysis developed in the following way:

i) In his report and the joint statement he had assumed that at 01.15 hours Midwife Bigwood had heard decelerations (plural) which implied recovery in between. Hence he assumed that the bradycardia did not commence at that time.

ii) By the time he gave evidence he accepted that Midwife Bigwood's evidence was that there was no recovery. He also accepted that there was no evidence for the proposition contained in the internal investigation that at times the heart rate had recovered to 135 bpm.

iii) He thus accepted that from 01.14 hours there was a bradycardia of about 80-90 bpm followed by a collapse to 50 bpm at or just before delivery. Thus, he accepted that the fetal heart rate was known and was reasonably constant.

iv) In order for his conclusions to hold in the light of his acceptance that the bradycardia started at 01.14 hours he had to assume that from 01.14 hours until 01.24 hours not only was there no damage caused by the bradycardia but the bradycardia had no impact on oxygenation of the brain and fetal reserves. Moreover, he made this assumption notwithstanding that there had been a period

of time (on the Claimant's case lasting 45 minutes or so but on my findings 25 minutes) when there had been atypical decelerations which would be expected to reduce fetal reserves.

v) He went on to say that if a bradycardia of 80 bpm persisted there may come a time when damage to the watershed areas of the brain would occur, as in the chronic partial hypoxia model. However, he said that without an increase in the severity of the hypoxia damage to the subcortical areas (as occurred in this case) would not result.

111. During the course of his evidence Dr Dear accepted that the difference between his synthesis and Dr Emmerson's was as appears in the following passage:

> *"Dr Dear, do you understand Dr Emmerson as effectively saying that if you maintain the heart rate at 80 to 90 bpm, if it is maintained at that rate, there does, in fact, come a time when subcortical damage occurs? Whereas you are saying if you maintain the heart rate at 80 to 90 bpm there doesn't come a time when subcortical damage occurs. It is either no damage or watershed damage.*
>
> *A. Yes, I think you've –*
>
> *DEPUTY JUDGE MASKREY: Is that the difference, as you understand it?*
>
> *A. I think you've characterised the difference very well, yes.*"

112. In the end he summarised his approach by saying that unless there was a good reason to depart from the Myers model *"and I don't think the existence of bradycardia of 80 is a very good reason to depart from it – then I would stick with it"*.

113. Dr Thomas supported the approach advanced by Dr Dear. It became clear as he gave evidence that he did so on the basis that there was deterioration in the oxygenation after the initial bradycardia and that the initial 10 minutes of bradycardia had no or no significant effect on fetal reserves. He said this:

> *"I think that the ten minutes beforehand, when there are compensatory mechanisms in place, I don't think that that would -- I mean, I don't think that it would deplete those resources to a significant extent.*
>
> *I think, my Lord, that the insult got worse as time went on. So I think that -- that although there was uterine rupture and there was a bradycardia, I think that the hypoxic ischaemic insult at that point was less severe than by the end of the whole process".*

114. However, it also became clear that Dr Thomas could not advance any data or literature to support his conclusion that a bradycardia of 80 bpm had no effect on placental and thus fetal oxygenation and could advance no event at 01.24 hours which suggested that at that point the bradycardia, whilst still persisting at 80 bpm, did begin to deplete fetal reserves. In what I regard as an important passage of his evidence he said this:

"DEPUTY JUDGE MASKREY: And it seems to me that what you might be doing is saying: because Myers is right, this must have started at 01.24. And this must have started at 01.24 because Myers is right.

A. Yes, I see what you mean. It is still my view that those ten minutes -- I appreciate the question that has been put to me, that -- that there were -- that I'm double counting the ten minutes, but I think that the ten minutes at the outset was not causing -- that if -- if there were ten minutes beforehand, I don't think that they -- that they were causing -- had started the process of potential brain injury until 01.24.

MR NOLAN: But you can't identify to my Lord anything which -- specific on the evidence which differentiates 1.14 to 1.24 from 1.24 to 1.34. There's no distinction between those two ten minute periods?

A. From -- in what respect? I'm sorry.

Q. Nothing happens to make the first period different to the second period.

A. Well, we don't know.

Q. You -- I'm giving you the opportunity to identify anything –

A. Yes, well, I don't know. I think that -- as I said at the outset, given that it's unclear as to what's -- what is going on, and we don't know that there is a persistent bradycardia between 01.14 and 01.24.

Q. That has been assumed by all the experts throughout the case, hasn't it?

A. Has it?"

115. There was some attempt by Mr Moon during his cross examination of Dr Emmerson to suggest that a non-recovering deceleration was in some sense not a bradycardia. The suggestion was rejected by Dr Emmerson but, more importantly, was not one adopted by Dr Dear.

116. There was also an attempt by Mr Moon to utilise a paper by Kayani *et al* (2003) to support the suggestion that a period of 20 minutes of bradycardia can elapse without causing brain damage. In essence it was suggested that because the paper revealed that there may be a good outcome in cases where the onset of the bradycardia to the time of delivery was in excess of 25 minutes this must mean that the bradycardia had no impact on fetal oxygenation for a significant period of time. However, Dr Emmerson pointed out that the paper did not provide any information on whether there was or was not recovery from the bradycardia at particular times. More importantly, however, was the fact that the bradycardia did not mean that there was an absence of oxygenation. Therefore he was willing to accept that there might be an occasional case where there appeared to be a long duration of non-damaging acute profound hypoxia. However, he explained that on the basis that, as in the instant case, there would be some oxygenation of the fetus whilst the bradycardia was taking place. Dr Emmerson was also keen to point out that the mechanism whereby the bradycardia occurred was important. It might be that the bradycardia was caused by heart block, for example, rather than a failure of perfusion. In that case although the heart rate slowed perfusion would continue. Where the bradycardia was itself caused by a failure of oxygenation, however, it was much less likely that a fetus could withstand a prolonged period of the bradycardia and failure of oxygenation without sustaining brain damage.

117. In my judgment the synthesis advanced by Drs Dear and Thomas was originally based upon the assumption that the at 01.15 hours there were recovering decelerations rather than a persisting bradycardia. On that assumption it was perfectly legitimate to assume that fetal reserves were not significantly depleted before the persisting bradycardia which, on the conventional Myers model, would have started 25 minutes before delivery and resuscitation and thus at 01.24 hours. However, once it became apparent that there was in fact a persistent bradycardia at 01.15 hours the justification for the synthesis fell away absent proof that [i] a bradycardia of 80 bpm has no impact on fetal oxygenation and [ii] that at 01.24 hours there was a further event such as an extension of the rupture that resulted in a more severe hypoxic insult associated with bradycardia of 60 bpm or less. Drs Dear and Thomas were unable to show me data or literature that supported the assumption that a bradycardia of 80 bpm had no effect on fetal reserves, particularly in circumstances when we do not know the pumping efficacy of the heart, and they were unable to point to any evidence that the rupture extended at 01.24 hours or that some other event led to a worsening of the hypoxic insult. Indeed, quite the contrary. It was recorded that the fetal heart rate was 80 bpm at 01.15 hours and was 80 bpm at some point after transfer to theatre at 01.28 hours. It was only after delivery that the fetal heart was 50 bpm which Dr Emmerson considered was consistent with the whole of the baby being extruded from the uterus by the mechanical process of delivery. Thus, the fetal heart rate is known and there is no basis for saying that it altered during most of the period of bradycardia.

118. It follows that I reject the case advanced on behalf of the Claimant to the effect that the period between 01.14 hours and 01.24 hours is effectively ignored and then the conventional Myers model is applied to the period from 01.24 hours.

119. During the course of cross examination of Dr Smith I asked why the extended Myers model that he was advancing had to be subject to the same ratios of non-damaging hypoxia and then epochs of damaging hypoxia as was advanced in Myers, but simply extended to reflect that there was some degree of oxygenation. I asked why, if there was some oxygenation, one did not simply extend the non-damaging period of hypoxia on the basis that it would take longer to become damaging if there was some oxygenation but then use the Myers model of 3 epochs of increasing damage lasting 5 minutes each. Dr Smith accepted that that was a plausible construct but nonetheless preferred his own extended model. Dr Thomas was re-called to deal with the suggestion that I had made. He made it plain that from his perspective the only issue was whether the conventional Myers model was used or the extended model advanced by Dr Smith. After some discussion it was agreed between the parties that on the basis of the evidence advanced it would not be open to me to find that a different Myers model applied to the facts of this case. I either accept the conventional model or the extended model as advanced by Drs Emmerson and Smith.

120. It follows therefore that on the facts of this case I prefer to adopt the extended Myers model. I do so because I consider that although there was a persistent bradycardia after 01.14 hours there was some oxygenation of the placenta and thus the fetus. However I consider that it is improbable that the reduced oxygenation consequent upon the rupture and evidenced by the bradycardia would have had no effect on fetal reserves for the first 10 minutes. Nor do I consider that there is any evidence to suggest that at 01.24 hours there was a further event such as an extension of the rupture that resulted in a more total hypoxia which at that point started to recue fetal reserves in accordance with the conventional Myers model. In my judgment it is more likely that the continuation of some oxygenation meant that the period before which fetal reserves were exhausted was extended. I consider that the extended Myers model is consistent with the Myers research itself and consistent with the Rennie and Rosenbloom review paper. I also recognise that both Drs Rennie and Rosenbloom consider that an extended Myers model is a valid way of approaching hypoxic-ischaemic brain damage consequent upon acute profound hypoxia in at least some cases. Thus, acknowledging as I do that the extended Myers synthesis has not been the subject of scientific research or debate, I nonetheless prefer it to the conventional model.

121. I should make one other observation. There was significant debate during the evidence as to the mechanism by which subcortical brain damage may occur and how one may understand the mechanism of damage in this case. There was also debate as to the value of Apgar scores and cord blood gases when trying to understand the mechanism of damage. I have not dealt with these debates in this judgment because although the evidence assisted me in understanding the central issues and what I had to decide, they did not contribute to the determination of those issues.

122. It follows that if the bradycardia commenced at 01.14 hours damage would have started to occur at 01.28 hours. Mild damage would have resulted until 01.35 hours when it would have become moderate. On the basis of my finding that delivery and resuscitation should have taken place by 01.32 hours the Claimant would still have sustained brain damage but it would have been mild, rather than severe as is now the case.

Conclusion

123. It follows that there must be judgment for the Claimant on the basis that but for the breaches of duty that occurred at the maternity unit on the 23rd and 24th May 2015 he would have sustained mild rather than severe brain damage and thus mild rather than severe neurodisability. As I understand it the parties are agreed as to what constitutes mild as opposed to severe neurodisability and it is unnecessary for me to define these terms further.

Ancillary matters

124. At the end of the evidence I commended the Claimant's parents and the Defendant's midwives for the manner in which they gave their evidence. They were restrained and polite when the respective cases were being put notwithstanding that they were the subject of robust cross examination. I repeat that commendation in this judgment notwithstanding that I have felt compelled to reject certain aspects of the evidence given on behalf of both parties.

125. There was criticism by both counsel of some of the expert witnesses as to the presentation of their reports and the manner in which they gave evidence. It was suggested that on occasion there was a degree of partiality or an attempt to argue a cause. I should make it clear that I reject all such criticisms. I consider that all the experts were doing their best to reach objective conclusions supported by the evidence as they saw it. As I have previously indicated the medical experts were dealing with matters that were on the edge of their knowledge and experience and on the edge of what is known to medical science. Where I have differed from any of the opinions expressed I have done so on the basis of what seems to me to be the science and logic underpinning the arguments expressed and not because of any doubts as to the credibility or objectivity of any of the experts.

126. Finally I must express my gratitude to all counsel for the careful and skilful way in which they presented their cases. The importance of such assistance in enabling a Judge to determine and understand the true issues cannot be overstated.